Soil and Water Conservation in Kenya
Bibliography with Annotations

by

Gichuki Karanja

and

Fissiha Tefera

Department of Agricultural Engineering
University of Nairobi

and

Swedish Agency for Research Cooperation with
Developing Countries (SAREC)

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Dept. of Agricultural Engineering
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PREFACE

Numerous articles dealing with the problem of soil erosion and soil and water conservation in Kenya have been written since the early 1930's. These materials covering a wide range of topics, on research findings, personal experiences, field observations and studies, lie scattered in different public and private libraries in the country.

Mr. Fissiha Tefera, a former graduate student of the University of Nairobi, Department of Agricultural Engineering, prepared the first version of the bibliography, which included materials upto 1984. The current edition includes materials which have accumulated upto September 1989.

The bibliography is arranged alphabetically by author. Materials by the same author are arranged chronologically. It also contains subject and geographical indexes which makes it easier to look for references on a required topic. In order to help locate the materials, at least one location symbol is included for each entry. Most of the materials that have been documented by the Kenya Agricultural Documentation Centre (KADOC), of the Ministry of Agriculture, are included with the KADOC accession number and the full text is copied as it is, with very few minor alterations.

The bibliography contains references to some 700 articles of which about some 640 are annotated, for it was not possible to get access to all materials listed. I hope the bibliography will be a useful guide for future reference and research and it can help avoid unnecesary duplication of work.

Published and unpublished materials and consultancy reports since 1933 are covered in this bibliography. Soil and water conservation is a very broad field covering a very wide range of topics from different disciplines. The bibliography covers only the following subject matters:

- Erosion types, causes and distribution.
- Erosion survey, monitoring, prediction and soil loss estimation.
- Soil erodibility and soil physical parameters related to erosion such as infiltration, soil moisture, soil temperature, structure, aggregate stability, surface sealing, crusting etc.
- Rainfall erosivity and rainfall characteristics like intensity, kinetic energy, frequency, duration, seasonal distribution, reliability and prediction; that are related to soil erosion, flooding and conservation structures.
- Land degradation, denudation, desertification and the impact of erosion on the environment.
- Sedimentation and sediment monitoring in streams and reservoirs.
- Cultural methods of soil and water conservation such as rotation, mulches, plant residue, crop cover, tillage, ridging, contouring, strip cropping, grass strips, trash lines, etc.
- Structural methods of conservation such as cutoff drains, terraces, waterways, gully control structures, etc; their

design, layout, installations, maintenance, cost, tools and implements.
- Reclamation and revegetation of denuded lands.
- The use of grasses, shrubs and trees in erosion control and agroforestry.
- Policies and regulations in soil and water conservation.
- Education, research, training, extension and organization in soil and water conservation and the socio-economic impact of soil and water conservation.
- Water conservation in situ by land management practices and runoff harvesting for crop and pasture production (dams and complex structures that are used to store and conserve water or methods of reducing evaporation from large bodies of water or control of seepage are not covered)

In the course of preparing this bibliography, I have visited a number of institutions and I would like to thank the following for their cooperation and support they gave during my visits:-

Soil and Water Conservation Branch, Agricultural Engineering Division, and Kenya Agricultural Documentation Centre, Ministry of Agriculture; Kenya Soil Survey, National Agricultural Laboratories, KARI; Kabete Campus and Main Campus libraries and the Institute for Development Studies of the University of Nairobi; Kenya National Archives; Department of Geography, Kenyatta University; Kenya Rangeland Ecological Monitoring Unit; Ministry of Water Development; National Environment and Human Settlement Secretariat; Permanent Presidential Commission on Soil Conservation and Afforestation; Settlement Division of the Ministry of Lands and Housing; the Soil and Desertification Sections of the United Nations Environment Programme; International Bank for Reconstruction and Development, Nairobi; International Council for Research in Agroforestry; Integrated Project in Arid Lands; United States Agency for International Development; Australian Council for International Agricultural Research; and Swedish International Development Authority.

I am especially grateful to Professor D.B. Thomas, of the Department of Agricultural Engineering, University of Nairobi, for his persistent advice and interest in the work and for access to the materials under his personal collections which served as an invaluable refence source. I also extend my thanks to Dr. Francis Gichuki of the same department for advising me on how best to construct the data entry fields, Mr. Peter Kibung'a of the National Council for Population and Development in helping me to write the index programmes, Dr. R.H.G. Bos and Mr. Moges Worku Bekele for standardizing the keywords and designing a system of indexing materials on soil and water conservation.

This bibliography may not contain all the materials written on soil and water conservation in Kenya. To make the bibliography comprehensive and up to date, I would be pleased if materials that

are not included in this volume or new articles are sent to the Chairman, Department of Agricultural Engineering, University of Nairobi, P.O. Box 30197, Nairobi, from whom further copies of the publication can be obtained. The data is also available on floppy disc and can be made available in this form to anyone interested.

Gichuki Karanja,
Nairobi, November 1989.

ABBREVIATIONS

AIHS	International Association of Hydrological Sciences
ARCN	Agricultural Research Centre Nigeria
ASALDP	Arid and Semi-arid Lands Development Programme
BPSAAP	Baringo Pilot Semi-arid Areas Project
CDES	Community Development and Education Service
ETMA	Environmental Training and Development in Africa
FAO	Food and Agricultural Organization of the United Nations
GOK	Government of Kenya
IBRD	International Bank for Reconstruction and Development
ICRAF	International Council for Research in Agroforestry
IDS	Institute for Development Studies
IFIAS	International Federation of Institutes for Advanced Study
IPAL	Integrated Project in Arid Lands
IRDC	International Rural Development Centre, Uppsala
ISCO	International Soil Conservation Organization
KADOC	Kenya Agricultural Documentation Centre
KARI	Kenya Agricultural Research Institute
KNAAS	Kenya National Academy for the Advancement of Agricultural Sciences
KREMU	Kenya Rangeland Ecological Monitoring Unit - now Department of Resources Surveys and Remote Sensing, Ministry of Planning and National Development
KSS	Kenya Soil Survey
MOA	Ministry of Agriculture
NCCK	National Council of Churches of Kenya
NDFRS	National Dryland Farming Research Station
NEHSS	National Environment and Human Settlement Secretariat
PPCSCA	Permanent Presidential Commission on Soil Conservation and Afforestation
SECID	South East Consortium for International Development
SIDA	Swedish International Development Authority
SUAS	Swedish University of Agricultural Sciences
TARDA	Tana and Athi Rivers Development Authority
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNSO	United Nations Sudano-Sahelian Organization
UON	University of Nairobi
USAID	United States Agency for International Development
USDA	United States Department of Agriculture

LOCATION SYMBOLS

All the institutions listed are located in Nairobi city, with the exception of KARI library at Muguga, Moi University at Eldoret, and Laikipia Research Project at Nanyuki.

ACIAR	Australian Council for International Agricultural Research
DAE	Department of Agricultural Engineering, University of Nairobi
ASAL	Arid and Semi-arid Lands Development Branch, MOA
DBT	The collection of D.B. Thomas
DGKU	Department of Geography, Kenyatta University
ICRAF	International Council for Research in Agroforestry
IPAL	Integrated Project in Arid Lands
KAB	Kabete Campus Library, University of Nairobi
KADOC	Kenya Agricultural Documentation Centre
KARI	Kenya Agricultural Research Institute
KNA	Kenya National Archives
KREMU	Kenya Rangeland Ecological Monitoring Unit
KSS	Kenya Soil Survey
LDD	Land Development Division, MOA
LRP	Laikipia research Project
MAL	Ministry of Agriculture Library
MCL	Main Campus Library, University of Nairobi
MOIU	Moi University Library
NAL	National Agricultural Laboratories
NES	National Environment and Human Settlement Secretariat
PER	From Author
PPC	Permanent Presidential Commission for Soil Conservation and Afforestation
SD	Settlement Division, Ministry of Lands and Housing
SSD	Soil Science Department, University of Nairobi
SWCB	Soil and Water Conservation Branch, Ministry of Agriculture
UNEP	Desertification and Soil Sections of UNEP
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	Agricultural Section, USAID

LIST OF PERIODICALS

Agric. Dev. Pap. (FAO)----------Agricultural Development Paper of the FAO

Bull. Commonw. Bur. Past. Fld. Crops----------Bulletin. Commonwealth Bureau of Pasture and Field Crops (1938-)

Commonw. Bur. Soil Sci. Tech. Commun.----------Commonwealth Bureau of Soil Sciences Technical Comminications (1948-56)

E. Afr. Agric. J.----------East African Agricultural Journal (1935-60)

E. Afr. Agric. For. J.----------East African Agricultural and Forestry Journal (1960-)

E. Afr. Met. Dep. Tech. Memo------East African Meteorelogical Departmernt Technical Memoranda

E. Afr. Stand.----------East African Standard

Emp. J. Exp. Agric.----------Empire Journal of Eperimental Agriculture (1933-)

Gegr. Annlr.----------Geografiska Annaler (Stockholm)

Geogr. J.----------Geographical Journal (London, 1893-

Imp. Bur. Soil Sci. Tech. Commun.----------Imperial Bureau of Soil Science Technical Communications (1929-48)

J. Agric. Engng. Res.----------Journal of Agricultural Engineering Research. (Silsoe)

J. Soil Sci.----------Jouenal of Soil Science (Oxford)

Kenya Fmr.----------Kenya Farmer (1956-)

Mon. Bull. Coff Bd. Kenya---------Monthly Bulletin. Coffee Board of Kenya (1935-58)

Sols Afr.----------Sols Africains. (Paris 1951-)

Trop. Agric., Trin.----------Tropical Agriculture, Trinidad (1924-)

Z. Geomorph. Suppl. Bd.----------Zeitschrift fur Geomorphologie, Suppliment (Leipzig)

Source:- WORLD LIST OF SCIENTIFIC PERIODICALS. 1965
Brown, P. and Strattion, G.B. (eds. 4th Edition)
London, Butterworths.

EXAMPLE OF FORMAT

A B C D
61. BRAUN, H.M.H. 1986 ACIAR

E SEASONAL DISTRIBUTION OF RAINFALL IN KENYA

F Kenya Soil Survey Miscellaneous Paper No. M14.

G 10 pp., 5 figs., 2 tables, 8 refs.

H Paper argues that monthly rainfall expressed as a percentage of annual rainfall is a useful parameter for comparing the rainfall distribution of stations which differ considerably in average annual rainfall.

J Rainfall distribution

A Item number
B Author
C Year of publication
D Location symbol
E Title of the entry
F Journal or report in which the item is found
G Details of the study
H Annotations
J Keywords to be found in the index

ACKZELL, L. 1985 SIDA, DBT

EVALUATION OF A KENYA SOIL CONSERVATION TREE NURSERY AND ITS PRACTICAL RESULTS IN FARMS
Report from a minor research task.

SUAS, IRDC Working Paper No. 30
36 pp., 2 figs., 7 tables, 3 photos, 3 appendices

This report is an evaluation of a tree nursery in Machakos district, sponsored by SIDA soil conservation in Kenya. The paper examines the adminstration of the nursery, its production and distribution of trees, as well as its economic situation. The paper also looks at the tree performances and their contribution to soil conservation.

Machakos District/Nurseries/Management practices

ADAMSON, C.M., MELVILLE, I.R.,KARIUKI, G.T. 1983 IDS

AN INTEGRATED APPROACH TO LAND DEVELOPMENT AND SOIL CONSERVATION IN AGRICULTURAL SETTLEMENT PROJECTS - THE MAGARINI EXPERIENCE

In: Soil and Water Conservation in Kenya. Thomas. D.B. & Senga, W.M. (Eds).
Proceedings of a National Workshop, Nairobi, March 10-13, 1982.
IDS Occasional Paper No. 42, pp. 220-234
2 tables, 5 refs.

The paper describes the climate, runoff, land form, soils, vegetation, soil erosion, land development planning and soil conservation (design, maintenance, research and conservation farming) experience of the Magarini Settlement Project at Malindi, Coast Province.

Kilifi District/Coast Province/Physiographical parameters/Design/Policies

ADAMSON, C.M., MELVILLE, I.R.,KARIUKI, G.T., &
CHECK, P.M.O. 1983 DBT

THE USE OF MECHANICAL SOIL CONSERVATION WORKS - MAGARINI SETTLEMENT PROJECT

Paper presented at a technical meeting on soil conservation, Ministry of Agriculture, Nairobi, 14 January, 1983
7 pp., 5 refs.

The paper briefly describes the area, climate and farming system of the settlement. It gives metereological summary for 1978-1981, land form, soils, vegetation and the interrelationship of physical environment with soil erosion. Soil conservation back channels are described in relation to their spacing, length per plot and the waterways, where possible combined with water harvesting system to store runoff for dry season. Gives design criteria for banks and earth work.

Kilifi District/Design/Structural methods/Water harvesting

4 AGUMBA, F.O. 1985 ACIAR, M.

FLUCTUATIONS OF LONG RAINS IN KENYA IN RELATION TO LARGE SCALI CIRCULATIONS

Kenya Meteorological Department Research Report No. 1/85
27 pp.

(not available for annotation)

Rainfall characteristics

5 AGUMBA, F.O. 1989 DAE, SIDA

REGIONAL HOMOGENEITY OF THE LONG RAINS IN KENYA

In: Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 59-72.
(Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
5 figs., 2 tables, 13 refs.

Paper presents the findings of a study carried out to determine and understand the distribution of long rains into homogeneous regions. Used the empirical orthogonal functions analysis method to divide the country into groups of homogeneous long-rains distribution. Paper identifies and shows on a map six regional groups.

Rainfall distribution

6 AHN, P.M. 1975 KAB

EROSION HAZARD AND FARMING SYSTEMS IN EAST AFRICA

In Soil Conservation and Management in the Humid Tropics. Greenland, D.J. and Lal, R. (Eds) pp. 165-176.
Chichester, UK; John Wiley and Sons
2 tables, 40 refs.

Deals with rainfall erosivity, soil erodibility and farming systems in East Africa in relation to erosion hazard. Covers Kenya, Uganda and Tanzania.

Soil erodibility/Rainfall characteristics/Farming systems research

7 AHN, P.M. 1976 KADOC

MICROAGGREGATION IN TROPICAL SOILS: ITS MEASUREMENT AND EFFECTS ON THE MAINTAINANCE OF SOIL PRODUCTIVITY

Paper presented at the Conference on the Role of Soil Physical Properties in Maintaining Productivity Of Tropical Soils, Ibadan, Nigeria, 6-11 Dec., 1976.
Technical Communication - UoN, Department of Soil Science, No. 9.
12 pp., 4 tables, 25 refs.

Results and discussion of mechanical analysis to measure microaggregation in a Kikuyu friable soil from Ruiru and three ferralitic soils from Ghana and its implication in soil productivity.

Soil types/Aggregates/Soil productivity

8 ALEXANDER GIBB AND PARTNERS-AFRICA 1959 TARDA

UPPER TANA CATCHMENT WATER RESOURCES SURVEY

Kenya Government, Nairobi.
161 pp., 29 figs., 67 tables, 16 plates, 4 appendices.

Study divided into two parts. Part I comprises chapters 1-5 which deal with the general description of the Upper Tana Catchment, climate, hydrology, vegetation and soils. Appendix 3 gives a general description of the soils in the catchment.

Water resources

9 ALFREDSSON, E., LARSSON, H.,ODIN, M.FRIDSTRAND, K. 1988 DBT

DAM PROTECTION ON GRAZING LAND IN KWALE DISTRICT KENYA
A Minor Field Study

SUAS, IRDC Working Paper No. 97:1
102 pp., 82 figs. 20 refs.

The report documents the dam catchments areas of high erosion hazard and proposes various soil conservation measures to prevent the dam from sedimentation. The study is based on the interpretation of aerial photographs from 1955 to 1970, and a satellite image from 1987.

Kwale District/Soil and water conservation/Dams/Sedimentation/Overgrazing

10 ALI, A.M. 1985 KSS, TARDA

AN ASSESSMENT OF SOIL CONDITIONS IN THE PROPOSED EXTENSION OF LAKE KENYATTA SETTLEMENT SCHEME

Kenya Soil Survey Site Evaluation Report No. P62.
55 pp., 1 fig., 7 tables, 25 refs., 2 appendices.

Describes location, communication, climate, geology, geomorphology, hydrology, water problem and quality, vegetation and present land use in the area. The survey methods used and the general characteristics of the soil are discussed in detail. Lists several recommendations for soil conservation in the area.

Kilifi District/Survey/Chemical properties/Physical properties/Soil - and water conservation

11 AMUYUNZU, C.L. 1989 DAE, SIDA

SOIL LOSS AND DESERTIFICATION IN NORTHERN KENYA - A STUDY IN MARSABIT DISTRICT

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 283-290.
(Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
2 figs., 1 ref.

Paper analyses the factors that contribute to land deterioration in northern Kenya, especially at Rendille territory where the study is based. States that restriction of nomadic people into small areas due to inter tribal conflicts, high human and livestock population, the influence of missionaries and modern institutions, droughts, and nomads turning into sedentary farmers, are among the factors causing land deterioration.

Marsabit District/Soil and land degradation/Overgrazing/Land degradation

12 ANDERSON, K.V. 1986 DBT

A SOIL EROSION DATA BASE FOR THE LAKE BASIN REGION, KENYA

M.Sc. Thesis, Silsoe College, Cranfield Institute of Technology.

The design requirements of a soil erosion data base for the Lake Basin region, Kenya, and methods of constructing such a data base are discussed. One method, the use of Universal Soil Loss Equation (USLE), is considered in detail. Argues that USLE needs to be adapted for Kenyan conditions before it can be used with confidence. The feasibility of using local materials and teams to fulfill USLE's research needs is assessed through a case study in the region.

Kisumu District/Siaya District/USLE

13 ANYIENI, Z.M. 1989 DAE, SIDA

THE ROLE OF THE PERMANENT PRESIDENTIAL COMMISSION ON SOIL CONSERVATION AND AFFORESTATION IN KENYA

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 553-557. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA

Paper gives broad terms of reference and the structure of the Commission. Discusses the Commission's approach to environmental problems, and the conservation plans that the Commission expects to spearhead. Also gives the role of higher institutions and elites in conservation work.

GoK/Soil and water conservation

14 ANYIENI, Z.M. 1989 DAE

KEYNOTE ADDRESS BY THE CHAIRMAN, PERMANENT PRESIDENTIAL COMMISSION ON SOIL CONSERVATION AND AFFORESTATION TO THE PARTICIPANTS OF THE WATER CONSERVATION SEMINAR AT NANYUKI, 7-11 AUGUST 1989.

16 pp.

Paper addresses itself to the challenges of environmental conservation for increased and sustained productivity. Analyses the state of soils, forests, water, the impact of toxic and hazardous wastes, and wildlife and habitat conservation. Gives the broad terms of reference, the structure, and specific functions of the commission.

GoK/Soil and water conservation

15 ANYONA, A.N. 1982 DAE

INVESTIGATIONS INTO PROBLEMS EMANATING FROM ROAD DRAINAGE WITH SUGGESTED METHODOLOGY FOR PREVENTION IN MURANG'A AND BARINGO DISTRICTS

Post-graduate Diploma Project Report, University of Nairobi, Department of Agricultural Engineering 67pp
17 figs. 8 tables, 20 refs.

Reports some of the problems of soil erosion asssociated with road design, construction and drainage, in Murang'a and Baringo Districts Also gives some recommendations on control and future prevention methods.

Baringo District/Murang'a District/Soil and water conservation/Physical infrastructures

16 ASAL 1985/86 1986

QUARTERLY EVALUATION REPORTS - ARID AND SEMI-ARID LANDS PROJECTS KITUI

Louis Berger Inc., Nairobi.

(not available for annotation)

Kitui District/Soil and water conservation

17 ASE, L.E. 1978 ASAL

PRELIMINARY REPORT ON STUDIES OF SHORE DISPLACEMENT AT THE SOUTHERN COAST OF KENYA

Geogr. Annlr. - 60A (3-4) pp. 209-221
11 figs. 3 tables, 17 refs. 6 plates

Reports a study of shore displacement along the coast of Kenya by means of levelling of raised beaches, terraces, caves, stakes and cliffs. Found no trend indicative of an uneven shore displacement.

Coast Province/Related literature

18 AUBRY, B. WAHOME, E.K. 1983 IDS

FIELD EXPERIMENTS ON SOIL EROSION IN AMBOSELI, KAJIADO DISTRICT

In: Soil and Water Conservation in Kenya. Thomas, D.B. & Senga, W.M. (Eds)
Proceedings of a Second National Workshop Nairobi, March 10-13, 1982
IDS Occasional Paper No. 42 pp.65-78
4 figs. 11 refs.

Paper describes a new portable rainfall simulator used in the Amboseli area, Kajiado District, to test the spatial variation in infiltration rates and effects of vegetation cover, surface texture and rilling on soil loss on a single gradient and soil type.

Kajiado District/Amboseli National Park/Rainfall simulation/Vegetation cover /Infiltration

19 BAGOORA, F.D.K. 1989 DAE, SIDA

A PRELIMINARY INVESTIGATION INTO THE CONSEQUENCES OF INADEQUATE CONSERVATION POLICIES ON THE STEEP SLOPES OF THE RUKIGA HIGHLANDS SOUTH-WESTERN UGANDA

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 496-508. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
1 fig., 1 table, 10 refs.

Paper is a preliminary case study of the geomorphological and socio-economic effects on the steep slopes of the Rukiga Highland in south -western Uganda. Observes that the problem has been dominated by vegetation denudation and cultivation of extremely sensitive slopes, causing extensive damage of arable land by both incipient erosion and mass wasting. Explains why the highlands residents had attained high conservation standards which later declined dismally.

South-western Uganda/Soil and water conservation/Causes

20 BAKE, G. 1983 ICRAF

WATER RESOURCES AND WATER MANAGEMENT IN SOUTH-WESTERN MARSABIT DISTRICT

IPAL Technical Report No. B-4.
116 pp., 27 figs., 18 tables, 22 refs., 3 appendices.

Study analyses the traditional forms of water use and the physical factors affecting the hydrology of the area. Discusses in details the drainage, infiltration and runoff, surface water, sub-surface water, determination of maximum water supply from a well, water consumption and the spatial distribution of water needs. Also discusses the management of water resources and precautions against drought, and water management policy.

Marsabit District/Wells/Management practices/Survey

21 BAKER, P.R., KINYANJUI, D.N ? IPAL

DRAFT UNSO PAPER

46 pp.

States the problems of desertification in Kenya, and the need to combat and monitor it. Provides and defines the role and objectives of the National Environment Secretariat, priorities for action, the structure for environmental management and functions of committees.

GoK/Soil and land degradation

22 BAKHTRI, M.N., GOVATTI, S.,ODHIAMBO, S.,NGULUU, S. 1982
ACIAR

FARMING SYSTEMS RESEARCH AT THE NDFRS KATUMANI (WITH SPECIAL REFERENCE TO SEMI-ARID AREAS OF THE EASTERN PROVINCE OF KENYA)

MOA, UNDP, FAO
65 pp., 2 figs., 14 tables, 18 refs.

Chapter 2 has a description of the environment, land use, soils and the farming population of the area. Chapter 3 describes the problems facing the farmers, which include rainfall scarcity, intensive soil erosion, and low level of organic matter and low fertility.

Machakos District/Katumani/Farming systems research

23 BARBER, R.G. 1979 KSS

THE INFLUENCE OF POLYVINYL ACETATE AND POLYVINYL ALCOHOL ON RUNOFF AND SOIL LOSS FROM A HIGHLY ERODIBLE SOIL FROM THE SEMI ARID AREAS OF KENYA

E. Afri. Agric. For. J. 44(2):122-125
1 table, 13 refs.

Presents the effect of polyvinyl acetate (PVAc) and polyvinyl alcohol (PVA) soil conditioners on soil loss and runoff. Using 47-48 mm/hr for 45 min. simulated storm found a surface application of 1% at 1 l/m2 produced the greatest reduction in runoff (97%) and soil loss (84%). Expense the main drawback.

Rainfall simulation/Chemical treatment/Prediction

24 BARBER, R.G. 1980 MAL, NAL

THE EFFECT OF DIFFERENT MANAGEMENT PRACTICES IN REDUCING SOIL EROSION AND RUNOFF FROM A HUMIC NITISOL

Paper presented at the fourth Annual General Meetng of the Soil Science Society of East Africa, Oct, 27-28, 1980, Arusha, Tanzania.

Article deals with the influence of crop cover, mulch rate and polyvinyl acetate (soil conditioner) in reducing soil loss and runoff on a freshly cultivated humic Nitosol at Kabete.

Nairobi District/Kabete/Mulching/Nitosols/Crop vegetation cover

25 BARBER, R.G. 1983 IDS

THE MAGNITUDE AND SOURCES OF SOIL EROSION IN SOME HUMID AND SEMIARID PARTS OF KENYA AND THE SIGNIFICANCE OF SOIL LOSS TOLERANCE VALUES IN SOIL CONSERVATION IN KENYA

In: Soil and water Conservation in Kenya. Proceedings of the Second National Workshop, Nairobi, 10-16 March, 1982 (Eds) Thomas, D.B. & Senga, W.M. IDS Occasional Paper No. 42, pp. 20-46
6 figs. 6 tables, 33 refs.

Assesses the magnitude of soil erosion in Kenya. It gives soil loss values for different sources of erosion and sediment yield and estimates of soil formation rates and tolerable rates for the humid and semi-arid areas of Kenya. It also lists possible approaches for reducing soil erosion rates.

Nairobi District/Kabete/Soil loss tolerance/Measurements/Soil and water conservation

26 BARBER, R.G., MOORE, T.R.,THOMAS, D.B. 1979 KADOC

THE ERODIBILITY OF TWO SOILS FROM KENYA

J. Soil Sci. 30(3):579-591
KADOC NO. 40175
4 figs., 5 tables, 21 refs., 2 plates

The experiment compares the soil loss and runoff rates from freshly dug Luvisols of Katumani Research Station and Nitosols of Kabete Field Station on a 6 degree slope at different rainfall intensities using a portable rainfall simulator. Also includes data and discussion on susceptibility to erosion of these soils.

Nairobi District/Machakos District/Run-off plots/Rainfall simulation/-

27 BARBER, R.G., THOMAS, D.B. 1979 KARI

MEASUREMENT OF SOIL LOSS AND RUNOFF FROM SIMULATED RAIN STORMS AT KABETE, KATUMANI AND IIUNI

Paper presented at the 3rd Annual General Meeting of the Soil Science Society of East Africa. July 25-27, 1979, Muguga, Kenya
18 pp., 1 fig., 5 tables, 12 refs., 2 appendices

Discusses results of applying varying intensity storms to a freshly ploughed luvisol at Katumani, freshly ploughed Nitosol at Kabete, and from three soils with different grass covers on grazing land at Iiuni. Gives rapid surface sealing as the reason why erosion is high on overgrazed areas.

Nairobi District/Machakos District/Rainfall simulation/Sealing and crusting /Vegetation cover

28 BARBER, R.G., THOMAS, D.B. 1981 DBT

INFILTRATION, SURFACE RUNOFF AND SOIL LOSS FROM HIGH INTENSITY SIMULATED RAINFALL IN KENYA

Report submitted to the FAO, Sept. 1981.
Faculty of Agriculture, University of Nairobi.
157 pp., 17 figs., 22 tables, 40 refs., 8 plates.

Reports measurements of soil losses, volume and rate of runoff of five freshly cultivated soils and seven grazing lands under 25, 50, 75 and 100 mm/hr simulated storms of one hour duration. The report also asseses the magnitude and significance of the erosion and runoff from cropland and grazing land, effects of maize and bean crop covers, mulches and polyvinyl acetate and the feasibility of using PVAc soil conditioner as conservation measure.

Rainfall simulation/Vegetation cover/Mulching/Chemical treatment

29 BARBER, R.G., THOMAS, D.B.,MOORE, T.R. 1981 DBT, KARI

STUDIES ON SOIL EROSION AND RUNOFF AND PROPOSED DESIGN PROCEDURES FOR TERRACCES IN CULTIVATED SEMIARID ARES OF MACHAKOS, KENYA

In: Soil Conservation, Problems and Prospects. Morgan, R.P.C. (Ed). Wiley and Sons, Chichester, pp. 219-237
4 figs., 4 tables, 35 refs.

Gives soil and runoff losses from cultivated lands of semiarid area in Machakos District, under simulated rainfall of 25, 50 and 100 mm/hr. More soil loss from Luvisol than from Nitosol. Also presents a nomograph for the design of steep backslope terraces to hold all runoff based on minimum infiltration rate, maximum rainfall expected in one hour for chosen frequency, terrace spacing and slope.

Machakos District/Rainfall simulation/Nitosols/Design/Luvisols

30 BARBER, R.G., VAN EIJNSBEREN, A.C. 1981 MAL

A PROPOSED MODEL TO PREDICT THE DEVELOPMENT OF LEVEL BENCH TERRACES FROM STEEP BACKSLOPE TERRACES

J. Agric. Eng. Res. 26 pp271-276
4 figs., 8 refs.

Proposes a model for predicting changes from steep backslope terraces to level bench terraces through natural processes of erosion and normal tillage practices, based on the Universal Soil Loss Equation (USLE).

USLE/Terraces

31 BARRING, L. 1987. SIDA

SPATIAL PATTERNS OF DAILY RAINFALL IN CENTRAL KENYA: APPLICATION OF PRINCIPAL COMPONENT ANALYSIS, COMMON FACTOR ANALYSIS AND SPATIAL CORRELATION.

