



Legal Aspects of Soil Conservation and Implementation Plan in Sri Lanka: Way Forward

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Historical perspective of Soil Erosion



- Large scale soil erosion in Sri Lanka began with the clearing of the central highlands for plantation crops beginning in early 18th century. Large scale deforestation in the hill country for coffee plantation by the planters under the British administration in 1830s marks the origin of the problem.
- In 1873, J.D Hooker, the Director of Botanic garden, Kew, on information received from Thwaite, the Director of the Botanic garden Peradeniya protested to the Secretary of State for the Colonies against indiscriminate felling in Ceylon of timber to make way for coffee and tea.
- The first legal attempt during the colonial period related to control of soil erosion in the country was in 1873. It is the banning of alienating land above 5,000 ft by the Secretary of State for the colonies.

Historical Cont..



- The soil erosion problem was comprehensively studied only in 1930 by a committee comprising & report has been published as a sessional paper in 1931 (Ceylon sessional paper,1931). The committee recommended measures to control the problem.
- In 1947, the Crown Lands Ordinance included some regulations enabling declaration of crown lands as reserves for prevention of soil erosion, protection of water sources, bed of any public stream, and water springs.
- Effective legislation targeted solely on soil conservation was introduced by the Soil Conservation Act 25 (SCA) of 1951. The purpose of the act was to make provisions for the conservation of the soil resources, for the prevention or mitigation of soil erosion and for the protection of land against damage by floods and drought.
- Subsequently, the SCA of 1951 was amended in 1996.

Sediment yield from some catchments from Central highlands



Catchment	Catchment area (km ²)	Period	Sediment yield (t/ha/year)
Nillamba Oya	61	1991-1992	0.6
Victoria	1891	1985-1992	3.4
Maha Oya	476	1985-1992	9.4
Uma Oya	94	1993-1994	10.6

Wallingford, 1995

Off site effects due to sedimentation of hydropower reservoirs



Reservoir	Reduction of capacity (MCM / Yr)	Reduction in Hydropower generation (GWh / Yr)
Kothmale	0.136860	0.156294
Vitoria	0.370995	0.319798
Randenigala	0.213203	0.771430
Rantembe	0.313247	0.048867

Estimated loss in hydro-power production and irrigation from the Upper Mahaweli Watershed - Rs. 15.0 million per annum.

Source : Mahaweli Authority 2003.



Other impacts???

- Impacts on livelihood & social standards ?
- Impacts on the environment & ecosystem services ?



Soil Conservation Act

- *1951 No 25 Soil Conservation Act*
- *Amended by Amendment Act No 24 of 1996*

Objectives



"An act to make provision for the enhancement and sustenance of production capacity of the soil; to restore degraded land for the prevention and mitigation of soil erosion ; for the conservation of soil resources and protection of land against damage by floods, salinity, alkalinity, water logging, drought; and to provide for matters connected therewith or incidental thereto."

Establishment of a Soil Conservation Board



- 1 A. (1) There shall be established a board which shall be called the soil Conservation Board**
- (2) The board shall consist of the following members who shall be appointed by the Minister, in charge of the subject of Agriculture:-**
- (a) the Secretaries of the Ministries of the subjects of- Environment; Land; Mahaweli development; Housing and Construction; Highways; Plantation Industries; Agriculture; Fiancé; Provincial Councils; Mines and Minerals; Forestry; Irrigation;**
 - (b) DGA & Heads of relevant Departments**



1B (1) The Secretary to the subject of agriculture shall act as the chairman of the board.

(2) The Director General of Agriculture shall act as the secretary to the board.



1C . Functions of the board ?

- To propose measures, and co-ordinate activities, research and programs, relating to soil conservation*
- To administer and manage the soil Conservation Fund*
- To advise the Minister on the implementation of the provisions of this Act.*

Authority and Responsibility



- Director General of Agriculture

Director General's Responsibility



(2) (1.) It shall be the duty of the Director General to cause, surveys and investigation to be made for the purposes of ascertaining the nature and extent of land degradation due to various factors including floods, droughts, salinization, desertification, siltation and soil erosion and of enabling the Minister to determine the areas which should be declared under this Act to be conservation areas”;

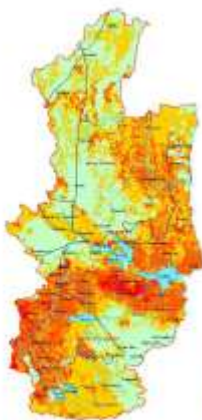
(Thus the responsibility of implementation of the Act is vested with the Director General)

Declaring Conservation Areas



3. The Minister may by order published in the Gazette declare any area defined in the Order *to be a "conservation area"* for the purposes of this Act.