In: J. of Climatology 7:267-289.
9 figs., 2 tables, 58 refs.

Paper is a summary of a project done to study what kind of, and how much, information on spatial rainfall patterns can be revealed by applying principal component analysis (PCA) and common factor analysis (CFA) to daily rainfall data (or data accumulated over some other period); and to analyse the spatial correlation patterns in the study.

Rainfall characteristics

32 BARRING, L. 1988

ASPECTS OF DAILY RAINFALL CLIMATE RELEVANT TO SOIL EROSION IN KENYA

Rappoter Och Notiser 70
Department of Physical Geography, University of Lund, Sweden.

(not available for annotation)

Rainfall characteristics

33 BARRING, L. 1988 SIDA

REGIONALIZATION OF DAILY RAINFALL IN KENYA BY MEANS OF COMMON FACTOR ANALYSIS.

In: J. of Climatology 8:371-389
10 figs., 4 tables, 51 refs.

Paper is a summary of a study project designed to map a regionalization of daily rainfall in Kenya by means of a common factor analysis (CFA). In this study maximum likelihood factor analysis (MLFA) has been chosen as a tool for producing a regionalization of Kenya based on daily rainfall totals. Contains a description of the data selection procedure used for the study and a general discussion of data quality and representativity. Also presents statistical procedures.

Rainfall characteristics

34 BARROW, E.G.C. 1983 IDS

USE OF MICROCATCHMENTS FOR TREE PLANTING IN SOIL CONSERVATION FOR SEMI-ARID AREAS

In Soil and Water Conservation in Kenya - Proceedings of the Second National Workshop, Nairobi, March 10-13, 1982.
Edited by Thomas, D.B. & Senga, W.M. IDS Occasional Paper No. 42 pp. 324-332
1 fig., 1 table, 17 refs.

Deals with the use of microcatchments for tree planting and reducing soil erosion by holding runoff within the microcatchment in the semi-arid area of Ninyang Division, Baringo District. Also lists 13 tree species that showed success in the trials.

Baringo District/Revegetation/Micro-catchments

35 BARROW, E.G.C. 1984

NORAD'S INVOLVEMENT IN THE FORESTRY SECTOR OF TURKANA DISTRICT; PAST WORK AND FUTURE PROSPECTS.

Forest Department, Lodwar, Kenya.
23 pp.

(not available for annotation)

Turkana District/Agroforestry

36 BARROW, E.G.C. 1986 DBT

FORESTRY HANDBOOK FOR PRIMARY SCHOOL TEACHERS IN TURKANA DISTRICT

Forestry Department and Turkana Teaching Resource Centre
100 pp., 37 photos, 5 refs.

The school teaching handbook identifies all species of trees found in Turkana district and their respective uses to induce the local population to conserve trees.

Turkana District/Multi-purpose trees

37 BARROW, E.G.C. 1989 DAE, SIDA

THE VALUE OF TRADITIONAL KNOWLEDGE IN PRESENT-DAY SOIL CONSERVATION PRACTICE: THE EXAMPLE OF WEST POKOT AND TURKANA

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 471-485. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
23 refs.

This paper attempts to highlight some of the traditional values that the Pokot and Turkana people have which could be of intrinsic value to soil and water conservation if used sensibly in the dry areas. It further attempts to identify methods of incorporating such traditional values in soil and water conservation practice for arid and semi-arid lands. Discusses such aspects as range management, land use strategies and woody species management in relation to soil conservation.

West Pokot District/Turkana District/Socio-economic aspects/Soil and water conservation

38 BECKLEY, V.A. 1989 MAL

SOIL EROSION

Colony and Protectorate of Kenya, Department of Agriculture. Bulletin No. 1
Government Printer
78 pp., 10 figs., 6 tables, 29 refs., 3 plates

A paper dealing with factors affecting erosion, types of erosion, effects of erosion and conservation measures such as control and reclamation of gulleys, contour farming (hedging), strip cropping, mulching and terracing. Gives examples of particular soil conservation measures in practice under coffee, tea and cereal cultivation.

Causes/Land degradation/Terraces/Management practices

39 BERGER, M.A. 1989 DAE, SIDA

ASPECTS OF FAO'S ACTIVITIES IN PROMOTING SOIL CONSERVATION

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 518-529. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
1 fig., 2 refs.

Paper discusses the issues that need be considered in formulating a successful soil conservation programme to raise land productivity. Issues include the involvement of land users, direct short-term benefits to the farmers, land tenure systems, practical and appropriate techniques, use of proper conservation incentives, and willingness to adopt long-term programmes and policies. Provides a general model on erosion-yield relationship.

Policies/Soil productivity

40 BERNARD, F.E. 1985 ACIAR

PLANNING AND ENVIRONMENTAL RISK IN KENYA DRYLANDS

Geogr. Rev. 75:58-70
1 fig., 1 table.

Paper argues that the continued migration of people from the highlands to the arid and semi-arid areas of Kenya has caused concern about the ability to support an ever increasing population. Further argues that an examination of strategies for planning and development concludes that life in Kenya drylands is becoming more, not less, risky inspite of the efforts by the government to mitigate the situation.

Policies

41 BIAMAH, E.K. 1984

SOIL CONSERVATION PRINCIPLES AND PRACTICES BASED ON KENYA'S SOIL CONSERVATION EXPERIENCE

(unpublished manuscript)
203 pp., 103 figs., 27 tables, 16 refs.

Booklet discusses soil conservation principles and practices based on Kenya's experience so as to expose the country's soil conservation specialists with more technical information. It addresses itself to issues pertaining to soil formation, nature and susceptibility to soil erosion, types of erosion, wind erosion, prediction of soil loss due to soil erosion, conservation measures, and the general principles and practices of soil conservation.

Soil and land degradation/Soil and water conservation/Soil erodibility/

42 BIAMAH, E.K. 1986 DAE

GULLY DEVELOPMENT AND CONTROL, LAND USE AND FARM PLANNING

Ministry of Agriculture and Livestock Development
figs, tables, maps.

Study was prepared to provide guidelines for training soil and water conservation officers of the Ministry of Agriculture and Livestock Development. Looks at the origin, development and impact of gullies. Gives details on how to control gully erosion specifying the structures and how to construct and maintain them. Also evaluates the capability of the land.

Training/Extension/Gully erosion/Gully control

43 BIAMAH, E.K. 1987 DAE

PERSONNAL NOTES ON RAINWATER HARVESTING TECHNIQUES IN CENTRAL BARINGO, KENYA

(not available for annotation)

Baringo District/Water harvesting

44 BIAMAH, E.K. 1987 DAE

LESSONS LEARNT FROM ARID AND SEMI ARID LANDS DEVELOPMENT PROJECTS IN KENYA

Paper presented at the Conference on Project Identification in Developing Countries, Institute for Development Policy and Management, University of Manchester, UK., September, 1987.
29 pp., 9 refs.

Paper discusses the need for effective and realistic project planning, implementation, management and evaluation of development projects in order to overcome the challenges of identifying feasible agricultural development projects in the ASAL areas. Examines issues on short term vs long term planning; economic efficiency vs welfare considerations and the choice of technology; management of a fragile ecology; inter-disciplinary coordination and the management of technical assistance in relation to local knowledge.

Policies

45 BIAMAH, E.K. 1988 DAE

ENVIRONMENTAL DEGRADATION AND REHABILITATION IN CENTRAL BARINGO, KENYA

Paper presented at the 5th International Soil Conservation Conference on Land Conservation for Future Generations, Bangkok, Thailand, January 18-29, 1988.
ISCO and Land Development Department, Thailand
32 pp., 9 figs., 7 tables, 23 refs.

Study looks at the current environmental degradation and rehabilitation within Njemps Flats and Tugen Plateau areas of Central Baringo. An attempt is made to assess the environmental impact of a Fuelwood and Fodder Production Project operating within the two areas. Gives details of the environmental conditions of the study area. Also outlines the scope and method of the study.

Baringo District/Reclamation/Soil and land degradation

46 BIAMAH, E.K. 1988 DAE

EVALUATION OF FEASIBLE CONSERVATION STRATEGIES FOR THE SMALLHOLDER FARMER IN SUB-SAHARAN AFRICA: CASE STUDIES FROM MALAWI AND KENYA

Paper presented at the International Conference on Dryland Farming, Amarillo/Bushland, Texas, USA, August 15-19, 1988.
9 pp., 4 refs.

Paper argues that, due to increasing land deterioration, there is a need to formulate new conservation strategies which would be area specific and technically effective and also consider local environmental conditions. Points out that the strategies must offer short-term benefits through increased crop yields, fuelwood, and fodder production. Further argues that an adaptive research approach based on the integration of on station, on farm trials and local knowledge could be a suitable intervention to smallholders.

Policies

47 BIAMAH, E.K. 1989 DBT

WATER HARVESTING AND CONSERVATION: TECHNIQUES FOR INCREASED CROP AND FODDER PRODUCTION IN ARID AND SEMI-ARID AREAS OF KENYA

Paper presented at the ASAL Soil and Water Conservation Programme Development Workshop, Embu, 18th-22nd Sept., 1989
16 pp., 7 refs.

Paper evaluates existing water harvesting and conservation technologies and explores the potential for developing effective and sustainable runoff water harvesting techniques for arid and semi-arid lands. Analyses water harvesting structures, water conservation and utilization techniques, and the requirements for designing effective water harvesting and conservation system for ASAL. Presents a case study on runoff water harvesting and conservation experiences in Central Baringo.

Baringo District/Water harvesting

48 BIAMAH, E.K. 1989 DAE, SIDA

TECHNICAL AND SOCIO-ECONOMIC CONSIDERATIONS IN REHABILITATING AND CONSERVING AN ERODED/DENUDED CATCHMENT: A CASE STUDY OF THE CHEMERON CATCHMENT AREA IN CENTRAL BARINGO

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 291-308.
(Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
3 figs., 3 refs.

The paper analyses the technical and socio-economic considerations in rehabilitating and conserving the Chemeron catchment area in Baringo District focusing causes, status, and long term impacts of soil erosion in the area. Classifies and assesses soil erosion in the district stating the type of human activity and type of erosion prevalent in each class. Gives general background information on the Chemeron catchment area.

Chemeron/Baringo District/Reclamation/Socio-economic aspects/Causes

49 BIAMAH, E.K. (Ed) 1985 SIDA

PROCEEDINGS OF A SOIL CONSERVATION WORKSHOP ON GRAZING LANDS, 9-12 APRIL, 1985, NAIROBI.

Ministry of Agriculture and Livestock Development
171 pp., 10 figs, 33 refs.

This is an executive summary of a workshop convened by the soil and water conservation division of the Ministry of Agriculture to discuss soil conservation in grazing lands on realizing that there was lack of proven conservation technology for grazing lands; technical and policy co-ordination of the bodies involved in conservation; effective extension efforts in grazing lands. Gives some recommendations.

Soil and water conservation

50 BIAMAH, E.K., NYAGA, C.R.J. 1985

PROPOSED INTEGRATION, REHABILITATION AND CONSERVATION PROGRAMME OF THE CHEMERON CATCHMENT AREA OF BARINGO (CENTRAL) DISTRICT

(not available for annotation)

Chemeron/Baringo District/Reclamation/Soil and water conservation

51 BLACKIE, J.R. 1972

HYDROLOGICAL ASPECTS OF CHANGE IN LAND USE FROM RAIN FORESTS TO THE PLANTATION IN KENYA

IAHS/UNESCO Studies Reports. Hydrology No. 12 pp 313-329

(not available for annotation)

Management practices/Land use

52 BLACKIE, J.R., EDWARDS, K.A.,CLARK, R.T. (Eds) 1979 MAL

HYDROLOGICAL RESEARCH IN EAST AFRICA

E. Afri. Agric. For. J.Vol 43 (special issue) 314pp.

Discusses results of 18 years observation with the various aspects of the hydrological cycle. Concludes no long term reduction in water yield if land use changes from forest to tea.

Management practices/Land use

53 BOBOTTI, O.K. 1989 DAE

TANA RIVER BASIN WATER CONSERVATION - TARDA EXPERIENCE

Paper presented at the Water Conservation Seminar, Nanyuki, 7-11 August, 1989
3pp., 1 map.

Paper states that TARDA recognizes the on-farm water and soil conservation and on-river channel water storage components of water conservation. Describes the two components, their benefits, and future challenges of the programme. Lists the objectives of the on-river development of water conservation at Masinga and Kiambere dams.

Lower Tana Basin/Soil and water conservation/Dams

54 BOGDAN, A.V., PRATT, D.J. 1967 MAL

RESEEDING DENUDED PASTORAL LAND IN KENYA 48pp.

Government Printer, Nairobi
12 figs. 5 tables, 10 plates

Deals with methods of reclaiming denuded grass lands by reseeding, seed bed preparation and supplementary seed protection. Also gives list of recommended grass species.

Reseeding

55 BPSAAP 1984

SUMMARY OF INTERIM REPORT, CENTRAL BARINGO, KENYA

(not available for annotation)

Baringo District

56 BRABBEN, T.E. 1979 TARDA

SEDIMENTATION IN RESERVOIRS: PROPOSALS FOR THE FIELD MEASUREMENT OF SEDIMENT DISCHARGE AND RESERVOIR SURVEYS IN THE UPPER TANA BASIN, KENYA

Research Proposal ODM 3/4
Hydraulics Research Station, Wallingford, England.
20 pp., 8 figs., 1 table.

Proposal to carry out field measurements of sediment discharge at certain points on the Upper Tana River, and to carry out surveys of selected reservoirs within the same region, so as to provide a methodology for the regular monitoring and measurement of sediment transport and deposition, identify areas of excessive sediment yield, obtain information on the depletion of storage capacity within the Tana River reservoirs.

Upper Tana River/Measurements/Sedimentation/Dams

57 BRADLEY, P.N., NGUGI, A.W. 1986 SIDA, KWDP

AGROFORESTRY, SOIL CONSERVATION AND WOODFUEL IN MURANG'A DISTRICT
PART II
FARM TYPOLOGIES AND FARM PROFILES FROM FIVE SUBREGIONS OF MURANG'A DISTRICT

Kenya Woodfuel Development Programme
67 pp., 3 figs., 20 tables, 8 refs.

Study uses correlation analysis principal component analysis, numerical classification, discriminant analysis and air-photo data, to generate data for the analysis of farm characteristics for the purposes of agroforestry and soil management in Murang'a District.

Murang'a District/Agroforestry/Survey/Management practices

58 BRAUN, H.M.H. 1977 KADOC

AVERAGE MONTHLY RAINFALL AS A PERCENTAGE OF THE ANNUAL IN KENYA AND TANZANIA, WITH PARTICULAR REFERENCE TO THE KENYA COAST
KADOC NO. 10212

Kenya Soil Survey, Miscellaneous Paper No. M13
8 pp., graphs, 6 refs.

Studies rainfall distribution from Northern Kenya to Southern Tanzania and from Western to Eastern Kenya, with special reference to the Coastal Strip.

Rainfall distribution

59 BRAUN, H.M.H. 1977 KADOC

SEASONAL AND MONTHLY RAINFALL PROBABILITY TABLES FOR THE EAST-CENTRAL, NORTH-WESTERN AND COAST REGIONS OF KENYA
KADOC NO. 10211

Kenya Soil Survey, Miscellaneous Paper No. M14
21pp. 17 tables, graph, 24 refs.

Data on rainfall and evaporation per season in the three areas are given and discussed.

Rainfall distribution

60 BRAUN, H.M.H. 1977 KADOC

THE RELIABILITY OF THE RAINY SEASON IN MACHAKOS AND KITUI DISTRICTS
KADOC NO. 10210

Kenya Soil Survey, Miscellaneous Paper No. M12
18 pp., 4 tables, 4 graphs, 8 fold maps (1:1,000,000), 11 refs.

Studies seasonal rainfall and its probability, seasonal evaporation, crop water requirements, ratio of rainfall to potential evaporation and climatic zoning.

Machakos District/Kitui District/Rainfall distribution

61 BRAUN, H.M.H. 1986 ACIAR

SEASONAL DISTRIBUTION OF RAINFALL IN KENYA

Kenya Soil Survey Miscellaneous Paper No. M14.
10 pp., 5 figs., 2 tables, 8 refs.

Paper argues that monthly rainfall expressed as a percentage of annual rainfall is a useful parameter for comparing the rainfall distribution of stations which differ considerably in average annual rainfall.

Rainfall distribution

62 BRAUN, H.M.H., MUCHENA, F.N. 1978 IDS

THE KENYA SOIL SURVEY AND SOIL CONSERVATION

In Soil and Water Conservation in Kenya. Proceedings of a Workshop held at the University of Nairobi, Faculty of Agriculture, 21-23 Sept., 1977. IDS Occasional Paper No. 27. pp. 11-24
7 refs.

Describes the major activities of the Kenya Soil Survey and in particular the soil erosion hazard map. Gives a long list of (95) publications of the Kenya Soil Survey.

Survey

63 BROOK, T.R. 1952 MAL

SOIL AND WATER CONSERVATION IN SISAL: EXPLANATION OF THE COORDINATION OF METHODS OF CONTOUR PLANTING AND RAIL HAULAGE, KENYA

E. Afr. Agric. J. 18: 78-83
3 figs.

Explains the use of contour planting and contour grass strips on sisal plantations to reduce soil erosion, and gives examples of conservation layout.

Contouring/Layout/Grass strips

64 BROOK, T.R. 1955 MAL

SOIL AND WATER CONSERVATION

Mon. Bull. Coff. Bd. Kenya 20 (231) : 65

A short article recommending the use of mulching and narrow based terrraces, and warns the damage that can be caused by the improper layout of the terraces and gives two examples of failures and estimates soil losses of Ruiru and Kiambu estates.

Kiambu District/Mulching/Terraces/Layout/USLE

65 BROOK, T.R., ROBINSON, J.B.D. 1959 MAL

CAMBER BED CULTIVATION OF GROUND WATER (VLEI) SOILS II. MODIFICATION OF THE SYSTEM

E. Afr. Agric. J. 24 : 192-196
1 fig. 1 table, 6 plates

An experimental report dealing with methods of safely discharging runoff from camber beds of vlei soils and describes methods of layout and bed preparation, ploughing and ripping, bed shaping.

Soil types/Management practices/Design/Layout

66 BROWN, L. 1979 DBT

EROSION

In Turkwell Gorge Multiporpose Project. Socio Economic and Ecology Feasibility Study by Norconsult. Chapter 5 pp. 77-81

A short article discussing the present erosion in the Turkwell catchment. Assesses the erosion taking place on both crop land and grazing land and gives rating based on aerial photo analysis, vegetation map and air inspection. Recommends some measures of reconditioning the catchment. Lists eight grass species that can be used in reseeding.

Turkwell/Survey/Reseeding/Reclamation

67 BRYAN, R., BOWYER-BOWER, T. 1986 SIDA

SOIL EROSION PROCESSES AND DEVELOPMENT OF SEMI-ARID EPHEMERAL DRAINAE BASINS AT BARINGO DISTRICT KENYA

University of Toronto, Canada
21 pp., 41 refs.

A proposal for a research programme to develop methodologies suitable for areas where quantitative data is not available. Project aims to look at: soil erodibility and degradation; relationship of topography to soil erosion; relationship between sheet and channel erosion; sediment sources and sediment routing through drainage systems. Authors hoped to evolve a new theoretical model on soil conservation in the tropics.

Land degradation/Soil erodibility/Rainfall characteristics

68 BRYAN, R.B., SUTHERLAND, R.A. 1989 DAE, SIDA

ERODIBILITY OF SOILS IN BARINGO DISTRICT.

In: Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 73- 87. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
3 figs., 4 tables, 5 photos, 21 refs.

Paper is a summary of a study designed to provide initial information on the relative erodibility and associated properties of a range of soils in Baringo District that represent different erosion processes. Discusses and illustrates the experimental designs and laboratory analysis of soil characteristics of the area using ten sites located in different parts of the district. The classification and characteristics of the soil are shown in a table. Recommends a more extensive survey to modify conservation measures

Baringo District/Land degradation/Soil erodibility/Rainfall characteristics

69 CAMPBELL, D.J. 1977 UNEP

LAND USE COMPETITION AT THE MARGINS OF THE RANGELANDS: A PROPOSAL FOR RESEARCH IN KAJIADO DISTRICT

IDS Working Paper No. 22
University of Nairobi
12 pp.

Deals with the competition between pastoralism and agriculture in semiarid areas - between farmers and herders. States the population pressure in agricultural areas as the driving force of farmers migration to marginal dry land and the effect of drought on agriculture and grazing land.

Kajiado District/Land use/Socio-economic aspects

70 CARRUTHERS, I.D. 1974 IDS, IBRD

APPRAISING PROPOSALS FOR WATER SUPPLY INVESTMENTS

IDS Discussion Paper No. 195.
26 pp., 1 fig., 3 tables, 11 refs., appendix.

Paper discusses the feasibility and utility of economic appraisal for community water investments. Describes in details the scope of the current investments. Also discusses the special problems associated with the proliferation of self-help water schemes. Explores the problem of judging whether public and private water investments is at an appropriate level given national goals and available resources Suggests a set of criteria which may be used to obtain information about individual schemes.

Water resources/Organization

71 CHAMPION, A.M. 1933 MAL

SOIL EROSION IN AFRICA

Geogrl. J. 82: 130-139

The paper reports personal observations on the causes of accelerated soil erosion: soil physical structure, geological formation, slope, climate, vegetation, cultivation, overgrazing and gives measures of reducing and preventing erosion.

Soil erodibility/Rainfall characteristics/Land degradation

72 CHEATLE, R.J., MURAYA, P.,YOUNG, A. 1989 DAE, SIDA

MODELLING SOIL CHANGES UNDER AGROFORESTRY

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 254-271. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
9 figs., 29 refs.

Paper argues that recent research has changed the older approach to soil conservation which emphasised controlling the rate of soil loss to that which recognizes that the effects of erosion extend to loss of nutrients, organic matter, and through the latter, deterioration of physical properties. Analyses the effects of trees on soil and justifies the choice of Soil Changes Under Agroforestry (SCUAF) carbon model approach to soil conservation.

Agroforestry/Chemical properties/Physical properties

73 CHEGE, G.N. 1989 DAE

NCCK WATER CONSERVATION PROJECT IN SEMI-ARID AREAS OF LAOKIPIA WEST

Paper presented at the Water Conservation Seminar, Nanyuki, 7-11 August, 1989.
8 pp.

Project objectives are to create awareness of clean water storage to the community in health conditions; promote technology for water conservation; assist the community in solving the water problem within the area; provide a source of water for household use; save time used to trek long distance to fetch water.

Laikipia District/Water resources/Soil and water conservation

74 CHEPKWONY, P.K. 1980 DAE

RESTORATION OF VEGETATION COVER ON DEGRADED GRAZING LAND IN A LOW RAINFALL AREA OF MACHAKOS DISTRICT

Postgraduate Diploma Project Report, University of Nairobi, Department of Agricultural Engineering, Nairobi
7 figs. 8 tables, 16 refs. area map

Reports trials with ring infiltrometer on denuded rangeland and discusses ways of improving infiltration. Examines the adaptability of three grass species - Cenchrus ciliaris, Panicum maximum and Bothrichloa sp. for revegetation. Lists the causes of land denudation.

Machakos District/Causes/Infiltration/Revegetation

75 CHERUIYOT, J.K. 1989 DBT

WATER HARVESTING EXPERIENCES FROM SEMI-ARID AREA OF BARINGO

Paper presented at the ASAL Soil and Water Conservation Programme Development Workshop, Embu, 18-22 Sept., 1989.
7 pp., 3 figs., 2 tables

Discusses macro-catchment and micro-catchment systems of water harvesting as adopted in Baringo District. Gives the advantages of micro-catchments over macro-catchments. Also discusses the major constraint to the adoption of water harvesting techniques in Baringo District. Contains schematic diagrams on how macro- and micro-catchments are laid for runoff harvesting.

Baringo District/Layout/Micro-catchments/Macro-catchments

76 CHERUIYOT, S.K. 1984

INFILTRATION RATES AND SEDIMENT PRODUCTION OF A KENYA BUSHED GRASSLAND AS INFLUENCED BY VEGETATION AND PRESCRIBED BURNING.

M.Sc. Thesis, Range Science Department, Texas A&M University College Station, Texas.

(not available for annotation)

Vegetation cover/Measurements/Infiltration

77 CHINA, S.S. 1979 DAE

SURVEY OF CONSERVATION PRACTICES ON STEEP LAND, BARINGO DISRTICT

Post Graduate Diploma Project Report, University of Nairobi, Department of Agricultural Engineering, Nairobi
86 pp. 6 figs. 9 tables, 8 refs. 7 plates

Report of a survey on existing soil and water conservation works, based on 14 terraces and 19 cutoff drains, along the Tugen hills of Baringo District.

Baringo District/Tugen/Cut-off drains/Terraces

78 CHINA, S.S., KUNDU, P. n.d.

EVALUATION AND MAPPING OF EROSION PROCESSES ON TUTTON FARM AND ITS SURROUNDINGS

(unpublished)

(not available for annotation)

Survey/Land degradation/Soil types

79 CHITERE, P. 1988 DBT

SOIL CONSERVATION IN KENYA

Report of the Joint Kenya/Sweden Soil Conservation Review Mission of 1988
SIDA
133 pp., 4 figs.

The report contains background information on the soil and water conservation programme, agricultural development and socio-economic aspects, conservation techniques and management, use of trees, community participation, extension approach, training and staff development, the role of women in conservation, planning, monitoring and evaluation, staff organization, institutional collaboration and future support.

Soil and water conservation

80 CHRISTIANSSON, C. 1989 DAE, SIDA

RATES OF EROSION IN EAST AFRICA SAVANNAH ENVIRONMENT: ASSESSMENT OF RUNOFF AND SOIL LOSS IN NATURAL CATCHMENTS AND ON EXPERIMENTAL PLOTS

In: Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept. 1986. pp. 99-114. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
2 tables, 21 refs.

Paper summarizes results of studies on soil erosion rates in five natural catchments at Dodoma, and on runoff and soil loss on experimental plots at Mpwapwa Central Tanzania. The data is compared to that obtained from similar studies in other savannah lands of Africa Gives an extensive summary of distribution and intensity of soil erosion.

Soil erodibility/Prediction/Run-off plots

81 CHUAGA, F.M. 1989 DAE, SIDA

IRRIGATION CANAL DAMAGE BY EROSION, ANIMALS AND DREDGING MACHINES AT MWEA IRRIGATION SCHEME, KENYA

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 383-389. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
8 figs., 3 tables, 1 ref.

Paper summarizes findings of a study carried out in 1979 to investigate irrigation canal damage caused by erosion, animals and dredging machines at Mwea Irrigation Scheme, Thiba. Describes the physical features of the area, materials and methods used for study, and tabulates the results obtained.

Kirinyaga District/Mwea/Soil and land degradation

82 CHURCH, C. 1970 KAB, MAL

WATER SPREADING SCHEMES IN TURKANA LAND

Kenya Fmr. No. 161, January 9-10, 1970
2 pp. 5 plates

A water spreading technique carried out at Lorengipe, Turkana is described. Results show good pasture production from three grass species from a spread of runoff water from a dry river bed into a wide area through a series of S-shaped bunds.

Turkana District/Water harvesting/Spate irrigation

83 CLARK UNIVERSITY, PROGRAMME FOR INTERNATIONAL DEVELOPMENT 1981 USAID

FIRE WOOD AND ENERGY IN EASTERN AFRICA: AN ASSESSENT OF THE ENVIRONMENTAL IMPACT ON ENERGY USE

AID Research and Development Abstract IX, 2

Assesses the continous firewood collection leading to collective deforestation and desertification. Recommends small community forestation projects with the participation of the communities in projec planning.

Soil and land degradation/Deforestation/Revegetation/Organization

84 COMPETENT AUTHORITY, NETHERLANDS, AND COMPETENT AUTHORITY, KENYA 1984 KADOC

SCHEDULE OF OPERATION FOR THE KENYA SOIL SURVEY PROJECT 1985-1987

Nairobi, June 1984
41 pp.

Project seeks to co-operate in providing training for and the conducting of soil surveys which would provide information about the soils and land resources of Kenya required for accelerated agricultural development and systematic rural land use planning.

Soil types/Land use

85 CONENT, F.P. 1982 NES

THORNS PAIRED, SHARPLY RECURVED: CULTURAL CONTROL AND RANGELAND QUALITY IN EAST AFRICA

In Desertification and Development: Dryland Ecology in Socio Perspective
Spooner, B. and Mann, H.S. (Eds).
Academic Press London. pp 111-122
3 figs. 2 tables, 1 plate

Deals with the traditional practice of the Pokot people and argues that traditional herding and shifting cultivation are the integral part of the ecosystem and their removal can lead to results that are more undesirable than the effects of overgrazing.

West Pokot District/Overgrazing/Socio-economic aspects

86 CRITCHLEY, W.R.S 1984 DBT

RUNOFF HARVESTING FOR CROP, RANGE AND TREE PRODUCTION IN THE BPSAAP AREA

Baringo Pilot Semi-arid Area Project (BPSAAP), Draft
24 pp., 8 figs. 8 tables, 25 refs.

Draft deals with the macro and micro-catchment runoff harvesting systems, design theory, classification of systems, and systems selections for various production options. Gives some results on the runoff harvesting trials at Katiorin, Baringo, on five different treatments for crop production, range reseeding and tree planting. It also provides a flow chart for systems selection and recommendations for the BPSAAP area.

Baringo District/Katiorin/Macro-catchments/Micro-catchments/Revegetatic

87 CRITCHLEY, W.R.S. 1989 DAE, SIDA

RUNOFF HARVESTING FOR CROP PRODUCTION: EXPERIENCE IN KITUI DISTRICT

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 396-406.
(Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
2 figs., 2 tables, 8 refs. appendix.

Paper presents results of a study set out to establish whether runoff harvesting systems are viable, and whether one or another system could be recommended as an alternative soil conservation measure to fanya juu terracing for the lower zone of Kitui District. Report says that runoff harvesting worked well and showed crop-yield responses in seasons of below average rainfall.

Kitui District/Water harvesting/Soil productivity

88 CULLIS, A.D. 1981

A STUDY OF FARMING IN TURKANA DISTRICT OF NORTH-WEST KENYA

(unpublished report)

(not available for annotation)

Turkana District

89 DAGG, M., BLACKIE, J.R. 1965

STUDIES OF THE EFFECTS OF CHANGES IN LAND USE ON THE HYDROLOGICAL CYCLE IN EAST AFRICA BY MEANS OF EXPERIMENTAL CATCHMENT AREAS

IAHA Bull. 10: 63-75

(not available for anotation)

Land use

90 DAGG, M., PRATT, M.A.C. 1962 MAL

RELATION OF STORM FLOW TO INCIDENT RAINFALL

E. Afr. Agric. For. J. 27: 31-35 (special issue)
5 figs. 5 tables

Establishes a response relation to predict a total storm runoff from daily records of rainfall intensity for the Lagan and Sambret Catchment. Also compares runoff from adminstrative area and similar forested area.

Prediction/Rainfall intensity

91 DAINS, S.H., NJOROGE, P.,NJUI, K. 1978 KADOK

SOIL AND WATER MANAGEMENT IN THE MARGINAL/SEMI-ARID LANDS OF KENYA

Report No. 4 - Marginal/Semi-arid Lands Pre-investment Inventory, Kenya
136 pp. 21 tables, 24 refs. 2 plates, 7 graphs, 2 maps

Describes soil and water management in Machakos, Kitui and Embu Districts as well as Baringo - Kerio Valley area. Emphasis is laid on climatology and hydrology, soil erosion. Results of a soil conservation inventory and recommendations are given. Also describes in detail the ground water reconnisance survey of the study areas and outlines rural water supply, irrigation and drainage.

Machakos District/Kitui District/Embu District/Baringo District/Soil- and water conservation

92 DAMBA, J. 1981 DAE, KAB

INVESTIGATION INTO CAUSES OF GULLYING AND GULLY CONTROL IN KANDARA DIVISION OF MURANG'A DISTRICT

Postgraduate Diploma project report, University of Nairobi, Department of Agricultural Engineering.
17 figs. 4 tables, 25 refs.

Surveys the causes and problems of gully erosion in Kandara Division of Murang'a Disrict. Evaluates the present gully control practices of using wooden and stone check dams and analyses their effectiveness and cost.

Murang'a District/Gully erosion/Gully control/Dams

93 DANIDA 1981 DAE

KENYA: MUTUMO SOIL AND WATER CONSERVATION PROGRAMME - APPRAISAL REPORT AND PROGRAMME PROPOSAL

92 pp., 2 figs. 5 tables

The study has an in-depth description of the physical characteristics which include the location of the area, climate, vegetation, geology, and soil and water conditions plus the associated problems. The study analyses the actual programme proposal highlighting such components as the survey, soil conservation, agricultural techniques, and water conservation.

Kitui District/Water harvesting/Soil and water conservation/Management practices

94 DARNTON, N. 1979 UNEP

PUSHING BACK THE DESERT

Desertification Control 2(1) pp 17-19
3 plates

Contains report of IPAL's Team activities in the Mt. Kulal area of Northern Kenya, where attempts are made to study the recovery of natural vegetation of the bare arid lands. Identifies the existence of more people and animals than the land can support as the main problem and suggest some remedies.

Marsabit District/Revegetation/Overpopulation/Soil and land degradation

95 DE JONG, C 1976 KSS

LAND USE ALTERNATIVES IN HIGH POTENTIAL AREAS OF MEDIUM TO HIGH ALTIDE, THE KITALE - KAPENGURIA AREA

Kenya Soil Survey Miscellaneous Paper No. 3
68pp. 1 table, 41 refs.

The paper warns of the need for soil conservation measures if the land has to sustain the population, as erosion is severe.

West Pokot District/Land use/Overpopulation

96 DEPOMMIER, D. 1985 DBT, SIDA

THE ROLE OF WOODY VEGETATION IN SOIL CONSERVATION AND REHABILITATION

In Proceedings of a Soil Conservation Workshop on Grazing Lands, Nairobi, 9-12 April, 1985, pp. 82-118 , Biamah, E.K. (Ed).
Ministry of Agriculture
33 refs.

The paper examines factors that cause and accelerate erosion processes as well as the qualitative loss of the soil. The paper also discusses the role of vegetation and woody perennials in soil conservation and rehabilitation.

Causes/Reclamation/Vegetation cover

97 DOWNING, T.E., KAMAU, G.,NDONYE, M. 1985 DBT, NES

SOIL EROSION DATA FOR KIAMBU DISTRICT, 1982 AND MURANG'A DISTRICT, 1983

In: Monitoring Soil Erosion in Kiambu and Murang'a Districts, Kenya Progress Report 1982-3
National Environment Secretariat
18 pp., 11 tables

This paper is an entire compilation of tabulated data on site characteristics, erosion statistics, slope, erosivity, and gully sizes, in Kiambu and Murang'a districts.

Kiambu District/Murang'a District/Soil and land degradation/Physiographic characteristics /Gully erosion

98 DOWNING, T.E., KARABA, M. 1985 DBT, NES

REVIEW OF THE NES/ETMA SOIL EROSION MONITORING METHODOLOGY

In: Monitoring Soil Erosion in Kiambu and Murang'a Districts, Kenya Progress Report 1982-3
National Environment Secretariat
5 pp.

The paper is a review of the methodology designed by NES to make comparisons between the many factors affecting soil loss. Aspects of the methodology discussed include project organization and design, validation and reliability, technical application and use of information.

Kiambu District/Murang'a District/Policies/GoK

99 DUNNE, T. 1974

SUSPENDED SEDIMENT DATA FOR THE RIVERS OF KENYA

Report to the Ministry of Water Development, Nairobi.

(not available for annotation)

Measurements/Sedimentation

100 DUNNE, T. 1977 IBRD

INTENSITY AND CONTROLS OF SOIL EROSION IN KAJIADO DISTRICT

UNDP/FAO Wildlife Management Project. Project Working Document No.12
Nairobi Wildlife Conservation and Management, Ministry of Tourism
151 pp., 34 figs., 16 tables, 53 refs., 12 plates

Report of controlled plot experiments under simulated rainstorm on different soil types, slope, storm, antecedent soil moisture and cover density, trampling by cattle and their effect on soil loss, runoff and ability of revegetation. Reports high rates of soil erosion, gives causes of variation, estimates life span of soil profile and concludes the need to develop intelligent land management.

Kajiado District/Run-off plots/Rainfall simulation/Compaction/Physical properties

101 DUNNE, T. 1977 KAB

STUDYING PATTERNS OF SOIL EROSION IN KENYA

FAO Soils Bull. No. 33, pp. 109-122
10 figs., 20 refs.

Describes some methods of quantifying erosion rates on hill slopes. Also gives runoff hydrograph of portable rainfall simulator study on small plots of 5 by 2 m and sediment yields of some Kenyan rivers.

USLE/Rainfall simulation/Run-off plots/Sedimentation

102 DUNNE, T. 1979 DBT

SEDIMENT YIELD AND LAND USE IN TROPICAL CATCHMENTS

J. Hyd., (Amsterdam) 42(3/4): 284-300
6 figs., 2 tables, 52 refs.

Analyses sediment yields from 61 Kenyan catchments in relation to land use as the dominant control of erosion. Indicates the effect of climatic and topographic variables within each land use category. Gives estimates of long term geological rate of erosion and isolates rural roads as the major contributors of sediment from disturbed catchmnets.

Measurements/Sedimentation/Land use/Prediction/Physical infrastructures

103 DUNNE, T., AUBRY, B.,WAHOME, E.K. 1981 KREMU, DBT

EFFECT OF WOODFUEL HARVEST ON SOIL EROSION IN KENYA

Kremu - Ministry of Energy Publication
84 pp., 24 figs., 3 tables, 36 refs.

Deals with the effect of woodfuel harvest on erosion in high potential areas, based on the (U)SLE. Provides a map of distribution of erosion rates for range lands. Reports density of ground cover and gradient to be more important than canopy cover. Concludes that selective removal of trees for charcoal burning does not increase erosion whereas complete clearing of forests for cultivation does.

USLE/Vegetation cover/Soil erodibility/Deforestation

104 DUNNE, T., BRUNENGO, M.J.,DIETRICH, W.E. 1978

CENOZOIC EROSION RATES IN KENYA

Department of Geological Sciences and Quaternary Research Centre, University of Washington

(not available for annotation)

USLE

105 DUNNE, T., DIETRICH, W.E.,BRUNENGO, M.J. 1978 DBT, KREMU

RECENT AND PAST EROSION RATES IN SEMI-ARID KENYA

Z. Geomorphol Suppl. Bd. 29: 130-140
Berling, Stuttgart
8 figs., 15 refs., summ - En., Fr., Germ.

Deals with geological background rate of erosion in semi-arid Kenya, calculated from cenozoic erosion surfaces and from current sediment yields. Gives measurement of chemical denudation on present rate. Describes the use of tree-root exposure measurement to obtain hill slope erosion. Suggests the use of the measured soil erosion rate to predict soil profile thinning and ultimate removal.

Soil types/Land degradation/USLE

106 DUNNE, T., DIETRICH, W.E.,BRUNENGO, M.J. 1979 KREMU

RAPID EVALUATION OF SOIL EROSION AND SOIL LIFESPAN IN THE GRAZING LAND OF KENYA, THE HYDROLOGY OF AREAS OF LOW PRECIPITATION

Proceedings of the Canbera Symposium, Dec. 1979.
IAHS -AISH No. 128 pp. 421-428
8 figs., 16 refs.

Discusses the technique of mapping recent soil erosion rates on heavily grazed rangeland by measuring the exposure of dateable tree roots. Can help to recognize temporal variation in erosion. Deals with the relationship between erosion rates and their controls that can be used to determine the rate of thinning and eventual removal of soil along a hillslope profile.

USLE/Maps

107 DUNNE, T., DIETRICH, W.E.,BRUNENGO, M.J. 1980 KAB

SIMPLE AND PORTABLE EQUIPMENT FOR EROSION EXPERIMENTS UNDER ARTIFICIAL RAINFALL

J. Agric. Eng. Res. 25: 161-168
8 figs., 1 table, 16 refs.

Describes the design and operation of a simple portable rainfall simulator. Gives dimensions of a simulator, plot size and techniques of sampling and measuring runoff and soil loss.

Rainfall simulation/Run-off plots

108 DUNNE, T., MOORE, T.R.,TAYLOR, C.H. 1975

RECOGNITION AND PREDICTION OF RUNOFF PRODUCING ZONES IN HUMID REGION

Hydrol. Sci. Bull. 20 (3): 305-327

(not available for annotation)

Prediction

109 DUNNE, T., ONGWENI, G.S.O. 1976 DBT

A NEW ESTIMATE OF THE RATE OF SEDIMENTATION IN RESERVOIRS ON THE UPPER TANA RIVER, KENYA

Kenya Geogrl. J. 2: 109-126
6 figs., 3 tables, 5 refs.

Examines the rate of sedimentation in the Upper Tana Catchment. Reviews the previous estimates of sediment measurements, and using the data available at the time, suggests there was a great underestimation of the rates of sedimentation and outlines areas for future research.

Sedimentation/Measurements

110 DUNNE, T., WAHOME, E.K.,AUBRY, B. 1981 KREMU

AN ORDINAL-SCALE CLASSIFICATION OF WATER EROSION INTENSITY

Ministry of Energy and Natural Resources, KREMU, Nairobi, and University of Washington, Seattle, USA. Tech. Report Series No. 46
11 pp., 1 fig., 9 refs., 1 fold map

Points out the practices that contribute to soil erosion, mentions the consequences of soil erosion, warns that erosion is on the increase and discusses the need, purpose and techniques of monitoring erosion. It also gives outlines of soil erosion intensity classification based on erosion indicators: rills, gullies, pebble-capped pedestals of soils, erosion pavements, certain mounds of residual soil around plants, exposed root crowns, deposition etc. Lists seven classes and five limitations of the system.

Causes/Impacts/Survey

111 EAST, B. 1986 SIDA

SOCIAL FORESTRY EXTENSION METHODOLOGIES AND THE INTRODUCTION OF AGROFORESTRY INTO TRADITIONAL FARMING SYSTEMS IN SOUTH NYANZA DISTRICT

34 pp., 5 photos, 6 appendices.

The paper is a summary of agroforestry efforts in South Nyanza district. The paper also outlines the general land use in the district and suggests reasons as to why agroforestry should be incorporated into the farming systems. The paper examines a number of agroforestry methodologies and gives strstegies to be followed to increase the number of trees in the farms.

South Nyanza District/Socio-economic aspects/Land use/Agroforestry

112 ECOSYSTEMS LTD. 1985

TURKANA DISTRICT RESOURCES SURVEY 1982-84. MAIN REPORT.

Turkana Rehabilitation Project. (Development Support Unit). Ministry of Energy and Regional Development, Nairobi, Kenya.

(not available for annotation)

Turkana District/Survey

113 EDWARDS, D.C. 1945 MAL

REPORT ON THE GRAZING AREAS OF THE TURKANA DISTRICT OF KENYA

31 pp., 9 plates, 1 map.

Describes the dominant grass species, climate, vegetation deterioration as a result of overgrazing and desertification. Gives remedial measures for regulating human and animal population, water supply (adequate distribution) and use of closing, ownership and reserve to control grazing.

Turkana District/Overgrazing/Land degradation/Soil types/Overpopulation

114 EDWARDS, D.C. 1951

VEGETATION IN RELATION TO SOIL AND WATER CONSERVATION IN EAST AFRICA

Bull. Commonw. Bur. Past. Fld. Crops 41:28

(not available for annotation)

Soil and water conservation/Vegetation cover

EDWARDS, K.A. 1978 IDS

REPRESENTATIVE AND EXPERIMENTAL BASIN PROGRAMME

In Soil and Water Conservatioon in Kenya. Proceedings of a Workshop, University of Nairobi, 21-23 Sept., 1977
IDS Ocassional Paper No. 27 pp. 92-96

Identifies the need for water resources study and describes a programme carried jointly by Kenyan Government and the U.K. Ministry of Overseas Development to monitor sediment yield on four representative catchments in Machakos, Kitui and Embu districts from, 1976 to 1979.

Measurements/Sedimentation

EDWARDS, K.A. 1979

SOIL AND WATER CONSERVATION IN SEMI-ARID AREAS

Paper presented at a workshop on the Development of Kenya's Semi-Arid Areas
IDS, University of Nairobi

(not available for annotation)

Soil and water conservation

EDWARDS, K.A. 1979 MAL, KAB

REGIONAL CONTRASTS IN RATES OF SOIL EROSION AND THEIR SIGNIFICANCE WITH RESPECT TO AGRICULTURAL DEVELOPMENT IN KENYA

In Soil Physical Properties and Crop Production in the Tropics (Eds). Lal, R. and Greenland, D.J.
John Wiley and Sons, Chichester, pp. 441-454
4 figs., 2 tables, 25 refs.

It asseses soil erosion from suspended sediment for the period of 1948-65 from 41 river gauging stations in Kenya and 2 stations from Tanzania. It gives the relationship between sediment yield and catcment area. Estimates of bed load are also provided. Divides erosion intensity into four regions, with the basement complex areas with the highest rates of erosion. Recommends priority to be given to the high potential areas.

USLE/Sedimentation

118 EDWARDS, K.A. 1979 MAL, KAB

CATCHMENT SEDIMENT YIELDS AT KIMAKIA

E. Afr. Agric. For. J. 43 (special issue) pp. 175-178
1 fig., 3 tables.

Compares suspended sediment yield of three catchments of the Aberdare area under pine and bamboo plantations. Shows that pine catchments yield twice as much as the bamboo catchments during the establishment phase and sediment losses increase more as a result of road building and maintenance.

Sedimentation/USLE/Vegetation cover/Physical infrastructures

119 EDWARDS, K.A. 1979 DBT

WATER RESOURCES AND SOIL CONSERVATION : THE KENYA SITUATION

In: The Role of Water Resources in Development - Proceedings of the 13th. Annual Symposium of E. Afr. Academy, Sept. 1977
Eds. Coastelino, J.B. and Khamala, C.P.M.
Nairobi, KNAAAS, pp 167-176
1 fig., i table, 5 refs.

Deals with the relationships between the hydrological cycle and soil erosion in the high, medium and low agricultural potential areas of Kenya. Also identifies priorities in conservation planning.

Soil and water conservation/Soil and land degradation/Policies

120 EDWARDS, K.A., BLACKIE, J.R. 1981 DBT

RESULTS OF THE EAST AFRICAN CATCHMENT EXPERIMENTS 1958-1974

In: Tropical Agricultural Hydrology
(Eds). Lal, R. and Russel, E.W.
John Wiley and Sons Ltd., Chichester, pp. 163-188
1 fig., 15 tables, 21 refs.

Report of the Kericho experiment, where two catchments one under forest, the other under tea plantation and the Kimakia (three catchments - under natural bamboo forest, pine plantations and Kikuyu grass) were studied to monitor changes in hydrology as a result of changes in land use. Tea resulted in an overall reduction in water use and pine replacement initially decreased water use but showed no significant difference when fully grown.

Kericho District/Vegetation cover/Land use

121 EKBERG, N., LARSSON, M. 1982 LDD

SOIL, LAND AND RAINFALL CHARACTERISTICS OF IMPORTANCE TO SOIL EROSION IN NEW GAKANGA, NYANDARUA RANGE, KENYA

University of Stockholm, Department of Physical Geography, Stou-NG52 Stockholm
112 pp., 41 figs., 22 tables, 57 refs.

A study of land degradation parameters on two different land use sites in Central Province. Soil parameters such as pH, total organic carbon, NPK, bulk density, texture, water stable aggregates, porosity, water retention properties and infiltration capacity are given. Concludes degradation has not started, and suggests the use of proper conservation measures to prevent gradual deterioration. Suggests some land management practices to minimize soil loss.

Nyandarua District/Chemical properties/Physical properties/Management practices /Structural methods

122 ENGELHARD, R. 1986 SIDA, KWDP

AGROFORESTRY, SOIL CONSERVATION AND WOODFUEL IN MURANG'A DISTRICT PART III - PROPOSAL FOR FURTHER ACTION

Kenya Woodfuel Development Programme
23 pp., 4 tables.

This is a programme proposal for an agroforestry project in Murang'a District which sought to develop: manpower capacity; technical agroforestry options which would contribute to the soil stability and fertility; mass extension approach; and seed production and collection/supply system.

Murang'a District/Agroforestry/Extension

123 ERIKSSON, J., GERREMO, I.,SKOOG, D.,SUMER-LIND, M. 1980 LDD

SOIL CONSERVATION IN KENYA 1980 REVIEW, NAIROBI

51 pp.

Report of the review team on the soil conservation work carried out from 1974 - 1980, including long term policy considerations. Emphasises the small scale farmer, educational approach, labour intensive technology. Evaluation consists of the method, dry land agriculture, water conservation, drought resistant crops, range and grazing land, nurseries, planting of trees, educational activities, technical and economic assesments, organization, staffing, coordination, adminstrative procedure, and proposed budget.

Soil and water conservation

124 ERUKUDI, C.E. 1989 DBT

WATER HARVESTING EXPERIENCE FROM TURKANA DISTRICT

Paper presented at the ASAL Soil and Water Conservation Programme Development Workshop, Embu, 18th-22nd Sept., 1989
19 pp., 1 table, 7 refs.

Gives background information on Turkana District, and the history of water harvesting in the district. Also gives the definitions used in water harvesting, water source, and water use. Discusses the water harvesting methods practiced in the district. Analyses Oxfam water harvesting project in the district and gives the benefits of water harvesting, problems encountered in the project, and some recommendations.

Turkana District/Water harvesting/NGO's

125 ESILABA, A.O., SSALI, H. 1987 KARI, KAB,

SULPHUR STATES OF SELECTED KENYAN SOILS

In: E. Afr. Agric. For. J. 52(4):230-235.
4 tables, 21 refs.

Paper outlines the materials and method of assessing sulphur status of major agricultural soils of Kenya and tabulates some information necessary for the evaluation of soils that require sulphur fertilizer. Research carried out in Coast Province and highlands east and west of the Rift valley.

Chemical properties/Chemical treatment

126 FAHLEN, A. 1985 SIDA, SWCB,

AN EVALUATION OF SOIL CONSERVATION PRACTICES IN NYERI DISTRICT IN KENYA
REPORT FROM A MINOR RESEARCH TASK

SUAS, IRDC
135 pp., 18 figs., 12 tables, 17 refs.

Report outlines the general and agro-ecological facts about Nyeri District and a brief historical background of land and soil conserva tion policies with a reference to Kikuyuland. Objectives of the study are to:- carry out a technical evaluation for one district of Kenya; identify technical problems in connection with the soil project in the district concerned; recommend solutions to these problems; identify succesful technical measures; and identify problems of implementation.

Nyeri District/Policies

127 FALK, A., LARSSON, R. 1987 SIDA

SOIL CONSERVATION IN KENYA - SOCIO-ECONOMIC PROFILES FROM GACHOKA AND RUNYENJES DIVISIONS, EMBU DISTRICT - EASTERN PROVINCE, KENYA

Ministry of Agriculture, Soil and Water Conservation Branch.
27 pp., 2 tables, 12 refs.

Study comprises two separate profile which provide a brief account of socio- economic aspects and factors influencing the operation of the soil and water conservation programme in the divisions. Discusses the extent of soil erosion and the appropriate methods to combat erosion.

Embu District/Socio-economic aspects

128 FALLON, L.E. 1963 MAL

WATER SPREADING IN TURKANA: A HOPE FOR AN UNPOVERISHED PEOPLE

USAID Mission to Kenya. Nairobi
32 pp., 1 fig., 68 plates.

A survey report on the people of Turkana, the land and famine. Discusses the Impal Pilot Spreading Scheme where flood water was diverted by gabion weir into an area controlled by dykes. Experiment run with grass and crop trial.

Turkana District/Spate irrigation

129 FAO - UNDP 1970

RANGELAND SURVEY KENYA: VEGETATION LAND USE SURVEY OF SAMBURU DISTRICT

Nairobi. Technical Report 5.
20 pp., refs., maps.

(not available for annotation)

Samburu District/Land use/Vegetation cover

130 FAO -UNDP 1972

RANGELAND SURVEY KENYA: VEGETATION LAND USE SURVEY OF NAROK DISTRICT

Report prepared based on the work of E.C. Trump. Nairobi.
Working Paper 10.
19 pp., refs., tables.

(not available for annotation)

Narok District/Land use/Vegetation cover

131 FIDDES, D., FORSGATE, J.A.,GRIGG, A.D. 1974 DBT

THE PREDICTION OF STORM RAINFALL IN EAST AFRICA

Transport and Road Research Laboratory, Department of Environment, TRRL Laboratory Report.
Crowthorne, Berkshire.
50 pp., 17 figs., 20 tables, 15 refs.

Describes a simple method for predicting the characteristics of storms for the design of drainage structures in East Africa. Provides daily rainfall. Tables of daily point rainfall for any frequency are also given and describes depth-duration-frequency relationship.

Rainfall characteristics/Design

132 FIELD, A.C. 1978 IPAL

PRELIMINARY REPORT ON THE IMPACT OF SHEEP AND GOATS ON THE VEGETATION IN THE ARID ZONE OF NORTHERN KENYA

IPAL Technical Report No. E-2
36 pp., 3 figs., 17 refs., appendix

Project report to assess the impact of small-stock in the process of desertification around settlements occupied by nomads. Also gives optimum stocking rate for sheep and goats.

Marsabit District/Soil and land degradation/Overgrazing

133 FIELD, C.R. 1979 IPAL

PRELIMINARY REPORT ON ECOLOGY AND MANAGEMENT OF CAMELS, SHEEP AND GOATS IN NORTHERN KENYA

IPAL Technical Report No. E-1a. Nairobi.
23 pp., 2 figs. 15 refs.

Survey of areas of badly and lightly grazed land. Gives estimates of carrying capacity, high stocking rate near settlements, percentage of vegetation type (woody and in relation to stock diet). Shows a degrading enviroment, in areas of highest stocking where intake exceeds production beyond 21 %.

Marsabit District/Soil and land degradation/Overgrazing/Vegetation - cover

134 FIGUEIREDO, P. 1986 ACIAR

THE YIELD OF FOOD CROPS ON TERRACED AND NON-TERRACED LAND - A FIELD SURVEY OF KENYA
Report From a Minor Research Task

SUAS, IRDC Working Paper No. 35.
24 pp., 3 figs., 13 tables, 3 photos, appendix.

The main aim of this study was to compare the yields of food crops grown on terraced and non-terraced farms, as well as the type and amount of inputs used, and in general, to try to assess the effect of terracing on yields. The survey was carried out in Kangundo Division, Machakos District, between October 1984 and February 1985.

Machakos District/Kangundo/Soil productivity/Terraces

135 FINKEL, M. 1985

REPORT ON WATER HARVESTING IN TURKANA, KENYA

Draft Report.

(not available for annotation)

Turkana District/Water harvesting

136 FINKEL, M., GAINEY, V. 1989 DAE, SIDA

A STRATEGY FOR TECHNICAL ASSISTANCE TO TURKANA, KENYA

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 458-470. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
1 fig., 5 refs.

Paper discusses a strategy in three stages which could be used to overcome the impacts of droughts and famine and prepare local population for a sustainable development. Gives a historical outline of conservation programmes carried out in Turkana District and examines semi-circular hoops and trapezoidal bunds as structures which could be taught to the local people for implementation.

Turkana District/Macro-catchments/Extension

137 FISHER, N.M. 1978 IDS

CROPPING SYSTEMS FOR SOIL CONSERVATION IN KENYA

In: Soil and Water Conservation in Kenya. Report of a Workshop, University of Nairobi, 21-23 September, 1977.
IDS Occasional Paper No. 27, pp. 47-55.
2 figs., 1 table, 16 refs.

Paper dealing with rainfall erosivity in relation to rainfall season, ground cover of crops and residues, the need of mechanical methods of conservation in drier areas of Eastern Province and mixed cropping in the high potential areas.

Rainfall characteristics/Vegetation cover/Structural methods/Plant - residues

138 FLURY, M. 1986

THE SEMI-ARID HIGHLANDS OF LAIKIPIA, KENYA: SMALL SCALE FARMERS IN A MARGINAL ENVIRONMENT

Paper presented for the International Workshop on "African Mountains and Highlands" in Addis Ababa, 1986.

(not available for annotation)

Laikipia District

139 FOOD AND AGRICULTURAL ORGANIZATION 1974 MAL

REPORT ON THE FAO/SIDA/ARCN REGIONAL SEMINAR ON SHIFTING CULTIVATION AND SOIL CONSERVATION IN AFRICA

University of Ibadan, Nigeria, 2-21 July, 1973.
FAO Rome. pp. 96-97.

A brief report on the state of shifting cultivation and soil erosion as well as government policy in research, and improved crops for the semi-arid areas of Kenya.

Land use/Policies

140 FORSGATE, J.A., TEMIYABUTRA, S. 1971

RAINFALL AND RUNOFF FROM AN INDUSTRIAL AREA IN NAIROBI, KENYA

Road Research Laboratory Report LR 408.
Department of Enviroment, Crowthorne, Berkshire

(not available for annotation)

Physical infrastructures

141 FREDENSLUND, A., CASSADY, J. 1969 KAB

SEEDING GRASSES ON DENUDED KENYA BUSHLAND

Kenya Fmr. No. 159, pp. 7 & 30
3 plates

A report of a trial with seeding technique and bush stands with six different grass species to select best species and test the possibility of reseeding the area with grass. Provides grass yields and chemicals used to deter growth of bush roots.

Baringo District/Reseeding

142 GACHENE, C.K.K. 1982 SSD

ASSESING THE RELATIVE ERODIBILITYOF SOME KENYAN SOILS USING A RAINFALL SIMULATOR AND THE PREDICTION OF RELATIVE ERODIBILITY FACTORS.(1) AN ASSESMENT OF SOIL EROSION SUSCEPTIBILITY OF A SELECTED AREA IN KILIFI DISTRICT.(2)

Msc. Thesis, University of Nairobi, Department of Soil Science
151 pp., 10 figs., 9 tables, 5 plates, 136 refs.

Part 1 assesses the relative erodibility of 15 Kenyan soils using a rainfall simulator. Develops a regression equation that would predict relative soil erodibility under a 1 hr. 47 mm/hr. simulated storm. Gives soil loss and K values, Tests Wischmeier soil erodibility nomograph. Part 2 gives a detailed erosion susceptibility map of Kizurini(185 ha), Kilifi District based on three methods.

Kilifi District/Rainfall simulation/Soil erodibility/Rainfall characteristics

143 GACHENE, C.K.K. 1983 KSS

A REVIEW OF METHODS OF MEASURING SOIL ERODIBILITY

Lecture notes delivered at a Kenya Soil Survey Internal Training Course, 4th-15th July, 1983.
5 pp., 23 refs.