Soil erosion hazard map of Central Province



LEGEND

- Low
- Moderate
- High
- Very high
- Extremely high

R - Rainfall amount & erosivity factor

K - Soil erodibility factor

L - Slope length factor

S - Slope steepness factor

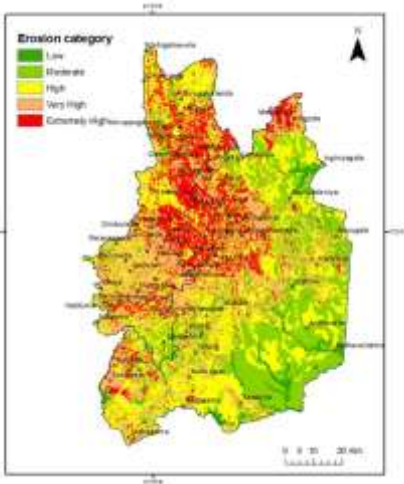
C - Cover and management factor

P - Support practice factor

Soil erosion hazard	Nuwaraeliya		Kandy		Matale	
	Extent (ha)	%	Extent (ha)	%	Extent (ha)	%
Low	49,632	29	46,792	25	91,500	47
Moderate	53,655	31	54,618	29	75,919	37
High	28,194	16	36,171	19	13,437	6
Very High	32,896	19	47,790	25	18,877	9
Extremely High	6,260	4	3,790	2	162	0.1
Total	170,575		189,161		201,939	

(Munasinghe et al, 2001)

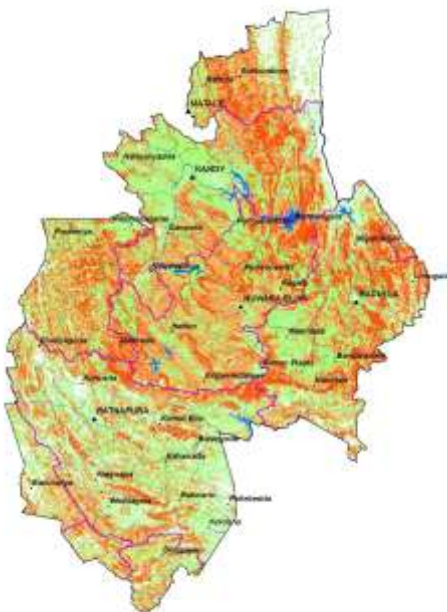
Soil erosion hazard of Uva province



Category	Province Area (sq Km)	%	Badulla (sq Km)	%	Moneragala (sq Km)	%
Low	343.01	4	22.40	0.8	319.82	6
Moderate	2055.79	24	248.29	8	1806.60	32
High	2933.04	34	898.94	32	2032.23	35
Very High	1849.16	21	790.59	28	1057.35	19
Extremely High	1389.22	16	879.83	40	508.95	9
Total	8570.22		2840.05		5724.96	

(Senanayake, S.S. et al., 2013)

CONSERVATION AREA




Extraordinary Gazette No 1550 / 9 : 2008 May 22

Legend

- Low
- Moderate
- High
- Very high
- Soil conservation boundary
- District boundary
- Divisional secretariat boundary

Extraordinary Gazette No 1550 / 9 : 2008 May 22



DISTRICT	DS_DIVISION	DISTRICT	DS_DIVISION
KEGALLE	GALIGAMUWA	BADULLA	RIDIMALIYADDA
	MAWANELLA		PASSARA
	KEGALLE		ELLA
	ARANAYAKE		BANDARAWELA
	RUWANWELLA		HALDUMMULLA
	DEHIOWITA	KALUTARA	BULATHSINHALA
MATALE	WILGAMUWA		AGALAWATTA
	LAGGALA PALLEGAMA	KANDY	Whole District
	AMBANGANGA		
	RATHTHOTA		
	PASGODA		
	PITABEDDARA		
EHELIYAGODA			
RATNAPURA	KIRIELLA	Nuwaraeliya	Whole District
	IMBULPE	GALLE	NELUWA
	BALANGODA	MONARAGALA	BIBILE
	WELIGEPOLA		
	EMBILIPITIYA		
	KOLONNE KORALE		