Paper discusses the measurement of erodibility of soils from ruoff plots using natural rainfall, and laboratory measurements using a rainfall simulator. Emphasizes that planning and designing of conservation measures ought to be based on the tolerable soil erosion and runoff data for a given situation.

Run-off plots/Rainfall simulation/Soil loss tolerance/Design

144 GACHENE, C.K.K. 1983 KSS

MAPPING OF SOIL EROSION SUSCEPTIBILITY/HAZARD: A REVIEW OF ASSESSMENT TECHNIQUES

Lecture notes delivered at the Kenya Soil Survey Internal Training Course, 4th-15th July, 1983.
17 refs.

Paper reviews the soil erodibility assessment techniques used in Kenya.

Prediction/Maps

145 GACHENE, C.K.K. 1984 KSS

SOILS OF THE EVURORE CATCHMENT AREA, EMBU DISTRICT, KENYA: THEIR EROSION SUSCEPTIBILITY/HAZARD AND MANAGEMENT

Paper presented at the 6th Annual General Meeting of the Soil Science Society of East Africa, Nyeri, Kenya, July 30-August 1, 1984
10 pp., 2 tables, 2 maps, 13 refs.

Paper discusses the environmental and soil characteristics of the area, and the soil erosion status and erosion management. Suggests that measures aimed at improving the surface structure, restoring vegetation cover, enhancing infiltration, can provide some useful solution to the problems of soil and water losses.

Embu District/Management practices/Chemical properties/Physical properties

146 GACHENE, C.K.K. 1984 KSS

SOIL CONDITIONS OF THE BROOM HILL FARM, TIMAU (LAIKIPIA DISTRICT)

Kenya Soil Survey Site Evaluation Report No. P69.
18 pp., 5 tables, 9 refs., 2 appendices, 1 map scale 1:10,000.

Study examines the status of environmental conditions of the areas, focussing on issues pertaining to location, climate, geology, physiography, hydrology, land use and water supply. Discusses the fertility status of the soils and land suitability for agriculture. Gives some recommendations on how to improve the soils, and a map showing the location of the area.

Laikipia District/Chemical properties/Land use

147 GACHENE, C.K.K. 1985 KSS

SOIL EROSION: MAJOR SOIL TYPES OF CENTRAL AND EASTERN PROVINCES AND THEIR SUSCEPTIBILITY TO SOIL EROSION

Lecture notes presented to the Soil Conservation Officers from Central Province, 14th Jan. 1985.
5 pp., 1 table, 4 refs.

Paper contains classical definitions of various terms as they apply to soil erosion with a special reference to soil erodibility. Has a table that gives a breakdown of the major soils found in Central Province and their suceptibility to erosion.

Soil erodibility/Rainfall characteristics

148 GACHENE, C.K.K. 1989 DAE, SIDA

NUTRIENT LOSSES IN ERODED SOIL MATERIAL FROM SOME KENYAN SOILS

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 34-37. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
2 tables, 8 refs.

Paper gives preliminary results of nutrient losses in some eroded soil materials in relation to original soil material of some commonly occuring soils in Kenya. Also gives a table on nutrient losses of eroded soil material in relation to plough layer soils.

Nutrient loss

149 GACHENE, C.K.K., BARBER, R.G. 1983 IDS

A PRELIMINARY REPORT ON AN EVALUATION AND DETAILED MAPPING OF THE EROSION SUSCEPTIBILITY AT KALOLENI, KILIFI DISTRICT

In: Soil and Water Conservation in Kenya - Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982.
Edited by Thomas, D.B. and Senga, W.M. IDS Occasional Paper No. 42 pp. 87-104
3 figs., 19 refs.

Evaluates and maps at a detailed scale the erosion susceptibility of the Kaloleni area, Kilifi District by the quantification parametric approach based on the Universal Soil Loss Equation (USLE).

Kilifi District/Kaloleni/Maps/USLE

150 GACHENE, C.K.K., D'COSTA, V.P. 1986 KSS, SSD

THE CHARACTERISTICS, CLASSIFICATION AND LAND USE OF HISTOSOLS IN KENYA

In Classification, Characterization and Utilization of Peat Land. Proceedings of the Second International Soil Management Workshop, Thailand/Malaysia, 9-18 April, 1986, pp. 121-127. (Eds) Eswaran, H., Panichapong, S., Bachik, A.T., and Chitchumnong, T.
Department of Land Development Thailand, MSSS, Malaysia.
1 fig., 3 tables, 13 refs.

Paper says that most histosols occur in swampy areas and are characterized by dense papyrus vegetation. The surface layer consists of raw organic matter resting at variable depths on clay or rock. Chemical analysis indicate low pH values, high amounts of organic matter and fertility status to be fairly good. Further says that very few swamps have been reclaimed in Kenya, and the reclaimed ones serve the nearby people for farming and grazing.

Soil types/Chemical properties/Reclamation/Land use

151 GACHENE, C.K.K., GICHERU, P.T.,NJOROGE, S.N.J. 1987 KSS, PPCSCA

SOIL EROSION AND ITS CONTROL IN THE STEEPLAND HUMID AREAS OF KENYA

Paper presented at the International Conference on Steepland Agriculture in the Humid Tropics, Kuala Lampur, Malaysia, 17-21 Aug. 1987
2 pp.

The paper briefly examines the state of erosion, and soil conservation measures undertaken by both the government and farmers in the steepland humid areas of Kenya.

Soil and water conservation

152 GACHENE, C.K.K., WANJOGU, N.S.,GICHERU, P.T. 1988 KSS, SSD

THE.DISTRIBUTION, CHARACTERISTICS AND LAND USE OF SANDY SOIS IN KENYA

Paper presented at the International Symposium on 'Managing Sandy Soils', Jodhpur, India, February 8-12, 1988.
8 pp., 2 tables, 8 refs.

Paper gives an outline of the distribution, characteristics and land use of sandy soils in Kenya and discusses the physical and chemical characteristics of the soils in relation to thir agricultural suitability.

Soil types/Physical properties/Chemical properties/Land use

153 GACHENE, C.K.K., WARURU, B.K.,WACHIRA, T. 1986 KSS

DETAILED SOIL SURVEY OF THE VOO RESEARCH SUB-STATION, KITUI DISTRICT

Kenya Soil Survey Detailed Soil Survey Report No. D39.
47 pp., 15 tables, 16 refs., 4 appendices.

Study discusses environmental conditions of the area and describes location, climate, average annual and seasonal rainfall, crop water requirements, evaporation, geology, physiography, hydrology, vegetation and present land use. Discusses properties, status and characteristics of soils of the area in relation to land suitability for rainfed cereals, pulses and root crops.

Kitui District/Chemical properties/Soil types/Physical properties

154 GACHENE, C.K.K., WEEDA, A. 1984 KSS

THE LAND QUALITY: RESISTANCE TO EROSION AND ITS APPLICATION IN THE IUNI CATCHMENT AREA, MACHAKOS DISTRICT, KENYA

Paper presented at the International Workshop on Land Evaluation for Landuse Planning and Conservation in Sloping Areas, ITC Enschede, Netherlands, December, 1984.
5 figs., 6 tables, 14 refs.

Paper reviews the criteria, used over some years, to assess the land quality resistance to erosion caused by rainfall. Iuni Catchment Area of Machakos District is used as a case study. Gives tables indicating the factors and ratings of erosion.

Machakos District/Iuni/Rainfall characteristics/Soil erodibility

155 GACHERU, B.M. 1985 DAE

A STUDY OF THE SUITABILITY OF CONCRETE ROAD DRAINAGE CHUTES ON THE RUIRU- GITHUNGURI-UPLANDS ROAD AND SOME ADJOINING ROADS

Postgraduate Diploma Project Report, University of Nairobi, Department of Agricultural Engineering.
65 pp., 9 figs., 14 tables, 2 maps, 12 refs., 5 appendices

Study sets out to determine:- effectiveness/suitability of chute structures in containing road runoff; whether design criteria are in conformation with expected runoff; whether structures are ineffective, and if so, the effects of runoff on farms; effects of discharge at downstream end, and percent land lost due to the structures in individual farms.

Kiambu District/Physical infrastructures

156 GARDNER, N.M. 1942 KNA

THE ROLE OF TREES IN SOIL CONSERVATION

E. Afr. Stan. July 24, 1942

Points out that tree planting alone is not a solution to soil erosion. If trees are thick, there is a danger of no cover and flow erosion can occur. Trees do not always protect soil on steep slopes. Lists advantages of tree planting other than soil protection

Revegetation/Vegetation cover

157 GATAHI, M.M., D'COSTA, V. 1984 KSS

LAND SUITABILITY EVALUATION BASED ON RESISTANCE TO EROSION AND OTHER LAND QUALITIES IN A PART OF KILIFI DISTRICT

Paper presented at the International Workshop on Land Evaluation for Land Use Planning and Conservation in Sloping Areas, Enschede, the Netherlands, 17-21 Dec., 1984.
12 pp., 10 tables, 9 refs.

Study was done on 13,000 ha of rolling to gently undulating area in Kilfi District to assess the suitability of land for the present land utilization types with due emphasis on resistance to erosion. Discusses the performance of various crops in the well drained soils on sloping areas, and the type of technology that need be introduced to farmers in sloping areas to facilitate reducing soil erosion rates.

Kilifi District/Land use/Soil erodibility/Rainfall characteristics

158 GATAHI, M.M., MUCHENA, F.N. 1985 KSS

THE STATE OF SOIL SURVEY, SOIL TESTING AND SOIL CONSERVATION IN KENYA

Paper presented at the 6th Meeting of the Eastern African Sub-Committee for Soil Correlation and Land Evaluation, Maseru, Lesotho, 9-18 Oct., 1985
12 pp., 6 refs.

Paper reviews the status of soil surveys, soil classification, land evaluation, and soil conservation in Kenya, and how the activities have helped to generate some knowledge in the formulation of appropriate land use practices.

Survey/Land use/Soil and water conservation

159 GATHURU, P.K. 1982 PER

IMPLEMENTATION OF SOIL CONSERVATION PRACTICES ON SMALL SCALE FARMERS IN THE MAAI-MAHIU AREA IN KENYA

Msc Thesis in Environmental Studies. University of Khartoum.
132 pp., 13 figs., 15 tables, 5 plates, 109 refs.

Msc thesis dealing with the main physical and socio-economic constraints to proper implementation of soil conservation on small scale farms in Maai-Mahiu area near Longonot. Low awareness of the soil degradation problem and inadequate knowledge of the solution are given as factors aggravating the situation. Recommends priority should be given to environmental education and legal ownership of the land.

Nakuru District/Socio-economic aspects

160 GATHURU, P.K., THOMAS, D.B.,MBURU, D.M.,MUKUI, H.M. 1989
DAE, SIDA

SOIL EROSION PROBLEMS AND POSSIBLE SOLUTIONS IN THE LONGONOT/KIJABE HILL AREA OF THE RIFT VALLEY PROVINCE

In Soil and Water Conservation in Kenya - Proceedings of the Third National Workshop Kabete, Nairobi, 16-19 Sept., 1986, pp.230-242
(Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O
DAE, SIDA
6 refs.

The paper is a review of various studies on soil and water conservation carried out in the area between 1979 and 1985. The studies reviewed covered rainfall simulation, constraints to soil conservation measures, erosion problems, and possibilities and problems associated with the implementation of soil conservation measures.

Nakuru District/Kijabe/Rainfall simulation/Soil and water conservation

161 GELENS, H.F., KINYANJUI, H.C.K.,WEG, R.F. VAN 1976 KADOC

SOILS OF THE KAPENGURIA AREA

Kenya Soil Survey, Reconnaissance Soil Survey Report No. R2
172 pp., 15 figs., 46 tables, 96 refs., 4 photos, 24 fold maps scale 1:250,000 to 1:1,000,000

Describes the environmental conditions of the area covering climate, geology, erosion, vegetation and present land use. Also covers the survey methods and soils, describing soil mapping units, soil classification, soil fertility, soil physics and land management with emphasis on land suitability for farming. Ends with recommendations on land use.

West Pokot District/Chemical properties/Soil types/Physical properties

162 GETAHUN, A. 1983 IDS

THE ROLE OF AGROFORESTRY IN SOIL AND WATER CONSERVATION

In Soil and Water conservation in Kenya - Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982
Edited by Thomas, D.B. and Senga, W.M. IDS Occasional Paper No. 42 pp. 338-349
1 fig., 7 tables, 10 refs.

Defines agroforestry, gives the traditional and modern methods of agroforestry, the basis and soil enriching principles of trees. Lists tree species that can be used with agriculture and gives data on production input and income for different methods of agroforestry from Nigerian experience.

Soil and water conservation/Multi-purpose trees/Agroforestry

163 GETAHUN, A. 1985 SIDA

AGROFORESTRY/AFFORESTATION IN KENYA: THE EXPERIENCE OF THE KENYA RENEWABLE ENERGY DEVELOPMENT PROJECT

20 pp., 3 figs., 5 tables, 18 refs.

The paper gives an overview of tree planting in Kenya with a special focus on a growing awareness on the need of conserving the environment. The paper briefly examines the population dynamics and impacts and suggests that agroforestry be encouraged.

Agroforestry/Revegetation

164 GETAHUN, A., RESHID, K. 1989 DAE, SWCB

A FIELD GUIDE - AGROFORESTRY IN KENYA

Ministry of Environment and Natural Resources, SDC and ICRAF
48 pp., 3 tables, 3 appendices, illust.

Introduces agroforestry as an appropriate tropical land use system. Describes the interaction between the tree/shrub component and food crops and livestock, and how this combination benefits the farmer. Gives details of different establishment and management techniques used in agroforestry systems. Also describes certain selected agroforestry systems and practices.

Agroforestry/Land use/Crop vegetation cover/Management practices

165 GETHIN-JONES, G.H. 1936 MAL

CONSERVATION OF SOIL FERTILITY ON COFFEE ESTATES WITH SPECIAL REFERENCE TO ANTI-EROSION MEASURES

E. Afr. Agric. J. 1:456-462

Discusses the importance of conserving soil humus, nutrients (NP) and moisture of the red coffee soil and the mechanical methods of treating slope with terraces and their different types.

Management practices/Structural methods

166 GIBBONS, D.K. 1982 ASAL

AN AIR PHOTOGRAPH INTERPRETATION OF EROSION AND LAND USE CHANGE IN A PART OF KITUI DISTRICT, KENYA

Msc. Thesis. Cranfield Institute of Technology, National College of Agricultural Engineering (Silsoe)
84 pp., 5 figs., 8 tables, 60 refs., 10 maps

Land use, drainage net and severity of erosion were mapped from air photos of 1948 and 1980 for an area of 4.5 Km2, north of Kitui town, by the grid square classification method, and checked by ground survey. Indicates state of condition of channel and sheet erosion, terracing. Shows change in area of cultivated and wood lands. Recommends the need for further research on erosion under woodlands, reclamation of denuded lands, grazing management, and use of conservation tillage, mulches and terraces.

Kitui District/Survey/Sheet erosion/Terraces/Reclamation

167 GICHERU, P.T., ITA, B.N. 1987 ACIAR, KSS

DETAILED SOIL SURVEY OF THE KATUMANI NATIONAL DRYLAND FARMING RESEARCH STATION FARMS (MACHAKOS DISTRICT)

Kenya Soil Survey Detailed Soil Survey Report No. D43.
45 pp., 19 tables, 17 refs., 2 appendices, 1 map 1:10,000

Paper looks at the physical environment of the area with special focus on potential evapotranspiration, water balance, geology and physiography, vegetation and land use, hydrology and water quality. Analyses and discusses the soils of the region, and land suitability for dryland farming.

Machakos District/Katumani/Soil types

168 GICHOHI, C.M., KALLANI, D.F.M. 1979 ICRAF, DBT

SEMIARID LANDS OF BARINGO DISTRICT, A CASE STUDY

Paper Presented at the Workshop on Issues on the Development of Kenya's Semiarid Lands. IDS 23-26 July, 1979
21 pp., 1 fig., 2 tables, 8 refs. appendix

The paper describes the semiarid lands of Baringo, in respect to climate, vegetation, soils, agricultural potential, people and land use. Points out the seriousness of soil erosion, and past efforts of soil conservation. Gives recommendations on the proper use of soil conservation measures that include the preservation of ground cover and refraining from cultivating steep slopes.

Baringo District/Soil and land degradation/Soil and water conservation

169 GICHOHI, C.M., KALLANI, D.F.M. 1979

BARINGO/KERIO VALLEY, ANALYSIS AND PROJECT IDENTIFICATION

Report No. 11. Nairobi, Ministry of Agriculture Arid/Semiarid Lands Development Branch
263 pp.

(not available for annotation)

Baringo District/Kerio Valley

170 GICHOHI, C.M., WANJAIYA, J.K.,KARIUKI, I.D.P. 1977 ASAL

MARGINAL/SEMIARID LANDS STUDY PROJECT SUMMARY REPORT OF THE MID POINT REVIEW (SEMINAR) 20 NOV. - 2 DEC. 1977, NAIROBI

45 pp.

A summary of a seminar on project identification and subject matter discussion on the Marginal/Semiarid lands. Discussion covers water and soil conservation, roof catchments, catchment protection, surface dams, measurements of soil loss on different soils and land use, terrace type recommendations, and maximum cultivable land. Seminar recommends the formation of a soil conservation section in the Ministry of Agriculture and the establishment of a catchment planning team

Soil and water conservation/Water harvesting/USLE/Terraces/Policies

171 GICHUKI, F.N. 1989 DBT

HYDRO-ECONOMIC ANALYSIS OF WATER HARVESTING

Paper presented at the ASAL Soil and Water Conservation Programme Development Workshop, Embu, 18-22 Sept., 1989.
9 pp., 1 table, 12 refs.

This paper reviews hydrologic and economic considerations in water harvesting for plant production and identifies common ground between engineers and economists. Examines issues pertaining to water availability, drought analysis, farmer characteristics, cost of developing and maintaining water harvesting structures, design considerations, operational adjustments in light of changing climatic conditions and opportunities for further research.

Water harvesting/Design/Economic considerations

172 GICHUKI, F.N. 1989 DAE

WATER MANAGEMENT IN SEMI-ARID REGIONS

Paper presented at the Water Conservation Seminar, Nanyuki, 7-11 August 1989.
7 pp., 6 refs.

Paper addresses itself to water management issues pertaining to the manipulation and use of water for the production of food and fiber. Discusses water management challenges, and the contribution of the Department of Agricultural Engineering of the University of Nairobi in promoting productivity and sustainability of land and water resources in semi-arid lands.

Water harvesting

173 GICHUKI, J.J. 1978 IDS

CONSERVATION IN NYANZA PROVINCE

In Soil and Water Conservation in Kenya. Proceedings of a Workshop, University of Nairobi, 21-23 Sept., 1977.
IDS Occasional Paper No. 27, pp. 97-101

A short article dealing with the problems of sheet and gully erosion and flooding in Nyanza Province. A programme for afforestation, construction of flood preventive dykes, opening of river outlets, canalization of river beds and lake shores swamps drainage is also described.

Sheet erosion/Gully erosion/Revegetation

174 GICHUNGWA, J.K. 1970

SOIL CONSERVATION IN CENTRAL PROVINCE (KENYA)

Ministry of Agriculture, Nairobi

(not available for annotation)

Soil and water conservation/Extension

175 GICHUNGWA, J.K. 1972

TERRACING AND TERRACE MAINTENANCE

Ministry of Agriculture, Nairobi
(mimeographed)

(not available for annotation)

Terraces/Maintenance

176 GICHUNGWA, J.K. n.d. MAL

MOTTO

Soil Conservation Service, Land Development Division, Ministry of Agriculture, Nairobi. Serial 1
8 pp., 6 plates

A small pamphlet briefly describing the functions of the soil conservation service, deployment of staff, services to farmers, equipment and its provisions, charges for the various services.

Soil and water conservation/Extension

177 GICHUNGWA, J.K. n.d. KADOC

CONSTRUCTION AND USE OF THE LINE LEVEL

KADOK No. 10325
Ministry of Agriculture, Nairobi.
20 pp.

Describes the construction and use of a line level including measuring slopes, setting out the horizontal distance of terraces, terrace checking techniques, drainage ditches and contour surveying.

Terraces/Layout

178 GIELEN, H. 1982 ICRAF

REPORT ON AGRO-FORESTRY SURVEY IN THE VILLAGES OF NORTHERN MACHAKOS, KENYA

ICRAF and Department of Forestry Management, Wageningen Agricultural University.
90 pp., 1 fig., 33 tables, 14 refs., 3 maps, 24 pp appendix.

A survey report of 61 household random samples from three villages of Mbiuni Location in Northern Machakos District. Reports the condition of grazing lands, woodlands, and cultivated lands. States the increacing pressure on the land leading to degradation of the natural environment, especially through erosion. Shows gullies in roads and grazing areas increasing in width and depth. Runoff causing problem in the well terraced cultivated area and recommends agroforestry to alleviate some of the constraints.

Machakos District/Mbiuni/Land use/Soil and land degradation/Terraces

179 GILLMAN, C. 1938 MAL

MAN, LAND AND WATER IN EAST AFRICA

E. Afr. Agric. J. 3: 329-341
1 fig., 12 refs.

Discusses generally the different components and aspects of the hydrological cycle and the need to conserve water through dams, ground water and effective water use in East Africa. Also includes the relation of soil, water and vegetation.

Water harvesting

180 GITAHI, M.M., D'COSTA, V. 1986 KSS

LAND SUITABILITY EVALUATION OF RED SOILS IN THE KILIFI-KWALE COASTAL AREA, KENYA

Paper presented at the Regional Symposium on the Properties and Management of the Red Soils of East and Southern Africa, Harare, Zimbabwe, February, 1986.
13 pp., 10 tables, 12 refs.

Paper describes the occurrence and distribution of red soils in the Kilifi-Kwale Coastal area. Discusses the results of land suitability evaluation study on red soils based on issues pertaining to land qualities, availability of moisture, nutrients and oxygen, susceptibility to soil erosion, availability of foothold for plants, and the possibility of mechanization.

Kwale District/Kilifi District/Soil types/Physical properties/Chemical properties

181 GLOVER, H. 1953

SOME ASPECTS OF DRY ZONE FORESTRY

Desert Res. Proc. Int. Symp. pp. 259-264

(not available for annotation)

Management practices/Forest management

182 GOSTA, A 1985 SIDA

SOIL CONSERVATION IN KENYA - REPORT OF THE JOINT KENYA/SWEDEN SOIL CONSERVATION REVIEW MISSION OF 1985

The report contains 14 appendices with an evaluation of soil conservation programme in Kenya. Discusses issues concerning finances, infrastucture, training and extension coordination, staffing, and socio-economic observations.

Soil and water conservation/Training/Extension/Evaluation

183 GREAT BRITAIN, COLONIAL OFFICE 1939

A REVIEW OF THE POSITION IN REGARD TO SOIL CONSERVATION IN THE COLONIAL EMPIRE IN 1938

pp 7-17

An assessment of the soil erosion problem in Kenya and the methods of soil conservation in relation to mechanical measures, destocking, closing steep slopes, deforestation, contour banks, wash stops, grass burning, terracing, research, legislation and education.

USLE/Structural methods/Management practices/Policies/Closure

184 GRONVALL, M. 1987 SIDA

A STUDY OF LAND USE AND SOIL CONSERVATION ON A FARM IN MUKURWEINI DIVISION, CENTRAL KENYA

University of Stockholm, Department of Physical Geography
38 pp., 37 figs., 12 tables, 48 refs., appendix

Study investigates the results of different activities used to reduce soil erosion and to stop land degradation in a small farm in the high potential area of Nyeri District. Describes land use and soil conservation measures, and intensive cultivation carried out in this steepland farm, and examines their influence on erosion properties. Shows the bond between the technical and non-technical aspects of soil conservation.

Nyeri District/Mukurweini/Soil and water conservation/Land use

185 GRUNDY, F. 1946 MAL

CONSERVATION OF WATER FOR STORAGE UNDERGROUND

In: E. Afr. Agric. J. 11: 139-144
1 table.

Deals with the different parts of the hydrological cycle and methods of utilizing surface runoff through increased infiltration, soil moisture, detention to conserve water and the improvement of ground water supply.

Water harvesting

186 GUFU, O. 1982

ENVIRONMENTAL EDUCATION FOR NOMADIC PASTORALISTS

Paper presented at UNESCO-IPAL Orientation Seminar, November 1982, Nairobi.

(not available for annotation)

Extension

187 GUILLARD, J. 1953 MAL

MEASURES POUR LA CONSERVATION DES SOILS AFRICAINS.
(CONSERVATION MEASURES FOR AFRICAN SOILS)

Sols Afr. 2:358-367 (in French and English)
5 plates

Briefly describes the soil erosion problem, the activities and history of the Soil Conservation Service of Kenya, its achievement in soil conservation work, especially of terracing in the Kikuyu lands of Central Kenya.

GoK/Terraces

188 GURNAH, A.M. 1975 KAB

ZERO TILLAGE

Kijani 1(2): 47-58
2 tables, 1 ref.

Discusses the effect of tillage on soil fertility porosity, soil loss and runoff, soil moisture and economic advantages.

Tillage/USLE/Physical properties/Chemical properties/Economic considerations

189 HAACK, B.N. 1983 IDS

LANDSAT DATA FOR RESOURCE ANALYSIS

In Soil and Water Conservation in Kenya - Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982
Eds. Thomas, D.B. and Senga, W.M. IDS Occasional Paper No. 42, pp. 151-160

Describes 10 types of landsat data and the use of landsat data in hydrology and pedology. It also lists the activities and the facilities of the Regional Remote Sensing Facility, Nairobi.

Aerial photo analysis

190 HAI, M.T. 1989 DAE

WATER HARVESTING AND RUNOFF HARVESTING IN MUTOMO, KITUI

Paper presented at the Water Conservation Seminar, Nanyuki, 7-11 August, 1989.
5 pp., 3 tables.

Paper discusses the rationale and achievements of water harvesting and runoff harvesting in Mutomo, Kitui District. Analyses the potential for runoff harvesting systems data for Kitui District.

Kitui District/Mutomo/Water harvesting

191 HEADY, H.F. 1960 KAB

RANGE MANAGEMENT IN EAST AFRICA

Kenya Department of Agriculture and East African Agriculture and Forestry Research Organization. Government Printer, Nairobi
125 pp., 14 tables, 15 plates, ref.

Deals with the proper management of range lands in East Afica and the problems of overgrazing, improper planning, burning, bush control and reseeding grass lands.

Overgrazing/Reseeding

192 HEDFORS, L. 1981 LDD

EVALUATION AND ECONOMIC APPRAISAL OF SOIL CONSERVATION IN A PILOT AREA

Soil and Water Conservation Branch, Ministry of Agriculture
24 pp., 1 fig., 7 tables

Evaluates and quantifies the results of conservation inputs to farmers and society. Analysis based on three farm models and includes description of the area, conservation inputs, yields, costs, economic analysis, social appraisals and benefits. Shows soil conservation worth investment from the farmer's and society's point of view.

Socio-economic aspects

193 HEDFORS, L. 1983 IDS

EVALUATION AND ECONOMIC APPRAISAL FOR SOIL CONSERVATION IN A PILOT AREA

In: Soil and Water Conservation in Kenya - Proceedings of a Second National Workshop, Nairobi, March 10-12, 1982
(Eds). Thomas, D.B. and Senga, W.M. IDS Occasional Paper No. 42, pp. 257-262.
2 tables.

Article gives a short account of the benefits of three hypothetical model farms and their difference in income and yield.

Economic considerations

194 HELGESSON, I., NYAMBUGA, B. 1988 SIDA

SIDA TREE PLANTING PROJECT (KENYA) UNDER EVANGELICAL LUTHERAN CHURCH IN KENYA - PHYSICAL REPORT 1988.

SIDA
16 pp., 3 figs., 8 tables.

Report summarizes the activities of SIDA tree planting project in Kisii and South Nyanza Districts for the year 1988. The project was started to aid residents at the village level to enhance their woodfuel needs, conserve soil in farms, provide income, and to stabilize soil fertility through agroforestry.

Kisii District/South Nyanza District/Agroforestry

195 HENNESMANN, G.R. KAUFFMAN, J.H. 1975 KAB

EROSION IN THE WESTERN PART OF KISII DISTRICT

Training Project in Pedology, Kisii, Kenya. Preliminary Report No. 8 Agricultural University, Wageningen, the Netherlands.
115 pp., 23 figs., 28 tables

Report of a study on soil structural stability, surface sealing, and erosion of soil in the weastern part of Kisii District. Includes data on infiltration test, topography, vegetation, rainfall and soil profile description.

Kisii District/USLE/Soil erodibility/Physiographical parameters

99 HOGG, R. 1986

WATER HARVESTING IN SEMI-ARID KENYA: OPPORTUNITIES AND CONSTRAINTS

(not available for annotation)

Water harvesting

00 HOLMBERG, G. 1985 SIDA

MEASUREMENTS OF YIELDS ON TERRACED FARMS AND NON-TERRACED FARMS IN KALIA SUBLOCATION IN KITUI DISTRICT

MALD, Soil and Water Conservation Division
13 pp., 2 figs. 4 tables

This study was undertaken to find the differences in yields between terraced and non-terraced farms, if any, and the effect of terracing on the content of soil nutrients. The study clearly describes the project methodology and the physical features of the area.