Regulations for conservation areas



4. The Minister may make regulations, to be applicable either generally in all *conservation areas*, or specially in any specified *conservation area*

Framework for making regulations



6. The Minister may make regulation for or in respect of all or any of the following matters.-

- (a) preservation and promotion of soil fertility and of facilitating the absorption of moisture
- (b) Preventing or reducing or remedying damage by soil erosion;
- (c) The control of the grazing of animals to reduce damage by soil erosion etc.

Appointment of Authorized Officers

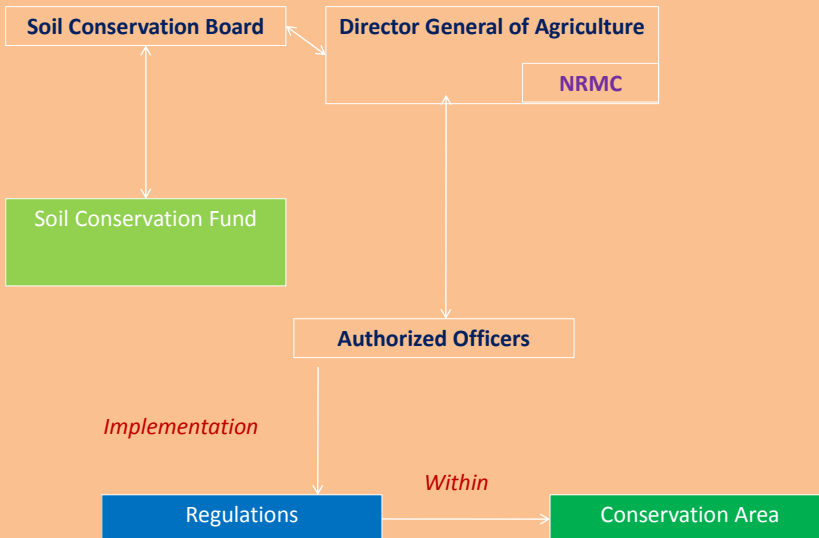


9. Director General may appoint officers as may be necessary for carrying out or giving effect to the principle and purposes of this Act & they will be the Authorized Officers



Penalties

10. Any person who contravenes or fails to comply with any regulation made under this Act, shall be guilty of an offence and liable on conviction after a summary trial before a Magistrate to a fine not less than one thousand rupees and not exceeding five thousand rupees .





Regulations



**Extraordinary Gazette No 1633 /4 – 2009
December 21**

1. These regulations may be cited as the Soil Conservation Regulations No. 01 of 2009
2. These regulations shall apply to the Conservation Areas which shall from time to time be declared under the section 4 of the Soil Conservation Act



3. A person shall not cultivate annual crops on any land, which consists of a slope of more than sixty percent.



4. Any person shall not convert a land area which is under

- Natural vegetation or forest
- Plantation crop cultivation
- Grassland

if located 1500 m above the mean seal level into annual crop cultivation

5. If any person wishes to establish or cultivate an annual crop or plantation crop he shall do so in accordance with the guidelines issued from time to time by the Director General and shall execute one or more of the following measures on the land



- Terracing, lock & spill, stone bunds
- Construction of conservation platforms ; plantation of cover crops
- Construction of drainage channels , leader drains
- Construction of side walls / planting of cover crops to ensure stability of slopes
- Laying or paving stones along the whole or part of any gully
- Planting of cover crops or construction of side walls along the whole or part of any bank
- Construction of check dams across gullies

6. An authorized officer may require owner, occupier or custodian on any marginal land with exposed rocks, uncultivated areas or insufficient plant cover to carry out following measures to prevent such erosion.



- Retain plants and trees on the land
- Planting of suitable plants / trees
- Establish live fences / hedges for the protection of soil erosion



7. Any person for the purpose of weeding a land cultivated to tea shall not use or permit to use any mamoty or any tool with a working edge exceeding 20 cm and an overall length exceeding 50 cm.