Kitui District/Terraces/Chemical properties/Soil productivity

01 HOLMBERG, G. 1985 SIDA

SURVEY ON NUMBER OF FARMS NEEDING TERRACING IN KENYA OCTOBER 1983 - OCTOBER 1984

MALD, Soil and Water Conservation Branch
15 pp., 1 table

The draft is a survey of farms in Kenya that required terracing as was shown by the exercise conducted between October 1983 and October 1984. The draft gives brief notes on previous terracing activities distinguishing the good from the poor ones. It also contains tables of the farms that required terracing and those that did not.

Survey/Terraces

202 HOLMBERG, G. 1985 SIDA

AN ECONOMICAL EVALUATION OF SOIL CONSERVATION IN KALIA SUB-LOCATION, KITUI DISTRICT

Ministry of Agriculture and Livestock Development
71 pp., 7 figs., 12 tables.

Study evaluates the soil conservation project with an aim of finding out the constraints hindering the farmer to carry out soil conservation. Has an economic evaluation on the result of soil conservation practice and its impacts on the individual farmer and society.

Kitui District/Kalia/Soil and water conservation/Socio-economic aspec

203 HOLMGREN,E., JOHANSSON, G. 1987 SIDA

COMPARISONS BETWEEN TERRACED AND NON-TERRACED LAND IN MACHAKOS DISTRICT, KENYA
A Minor Field Study

SUAS, International Rural Development Centre
41 pp., 8 figs. 27 tables, 14 refs., appendix

The study compares the yields of maize and beans between terraced and non-terraced farms in Machakos district. The study presents a comprehensive background information of the district, details of the study methodology, and the soil characteristics.

Machakos District/Terraces/Soil productivity/Chemical properties/Physical properties

204 HOPKINS, G. 1944 MAL

REPORT ON MACHAKOS DISTRICT

Machakos District Commissioner's Office (mimeographed)
27 pp., 1 map.

Report on the problem of erosion, land deterioration, the measures of reclamation, rehabilitation and resting. Includes the climate, people, animals, vegetation of the district.

Machakos District/Soil and land degradation/Reclamation

205 HUNEGNAW, T. 1987 SIDA

TECHNICAL EVALUATION OF SOIL CONSERVATION MEASURES IN EMBU DISTRICT IN KENYA
Report From a Minor Field Study

SUAS, IRDC
23 pp., 13 tables, 3 refs.

Study evaluates soil conservation activities in the Gachoka Division of Embu District. Study aims to: identify technical problems in connection with the soil conservation project; recommend solutions for those problems; identify successful technical measures. Gives a comprehensive summary of land use, the state of erosion, and both the cultural and mechanical methods of soil conservation.

Embu District/Gachoka/Soil and water conservation

206 HUNTINGFORD, R.L. 1955 MAL

CONTOUR CULTIVATION FOR BEGINNERS OF TERRACE MAINTAINANCE WITHOUT TEARS

Government Printer, Nairobi
19 pp., 35 figs.

A pamphlet to assist farmers in methods of constructing, maintaining and improving their terraces. It also includes grass strips, contour planting and other simple guides to farmers.

Terraces/Construction/Maintenance/Management practices

207 HURNI, H. 1989 DAE, SIDA

APPLIED SOIL CONSERVATION RESEARCH IN ETHIOPIA

In: Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop Kabete, Nairobi, 16-19 Sept., 1986 pp. 5-24.
(Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L and Mochoge, B.O.
DAE, SIDA
7 figs., 2 tables, 8 photos, 20 refs.

Paper has a short history of land degradation in Ethiopia and an outline of the efforts the Government of Ethiopia in combating the problem. Suggests that soil erosion in Ethiopia must focus on applied approaches based on ecological principles, so that bottlenecks emerging during implementation of soil conservation can be overcome.

Ethiopia/Soil and water conservation/Soil and land degradation

208 HURSH, C.R., PEREIRA, H.C. 1953 MAL

FIELD MOISTURE BALANCE IN SHIMBA HILLS

In: E. Afr. Agric. J. 18:139-145
1 fig., 2 tables, 3 refs.

Deals with the deficiency of water supply from the Shimba Hills as a result of change from forest land to grass land and the effects of overgrazing and fire on soil moisture loss by evaporation. Recommends clearing of trees and shrubs from the margins of streams to conserve water.

Land use/Overgrazing/Water harvesting/Soil moisture

209 IMBIRA, J. 1985

SOIL AND WATER CONSERVATION - ANNUAL REPORT, 1985.

(not available for annotation)

Soil and water conservation

210 IMBIRA, J. 1986

SOIL AND WATER CONSERVATION. SEMI-ANNUAL REPORT, 1986 (BPSAAP)

(not available for annotation)

Soil and water conservation

211 IMBIRA, J. 1989 DAE, SIDA

RUNOFF HARVESTING FOR CROP PRODUCTION IN SEMI-ARID AREAS OF BARINGO

In: Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 407-431. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
8 figs., 8 tables, 5 refs.

Paper highlights the most important considerations in runoff harvesting for semi-arid areas such as that covered by BSAAP. Establishes a record of water harvesting systems in Baringo District, and how the various systems applied have evolved theoretically and practically. Describes in detail the design and maintenance of macro- and micro-catchment systems. Gives a map showing the areas of the district where soil conservation work is going on.

Baringo District/Macro-catchments/Micro-catchments/Design/Maintenance

212 INSTITUTE OF APPLIED GEOSCIENCES 1986

WATER RESOURCES RECONNAISSANCE STUDY IN MACHAKOS DISTRICT

Ministry of Water Development, Nairobi.

(not available for annotation)

Water resources

213 IRERI, D. 1986

THE CHALLENGE OF DEVELOPMENT: A CASE STUDY OF BARINGO SEMI-ARID AREA PROJECT (BSAAP), BARINGO, KENYA

(not available for annotation)

Baringo District

214 ISAVWA, L.A. 1983 IDS

A CASE STUDY OF THE APPLICATION OF LANDSAT DATA FOR SOIL AND VEGETATION ANALYSIS IN RIFT VALLEY, WEST OF NAIROBI

In: Soil and Water Conservation in Kenya - Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982.
(Eds). Thomas, D.B. and Senga, W.M. IDS Occasional Paper No. 42, pp. 161-173
2 tables, 10 refs.

Gives an example of the use of landsat data in soil and vegetation identification in the Rift Valley.

Survey/Soil types/Vegetation cover

215 ISBELL, R.F. 1986 ACIAR

SOILS OF THE MACHAKOS-KIBWEZI-KITUI-EMBU AREA, KENYA

Report on Soils of Project Area Chapter 3.2, pp. 52-71.
1 fig., 2 tables, 12 refs.

Study describes the environmental features of the area, soil, and soil physical properties such as bulk density and silt content. Also describes the soil chemical properties and presents the chemical data. It also analyses soil classification in Kenya.

Eastern Kenya/Soil types/Physical properties/Chemical properties

216 JACKS, G.V., WHYTE, R.D. 1938 MAL

EROSION AND SOIL CONSERVATION

Tech. Commun. Imp. Bur. Soil. Sci. No. 36, pp. 93-105
11 pp., 19 refs.

Describes the general state of erosion, the seriousness, the causes, including wind erosion, erosion survey, classification, estimate, forest, climate and conservation activities in Kenya.

Survey/Causes/Soil and land degradation/USLE/Soil and water conservatic

217 JAEGER, R.M. 1974

A REPORT ON TECHNIQUES FOR MEASURING ROADSIDE EROSION IN THE LABORATORY AND IN THE FIELD WITH REFERENCE TO KENYA

Report to Transport and Road Research Laboratory, Silsoe College, Cranfield.

(not available for annotation)

USLE

218 JENSENS, J.W. 1986

A LANDSCAPE DEVELOPMENT PLAN FOR KAKAYANI, KENYA: LANDSCAPE PLANNING AND DESIGN WITH THE APPLICATION OF AGROFORESTRY IN THE REHABILITATION OF ERODED GRAZING LANDS.

M.Sc. Thesis, Wageningen, The Netherlands, Department of Landscape Architecture, Agricultural University.
165 pp.

(not available for annotation)

Agroforestry/Reclamation

219 JILDERDA, R. 1986

LOYAL WATER HARVESTING SCHEME, KAKUMA.

Turkana Development Support Unit.

(not available for annotation)

Turkana District/Water harvesting

220 JOHANSSON, K. 1981

SOIL, LAND AND RAINFALL CHARACTERISTICS OF IMPORTANCE TO SOII EROSION IN ENDARASHA, NYANDARUA RANGE, KENYA

Department of Physical Geography, University of Stockholm

(not available for annotation)

Nyandarua District/Soil types/Rainfall characteristics

221 JOHNSTON, B.F., MUCHIRI, G. 1974 KAB

EQUIPMENT AND TILLAGE INOVATION FOR SMALL SCALE FARMERS IN KENYA, SOME UNANSWERED QUESTIONS (WITH SPECIAL EMPHASIS ON DRY LAND i.e. MEDIUM POTENTIAL AREAS)

IDS Working Paper No. 197, University of Nairobi.

Raises some questions on the development of tillage tools that car reduce runoff, increase infiltration and give better crop yield ir dry areas.

Tillage/Water harvesting/Soil productivity

222 JORDAN, S.M. 1957 MAL

RECLAMATION AND PASTURE MANAGEMENT IN THE SEMI-ARID AREAS OF KITUI DISTRICT, KENYA

In: E. Afr. Agric. J. 23: 84-88

Describes the extent of soil erosion in Kitui District, the effect of overgrazing and methods of reclaiming bare eroded areas by planting, seeding grasses, grazing control, and limitation of stock.

Kitui District/Overgrazing/Reclamation/Revegetation/Reseeding

223 K.A.R.S. AND M.I.D.P. 1982

TILLAGE METHODS IN SOIL AND WATER CONSERVATION

Machakos District Agricultural Show, 1st-3rd July, 1982 Booklet. 3pp., 3 figs., 1 plate

Describes water as the important constraint in farming in the area and lists three ways of conserving the soil and water. It further describes in details, with figures, the different parts ox-drawn implements for proper tillage. Also gives recommedations for good soil management for both the short and long rains seasons.

Machakos District/Tillage

224 KAMAU, N.R. 1981 DAE

A STUDY OF MASS MOVEMENT IN KANGEMA AREA, MURANG'A DISTRICT, KENYA

Postgraduate Project Report, University of Nairobi, Department of Agricultural Engineering, Nairobi.
66 pp., 4 figs., 12 tables, 24 refs.

A project report on mass movement in Kangema Division, Murang'a District. Gives measurements on mass scar length, width, depth, slope angle, orientation and distance from crest. Data includes observation of slope forms, soil profile description, saturated hydraulic conductivity, moisture content, bulk density, liquid limits, farmers interview, assessment of existing conservation measures and erosional features.

Murang'a District/Kangema/Physiographical parameters/Mass movements/-Measurements

225 KAMONI, P.T., GICHERU, P.T.,EKIRAPA, A.E.E. 1987 NES, KSS

SEMI-DETAILED SOIL SURVEY OF A PART OF BURA WEST FUELWOOD PLANTATION PROJECT

Kenya Soil Survey Semi-detailed Soil Survey Report No. S22, 1987.
32 pp., 13 tables, 16 refs., 2 soil maps 1:10,000 and 1:20,000, 3 appendices

Survey covers human and physical environment of the area, and gives a description of the working methods of the survey - in office, field, and laboratory. Covers various aspects of soil properties - fertility, infiltration, hydraulic conductivity, bulk density, soil porosity, water retention and available moisture.

Bura/Socio-economic aspects/Physical properties/Chemical properties

226 KANANI, S.S. 1989 DBT

THE ROLE OF AGROFORESTRY IN THE DEVELOPMENT OF ARID AND SEMI-ARID LANDS (ASAL)

Paper presented at the ASAL Soil and Water Conservation Programme Development Workshop, Embu, 18-22 Sept., 1989.
10 pp., 2 tables, 4 refs.

Paper maintains that the development of arid and semi-arid areas of Kenya presents a special development challenge due to its poor edaphic, variable climatic conditions and rapidly increasing population. Argues that, of the many available development options, agroforestry appears interesting given the potential of trees to conserve and improve the environment through its protective and productive roles.

Agroforestry/Socio-economic aspects/Multi-purpose trees

227 KANANI, S.S., HEMMING, C.F. 1982 UNEP

GENERAL ASSESSMENT OF PROGRESS IN THE IMPLEMETATION OF THE PLAN OF ACTION TO COMBAT DESERTIFICATION

Desertification Questionaire for Kenya, UNEP
29 pp., 17 tables.

This desertification questionaire is compiled by NES. The questionaire has three parts. Part I carries information on the main characteristics of the dry lands in Kenya. Part II deals with the status and trend of desertification, and part III contains data on activities to control desertification since the 1977 UN Conference on Desertification.

Land degradation/USLE/Management practices

228 KANYUA, H.A. 1984 KAB

COMPACTION OF AGRICULTURAL SOILS

M.Sc. Thesis, University of Southampton, Faculty of Engineering and Applied Science, Department of Civil Engineering, Institute of Irrigation Studies
63 pp., 20 figs., 3 tables, 3 plates, 56 refs.

Dissertation is a literature review on compaction of agricultural soils by vehicular traffic, and the conclusions that can be infered from the literature. Argues that several theories, models and tests have been suggested to predict compaction but only the critical theory may provide an adequate model. Suggests better management of farm traffic and design changes in farm vehicles to reduce load and wheel slip and decrease the soil/tyre contact pressure, as the two basic approaches to minimize compaction.

Compaction/Tillage

229 KARANJA, A.K., CHINA, S.S.,KUNDU, P. 1989 DAE, SIDA

THE INFLUENCE OF LAND USE ON NJORO RIVER CATCHMENT BETWEEN 1975 AND 1985.

In: Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 355-370. (Eds). Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
9 figs., 5 tables, 3 refs.

Paper discusses the relationship between land use trends and changes in the river regime. Analyses data on the river flow rates and describes the method used to determine the suspended sediment load. Concludes that intensive cultivation on fragmented land in Njoro River Catchment appear to lower the flow rate and increase suspended sediment concentration in the river.

Njoro/Land use/USLE

230 KAYONGO-MALE, D., MBITHI, P. 1979

LOCAL ENVIRONMENTAL PERCEPTIONS AND CONSERVATION PRACTICES

Agricultural Adminstration 6(4): 299-304
Department of Sociology, University of Nairobi.

(not available for annotation)

Socio-economic aspects/Soil and water conservation

231 KEATING, B. 1989 DAE

ASSESSMENT OF THE WATER CONSTRAINT TO MAIZE PRODUCTION IN SEMI-ARID KENYA

Paper presented at the Water Conservation Seminar, Nanyuki, 7-11 August, 1989.
7 pp., 5 figs.

Paper contains graphs explaining the impact of inconsistent climate, especially rainfall, on land use patterns and farm production in general. Gives examples of crop-yield weather models concerning the population response in maize in Machakos District, and its interaction with rainfall and soil fertility, and, the variability of maize yield in Laikipia District, as influenced by plant population and cultivar maturity rating.

Machakos District/Laikipia District/Rainfall characteristics/Land use/-

232 KEMBOY, B.K., MURACIA, J.E. 1981 DAE

INVESTIGATION INTO THE EFFECTIVENESS OF GRASS BUFFER STRIPS IN REDUCING SOIL EROSION

B.sc. Agric. Engng. Project Report, University of Nairobi.
48(62) pp., 11(12) figs., 2 tables, 10(13) refs.

Reports on the effectiveness of a 1 m wide grass strip in reducing soil loss compared to a control plot (no grass strip) on a 6% ground slope Kabete soil under simulated runoff. Report also includes field data.

Nairobi District/Kabete/Grass strips/USLE/Rainfall simulation

233 KENWORTHY, J.M., GLOVER, J. 1958 MAL

THE RELIABILITY OF THE MAIN RAINS IN KENYA

In: E. Afr. Agric. J. 23: 267-271
2 figs., 5 refs.

Discusses the seasonal distribution of rainfall in Kenya and gives a probability map of the 15 and 20 inches of rain per season for Kenya.

Rainfall distribution

234 KENYA SOIL SURVEY 1977 KAB, KSS

GUIDE TO THE "STANDARD" SOIL EXCURSION IN NAIROBI-THIKA, KINDARUMA AREA

Kenya Soil Survey Miscellaneous Paper No. 7

A general paper covering erosion, resistance to erosion and susceptibility to surface sealing.

Nairobi District/Kiambu District/Soil erodibility/Rainfall characteristics

235 KENYA SOIL SURVEY 1986 KSS, ACIAR

SOIL AND LAND RESOURCES SURVEY AND INVESTIGATIONS

Ministry of Agriculture and Livestock Development
41 pp., 5 figs., 1 table, 2 annexes.

Project proposes to strengthen the capabilities of the Kenya Soil Survey in providing vital technical information on soil and other related land resources required by planners for multipurpose land use planning.

Policies

236 KENYA, DEPARTMENT OF AGRICULTURE,SOIL CONSERVATION UNIT 1939 MAL

SOIL CONSERVATION IN PYRETHRUM FIELDS

In: E. Afr. Agric. J. 5:47-56
9 figs., 1 table, 2 plates

Deals with the principles of setting out and maintaining terraces, cutoff drains and grass waterways under different land slopes. It also gives tables to calculate vertical interval of terraces in relation to ground slope, terrace grade with distance and to calculate the depth and width of grassed waterways for different ground slope and area.

Layout/Maintenance/Structural methods

237 KENYA, DEPARTMENT OF AGRICULTURE,SOIL CONSERVATION UNIT 1949 MAL

MAINTAINING BROAD BASE TERRACES BY PLOUGHING

Eagle Press, Nairobi
4 pp., 6 figs.

Discusses the objectives and two methods of terrace maintenance.

Terraces/Maintenance

238 KENYA, DEPARTMENT OF AGRICULTURE 1936 MAL

SOIL EROSION: A SIMPLE HOME MADE LEVEL FOR OBTAINING THE LINE OF CONTOUR BANKS

E. Afr. Agric. J. 2:28-29, 76
1 fig., 1 table

Describes the construction and use of a simple home made level for laying out contour lines and terraces.

Tools/Construction/Layout/Terraces

239 KENYA, LAND COMMISSION 1953 MAL

OVERSTOCKING IN KENYA
KENYA LAND COMMISSION REPORT

In: E. Afr. Agric. J. 1:16-19

Estimates human and cattle population for 1932 and discusses the problem of overstocking in relation to land deterioration and the measures to reduce cattle population in the native reserves.

Overpopulation/Overgrazing

240 KENYA, MINISTRY OF AGRICULTURE 1981

RUNOFF CATCHING AGRICULTURE (ONE WAY TO INCREASE CROP YIELDS AND REDUCE SOIL EROSION IN ARID AREAS)

C.D. and M.U. (xeroxed report)

(not available for annotation)

Water harvesting/Soil productivity

241 KENYA, MINISTRY OF AGRICULTURE 1981 DBT

SOIL AND WATER CONSERVATION IN THE CHEMERON AND ENDAO CATCHMENTS, BARINGO DISTRICT

9 pp., 2 tables

Presents the erosion problem of the Chemeron Endao catchment Project and recommends the construction of gabion structures along the major river beds and "first order" catchments and check dams in gullies in critical sections of the upper catchments. Also gives layout and mechanical unit requirements.

Baringo District/Soil and land degradation/Gully control/Dams

242 KENYA, MINISTRY OF AGRICULTURE, ANIMAL HUSBANDRY AND WATER RESOURCES 1962 MAL

AFRICAN LAND DEVELOPMENT IN KENYA

English Press Ltd., Nairobi.
312 pp., 2 figs., 20 tables, 113 plates, 11 maps and index

Report of the activities of the African Land Development Organization (1946-1962) in the reconditioning of African areas and African settlement, mainly in soil and water conservation, water supply, irrigation, afforestation and growing cash crops.

Soil and water conservation/Revegetation

243 KENYA, MINISTRY OF AGRICULTURE, ASAL UNIT 1981

ASAL - KITUI PROJECT REPORT

District Agricultural Officer, Kitui

(not available for annotation)

Kitui District

244 KENYA, MINISTRY OF AGRICULTURE, ASAL UNIT 1982

ASAL PREINVESTMENT STUDY: KITUI/EMBU/MERU. VOL. 1, SECTORAL INVENTORY

IDS/ASAL Unit Nairobi
142 pp., tables

(not available for annotation)

Policies

245 KENYA, MINISTRY OF AGRICULTURE, INTEGRATED AGRICULTURAL DEVELOPMENT PROGRAM 1978

MONITORING AND EVALUATION FOR ASAL PROJECTS

Nairobi.

(not available for annotation)

Evaluation

246 KENYA, MINISTRY OF AGRICULTURE, LAND AND FARM MANAGEMENT DIVISION 1978 IDS

POSITION PAPER ON SOIL CONSERVATION

In Soil and Water Conservation. Report of a Workshop, University of Nairobi, Nairobi, Sept. 21-23, 1977.
IDS Occasional Paper No. 27, pp. 125-141

Report on the history of soil conservation in Kenya in relation to the activities of the soil conservation unit of the Ministry of Agriculture. Includes policy and regulation, structural set up, provincial and district activities and land tenure.

Policies/Soil and water conservation

247 KENYA, MINISTRY OF AGRICULTURE, NAIROBI 1977 KADOC

NAROK AGRICULTURAL DEVELOPMENT PROJECT

Laon Application Report Vol. 3: Annex 7-16
KADOC No. 10188
119 pp., 43 tables

Includes an outline of the Narok District development programme, information on machinery requirement, crop and livestock production budgets, agricultural inputs, farm models and description of road conditions and requirements. Describes soil and water conservation programme, arrangements for transportation and marketing of organization and management of the project.

Narok District/Economic considerations/Soil and water conservation

248 KENYA, MINISTRY OF AGRICULTURE, SOIL AND WATER CONSERVATION BRANCH 1983 LDD

SOIL CONSERVATION PROJECT 1982/83. ANNUAL REPORT

19 pp., 7 tables

The annual report states goals of the project, organization and staff, finance and funds, subsidizing policy and field work. It also carries targets and achievements in constructing cutoff drains, terraces, training, cooperation with other Government organizations, using hand tools, equipment and follow-up of the field work.

Policies/Structural methods/Training/Evaluation

249 KENYA, MINISTRY OF WATER DEVELOPMENT 1978 KAB

RAINFALL FREQUENCY ATLAS OF KENYA

Water Department, Nairobi.
11 pp., 40 figs., 1 table

Gives maps of 5, 10, 15 and 100 years for the 10 and 30 minutes and 1, 2, 3, 6, 12 and 24 hours rainfall for Kenya and rainfall intensity-duration-frequency relationships for 49 stations.

Rainfall characteristics/Maps

250 KENYA, NATIONAL ENVIRONMENT SECRETARIAT 1975

REPORT OF THE WORKING GROUP ON SOIL EROSION

OP/NWS/200/091/95. Nairobi
24 pp.

(not available for annotation)

Soil and land degradation

251 KENYA, NATIONAL ENVIRONMENT SECRETARIAT 1975 NES

THE INCIDENCE OF SOIL EROSION IN KENYA

Report of the Sub-committee on the National Environment Secretariat.
25 pp., 5 refs.

States the present situation of soil erosion on cultivated, grazed, and forest lands and summary of ongoing soil conservation activities. It also gives recommendations and proposes a plan of action as to the prevention of further degradation and reclamation of already eroded lands, training, educational and research and dissemination of information.

Land degradation/Soil and water conservation/Reclamation/Socio-economic aspects

252 KENYA, NATIONAL ENVIRONMENT SECRETARIAT 1977 DBT, NES

REPORT OF THE NATIONAL SEMINAR ON DESERTIFICATION

Nairobi, 6-8 July 1977
18 pp.

Report of the seminar includes opening address, agenda of the seminar, list of documents prepared at the seminar, and resolutions of the seminar that include 1) definition of desertification, 2) extent of desertification in Kenya, 3) causes of desertification in Kenya - natural and man-made causes, 4) consequences of desertification, 5)measures to combat desertification, and 6) recommendations for national action.

Land degradation/Causes/Impacts/Soil and water conservation/Reclamation

253 KENYA, NATIONAL ENVIRONMENT SECRETARIAT 1977 UNEP

KENYA'S EXPERIENCE IN COMBATING DESERTIFICATION

Prepared on the Occasion of the UN Conference on Desertification
33 pp.

Deals with the definition of desertification in the different ecological zones. Also deals with causes of desertification due to overgrazing, destruction of vegetation, lack of education, population pressure, improper revegetation. Describes methods of combating desertification by means of different appropriate land management systems. Includes recommendations for national action.

Land degradation/Causes/Management practices/Policies

254 KENYA, NATIONAL ENVIRONMENT SECRETARIAT 1979 NES

DRAFT ENVIRONMENTAL PROFILE FOR NYERI DISTRICT

79 pp., 8 figs., 4 tables

Report of a study based on draft model for environmental assessment. Lists soil erosion, water pollution, devegetation (deforestation), agrochemical pollution, squatter settlements, waste disposal, conservation of historical sites and lack of fuel as the major environmental problems. Identifies slope, intensive cultivation and high rainfall incidence as agravators of soil erosion. A discussion of types and causes of soil erosion and control measures of badly affected areas with suggestions is also included.

Nyeri District/Survey/Socio-economic aspects/Soil and water conservation /Soil erodibility

255 KENYA, NATIONAL ENVIRONMENT SECRETARIAT 1980 NES

EXECUTIVE SUMMARY OF KAJIADO DISTRICT ENVIRONMENT ASSESSMENT REPORT.

NES/Clark University/USAID Pprogramme.
68 pp., 11 figs., 19 tables and an appendix

Deals with the physical and human environment of the district. It analyses the impact of population and development on the environment, environmental trends and problem identification. Discusses the problem of soil erosion by wind and water. It recommends means such as destocking, physical means, afforestation, resting, prevention of steep slope cultivation, good farming practices and aid to pastoralists.

Kajiado District/Socio-economic aspects/Water degradation/Wind degradation /Soil and water conservation

256 KENYA, NATIONAL ENVIRONMENT SECRETARIAT 1981 ASAL

KITUI DISTRICT ENVIRONMENTAL ASSESSMENT REPORT

Nairobi
84 pp., tables

This report contains a section on soil degradation and protection. Indicates sheet, rill and gully erosion as common in the area. Gives wild water and shifting cultivation as the major causes of erosion. It also deals with agents of erosion like overgrazing, burning, tree felling, and poor cultivation practices. Gives tables on areas mostly affected by soil erosion, and soil conservation measures undertaken between 1976-78. Gives some recommendations.

Kitui District/Water degradation/Land use/Management practices/Structural methods

257 KENYA, NATIONAL ENVIRONMENT SECRETARIAT 1981 NES

"WATER" "AGRICULTURE"

Report of the GK/UNEP/UNDP Project on Environmnet and Development. Draft. NES, UNEP and UNDP Vol. 1, Part III Chapters 4,5,& 6.
358 pp.

Chapter 4 and 5 of this volume report on water and agriculture respectively. Chapter 4 deals with rainfall, runoff, sediment discharge of the five water sheds in Kenya and plans to develop them. Chapter five discusses the problem of erosion. It also deals with crop production and proper land use.

Rainfall characteristics/USLE/Soil and land degradation/Land use

258 KENYA, NATIONAL ENVIRONMENT SECRETARIAT 1981 NES

ENVIRONMENTAL LAW

In Report of the GK/UNEP/UNDP Project on Environment and Development Draft. NES, UNEP and UNDP Vol III Chap. 26 pp. 859-887

Discusses the different acts like the Agricultural and Water Acts, their weekness, monitoring, enforcement, and gives some recommendations on soil conservation law, forest protection, shortage of manpower to enforce the law, inadequacy of the law, circumstances, proposal for legislative action and the rights of the individual.

Policies

259 KENYA, NATIONAL ENVIRONMENT SECRETARIAT 1981 NES

KENYA'S FIGHT AGAINST SOIL EROSION

A Report of Kenya's First Anti-soil Erosion Week
18 pp., 12 plates

A pamphlet by NES covering a speech by the president, participation of the people, gabion work in Baringo, Kitui, Kajiado, check dams and terraces. Talks about activities of NES an also lists lessons gained such as erosion not being a new problem, awareness of the people, the many conservation measures underway, that no single approach is sufficient to do the job, the certainity on who should act on which way, lack of information and research and the need for action.

Policies/Socio-economic aspects/Dams/Terraces

260 KENYA, NATIONAL ENVIRONMENT SECRETARIAT 1981 NES

A PROPOSED ACTIVITY FOR MONITORING LAND DEGRADATION WITH EMPHASIS ON SOIL EROSION
A Draft Plan of Action.

24 pp. and an appendix

Discusses the importance of safeguarding natural resources in relation to the situation of soil erosion and the need to monitor soil loss. It outlines objectives and strategies of the proposed monitoring programme with emphasis on selection of pilot monitoring and gives a proposed outline for a pilot study and for preparatory case studies.

USLE/Land degradation

261 KENYA, NATIONAL SOIL AND WATER CONSERVATION STEERING AND CORDINATING COMMITTE 1982 IBRD

RECOMMENDATION FOR A NATIONAL PROGRAMME IN SOIL AND WATER CONSERVATION

Ministry of Agriculture, Land Development Division, Nairobi
59 pp.

The paper deals with the importance of soil and water conservation - the Presidential initiative, government responses and summary of present government and non-government efforts. Lists and discusses constraints and shortcomings in government efforts suc as inadequate land use practices, insufficient training, lack of research programme, lack of popular perception, and inadequacies in legislation and enforcement.

Soil and water conservation/Policies/Socio-economic aspects

262 KENYA, PPCSCA 1982 PPCSCA

KENYA'S EFFORTS TO CONSERVE SOIL, WATER AND FORESTS

Press Trust Printers Ltd., Nairobi.
39 pp., 14 tables, plates.

A booklet published annually by the Commission and containing the following sections: message from the President of the Republic of Kenya, a preface on soil as a resource and the role of the Commission on soil conservation and afforestation, erosion types, conservation meatures, the need to conserve forests, and gives tables on number of seedlings and nurseries in each district, water conservation and work on the national water and soil conservation week.

GoK/Soil and water conservation/Nurseries

263 KENYA, PPCSCA 1983 DBT

KENYA'S EFFORTS TO CONSERVE SOIL, WATER AND FORESTS

Nairobi.
40 pp., 15 figs.,3 tables, 41 plates

This booklet contains nine sections dealing with: the need for conserving soil and forest, soil conservation activities, including pictures of different sites visited by journalists, the importance of watershed management, activities of the Commission and its achievements during 1982, forest conservation, seedling growing technique and a list of nurseries, planning on catchment basis, using hand level, measuring vertical intervals, cutoff drains, the use and importance of design of gabions and earth dams.

Evaluation/Layout/Design/Nurseries

264 KENYA-AUSTRIA 1980 TARDA

GROUNDWATER EXPLORATION IN THE TAITA HILLS AND MOMBASA SOUTH COAST AREAS

Submitted to the Ministry of Water Development and Ministry of Natural Resources, Nairobi/Kenya.
Austromineral Ges. m.b.H., Vienna Austria, October 1980.
332 pp., 99 figs., 31 tables.

The study is divided into four parts. Part I tackles project objectives, work scope and execution. Part II and III explore the basic natural setting and conditions, geophysical survey programme, water drilling and well construction, water testing results and borehole evaluation in the project area. Part IV gives conclusions and recommendations for the project.

Taita-Taveta District/Water resources/Wells

265 KENYATTA, M. 1977 UNEP

STATEMENT MADE BY THE DEPUTY LEADER OF THE KENYA DELEGATION AND KENYA'S PERMANENT REPRESENTATIVE TO UNEP ON THE UN CONFERENCE ON DESERTIFICATION

Nairobi, 31 August 1977
8 pp.

States the problem of desertification in Kenya and measures taken to combat desertification.

Land degradation/Soil and water conservation

266 KETER, S. 1989 DAE

FARMERS PERCEPTION / ACCEPTANCE OF WATER AND SOIL CONSERVATION TECHNIQUES

Paper presented at the Water Conservation Seminar, Nanyuki, 7-11 August, 1989.
16 pp., 13 figs., 1 table.

Paper presents the results of a survey on the attitude of small holders towards conservation so as to recommend water and soil conservation techniques in Kalau and Matanya in Laikipia District. Paper states the objectives of the survey and the methodology used, as well as analysing and illustrating farmers' perception on water and soil conservation technologies. Gives recommendations on how farmers could accept more new water and soil conservation techniques.

Laikipia District/Socio-economic aspects/Soil and water conservation

267 KEYA, G.A., WAMUGI, I.K.,NDATHI, A.N. 1989

RANGE REHABILITATION AND WOODLAND MANAGEMENT STUDIES. ANNUAL RECORD OF RESEARCH 1989.

National Arid Lands Research Centre, Marsabit.

(not available for annotation)

Reclamation

268 KEYA, S.O. 1980 UON, KENGO

LAND USE CAPABILITY, SOILS AND SOIL MANAGEMENT WITH RESPECT TO AGROFORESTRY ENTERPRISES

17 pp., 1 fig., 6 tables.

Paper discusses land use capabilities in relation to soils and soil management aspects. Points out that studies of soil erosion problems shows that good management techniques are important in reducing soil loss, and as such, mulching, mixed cropping and increasing plant densities, can reduce erosion substantially. States that crop management might not be effective where soils are shallow, slopes are high, and with erratic rainfall.

Land use/Mulching/Mixed cropping/Soil depth/Slope angle

269 KRHODA, G.O. 1988

WATER RESOURCES CONSTRAINTS AND PROSPECTS FOR AGRICULTURAL AND INDUSTRIAL DEVELOPMENT TOWARDS THE YEAR 2000 A.D.

In: Kenya Industrial and Agricultural Strategies Towards the Year 2000 A.D., Odhiambo, L.O. and Odada, J.E.O. (Eds). pp. 214-237. Kenya Economic Association, Nairobi
2 figs., 9 tables

Paper examines the water resources potential of Kenya in order to assess the current and projected demand for agricultural and industrial uses, and discusses the prospects and constraints that are likely to influence the trend of development. In anticipation of agricultural and industrial expansion, the paper concludes that Kenya is endowed with sufficient water resources, however the problems that arise from their development such as environmental degradation and health problems need be tackled.

Water resources

270 KIBAGE, D.M. 1979 DAE

A SURVEY OF GULLY EROSION AT LONGONOT

Post Graduate Diploma Project Report, University of Nairobi, Department of Agricultural Engineering, Nairobi
42 pp., 3 figs., 8 tables, 8 refs., appendix

Reports the influence of cultivation practices, catchment areas of roads, paths and road runoff on gully formation together with soils, rainfall and catchment area and effect of settlement on the increased gullying.

Survey/Gully erosion/Physical infrastructures/Soil types/Rainfall characteristics

271 KILAVIKA, C.I. 1975 KARI

AN EXAMPLE OF A SUCCESSFUL PRACTICAL SOIL CONSERVATION SCHEME AT TIMBILIL

Tea in East Africa 15(2):19-20

Article discusses a practical step taken in soil conservation following the manual clearing of forest for small scale tea plantation. Emphasizes the importance of constructing waterways deep enough, well ahead of schedule and established long before they are expected to tke the discharge from the bunds.

Kericho District/Timbilil/Deforestation/Waterways/Terraces

272 KILEWE, A.M. 1984 DBT

PHYSICAL PROPERTIES OF SOILS IN RELATION TO EROSION

E. Afr. Agric. For. J. 44:242-246 (special issue)
4 tables, 10 refs.

Gives the influence of soil structure, degree of aggregation, texture, organic matter, moisture content, density and compactness on erosion. Compares the physical properties at Katumani and Muguga soils. Provides erosion index for the two soils based on dispersion erosion ratios for the profile depth of 10, 30, 60 and 100 cm.

Physical properties/Chemical properties/Soil erodibility/Soil depth

273 KILEWE, A.M. 1985 KARI

MEASUREMENT AND PREDICTION OF SOIL EROSION IN KIAMBU AND MURANG'A DISTRICTS OF KENYA

NES, ETMA, USAID

Discusses the assessment of soil loss in Kiambu and Murang'a districts in Central Province of Kenya including a comparison of measured soil loss by site, measured and estmated soil loss by site, and average measured and estimated soil loss by crop. Report also evaluates the reliablity of soil traps for measuring soil loss as compared with run-off plots.

Prediction/USLE/Run-off plots

274 KILEWE, A.M. 1986 KARI

SOIL AND WATER MANAGEMENT: NATIONAL RESEARCH PRIORITIES

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 September 1986, pp.539-552 (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L., and Mochoge, B.O.
DAE, SIDA
12 refs.

Discusses the research needs in prediction of soil erosion rates, effect of erosion on soil productivity, high potential regions, arid and semi-arid regions, forest lands, rangelands, and soil and water management policy including manpower requirements.

Prediction/Soil productivity/Tillage/Policies

275 KILEWE, A.M. 1987 KAB

PREDICTION OF EROSION RATES AND THE EFFECTS OF TOPSOIL THICKNESS ON SOIL PRODUCTIVITY

PhD. Thesis, University of Nairobi.
323 pp., 31 figs., 45 tables, 174 refs., 8 plates, 2 appendices.

Thesis determines the quantitative parameters for predicting soil loss using the Universal Soil Loss Equation (USLE) and the effects of topsoil thickness on soil productivity. It also discusses the mechanics, processes, and the assesment of soil erosion.

USLE/Run-off plots/Prediction/Soil productivity

276 KILEWE, A.M. 1988 KARI

SOIL EROSION AND THE ROLE OF AGROFORESTRY PRACTICES IN SOIL CONSERVATION

In: Agroforestry Development in Kenya. Proceedings of the Second Kenya National Seminar on Agroforestry held in Nairobi, Kenya, 7-16 November, 1988, pp. 374-385. Kilewe, A.M., Kealey, K.M. and Kebaara, K.K. (Eds).
2 tables

Discusses the processes of soil erosion, causes of soil erosion, impact of soil erosion, agroforestry practices for soil conservation, and identifies research needs for the development of sustainable and productive land-use systems.

Soil and land degradation/Causes/Soil and water conservation/Agroforestry /Soil productivity

277 KILEWE, A.M. 1989 DAE, SIDA

SOIL AND WATER MANAGEMENT: NATIONAL RESEARCH PRIORITIES

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 539-552. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
12 refs.

Discusses research requirements for prediction of soil erosion rates, determining the effect of erosion on soil productivity, determining the potentials and limitations of soils in high potential regions, determining the effectiveness of rainfall in arid and semi-arid regions, and determining the basic factors that influence the effectiveness of soil and water management policies.

USLE/Soil productivity/Physical properties/Policies

278 KILEWE, A.M. THOMAS, D.B. 1988 DBT, KARI

LAND DEGRADATION IN KENYA - A COUNTRY PROFILE

A Draft Report Prepared for the Commonwealth Secretariat
8 figs. 18 tables, 16 refs., 2 annexes

The report assesses the nature, extent, causes and effects of land degradation in Kenya as a prerequisite to generating technologies for a sustainable agriculture. The report has perspectives on land tenure, policy initiatives for combating land degradation.

Rainfall distribution/Causes/Impacts/Policies

279 KILEWE, A.M. & MBUVI, J.P. (In press)

EVALUATION OF SUITABLE RAINFALL EROSIVITY FACTORS FOR THE SEMI-ARID REGION OF KENYA

Kenya Journal of Science and Technology
2 figs., 15 tables, 34 refs.

Evaluates 28 rainfall erosivity factors and develops regression equations for predicting the USLE erosivity factor (EI30) from other erosivity factors that are much simpler to compute.

Soil erodibility/Rainfall intensity/Rainfall kinetic energy/Erosion-factors

280 KILEWE, A.M. & MBUVI, J.P. (In press)

EVALUATION OF CROP COVER AND RESIDUE MANAGEMENT C FACTORS FOR CROPPING SYSTEMS AND MANAGEMENT TECHNIQUES IN THE SEMI-ARID REGION OF KENYA

Kenya Journal of Science and Technology.
7 tables, 19 refs.

Evaluates the crop cover and residue management C factors for maize with minimum tillage, maize with 3 tonnes per hectare of maize residue, maize with conventional tillage, beans alone, and maize intercropped with beans on alternate rows.

Crop vegetation cover/Tillage/Mulching

281 KILEWE, A.M. & MBUVI, J.P. 1987 KARI, KAB

THE EFFECTS OF CROP COVER AND RESIDUE MANAGEMENT ON RUNOFF AND SOIL LOSS

E. Afr. Agric. For. J. 53:193-
4 figs., 5 tables, 22 refs.

Evaluates the effects of maize with minimum tillage, maize with 3 tonnes per hectare of maize residue, maize with conventional tillage, beans alone, maize intercropped with beans on alternate rows, and bare fallow on ground cover development, runoff, and soil loss.

Vegetation cover/Run-off plots/Prediction/Tillage

282 KILEWE, A.M. & MBUVI, J.P. 1987 KARI, KAB

EVALUATION OF SOIL ERODIBILITY FACTORS USING NATURAL RUNOFF PLOTS

E. Afr. Agric. For. J. 53:57-63
1 fig., 4 tables, 26 refs.

Determines the relative soil erodibility values for the luvisol around Katumani using natural runoff plots and evaluates the effect of rainstorm magnitude on soil erodibility.

Soil erodibility/Erosion factors/USLE/Luvisols

283 KILEWE, A.M., ULASKER, L.G. 1984 DBT

SOIL PHYSICAL CHARACTERISTICS AND THEIR APPLICATION TO AGRICULTURE

E. Afr. Agric. For. J. 44: 247-256 (special issue)
8 figs., 5 tables, 6 refs.

Compares soil physical properties, i.e., bulk density, texture, organic matter, soil moisture release characteristics, total pore space, water holding capacity of soils from four fields of two locations and their effect on plant growth. Suggests the method as good identifier of drier areas that may be suitable for agriculture.

Physical properties

284 KILEWE, A.M., ULSAKER, L.G. 1984 DBT

TOPOGRAPHIC MODIFICATION OF LAND TO CONCENTRATE AND REDISTRIBUTE RUNOFF FOR CROP PRODUCTION

E. Afr. Agric. For. J. 44: 257-265 (special issue)
6 figs., 3 tables, 8 refs.

Gives the effects of contour furrows (conventional beds), wide furrows, mini-benches and flat beds, under maize, and minimum tillage on crop yield, runoff retention, available moisture at 30, 60 and 100 cm depths during 1982 and 1983. Result indicates that apart from the flat beds, the rest retained all runoff and the wide furrows gave significantly greater yields and high water use efficiency.

Management practices/Water harvesting/Soil productivity/Physiographical parameters

285 KILEWE, A.M., ULSAKER, L.G. 1984 DBT

SOIL EROSION: A THREAT TO LAND RESOURCES

E. Afr. Agric. For. J. 44: 203-209 (special issue)
25 refs.

Discusses the problem of soil erosion, with special emphasis on the semiarid areas. Prediction of soil loss with the USLE and methods of determining the different factors in the equation are described. Loss of soil productivity, plant nutrients and water pollution are given as some of the problems caused by erosion.

Land degradation/USLE/Soil productivity/Nutrient loss

286 KILEWE, A.M., & MBUVI, J.P. (In press)

THE EFFECT OF TOPSOIL REMOVAL ON SOIL PRODUCTIVITY

Kenya Journal of Science and Technology
14 figs., 5 tables, 9 refs.

Determines the effect of removal of different depths of topsoil on soil productivity using maize as a test crop with different rate of fertilizer and manure application.

Run-off plots/Soil productivity/Fertilizer/Manure

287 KIMENYE, D. 1989 DBT

POTENTIAL FOR EROSION BY DIFFERENT TYPES OF LIVESTOCK

Paper presented at the ASAL Soil and Water Conservation Programme Development Workshop, Embu, 18-22 Sept., 1989.
4 pp., 10 refs.

Paper argues that soil erosion caused by wind and water mainly, is aided by man and his animals. Discusses the impact of trampling on vegetation and selective feeding habits of different livestock species in various seasons to soil erosion.

Water degradation/Wind degradation/Compaction/Overgrazing

288 KIMUTAI, J.N. 1979 DAE

A SURVEY OF EFFECTIVENESS OF CUTOFF DRAINS AND GRASS STRIPS AS SOIL CONSERVATION MEASURES IN TULOI, KAPKANGANI LOCATION, NANDI DISTRICT

Post Graduate Diploma Report Project, University of Nairobi, Department of Agricultural Engineering, Nairobi.
78 pp., 8 figs., 16 tables, 7 refs.

A project report on the effectiveness of cutoff drains and grass strips in preventing soil erosion in Tuloi, Nandi District. Report is based on interview of farmers and survey of cutoff drains and grass strips. Appendix gives field data.

Nandi District/Tuloi/Survey/Cut-off drains/Grass strips

289 KINAMA, J.M. 1981 DAE

A STUDY ON SEDIMENTATION AND ITS CAUSES IN SURFACE RESERVOIRS IN A SEMI ARID AREA OF TULIA IN KITUI DISTRICT, KENYA

Post Graduate Diploma Project Report, University of Nairobi, Department of Agricultural Engineering, Nairobi.
41 pp., 4 figs., 7 tables, 11 refs., 2 fold maps

Project report on the sedimentation of the Mithini dam in Tulia, Kitui District. Gives estimate of volume of sediment from dam survey and problems of overgrazing and conservation measures for catchment protection.

Kitui District/Tulia/USLE/Overgrazing/Dams

290 KINAMA, J.M. 1985 DBT

SOIL AND WATER CONSERVATION IN ARABLE AND PASTURE DRYLANDS IN KENYA

In Agricultural Research and Extension for the Drylands of Kenya Proceedings of a Workshop held in Embu, Kenya, 2-6 Dec. 1985 pp56-70
12 refs.

The paper discusses those problems posing potential dangers to soil and water resources in arable and pasture drylands in Kenya. The paper also summarises ways of conserving soil and water in arable drylands.

Causes/Soil and water conservation

291 KONUCHE, P.K.A. 1983 IDS

EFFECTS OF FOREST MANAGEMENT PRACTICES ON SOIL AND WATER CONSERVATIONS IN KENYA FORESTS

In Soil and Water Conservation in Kenya - Proceedings of a Second National Workshop, Nairobi, 10-13 March 1982
Eds. Thomas, D.B. and Senga, W.M. IDS Occasional Paper No. 42
pp. 350-359
19 refs.

Discusses the main forest management practices like site preparation, tending, pruning, thinning, harvesting, and forest protection.

Forest management

292 KRHODA, G.O. 1986

SOME PROPERTIES OF GEOMORPHOLOGICAL SYSTEMS AND THE GEOPHYSICAL RECORD: A DISCUSSION OF THEIR RRELATIONSHIP IN LANDSCAPE EVALUATION

Seminar Paper, Geography Department, University of Nairobi, 1986.

Paper discusses geomorphological systems with a view to relate them to the properties of geographical record. Results of the study show that amongst the geomorphological systems, such as morphological, process-response and control systems, only morphological systems are better understood. Maintains that threshold and feedback mechanisms which govern their behaviour introduce complications in the resulting functionalism, whereas geophysical record is time and space specific.

Related literature

293 KRHODA, G.O. 1987

LONG-TERM MONITORING OF SOIL EROSION AND OTHER FORMS OF LAND DEGRADATION

Nomograph, Department of Geography Staff Seminar Series, University of Nairobi
12 pp.

Paper argues that though Kenya has not been left behind in pointing out man's impact on environment, there has been slow progress towards establishing long-term monitoring system of the ecosystem, soil and water erosion, population shifts and productivity. Paper evaluates the need for setting up such a system including the understanding of the geodynamical systems and evaluation of sustainable development. Discusses four methods of moniroting geomorphological and hydrological processes.

Soil and land degradation/Water loss monitoring/Measurements

294 KRHODA, G.O. 1988

AN ANALYSIS OF HYDROLOGICAL CHANGES CONSEQUENT LAND USE CHANGE IN MAU HILLS IN KENYA

Proceedings, Sixth I.W.R.A. World Congress in Water Resources, Ottawa, Canada, May 29 - June 3, 1988. Paper No. 213A2.

Gives an analysis of the hydrology of the Mau Hills Forest Reserve in order to evaluate to evaluate the effects of land use change from forest to agriculture. Argues that favourable climatic conditions and a growing population have contributed to the conversion of forests into farmlands. An analysis of floods and water balance of five catchments in the area shows that the frequency and magnitude of floods have had little change. Shows that rate of land degradation varies with geology, topography and land use.

Mau Hills Forest/Deforestation/Land use/Flooding

295 KRHODA, G.O. 1988

WATER SUPPLY IN KENYA TODAY AND TO THE YEAR 2000 A.D.

In: Kenya's Population Growth and Development to the Year 2000 A.D., Ominde, S.H. (Ed), Chap. 9, pp. 87-99.
Heinemann, Nairobi.
4 figs., 15 tables

Study analyses the current adequacy of water supply in Kenya in order to project future demands and problems that may likey occur in the year 2000. The types of water supply, the expected benefits and factors that control the level of service are discussed. Surface and groundwater resources are assessed and their implications for future trends in water supply are discussed.

Related literature

296 KRHODA, G.O. 1988

FLOW DEVELOPMENT AND INTERACTION IN ALLUVIAL OPEN-CHANNEL BEND SERIES WITH VARYING CURVATURE COMBINATIONS

Proceedings, International Conference in Fluvial Hydraulics, Budapest, Hungary, 1988.
5 pp.

An investigation was conducted to study flow development and interaction in single and consecutive alluvial open-channel bends with curvature ratio combinations of $1.0 < @ < 4.7$. Detailed measurements of mean velocity, current direction and channel bed topography were collected from ten or more cross sections in each bend. Three regions of flow development were determined, namely the straight entrance portion, the region between $30 < @ < 60$ and $@ > 100$, where @ is the angle of bend curvature.

Channel erosion/Flow development

297 KRHODA, G.O. 1989 DAE, SIDA

PROBLEMS OF SEDIMENT CONTROL AND MANAGEMENT IN URBAN AREAS

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 115-122.
(Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
1 table, 8 refs.

Paper evaluates the point sources of sediment, and assesses the rates of soil erosion from roads, pathways, and construction sites in Nairobi. Discusses the results and compares the data to those from rates of ordinary soil erosion on rural catchments. Also discusses proposals for government regulation and prospects for further research.

Physical infrastructures/USLE

298 KRHODA, G.O. 1989 DAE, SIDA

LATERAL EROSION OF RIVERS

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 137-154. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
10 figs., 21 refs.

Paper discusses and evaluates the factors that cause lateral erosion. Presents a case study of the meandering reaches of Lower Tana River, to relate some of the factors that cause lateral erosion to channel morphology. The second part of the paper discusses the influence of vegetation and channel erosion to the Lower Tana River.

Channel erosion/Vegetation cover

299 LAMPREY, H.V. 1981

KENYA, SEEKING REMEDIES FOR DESERT ENCROACHMENT

Span (UK) 24 (2):53-56, 89, 91, 93

(not available ffor annotation)

Soil and land degradation

300 LARSSON, M. 1987 SIDA

LANDSLIDES IN THE MOUNTAIN AREAS OF KENYA: CAUSES, EFFECTS AND REHABILITATION. COMPARATIVE STUDIES OF DIFFERENT SLOPES WITHIN THE NYANDARUA RANGE

75 pp., 13 figs., 34 refs.

A research project done to evaluate mass movements as agents in the geomorphologic evolution of the landscape, and their contribution to soil erosion in a humid tropical environment. Draws a special relationship between increase in landslides and increase in land use. Discusses scientific background and classification of landslides, topography, vegetation and land use, water inflow and water in the soil, and soils.

Mass movements/Land use/Physiographical parameters/Vegetation cover/-Soil types

301 LARSSON, M. 1989 DAE, SIDA

LANDSLIDES IN THE MOUNTAIN AREAS OF KENYA: COMPARATIVE STUDIES OF DIFFERENT SLOPES WITHIN THE NYANDARUA RANGE

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 123-136 (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
1 table, 27 refs.

Paper summarises the findings of a study on landslide occurrences within Nyandarua Range in relationship to changes in land use.

Mass movements/Land use/Physiographical parameters

302 LAWES, E.F. n.d.

AN ANALYSIS OF SHORT DURATION RAINFALL INTENSITIES

E. Afr. Met. Dept. Tech. Memo 23.

(not available for annotation)

Rainfall intensity

303 LEWIS, J.G. 1977 IPAL

REPORT OF A SHORT TERM CONSULTANCY ON THE GRAZING ECOSYSTEM IN THE MT. KULAL, NORTHERN KENYA

IPAL Technical Report No. E-3, Nairobi.
62 pp., 10 figs., 23 tables, 47 refs., appendix.

Reports results of three months study of the grazing ecosystem dealing mainly with desert encroachment. It describes the quality of vegetation, the problem of overgrazing, possibility of vegetation recovery and gives recommendations on reducing cattle.

Land degradation/Overgrazing/Revegetation

304 LEWIS, L.A. 1983 DBT

LAND DEGRADATION MONITORING PROGRAMME OF THE NATIONAL ENVIRONMENT AND HUMAN SETTLEMENTS SECRETARIAT

Ministry of Environment and Natual Resources, Kiambu District, Kenya first Pilot Study.
Clark University International Development Programme
41 pp., 3 figs., 14 tables, 10 refs.

Deals with the programme of NEHSS, to monitor land degradation in Kiambu District. Gives method of data collection, soil loss and agricultural activities especially of land use and assessing soil loss using the USLE. Soil loss values, established and actual, are given for 24 sites. Erosion due to quarries and assessment of extent and control of gully erosion are included.

Kiambu District/Land use/USLE/Physical infrastructures/Gully erosion

305 LEWIS, L.A. 1983 IDS

THE EROSION MONITORING PROGRAMME OF THE NATIONAL ENVIRONMENT SECRETARIAT

In Soil and Water Conservation in Kenya - Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982.
Eds. Thomas, D.B. and Senga, W.M. IDS Occasional Paper No. 42, pp.47-49

Describes the steps taken to monitor soil erosion in Kiambu District including preparation of maps, reconnaisance, land degradation observation, installation of five recording rain gauges and 28 soil traps.

Kiambu District/Maps/Measurements

306 LEWIS, L.A. 1985 DAE, NES

PROGRESS REPORT ON ASSESSING SOIL LOSS IN KIAMBU AND MURANG'A DISTRICTS

In Monitoring Soil in Kiambu and Murang'a Districts, Kenya Progress Report 1982-83
National Environment Secretariat
34 pp., 6 figs., 6 tables, 14 refs.

The report compiles the findings of a study carried out to asses soil erosion in cultivated slopes exceeding 11 degrees in Kiambu and Murang'a districts. The paper analyses data on: estimating rainfall erosivity, estimating crop cover and conservation practice factors, and the slope-length factors.

Kiambu District/Murang'a District/Physiographical parameters/USLE

307 LEWIS, L.A. 1985

ASSESSING SOIL LOSS IN KIAMBU AND MURANG'A DISTRICTS, KENYA

Geog. Ann., 67A:273-284

(not available for annotation)

Prediction

308 LINDGREN, B.M. 1988 DBT, SWCB

ECONOMIC EVALUATION OF A SOIL CONSERVATION PROJECT IN MACHAKOS DISTRICT, KENYA
A Minor Field Study

SUAS, IRDC Working Paper No. 95.
35 pp., 15 tables, 28 refs., 19 appendices.

Report makes an economic evaluation of the SIDA sponsored soil conservation project in Machakos District, both from society's and from the farmer's point of view. Does an on-farm conservation analysis that concludes that farmers get a return of their labour input which they expend in conservation work.

Machakos District/Evaluation/Economic considerations

309 LINIGER, H. 1988 ACIAR

WATER CONSERVATION FOR RAINFED FARMING IN THE SEMI-ARID FOOTHILLS WEST AND NORTHWEST OF MT. KENYA: CONSEQUENCES FOR SOIL PRODUCTIVITY

Mountain Research and Development, Vol. 8 Nos. 2/3 pp. 201-209.
6 figs., 2 tables, 17 refs.

Paper argues that in semi-arid highlands west and northwest of Mt. Kenya, the recent immigrant farmers are facing problems of limited water resources. Further argues that recurrent crop failure and low production on grazing land shows the dangers of lack of water conservation measures. States that the Laikipia Research Programme water conservation project short term task is to increase yields in earth growing period, and the long term aim is to sustain natural resources such as soil fertility.

Water harvesting/Soil productivity

310 LINIGER, H. 1989 DAE, SIDA

RESEARCH ON WATER AND SOIL CONSERVATION IN THE SEMI-ARID HIGHLANDS OF LAIKIPIA

In Soil and Water Conservation in Kenya - Proceedings of the Third National Workshop Kabete, Nairobi, 16-19 Sept., 1986, pp.215-229
(Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O
DAE, SIDA
6 figs., 15 refs.

The paper describes the research of a water conservation project designed to: evaluate the influence of different farming methods on water and soil loss; asses water balance in relation to land use, soil erosion and productivity; asses problems of different water conservation methods for small scale farmers.

Management practices/Water harvesting/USLE/Land use/Soil productivity

311 LINIGER, H. 1989 DBT

WATER CONSERVATION IN THE SEMI-ARID HIGHLANDS OF LAIKIPIA - EMPHASIS ON SHORT AND LONG TERM IMPROVEMENT OF THE WATER AND SOIL RESOURCE USE

Paper presented at the ASAL Soil and Water Conservation Programme Devlopment Workshop, Embu, 18th-22nd Sept., 1989.
25 pp., 19 figs., 3 tables, 18 refs.

Paper presents the major results of an applied water conservation study carried out from 1985 to 1988, and evaluates its importance for the Mt. Kenya area. Study aims at assessing the importance and the possibilities of improving rain water use through water conservation measures. Summarizes ASAL efforts of introducing drought and cold tolerant crops in the semi-arid highlands.

Laikipia District/Mt. Kenya/Water harvesting

312 LINIGER, H. 1989 DAE

WATER CONSERVATION FOR RAINFED FARMING IN THE SEMI-ARID FOOTZONE NORTHWEST OF MT. KENYA (LAIKIPIA HIGHLANDS)
Consequences on the Water Balance and the Soil Productivity

Paper presented at the Water Conservation Seminar, Nanyuki, 7-11 August, 1989.
6 pp., figs.

Study aims to assess the importance and the possibilities of improving rain water use with water conservation measures, for the semi-arid highlands west and northwest of Mt. Kenya. Lays special emphasis on water balance of different landuse methods, assessed using field experiments.

Water harvesting/Land use/Run-off plots

391 MBURU, C.N. 1984 KADOC

SOIL AND WATER CONSERVATION AND AGRICULTURAL MACHINERY TECHNOLOGY FOR THE NATIONAL EXTENSION PROGRAMME.

Ministry of Agriculture and Livestock Development, Central Province. 32 pp., 4 appendices.