8.No person shall cultivate rice or any other crop on “*terraced paddy lands*” unless he constructs along the edge of the terraces of such land, a bund of not less than 20 cm in height and 20 cm in width



9.Where it is apparent to an authorized officer that any land cultivated with an annual crop is subjected to soil erosion by irrigation, he shall order the owner / user / custodian of the land to adopt the following measures

- Reduce outlet, change the method etc

10. The authorized officer may in order to prevent erosion of banks and damage being caused to the banks, require the owner, user or custodian of any land bordered by streams to take measures such as;

- Prohibit cutting
- Maintain existing tree cover

Inform by a written notice



11. Where an authorized officer is in terms of these regulations is required to notify to the owner, user, custodian of any land to take such measures as are specified in these regulations, he shall inform the owner, user or custodian of the same by a written notice sent by the registered post.

If not comply with, proceed for legal action



12. Where it becomes apparent to an Authorized officer that the owner, user or custodian of any land is not implementing measures in accordance with these regulations in compliance with the written notice served on them , he shall forthwith notify the owner , user, custodian to immediately refrain from continuing the present measures and that he is required to act according to the provisions of these regulations as stated in the written notice served on him.

Limitations



- Functioning of Soil Conservation Board
- Land degradation other than soil erosion
- Declaration of conservation areas
- Occurrence of erosion and other forms of land degradation outside the gazetted area
- Increased non- agricultural and other development activities

Way Forward





Proposal for a new Act

- Final Draft prepared and submitted for relevant Cabinets approvals



SOIL CONSERVATION AND LAND DEGRADATION PREVENTION ACT

- An act to make provisions for the enhancement and sustenance of the productive capacity of the land through conservation of soil; restoration of land degraded by soil erosion; protection and / or restoration of land against damage caused by salinity, alkalinity and water logging; provide for matters connected therewith or incidental thereto.

ADMINISTRATION OF THE ACT



2. (1). The Director General of Agriculture (Hereinafter referred as Director General) shall administer the provision of this act as provided hereinafter.
 - (2). Natural Resources Management Centre of the Department of Agriculture is the focal point and the Director, Natural Resources Management Centre, (Hereinafter referred as Director) is responsible for the overall implementation of the Act on behalf of the Director General.
 - (3). Appointment of a Soil Conservator to assist the Director
3. Appointment of authorized officers
 - (1) Director General shall appoint any officer or person to be Authorized Officer for the purpose of this Act.

Delegation of powers



4. The Director General may delegate in writing any power, duty or function conferred or imposed on or assign to, him by or under this act to the Provincial Director of Agriculture of the Province. Such Provincial Director of Agriculture in performance of his duties shall be subject to the guidelines, general direction and supervision of the Director General.