Study illustrates and analyses the purpose of soil conservation structures in holding water runoff from gathering enough speed to erode land. Highlights the important agronomic measures which would help to conserve soil and water. Gives some recommendations on how to avoid soil erosion in the pastures. Lists the ways through which agroforestry helps the farmer. Gives an extensive table on the type of farming technologies that would need to be criticised or modified to suit the farmers.

Structural methods/Management practices/Agroforestry

392 MBURU, D.M. 1983 DAE

STUDY OF SOIL EROSION ASSOCIATED WITH NEW SETTLEMENTS IN THE LONGONOT KIJABE AREA OF KENYA, AND PROPOSALS FOR ITS CONTROL.

Postgraduate Diploma Project Report, University of Nairobi, Department of Agricultural Engineering.
106 pp., 8 figs. 6 tables, 7 plates, 7 maps, 32 refs.

Gives detailed field observations, differential survey and air photo analysis used to examine soil erosion problems in a newly settled catchment area at Maai-Mahiu, Kijabe.

Aerial photo analysis/Land use/Land degradation

393 MBURU, D.M. 1989 DBT

THE ROLE OF SAND DAMS IN WATER SUPPLY IN ARID AREAS

Paper presented at the ASAL Soil and Water Conservation Programme Development Workshop, Embu, 18-22 Sept., 1989.
18 pp., 2 figs., 5 tables, 8 refs., 4 maps.

Paper presents the results of a case study carried out in a part of Machakos District to evaluate the role of sand dams on water supply for domestic and livestock use within a catchment of 67 km2. Determines the extractable volume of water in one sand dam, and the monthly water use by both people and livestock.

Machakos District/Water harvesting/Dams

394 MBURU, J.K. 1989 DAE

OVERVIEW OF SOIL AND WATER CONSERVATION AND WATER HARVESTING IN KENYA

Paper presented at the Water Conservation Seminar, Nanyuki, 7-11 August, 1989.
12 pp., 5 refs.

Paper gives an outline of severity of soil erosion in Kenya, and discusses the benefits of soil conservation, and its relationship with water conservation. Also discusses the progress in water harvesting in Turkana, Baringo and Kitui Districts, and the purposes to which water harvesting is made use of.

Soil and land degradation/Soil and water conservation/Water harvesting

395 MBUVI, J.P., WOKABI, S.M. 1984 KSS

THE RELATIONSHIP BETWEEN SOILS, GEOLOGY AND RELIEF IN PART OF THARAKA AREA.

Paper presented at the 6th AGM of the Soil Science Society of East Africa, Nyeri, July 30 - August 1, 1984.

(not available for annotation)

Soil types/Physiographical parameters

396 MCGARITY, J.W. 1980

REPORT ON SOILS AND SOILS MANAGEMENT ON THE MAGARINI LAND SETTLEMENT SCHEME, MALINDI, KENYA

Mcgowan International, Albury, NSW, Australia.

(not available for annotation)

Soil types/Management practices

319 LUNDGREN, B., SAMUELSON, A.M. 1975 KAB

LAND USE IN KENYA AND TANZANIA, A BIBLIOGRAPHY

Stockholm, Sweden Royal College of Forestry
152 pp.

An author alphabetical order of references on land use in Kenya and Tanzania, in a very broad term. Covers agriculture, animal husbandry, forestry, wildlife utilization, physical and biological factors affecting the potential for land use such as soil condition, geology, geomorphology, ecology, land tenure and socio-economic aspects of land utilization.

Land use

320 LUSIGI, W.J. 1981 IPAL

COMBATTING DESERTIFICATION AND REHABILITATING DEGRADED PRODUCTION SYSTEMS IN NORTHERN KENYA

IPAL Technical Report A-4, Nairobi.
141 pp., 38 figs., 14 tables, 48 refs.

A five years research report stating the present situation and the influence of modern civilization on increased human and cattle population and increased sedimentation, overgrazing and land deterioration. Report emphasizes the need to rehabilitate degraded lands through reduction in livestock numbers, redistribution of grazing pressure, water development and marketing. Details on human ecology, livestock, vegetation, disease, geomorphology, soils and climate, education, training and demonstration are given.

Socio-economic aspects/Causes/Impacts/Reclamation/Soil erodibility

321 LUSIGI, W.J., GLASER, G. 1984 UNEP

COMBATING DESERTIFICATION AND REHABILITATING DEGRADED PRODUCTION SYSTEMS IN NORTHERN KENYA : THE IPAL PROJECT

Desertification Control No. 10:29-36
1 fig., 4 tables, 9 refs., 4 plates

Describes the IPAL Project in Northern Kenya, Marsabit Area, its goals and approach in combating desertification and improving range lands of the Boran, Rendille, Gabbra and the Turkana people. Gives data on population of the four ethnic groups, livestock and wildlife and density. Changes in land use and settlement patterns are discussed. It also provides preliminary recommendations.

Marsabit District/Land degradation/Reclamation/Socio-economic aspects/-

322 LYNAM, J.K. 1984 ACIAR

AN ANALYSIS OF POPULATION GROWTH, TECHNICAL CHANGE, AND RISK IN PRESENT, SEMI-ARID FARMING SYSTEMS: A CASE STUDY OF MACHAKOS DISTRICT, KENYA

Dissertation to the Food Resources Institute and the Commonwealth on Graduate Studies of Stanford University.

(not available for annotation)

Machakos District/Evaluation

323 MACKLIN, W., RESHID, K.,JAMA, B. 1989 DAE, SIDA

RESULTS OF ALLEY-CROPPING EXPERIMENTS WITH LEUCAENA LEUCOCEPHALA AT THE KENYA COST: AN EXAMPLE OF AN APPROPRIATE SOIL CONSERVATION (FERTILITY) MEASURES

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 272-280. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
3 figs., 2 tables, 5 refs.

Paper gives results of alley-cropping spacing trials at Mtwapa centre, designed to establish trends in crop and tree performance under various planting arrangements and densities for the 1986 long-rains maize crop. Paper states that the major objective of the trials was to get information on which tree species, and which management practices to use in alley-cropping systems to give maximum economic benefits from the farm.

Alley-cropping

324 MAHANE, W.C. 1979 KARI

SOIL EROSION ALONG THE NARO MORU TRACK - A WESTERN APPROACH TO MOUNT KENYA

E. Afr. Agric. For. J. 45(2) 158-166
7pp., 4 figs., 2 tables, 20 refs.

Deals with the impact of human and animal (elephants and buffaloes) movement on the removal of vegetation cover and soil loss in the lower Afroalpine Zone of Mount Kenya. It describes the soil profile, particle size and warns that if human and animal traffic continue to increase along the Naro Moru track, soil erosion is likely to accelerate.

Compaction/Physical properties

325 MAHER, C. 1935

A PARTIAL SURVEY OF THE AGRICULTURAL RESOURCES AND POTENTIALS OF THE WEST SUK RESERVE TOGETHER WITH NOTES ON THE GENERAL STATES OF PRESERVATION AGRICULTURALLY AND PASTORALLY OF THE AREA

Department of Agriculture, Nairobi
26 pp.

(not available for annotation)

Survey

326 MAHER, C. 1936 MAL

AN INEXPENSIVE WOODEN DRAG FOR USE IN THE CONSTRUCTION OF MANGUM BROAD BASED TERRACES

E. Afr. Agric. J. 1:311-313
1 fig.

Describes the details of the wooden U-drag implement used in the construction of graded broad based terraces.

Tools/Construction/Terraces

327 MAHER, C. 1936 MAL

MULCHES

E. Afr. Agric. J. 1:415-420
2 tables, 10 refs.

Discusses the use of dust and vegetative mulches in reducing soil temperature and conserving soil moisture and reducing erosion.

Mulching/Soil and water conservation

328 MAHER, C. 1937 MAL

SOIL EROSION AND LAND UTILIZATION IN THE KUMASIA, NJEMPS AND EAST SUK RESERVES

Department of Agriculture, Nairobi.
140 pp., 66 gigs.

A report on the topography, soils, climate, history, land tenure, population (human and cattle), crops, cultivation, soil erosion and land utilization, grazing, forest, water supplies, land reclamation of the Kamasia, Njemps and East Suk Reserve.

Physiographical parameters/Soil types/Land use/Rainfall characteristi

329 MAHER, C. 1937 MAL

SOIL EROSION AND LAND UTILIZATION IN THE UKAMBA RESERVE (MACHAKOS)

Department of Agriculture, Nairobi.
44 pp., 12 tables

A lengthy report on land use and the problem of soil erosion in Machakos. Covers topography, soils, climate, land tenure, soil erosion, forests, water supplies, land reconditioning and soil erosion controlling methods such as stagger trenching, closing of areas to stock, terracing, afforestation, gully control and destocking.

Machakos District/Soil types/Land use/Land degradation

330 MAHER, C. 1937 MAL

SOIL EROSION AND LAND UTILIZATION IN THE UKAMBA (KITUI) RESERVE. PART 1.

Colony and Protectorate of Kenya, Department of Agriculture (memeo)
219 pp., 86 plates, 1 map

Report covering the topography, soils, climate, history, land tenure, population, shifting cultivation, animal husbandry, forest, water supplies, roads, and soil erosion of Kitui Reserve.

Kitui District/Land use/Soil types/Rainfall characteristics/Physiographical parameters

331 MAHER, C. 1937 MAL

SOIL EROSION AND LAND UTILIZATION IN THE UKAMBA (KITUI) RESERVE PARTS 2 AND 3

Colony and Protectorate of Kenya (mimeo)
101 pp., 19 tables, 97 plates, 5 maps and 1 fold map

A report dealing with the forest, water supplies, control of soil erosion with the use of wind breaks, contour banks, reseeding of grass, gully blocking, earth dams, and drains. Also includes staff required and expenditure to protect and develop the resources.

Kitui District/Structural methods/Vegetation cover/Reseeding

332 MAHER, C. 1938 MAL

SOIL EROSION AND LAND UTILIZATION IN THE EMBU RESERVE

Colony and Protectorate of Kenya (mimeo)
200 pp., 59 figs., 7 tables.

This report covers the topography, soils, climate, history, land tenure, population, stock, cultivation, crops, soil erosion, animal husbandry, water supply, roads and land reconditioning of the Embu Reserve.

Embu District/Physiographical parameters/Soil types/Rainfall characteristics /Socio-economic aspects

333 MAHER, C. 1938 MAL

PRELIMINARY NOTES ON LAND UTILIZATION AND SOIL EROSION IN THE MERU RESERVE

Colony and Protectorate of Kenya, Nairobi.
76 pp., 47 plates.

Covers the general land use and soil erosion of the Meru Reserve and methods of soil conservation such as stone terraces, trash lines, closing hills to grazing, contour ploughing and level of graded banks.

Meru District/Land use/Structural methods/Trash lines/Closure

334 MAHER, C. 1938 MAL

NOTES ON SOIL EROSION AND LAND UTILIZATION IN NYANZA PROVINCE. PARTS I AND II.

Department of Agriculture, Soil Conservation Service, Nairobi. 110 pp., 32 plates.

Report on settlement and agricultural activity of Nyanza Province in relation to soil erosion and conservation methods like level contours, earth banks, grass strips, trash lines, contour hedges and trenches.

Contouring/Grass strips/Trash lines/Retention ditches

335 MAHER, C. 1939 MAL

CONSERVATION OF SOIL IN FLAX GROWING AREAS

E. Afr. Agric. For. J. 5:197

A short article dealing with the problem of sheet wash under flax cultivation and the use of broad base terraces to control the problem.

Sheet erosion/Terraces

336 MAHER, C. 1939 MAL

HILL CULTURE

E. Afr. Agric. J. 5:36-44

Discusses the problem of soil erosion on hill slopes and terracing to control soil erosion. Recommends the use of perennial vegetation on hill slopes and gives a long list of tree species that can be used and are beneficial to the farmer.

Physiographical parameters/Terraces/Vegetation cover

337 MAHER, C. 1939 MAL

USE OF LEVEL CONTOUR BANKS AND LIVE OR DEAD WASH STOPS IN EROSION CONTROL IN NATIVE AREAS

E. Afr. Agric. For. J. 5:190-194

Discusses the use of contour earth banks, hedges, grass strips, vegetation, trash lines, terraces to control soil erosion in native farms, and the risks involved in each case.

Contouring/Terraces/Trash lines/Grass strips

338 MAHER, C. 1940 MAL

ROADS AND THEIR RELATIONSHIPS TO SOIL CONSERVATION

E. Afr. Agric. For. J. 5:425-434
1 fig., 5 plates.

Deals with the problems of soil erosion as a result of road drainage and cattle tracks and methods of safely draining excess runoff from roads, use of grass sods, correct location and construction of water ways, and reclaiming severely eroded road sides and abandoned roads.

Physical infrastructures/Compaction/Stabilisation/Layout/Reclamation

339 MAHER, C. 1940 MAL

STRIP CROPPING

E. Afr. Agric. For. J. 5:343-344

Deals with the use, effect, crop type and problems of strip cropping in reducing soil erosion in contrast to broad base terraces and their development to bench terracing.

Strip cropping/Terraces

340 MAHER, C. 1941 MAL

A VISIT TO THE USA TO STUDY SOIL CONSERVATION

Colony and Protectorate of Kenya, Department of Agriculture. Government Printer, Nairobi.
81 pp., 93 refs.

Gives an account of places visited in the USA in relation to soil erosion, conservation methods, experiment and research, settlement and education and compares these to the situations prevalent in Kenya.

Education

341 MAHER, C. 1941 MAL

THE PEOPLE AND THE LAND: SOME PROBLEMS

E. Afr. Agric. For. J. 7:63-67
5 refs.

Describes the social and economic problems arising out of population density over the limit of which the land can support, and mentions the need for land tenure and proper land use.

Land use/Socio-economic aspects

342 MAHER, C. 1943 KNA

CONTOUR CULTIVATION. PART II.

E. Afr. Stand. February 26, 1943.
2 figs.

Describes the methods and use of contour cultivation, bank cover and grass strips.

Contouring/Vegetation cover/Grass strips

343 MAHER, C. 1943 KNA

TERRACES AND TERRACING. THE BENCH TERRACE

E. Afr. Stand. January 8, 1943.

A short article for farmers pointing out the objectives of mechanical means of soil conservation, the evolution of terracing, and construction of bench terraces, bank slope, and protection with stone and vegetation.

Terraces/Construction/Stabilisation

344 MAHER, C. 1943 KNA

CONTOUR CULTIVATION. PART I

E. Afr. Stand. february 19, 1943.
1 fig., 1 table.

Article discusses the difficulty and advantages of contour cultivation. Gives a table on effect of direction of rows on water and soil losses.

Contouring/USLE

345 MAHER, C. 1943 KNA

TERRACES AND TERRACING. PART III. BROAD BASE TERRACIONG.

E. Afr. Stand. January 22, 1943.
1 table

Describes the broad base terrace, gives table for the design of channel gradient under different lengths, vertical and horizontal intervals. Includes use of grass cover for channel.

Terraces/Design/Layout/Stabilisation

346 MAHER, C. 1943 KNA

TERRACES AND TERRACING. PART VI. FAILURES AND THE CAUSES

E. Afr. Stand. February 12, 1943.

Discusses the causes of terrace failures with respect to neglet of outlets or too wide spacing or neglet of grading channel after some period or when bank is too narrow or too steep.

Terraces/Failures

347 MAHER, C. 1943 KNA

NARROW BASE TERRACING

E. Afr. Stand. March 12, 1943.

Gives recommendations for bank slope and depth of narrow base terraces under squatter and coffee farming systems.

Terraces

348 MAHER, C. 1943 KNA

MEADOW STRIPS, TERRACE OUTLETS AND DRAINAGE WAYS

E. Afr. Stand. March 5, 1943.
4 figs.

Discusses reasons of grass planting, type, strip width, the various types of terrace outlets and natural drainages.

Grass strips/Terraces/Waterways

349 MAHER, C. 1943 MAL

SOIL CONSERVATION SERVICE, NOTES ON PROCEDURE

Department of Agriculture, Government Printer, Nairobi.
32 pp., 7 figs., 15 tables.

A small booklet containing instructions on procedure to be followed by assistant soil conservation officers and levelers. Contains information and tables on terrace spacing, gradient, cutoff drain design, waterways and list of camping materials.

Extension/Design/Layout/Cut-off drains/Waterways

350 MAHER, C. 1943 KNA

TERRACES AND TERRACING. PART II. THE FORMATION OF BENCH TERRACES.

E. Afr. Stand. January 15, 1943
2 figs.

Discusses the broad base and narrow base terraces and the natural and mechanical methods of terrace formation, construction and maintenance.

Terraces/Construction/Maintenance

351 MAHER, C. 1943 KNA

TERRACES AND TERRACING. PART IV. BROAD BASE TERRACING. THE FINISHING TOUCHES.

E. Afr. Stand. January 29, 1943.

Deals with terrace outlet gradients, the need to check for high and low points of channel beds and to level them. Warns of the need to keep terrace channel bank to a slope of 4:1.

Terraces/Layout

352 MAHER, C. 1943 KNA

DIVERSION DITCHES.

E. Afr. Stand. March 19, 1943.
2 figs., 2 tables.

Deals with the design of size, gradient and construction of cutoff drains. Methods of pegging, calculating velocity of Mannings formula from slope and grass cover are included.

Cut-off drains/Design/Layout/Construction

353 MAHER, C. 1943 KNA

TERRACES AND TERRACING. PART V. PLOUGHING THE TERRACE.

E. Afr. Stand. February 5, 1943
2 figs.

Discusses the one-hand and two-hand methods of cultivation and opening furrow up-hill.

Terraces/Tillage

354 MAHER, C. 1946 MAL

CONSERVATION OF WATER FOR STORAGE PURPOSES

E. Afr. Agric. J. 11:221-222

Warns against the idea of replacing forest by grass for the purpose of water conservation and lists possible undesirable effects on the environment.

Land use/Water harvesting/Deforestation/Environmental impact assessm.

355 MAHER, C. 1946 MAL

GOATS, FIRE AND BLOWING SANDS

E. Afr. Agric. J. 11:173-180

Discusses the land deterioration around towns and settlements and soil erosion as a result of overgrazing by goats and the destruction of vegetation by fire. Includes the need to control grass burning, protect valley heads and village planning.

Overgrazing/Deforestation

356 MAHER, C. 1947 MAL

HANDBOOK FOR SOIL CONSERVATION SERVICE OFFICERS

Colony and Protectorate of Kenya, Department of Agriculture. Government Printer, Nairobi.
67 pp., 7 figs., 26 tables

A small handbook for soil conservation service officers on the use of levelling instruments, design and layout of terraces, drainage channels and daily technical activities and responsibilities, relations to farmers and cost accounting.

Tools/Design/Layout/Terraces/Waterways

357 MAHER, C. 1949

OBSERVATION ON SOME SOIL CONSERVATION PROBLEMS IN KENYA COLONY

Comm. Bur. Soil Sci. Tech. Commun. 46:198-203

(not available for annotation)

Soil and water conservation

358 MAHER, C. 1950 MAL

SOIL CONSERVATION IN KENYA COLONY. PART I. FACTORS AFFECTING EROSION SOIL CHARACTERISTICS AND METHODS OF CONSERVATION.

Emp. J. Exp. Agric. 18:137-149
14 refs.

Deals with rainfall, soil factors, change in land use, slope length and steepness and tillage that influence erosion, and discusses soil conservation measures and techniques in Kenya. Covers broad base terracing, crop residue, perennial cover crops.

Soil erodibility/Terraces/Plant residues/Vegetation cover

359 MAHER, C. 1950 MAL

SOIL CONSERVATION IN COFFEE

Mon. Bull. Coff. Bd. Kenya. 15:283-286
4 pp., 7 figs.

A report of soil conservation work unde coffee plantations based on inspection of a number of coffee estates in Ruiru-Thika and Kiambu areas. Reviews soil mulching and terracing on coffee plantations and gives some methods.

Kiambu District/Mulching/Terraces

360 MAHER, C. 1950 MAL

SOIL CONSERVATION IN KENYA COLONY. PART II. SOIL CONSERVATION IN PRACTICE. ORGANIZATION AND LEGISLATION: PRESENT POSITION AND OUTLOOK

Emp. J. Exp. Agric. 18:233-248
8 plates, 2 refs.

Reviews soil erosion and conservation in the arable lands of Kenya. Describes the state of soil erosion under tea, wattle, pyrethrum, coffee and sisal plantations as well as conservation work such as terracing, farm planning, strip cropping, organization and legislation of soil conservation.

Soil and land degradation/Soil and water conservation/Terraces/Strip cropping /Policies

361 MAHER, C. 1950 KAB

SOIL CONSERVATION

In East African Agriculture, Matheson, J.K. and Bouill, E.W. (Eds). Oxford University Press Chapter VI.
12 pp., 2 plates.

Gives an account of the problem of soil erosion and conservation work in Kenya. Discusses various conservation methods like terracing, grass mulch, grass strips, over stocking of the early years.

Soil and land degradation/Terraces/Mulching/Grass strips/Overpopulation

362 MAHER, C. 1951 MAL

THE DEVELOPMENT OF SOIL CONSERVATION IN KENYA COLONY. PART I. THE EARLIER YEARS.

World Crops. 3:215-218
6 plates.

Discusses the extent and problems of soil erosion under European and native farmers in the 1930's, early protective methods and the use of trash lines, grass strips and contour banks to control soil erosion.

Distribution/Trash lines/Grass strips/Contouring

363 MAHER, C. 1951 MAL

THE DEVELOPMENT OF SOIL CONSERVATION IN KENYA COLONY. PART II. THE LAST 10 YEARS OF THE HALF CENTURY.

World Crops. 3:258-261
6 plates

Review of 10 years (1941-1951) soil conservation activity in Kenya. It gives account of the extent of terracing work done on both European and native farms, defects and drawbacks.

Terraces

364 MAHER, C. 1972 MAL

SOIL CONSERVATION -1. THE FIGHT AGAINST EROSION

World Crops. 24:94-97
1 table, 8 refs.

A general article on the problem of soil erosion, the importance of vegetative cover, and on the need of conserving the soil, especially in the developing countries, with problems of population and land shortage.

Socio-economic aspects/Vegetation cover/Soil and water conservation

365 MAHER, C. 1972 MAL

SOIL CONSERVATION -2. LAND CAPABILITY CLASSIFICATION.

World Crops. 24:160-162
7 refs.

Second article dealing with the USDA land classification system and its use in Kenya. Includes extent of land planning in Kenya.

Land use

366 MAHER, C. 1972 MAL

SOIL CONSERVATION -3. PHYSICAL MEASURES OF CONSERVATION

World Crops. 24:324-327
5 refs.

Discusses the need of soil and water conservation in the humid and and semi-arid areas. Covers the history of conservation work in Kenya, methods of terrace layout, broad base terraces and tie ridging.

Soil and water conservation/Terraces/Layout/Ridging

367 MAHER, C. 1946 MAL

THE GOAT: FRIEND OR FOE

E. Afr. Agric. J. 11:115-121
18 refs.

Deals with the role of the goat in overgrazing, land deterioration and soil erosion in the semi-arid areas of Kenya under traditional African farming system.

Overgrazing/Soil and land degradation/Socio-economic aspects

368 MAHER, C., BARNES, R. 1939 MAL

NOTES FOR CIRCULAR FOR ISSUE WITH USDA FARMERS BULLETIN NO. 1789.

Government Printer, Nairobi.
5 pp., 1 table.

A booklet prepared for use in conjuction with the USDA Farmers Bulletin No. 1789. Indicates some points needed to be changed for the Kenyan conditions on type of terrace, terrace discharge, terrace cross section, re-alignment of the terraces, methods of cultivating terraces and cost of terraces.

Policies

369 MAINA, M.N. 1979

THE ROLE OF ANIMALS IN LAND AND FARM MANAGEMENT AND SOIL AND WATER CONSERVATION

Ministry of Agriculture, Land and Farm Management Division, Nairobi.
42 pp.

(not available for annotation)

Soil and water conservation/Socio-economic aspects

370 MAKAU, F. 1989 DAE, SIDA

SOIL AND WATER CONSERVATION IN DEVELOPMENT PLANNING: A REFLECTION

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1989, pp. 530-538. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
1 table, 2 refs.

Paper addresses the itself to the urgency of soil and water conservation in Kenya and highlights the shortcomings of current economic and development planning theories and practices in handling matters concerning ecosystems and resources conservation and their efficient utilization. Discusses a number of policy instruments which need further strengthening for more effective soil and water conservation programmes.

Policies

371 MAKIN, J. 1969 KADOC, MAL

SOIL FORMATION IN THE TURKANA DESERT.
KADOC No. 10933

E. Afr. Agric. For. J. 34(3):493-496
2 refs.

Briefly describes the soil formation in the Turkana Desert with emphasis on erosion, piedmont soils, soil deposits, profile developments and soil moisture relations.

Turkana District/Soil development

372 MAKIN, M.J., PRATT, D.J. 1984 TARDA

LAND USE AND DEVELOPMENT IN THE CHYULU AREA OF KENYA

Project Report 135, Kenya-05-1/REP 135?84
Land Resources Development Centre, Tolworth Tower, England KT6 TDY
77 pp., 4 figs., 21 refs., 3 maps 1:25,000 1:50,000 1:20,000

Assesses present and future land use pattern as a guide to possible changes in groundwater recharge and also as a basis for planning local water supplies. Gives details on climate, soils, vegetation, cropping and surface water availability. Also gives maps which provide an overview of land potential and land tenure. Future prospects of the area are discussed against the historical perspectives of the three contrasting districts into which the study area is divided.

Machakos District/Chyulu/Land use/Water resources

373 MANSELL-MOULLIN, M. 1973

REPORT ON THE HYDROLOGY OF THE SABAKI RIVER

(not available for annotation)

Water resources

374 MANSFIELD, J.E. 1983 DBT

E.M.I. SOIL AND WATER CONSERVATION PROJECT (SEMI-ARID AREAS). EMBU/ MERU DISTRICTS

Paper presented to the Technical Meeting on Soil and Water Conservation Projects, Ministry of Agriculture, Nairobi, January 14, 1983. 6 pp.

Describes the present project approach containing two phases. Phase I covers selection of catchment areas from air photo interpretation and ground check-ups. Phase II deals with investigation, survey of selected farms on cropping practice, farm size, yields, livestock and farm problems. Assessment of existing conservation measures such as water harvesting, stone mulches, ridge cultivation, grass strips and terracing are included.

Embu District/Meru District/Aerial photo analysis/Water harvesting/-Mulching

375 MARIMI, A.P.M. 1977 KAB

THE EFFECT OF SOME TILLAGE METHODS AND CROPPING SEQUENCE ON RAINFALL CONSERVATION IN A SEMI-ARID AREA OF EASTERN KENYA

M.sc. Thesis, University of Nairobi.
175 pp., 12 figs., 39 tables, 76 refs.

Thesis on the effect of cropping sequence and four tillage practices on reducing runoff. Gives comparative crop yield under the different treatments and recommends the tied ridging method for further research.

Machakos District/Katumani/Tillage/Soil productivity/USLE

376 MARIMI, A.P.M. 1978 KADOC, I

THE EFFECT OF CERTAIN TILLAGE METHODS IN CROPPING SYSTEMS FO CONSERVING RAINFALL IN A SEMI-ARID AREA OF EASTERN PROVINCE KADOC NO. 10037

In Soil and Water Conservation in Kenya. Report of a Workshop, Univ ersity of Nairobi, 21-23 Sept., 1977
IDS Occasional Paper No. 27, pp. 74-86.
2 tables, 34 refs.

Discusses results of experiment carried at Katumani in 1976-77 o four tillage systems that can increase the availability of moistur to crops (maize and beans) hence increasing crop yields and stabil izing crop production.

Machakos District/Katumani/Tillage/Soil productivity

377 MASEREKA, E.M. 1983 DAE

A STUDY OF DESIGN, CONSTRUCTION AND BANK STABILIZATION OF " FANY JUU" TERRACES AT KABETE, KENYA

Postgraduate Diploma Project Report, University of Nairobi, Departm ent of Agricultural Engineering
36 pp., 7 figs., 6 tables, 45 refs.

A preliminary report on the design and construction of "fanya juu terraces and bank stabilization trials with seven different gras types and a stone wall bank. Gives cost of construction and lan taken by terrace.

Nairobi District/Kabete/Design/Construction/Terraces

378 MATI, B.M. 1984 SIDA

A TECHNICAL EVALUATION OF SOIL CONSERVATION METHODS IN SMALL SCAL FARMS IN KIAMBU DISTRICT

Ministry of Agriculture, Soil and Water Conservation Branch
72 pp., 11 figs., 6 tables, 1 appendix.

Study is a representative of a high potential area where labour int ensive soil conservation activities are carried out. Study done to (a) find out the methods of soil conservation practiced in the dist rict; (b) evaluate the effectiveness of the methods used to conserv the soil and improve crop yield; (c) check the effect of topography land use and cultural practices on soil conservation; (d) identif the problems facing the farmers and recommend appropriate solutions

Kiambu District/Evaluation/Management practices/Structural methods, Soil productivity

379 MATI, B.M. 1989 DAE, SIDA

CULTURAL AND STRUCTURAL ASPECTS OF SOIL CONSERVATION: AN EVALUATION REPORT

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 163-175. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
1 fig., 1 table, 3 refs.

Paper reports an evaluation study carried out in Kiambu District to: find out what soil conservation activities were going on in the district; evaluate the effectiveness of the methods used in conserving soil; check the effect of topography, land use and cultural practices on soil conservation; identify the problems facing the farmers, and recommend appropriate solutions. Also gives the basic facts about the district.