PROCEDURE FOR INTER-MINISTERIAL COORDINATION AND FINANCIAL MANAGEMENT

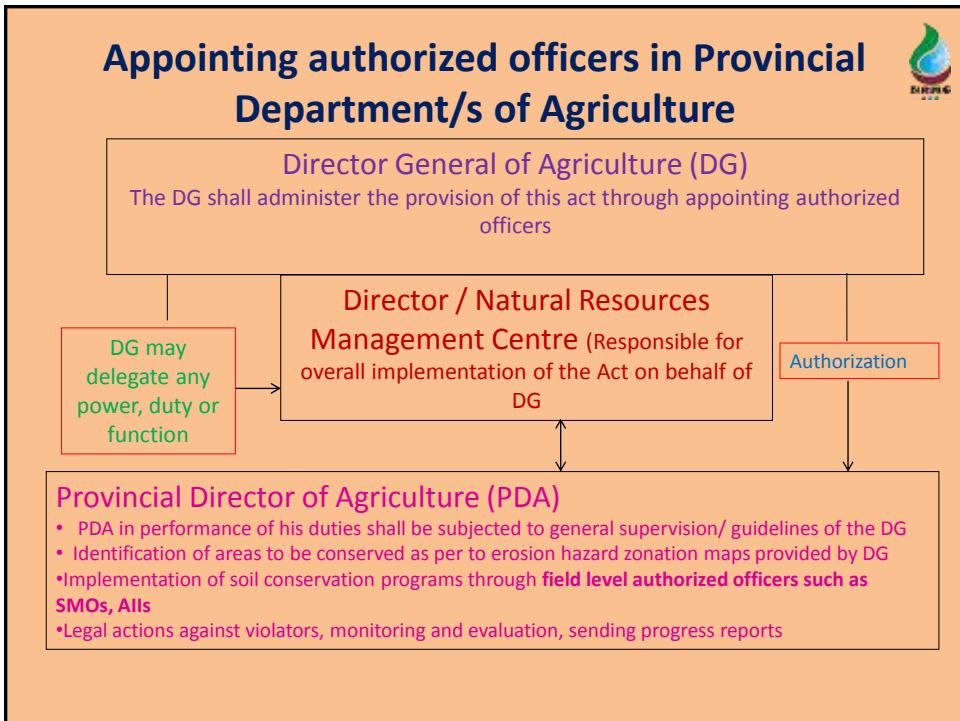
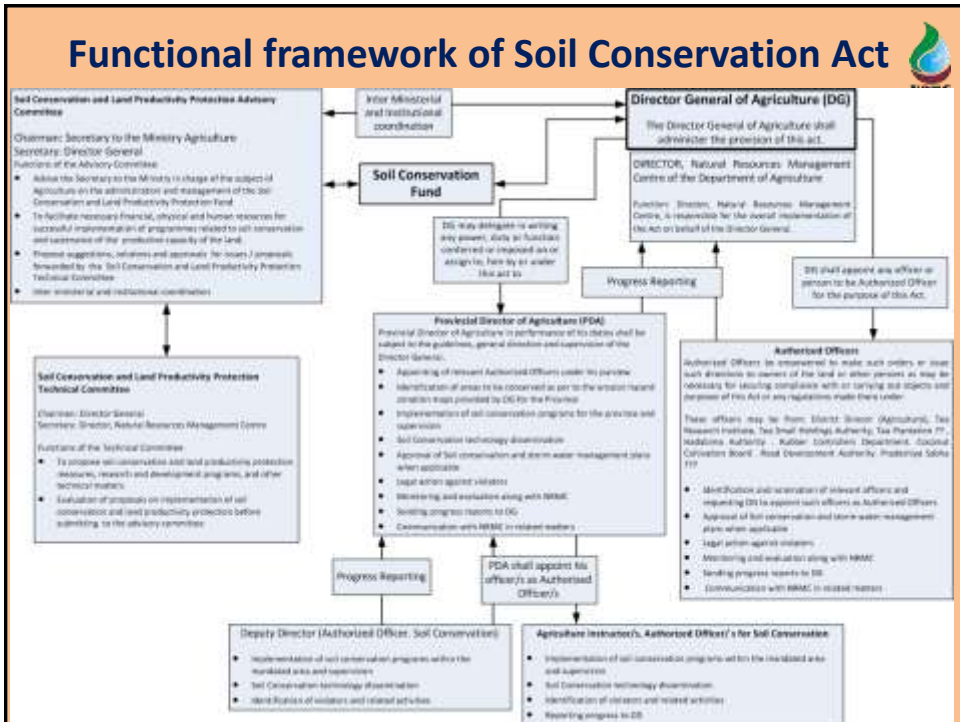


- **Establishment of Soil Conservation and Land Degradation Prevention Advisory Committee**
- **Establishment of Soil Conservation and Land Degradation Prevention Technical Committee**
- **Establishment of Soil Conservation and LDP Fund**

REGULATIONS



- **General Regulations**
- **Regulations for soil conservation area**
- **Soil Conservation and Storm Water Management Plan for prescribed activities**



Appointing authorized officers in other Government organizations dealing with Soil Conservation



- DG may appoint Authorized Officers in other government departments / organizations, if required
 - TRI ,
 - Tea Small Holdings Authority,
 - HADABIMA,
 - Rubber Controllers Dept. etc

Responsibilities of Authorized Officers



- Make orders or issue directions to owners of the land or other persons as may be necessary for securing compliance with or carrying out objects and purposes of this Act or regulations made there under.
- Implementation of soil conservation programs within his /her authoritative area as per to the guidelines provided by NRMC (on behalf of DG)
- Providing technical guidance and assistance for soil conservation
- Identification of violators and legal action
- Monitoring and evaluation
- Sending progress reports to DG
- Communication with Director , NRMC and seeking advices, guidance, requesting training needs

**Field programs conducted in collaboration with PDA
(Central, Uva, Sabaragamuwa)**



In year 2013 – 100 demonstration sites established in farmer's fields



Thank you