Kiambu District/Evaluation/Management practices/Structural methods

380 MBAKAYA, D.S. 1985 KAB

GRAZING SYSTEMS EFFECTS ON INFILTRATION RATES AND SEDIMENT PRODUCTION OF A BUSHED GRASSLAND BUCHUNA, KENYA

M.Sc. Thesis Submitted to the Graduate College of Texas A & M University.
76 pp., 9 figs., 16 tables, 66 refs., 3 appendices.

Thesis investigates the effects of grazing systems on infiltration rates and sediment production at Buchuna Range Research Station, Kenya. Studies four livestock grazing treatments: high intensity low frequency, rotation, moderate continous and non-grazing. Also studies two vegetation types and bare ground. Finds that infiltration rates are consistently greater in vegetated plots than unvegetated ones. Sediment production is greater from unvegetated plots than from vegetated plots

Compaction/Infiltration/USLE/Vegetation cover

381 MBEGERA, M. 1981 DAE

AN EVALUATION AND COSTINGS OF GULLY CONTROL AND RECLAMATION STRUCTURES IN MACHAKOS DISTRICT, KENYA

Postgraduate Diploma Project Report, University of Nairobi, Department of Agricultural Engineering.
33 pp., 12 figs., 3 tables, 6 maps, 23 refs.

Reports the biotic interference by cultivation, overgrazing, cutting trees, cattle track, foot paths, fire and drainage (road) as the causes of gullies. Gives cost of temporary and permanent gully control structures.

Machakos District/Gully erosion/Gully control/Overgrazing/Compaction

382 MBEGERA, M., TJERNSTROM, R. 1987 DBT, SWCB

KISII REPORT 1987: TECHNICAL AND SOCIO-ECONOMIC EVALUATION

Ministry of Agriculture, Agriculture Engineering Division
50 pp., figs., tables, appendices.

The study is a technical and socio-economic evaluation of Kisii District on issues pertaining to farm sizes, slopes, land utilization, homesteads, cultivated land, the erosion situation, the state of conservation and conservation methods used.

Kisii District/Socio-economic aspects/Land use/Land degradation/Management practices

383 MBITHI, P.M., BARNES, C. 1975

SPONTANEOUS SETTLEMENT PROBLEM IN KENYA

East African Literature Bureau, Kampala
192 pp., tables, refs.

(not available for annotation)

Socio-economic aspects

384 MBITHI, P.M., KAYONGO-MALE, D. 1978 IDS

LOCAL ENVIRONMENTAL PERCEPTION AND SOIL AND WATER CONSERVATION PRACTICES

In: Soil and Water Conservation in Kenya. Report of a Workshop, University of Nairobi, 21-23 Sept. 1977.
IDS Occasional Paper No. 27, pp. 102-124.
20 tables

A report on farmers attitude towards soil conservation works at six locations in Machakos District. Covers the causes of soil erosion, best way to combat erosion, reclamation of grasslands, gullies and how gullies should be reclaimed, forest protection, cattle losses and destocking, and factors influencing perception of farmers.

Machakos District/Socio-economic aspects/Causes/Gully erosion/Reclamation

385 MBITHI, P.M., THOMAS, D.B.,MUCHIRI, G.,KAYONGO-MALE, D.
1977 KAB

AN EVALUATION STUDY OF THE MACHAKOS MANUAL TERRACING PROGRAMME BY MWETHYA GROUPS

University of Nairobi, Departments of Sociology and Agricultural Engineering
43 pp., 2 figs., 17 tables, 8 plates, 20 refs.

Contains two parts. Part I analyses the present state of soil conservation, mechanical vs cultural control of erosion, terracing methods, cutoff draiins, waterways on both cultivated and grazing land. Includes erosion on the grazing land, the need for planning, monitoring, research and investigations. Part II deals with the performance, need and work efficiency-tool correlation of some manual tools, tools shortage and maintenance. Gives some recommendations.

Machakos District/Management practices/Structural methods/Land use/Tool

386 MBITHI, P.M., WISHER, B. 1972

DROUGHT AND FAMINE IN KENYA

Discussion Paper No. 144, IDS, University of Nairobi.

(not available for annotation)

387 MBOTE, F.W. 1989 DBT

AN OVERVIEW OF WATER HARVESTING IN KENYA

Paper presented at the ASAL Soil and Water Conservation Programme Development Workshop, Embu, 18th-22nd Sept., 1989.
6 pp., 2 tables, 3 refs.

Paper reviews water harvesting projects in the ASAL areas. Argues that water harvesting projects should address the priority of local population in order to mobilize the people to participate fully. Suggests and analyses a strategy to boost production in ASAL areas.

Water harvesting

388 MBOTE, F.W. n.d. SIDA

SOIL CONSERVATION IN GRAZING LANDS

4 pp., 1 fig.

Analyses the development of erosion in grazing lands, the consequences of overgrazing, and the conservation of grazing lands. Gives a few lines on how to arrest erosion in grazing lands and the likely constraints to hinder the development of grazing lands. Illustrates his arguments with examples from Baringo District.

Baringo District/Overgrazing

389 MBOTE, W.F. 1978 DAE

COMPARISON AND EVALUATION OF "FANYA JUU" AND CHANNEL TERRACES IN KYANGULUMI SUBLOCATION IN MACHAKOS DISTRICT

Postgraduate Diploma Project Report, University of Nairobi, Department of Agricultural Engineering.
72 pp., 3 figs., 2 tables, 9 refs.

The study compares and evaluates terracing in Kyangulumi sub-location of Machakos District, based on ability to conserve soil and water, cost of construction and maintenance, channel and bank profile surveys and farmers interviews.

Machakos District/Kyangulumi/Terraces/Costs/Construction

390 MBURATHI, G.K. 1983 IDS

THE ROLE OF PERMANENT PRESIDENTIAL COMMISSION ON SOIL CONSERVATION AND AFFORESTATION IN PROMOTING SOIL AND WATER CONSERVATION

In Soil and Water Conservation in Kenya. Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982.
Eds. Thomas, D.B. and Senga, W.M. IDS Occasional Paper No. 42, pp 185-193

Outlines the problems of soil erosion and deforestation in Kenya, constraints in the past, national efforts, and the role of the Permanent Presidential Commission on Soil Conservation and Afforestation Lists fourteen functions of the commission.

GoK/Deforestation/Revegetation

391 MBURU, C.N. 1984 KADOC

SOIL AND WATER CONSERVATION AND AGRICULTURAL MACHINERY TECHNOLOGY FOR THE NATIONAL EXTENSION PROGRAMME.

Ministry of Agriculture and Livestock Development, Central Province.
32 pp., 4 appendices.

Study illustrates and analyses the purpose of soil conservation structures in holding water runoff from gathering enough speed to erode land. Highlights the important agronomic measures which would help to conserve soil and water. Gives some recommendations on how to avoid soil erosion in the pastures. Lists the ways through which agroforestry helps the farmer. Gives an extensive table on the type of farming technologies that would need to be criticised or modified to suit the farmers.

Structural methods/Management practices/Agroforestry

392 MBURU, D.M. 1983 DAE

STUDY OF SOIL EROSION ASSOCIATED WITH NEW SETTLEMENTS IN THE LONGONOT KIJABE AREA OF KENYA, AND PROPOSALS FOR ITS CONTROL.

Postgraduate Diploma Project Report, University of Nairobi, Department of Agricultural Engineering.
106 pp., 8 figs. 6 tables, 7 plates, 7 maps, 32 refs.

Gives detailed field observations, differential survey and air photo analysis used to examine soil erosion problems in a newly settled catchment area at Maai-Mahiu, Kijabe.

Aerial photo analysis/Land use/Land degradation

393 MBURU, D.M. 1989 DBT

THE ROLE OF SAND DAMS IN WATER SUPPLY IN ARID AREAS

Paper presented at the ASAL Soil and Water Conservation Programme Development Workshop, Embu, 18-22 Sept., 1989.
18 pp., 2 figs., 5 tables, 8 refs., 4 maps.

Paper presents the results of a case study carried out in a part of Machakos District to evaluate the role of sand dams on water supply for domestic and livestock use within a catchment of 67 km2. Determines the extractable volume of water in one sand dam, and the monthly water use by both people and livestock.

Machakos District/Water harvesting/Dams

394 MBURU, J.K. 1989 DAE

OVERVIEW OF SOIL AND WATER CONSERVATION AND WATER HARVESTING IN KENYA

Paper presented at the Water Conservation Seminar, Nanyuki, 7-11 August, 1989.
12 pp., 5 refs.

Paper gives an outline of severity of soil erosion in Kenya, and discusses the benefits of soil conservation, and its relationship with water conservation. Also discusses the progress in water harvesting in Turkana, Baringo and Kitui Districts, and the purposes to which water harvesting is made use of.

Soil and land degradation/Soil and water conservation/Water harvesting

395 MBUVI, J.P., WOKABI, S.M. 1984 KSS

THE RELATIONSHIP BETWEEN SOILS, GEOLOGY AND RELIEF IN PART OF THARAKA AREA.

Paper presented at the 6th AGM of the Soil Science Society of East Africa, Nyeri, July 30 - August 1, 1984.

(not available for annotation)

Soil types/Physiographical parameters

396 MCGARITY, J.W. 1980

REPORT ON SOILS AND SOILS MANAGEMENT ON THE MAGARINI LAND SETTLEMENT SCHEME, MALINDI, KENYA

Mcgowan International, Albury, NSW, Australia.

(not available for annotation)

Soil types/Management practices

397 MCGOWAN, G.P. AND ASSOCIATES PTYL LTD. 1977 SD

MAGARINI LAND SETTLEMENT PROJECT LAND INVENTORY AND CAPABILITY ANNEX 5.

Agricultural Consultants for Australian Development Assistance Bureau. pp. 15-19

Describes the extent and types of erosion, rill, tunnel, and road side erosion, in the Magarini Land Settlement Project. Discusses the use and disadvantages of heavy grass cover and way of cutting trees with roots intact in order to control erosion. Proper drainage and sufficient cutoff drains are recommended to reduce erosion incidence

Rainfall distribution/Rill erosion/Physical infrastructures/Cut-off-drains

398 METACALFE, G.L., WIITALA, G.L. 1978 USAID

DESERTIFICATION IS MORE THAN A NEW WORLD.

Norwalsk, Connecticut, USA. Technoserve Inv.
11 pp.

Presents some guidelines on what can be done in the face of desertification, using Kenyan experience as an example. The Kenyan livestock commercialization programme, designed to nationalize the industry and to make better use of land for grazing is discussed and the role of Technoserve through a ranch service company is described

Land degradation

399 MICHIEKA, D.O. 1989 DBT

LAND AND WATER USE FOR CROP PRODUCTION IN SEMI-ARID LANDS: WATER HARVESTING STUDIES ON FOUR DIFFERENT SYSTEMS AT NJEMPS FLATS, BARINGO

Paper presented at the ASAL Soil and Water Conservation Programme Development Workshop, Embu, 18-22 Sept., 1989.
10 pp., 1 fig., 4 tables, 6 refs.

Paper discusses the effectiveness of various methods of water harvesting techniques in relation to crop yields in dryland areas of Baringo District. Argues that due to an increase in population in dry areas there is a need for research on dryland crops that would mature in short periods and at the same time conserve available moistûre regime during the rainy season.

Baringo District/Water harvesting/Soil productivity

400 MICHIEKA, R.W. 1983 IDS

THE EFFECT OF PLANT RESIDUES ON WATER HOLDING CAPACITY OF THE SOIL IN NO-TILLAGE SYSTEMS

In: Soil and Water Conservation in Kenya. Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982.
(Eds). Thomas, D.B. and Senga, W.M. IDS Occasional Paper No. 42 pp. 333-337
10 refs.

Reviews the advantages of zero tillage and plant residues to increase infiltration, better crop yield and reduced soil loss and cost due to tillage.

Tillage/Plant residues/Infiltration/Soil productivity/Costs

401 MILNE, M.N.H., GICHUKI, J.J. 1977 NES

DESERTIFICATION: PROBLEMS PECULIAR TO THE NYANZA PROVINCE AND PROPOSED REMEDIES

A draft paper presented to the National Seminar on Desertification, Nairobi, UNEP, July 6-8, 1977.
15 pp., 5 tables

Assesses the environment and factors which operate towards desertification in the Nyanza Province. Stresses the problems of gully erosion due to high rainfall intensity, the destruction of forests and farming and grazing practices. Includes silting of six rivers, data on fire wood requirement, tree nurseries seedling, population pressure, surface erosion and flloding.

Land degradation/Rainfall intensity/Gully erosion/Deforestation/Sedimentation

402 MINISTRY OF AGRICULTURE AND LIVESTOCK DEVELOPMENT 1984SIDA, DAE

REPORT FROM THE NATIONAL SOIL AND WATER CONSERVATION SEMINAR HELD AT KABARNET, BARINGO DISTRICT, 10-15 JUNE 1984

MALD, Soil and Water Conservation Division
3 figs., 14 photos

The report outlines the details of the seminar which was held for the purposes of familiarizing the ministry of agriculture staff with the challenges of soil conservation in Kenya.

Baringo District/Soil and water conservation

403 MINISTRY OF AGRICULTURE AND LIVESTOCK DEVELOPMENT 1985DAE, SWCB

SIDA SPONSORED SOIL CONSERVATION PROJECTS - ANNUAL REPORT - 1984/85

Ministry of Agriculture, Soil and Water Conservation Division.
39 pp., 1 fig., 10 tables, 7 bagraphs.

Gives an outline of soil conservation activities, and implementation expenditures of the SIDA sponsored projects for the year 1984/85. Gives details on objectives and goals, reporting and monitoring, evaluation, training and staff organization. Also looks at finances and funds, equipments, and other supportive infrastructures. Achivem ents in soil conservation are also reported.

Socio-economic aspects/GoK

404 MINISTRY OF AGRICULTURE AND LIVESTOCK DEVELOPMENT 1986KADOC

EMBU-MERU-ISIOLO ARID AND SEMI-ARID LANDS PROGRAMME

Project Memorandum for the Dryland Farming/Soil and Water Conservation Phase II
EMI ASAL PROGRAMME, Ministry of Planning and National Development.
13 pp., 3 appendices.

Project objectives are to: (a)increase understanding of technical and socio-economic conditions and potential to provide base line data;(b)promote the use of soil and soil moisture conservation measures through concentration on particular catchments; (c)undertake applied/adaptive research, on-farm trials demonstrations to promote the use of improved crop varieties, cultivation techniques and optimization of soil moisture management under different tillage system; (d)strengthen local agricultural departments.

Socio-economic aspects/Management practices/Structural methods/GoK

405 MINISTRY OF AGRICULTURE AND LIVESTOCK DEVELOPMENT 1986DAE

NATIONAL SOIL AND WATER MANAGEMENT RESEARCH PROJECT

Ministry of Agriculture and Livestock Development
61 pp., 1 fig., 6 tables, 23 refs., annex.

This is a research programme proposal designed by a Task Force appointed to prepare a national soil and water resources project that would generate conservation technologies to cater for such concepts as erosion prediction, conservation measures, rehabilitation procedures of degraded lands, and others.

GoK

406 MINISTRY OF AGRICULTURE AND LIVESTOCK DEVELOPMENT 1986DAE, SWCB

SOIL AND WATER CONSERVATION PROJECT (SIDA) - PLAN OF OPERATION 1986/87 - 1988/89

Ministry of Agriculture and Livestock Development
66 pp., 2 figs., 12 tables, annex, 5 appendices.

Report gives information about the background and the main objectives of the project. Details on soil conservation, extension methodology, programme strategies, changes in programme direction, support activities, training, school approach to conservation, and agroforestry programme for the year 1986/87 are also given. Describes soil conservation activities in Mai-Mahiu semi-arid area. Appendices contain a budget summary.

Socio-economic aspects/GoK

407 MINISTRY OF AGRICULTURE, AGRICULTURE ENGINEERING DIVISION 1986 DAE, SWCB

SOIL AND WATER CONSERVATION - ANNUAL REPORT 1985/86

MOA, Engineering Division, Soil and Water Conservation Branch
40 pp., 4 figs., 8 tables, 7 plates, 10 appendices.

Report lists five aims of the SIDA sponsored soil conservation projects, and analyses the approach and strategies of soil conservation. Contains details on field extension work and how farmers should approach gully control, and rehabilitation of degraded land. Also outlines the extent and the development of tree nurseries, and staff training programme.

Socio-economic aspects/Reclamation/Nurseries

408 MINISTRY OF AGRICULTURE, AGRICULTURE ENGINEERING DIVISION 1987 DAE, SWCB

SOIL CONSERVATION: SEMI-ANNUAL REPORT - JULY-DECEMBER 1987

MOA, Engineering Division, Soil and Water Conservation Branch
23 pp.

Report provides a view of the soil conservation activities accomplished in the first half of the 1987/88 financial year. Reports that the period saw launching of the Catchment Approach to soil conservation extension, and the progress attained by farmers in the construction of cutoff drains and artificial waterways.

Soil and water conservation/GoK

409 MINISTRY OF AGRICULTURE, AGRICULTURE ENGINEERING DIVISION 1988 DAE, SWCB

SOIL AND WATER CONSERVATION PROJECT (SIDA) - BUDGETS AND TARGETS FOR PROVINCES AND DISTRICTS

MOA, Engineering Division, Soil and Water Conservation Branch
33 pp., 4 appendices

Gives details on the utilization of funds in farm development, training, transport operation, travel and accomodation, agricultural shows, purchase and repair of plant and equipment, soil conservation nurseries and tools. Also gives a budget summary, estimates for the districts and provinces, and number of farms in need of terraces.

Soil and water conservation/GoK

410 MINISTRY OF AGRICULTURE, AGRICULTURE ENGINEERING DIVISION 1988 DAE, SWCB

SOIL CONSERVATION FOR INCREASED AGRICULTURAL PRODUCTION
Save our Soils

MOA, Engineering Division, Soil and Water Conservation Branch
32 pp., illust.

The booklet is a cartoon-set story that explains the importance of soil conservation in a society. Explores methods necessary for good farming and teaches how and when to construct and maintain conservation structures. Illustrates zero-grazing, the catchment approach, and the role of trees in soil conservation.

Extension/Maintenance/Structural methods/Agroforestry/Education

411 MINISTRY OF AGRICULTURE, AGRICULTURE ENGINEERING DIVISION 1988 DAE, SWCB

SEMI-ANNUAL REPORT JULY-DEC. 1988: SOIL AND WATER CONSERVATION PROJECT(SIDA)

MOA, Engineering Division, Soil and Water Conservation Branch
31 pp., 6 tables

Report summarizes major activities and achievements as recorded between July and December 1988 and attempts to compare the accomplished work with targets as set out in the 1988/89 work plan. Gives an outline of utilization of funds and the achievements in personnel training fom the headquarters down to the district level. Also outlines the methods and extent of on-farm soil conservation activities, and comments from districts and provinces.

Socio-economic aspects/GoK

412 MINISTRY OF AGRICULTURE, AGRICULTURE ENGINEERING DIVISION 1988 DAE, SWCB

ANNUAL REPORT 1987/88 - SOIL AND WATER CONSERVATION PROJECT (SIDA)

MOA, Engineering Division, Soil and Water Conservation Branch
40 pp., 8 figs., 16 tables, 4 appendices.

The report gives seven aims and objectives of the soil and water conservation project meant to conserve the two basic land resources in order to ensure increased and sustained farm productivity on long term basis. Has details on project policy and guidelines, and work done during 1987/88.

Evaluation/GoK

413 MINISTRY OF AGRICULTURE, AGRICULTURE ENGINEERING DIVISION 1989 DAE, SWCD

PLAN OF OPERATION 1989/90 - 1991/92: SOIL AND WATER CONSERVATION PROJECT (SIDA)

MOA, Engineering Division, Soil and Water Conservation Branch
55 pp., 1 fig., 11 tables, appendix.

The plan of operation contains a comprehensive budget planning for the period 1989/90 - 1991/92. Gives some notes on the background and the main objectives of the project. Describes soil and water conservation extension implementation strategies, organization of the catchment approach to conservation, and the execution of the recommended conservation measures. Also states the objectives, targets and activities, and strategy for implementation of agroforestry and ASAL programme.

Economic considerations/Policies/Agroforestry

414 MINISTRY OF AGRICULTURE, AGRICULTURE ENGINEERING DIVISION 1989 DAE, SWCB

WORK PLAN 1989/90 - SOIL AND WATER CONSERVATION PROJECT (SIDA): BUDGETS AND TARGETS FOR PROVINCES AND DISTRICTS

MOA, Engineering Division, Soil and Water Conservation Branch
19 pp., 2 appendices

Plan report reviews the soil conservation project with a special focus on its objectives and implementation strategy. Gives the data on estimates and targets of staff training and tree nurseries as well as the number of farms in need of conservation.

Soil and water conservation/GoK

415 MINISTRY OF ENVIRONMENT AND NATURAL RESOURCES 1985 NES, DAE

MEASUREMENT AND PREDICTION OF SOIL EROSION IN KIAMBU AND MURANG'A DISTRICTS OF KENYA

National Environment Secretariat
2 figs., 11 tables, 13 refs.

The report summarises the extent to which the soil in Kiambu and Murang'a districts are undergoing serious reduction in root depth, plant available nutrients and capacity to retain plant available water. The report suggests that soil erosion control measures like crop rotation, cotour farming, strip cropping, continous cropping, and terracing be recommended for the two districts on a site basis.

Kiambu District/Murang'a District/Prediction/Soil depth/Nutrient loss

416 MINISTRY OF FINANCE AND PLANNING 1985 SIDA

PLANNING AND DESIGN FOR SOIL AND WATER CONSERVATION IN KITUI DISTRICT

Kitui ASAL Project. Second Draft
Ministry of Finance and Planning, USAID
35 figs., 49 tables

This is a compilation of technical information and data concerning soil and water conservation in Kitui district. The draft contains 15 chapters which have details on soil characteristics, rainfall and its impacts on soil, types and extent of erosion, agronomic methods of erosion, planning of control measures, design of control measures, moisture conservation and runoff harvesting, irrigation and the economics of soil and water conservation.

Kitui District/Chemical properties/Physical properties/Rainfall characteristics /Rainfall distribution

417 MINISTRY OF FINANCE AND PLANNING, NAIROBI 1975 KADOC

MACHAKOS DISTRICT INTEGRATED DEVELOPMENT PROGRAMME

Submission to European Economic Community. Preliminary Report.
KADOC No. 10124
35 pp., 10 maps scale 1:5,000,000 and 1:1,000,000

Programme for integrated development of Machakos District for submission for funding by the European Economic Community. Description and cost of projects in the fields of agriculture and settlement, soil and water conservation, health services, rural roads, education and electrification are given.

Machakos District/Soil and water conservation/GoK

418 MINISTRY OF WATER DEVELOPMENT 1989 DBT

APPROPRIATE DESIGNS AND STRUCTURES FOR EFFECTIVE COMMUNITY TAKE OVER

Paper presented at the ASAL Soil and Water Conservation Programme Development Workshop, Embu, 18-22 Sept., 1989.
15 pp., 2 refs.

Paper discusses the objectives of water conservation in arid and semi-arid areas and the relationship between soil and water conservation. Also discusses design, construction operations, and maintenance of water conservation structures. Outlines the health and socio-economic aspects of water conservation and gives some recommendations on how to carry out soil and water conservation work in specific situations within the arid and semi-arid areas.

Management practices/Design/Construction/Socio-economic aspects/Soil- and water conservation

419 MISIKO, P.A.M. 1978 KAB

THE SITUATION REGARDING SOIL AND WATER MANAGEMENT IN KENYA.

Egerton College Agricultural Bulletin. 2(2):48-53
20 refs.

Deals with the general perspective, present situation and trends and benefits of soil and water management. Also gives policies and issues in soil and water management, recommends a comprehensive reappraisal of existing policies and programmes and the need for stepping up the pace and coverage of survey, research and development, planning and programming for watershed and head water area development.

Policies

420 MISIKO, P.A.M. 1979

ENVIRONMENTAL ENGINEERING FOR RURAL PROGRESS

The Impact of Agricultural Education on Schools and Colleges on Rural Environment and Development.
Proceedings of the 2nd. Conference, Kenya Agricultural Teachers Association (KATA). Mombasa, 26-30 August, 1979. pp. 60-67

(not available for annotation)

Education

421 MISIKO, P.A.M. 1983 IDS

STRATEGIES AND CONSTRAINTS OF PLANNING SOIL AND WATER MANAGEMENT PROGRAMMES ON THE CATCHMENT BASIS IN WESTERN KENYA

In: Soil and Water Conservation in Kenya. Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982.
(Eds). Thomas, D.B. and Senga, W.M. IDS Occasional Paper No. 42 pp. 194-205
1 fig., 1 table, 8 refs.

A short article discussing the constraints, present situation, trends, derived benefits, objectives, policies, issues and planning of soil and water management.

Policies

422 MISIKO, P.A.M. 1984 KADOC

THE TRAINING IN SOIL CONSERVATION AT EGERTON COLLEGE

In Report from Workshop on 'Training in Soil Conservation in Tanzania', 19 Feb.-3 March, 1984, Nairobi. pp. 169-181
Regional Soil Conservation Unit/SIDA

Paper exposes the extent of training in soil and water conservation at Egerton College. Paper presented with the considerations that the College Academic Board makes the necessary adjustments in the syllabi from time to time as need arises. Stresses that research must be practically oriented, and hencce training programmes in soil and water conservation must also be practicaly oriented. Lists all the subjects taken in agricultural engineering course at the college.

Training/Evaluation

423 MONGI, H.D., HUXLEY, P.A.(Eds) 1979 ICRAF

SOILS RESEARCH IN AGROFORESTRY.

ICRAF, Nairobi, Kenya.
584 pp., 21 articles.

Proceedings of an Expert Consultation held at ICRAF, Nairobi, March 26-30, 1979. Contains collection of soils research review papers on methodologies and strategies that can be of value in the development and study of agroforestry system.

Agroforestry

424 MOORE, T.R. 1978 SSD

AN INITIAL ASSESSEMENT OF RAINFALL EROSIVITY IN EAST AFRICA

Technical Communication No. 11. University of Nairobi, Department of Soil Science
40 pp., 4 figs., 5 tables, 54 refs.

Assesses the various rainfall erosivity parameters for East Africa based on data from 35 stations. Analyses the intensity and kinetic energy of the storms and gives regression equation and correlation coefficient for the KE15/KE30 and mean annual rainfall. Groups areas in East Africa into four. An erosivity map based on KE15>25 parameter is included.

Rainfall intensity/Rainfall kinetic energy/USLE

425 MOORE, T.R. 1978 DBT

SOIL EROSION

Miscellaneous Paper No. 1. University of Nairobi, Department of Soil Science.
117 pp., 10 figs. 13 tables, ref.

Paper based on lecture notes for postgraduate course on soil conservation. The first two define the state and basic principles of erosion, the forces involved. Chapter 3 defines types of soil erosion. Next chapter deals with measuring erosion in situ, drainage basins and remote sensing methods. Chapter 5 discusses the magnitude and frequency of erosive events. Chapter 6 covers consequences of accelerated erosion. The remaining chapters deal with predicting soil erosion and the USLE.

Land degradation/Measurements/Aerial photo analysis/Rainfall intensity

426 MOORE, T.R. 1979

LAND USE AND EROSION IN THE MACHAKOS HILLS

Annals of the Association of American Geographers. 69(3):419-431

Paper argues that most of the available land in the Machakos Hills was occupied by the farmers since 1900, and changes in land use practices and intensity caused extensive surface and gully erosion by the 1930s. States that experimental data show that the soils are highly erodible and many of the erosive storms occur at the beginning of the rainy season when the crop cover is poor. Further states that erosion rates of 5 to 10 mm/yr are common on poorly conserved cultivated or grazing land.

Machakos District/Land use/Vegetation cover/Gully erosion/Soil erodibility

427 MOORE, T.R. 1979 DBT

RAINFALL EROSIVITY IN EAST AFRICA

Geogr. Annlr. 61 A(3-4) 147-156
4 figs., 3 tables, 31 refs.

Discusses rainfall erosivity parameters such as intensity, KE and their combinations. The temporal distribution of erosive rains are examined for 35 stations of East Africa. Gives erosivity map and regression equation for R and KE25.

Rainfall intensity/Rainfall kinetic energy/Rainfall distribution/Maps/-

428 MOORE, T.R. 1983 DBT

THE PROBLEM OF SOIL EROSION IN SEMI-ARID KENYA.

The Kenyan Geographer. 5(1&2):61-71 (special issue)
1 fig., 2 tables, 48 refs.

Discusses the rates of soil erosion in semi-arid Kenya, the environment consequences of accelerated erosion, factors that control the rate of erosion, measurement, mapping, predicting, and how to control soil erosion in semi-arid Kenya.

Prediction/Impacts/Maps/Soil and water conservation

429 MOORE, T.R., THOMAS, D.B., BARBER, R.G. 1979 KADOC

THE INFLUENCE OF GRASS COVER ON RUNOFF AND SOIL EROSION FROM SOILS IN THE MACHAKOS AREA, KENYA
KADOC No. 40153

Tropic. Agric., Trin. 56(4):339-344
3 tables, 8 refs.

Reports on the result of runoff and soil erosion measurements from s ites with similar soils but different grass cover.

Machakos District/Run-off plots/USLE/Vegetation cover

430 MOORHEAD, H.J., SIMS, G.P. 1982 MOA

SEDIMENT DEPOSITION IN RESERVOIRS ON THE RIVER TANA, KENYA

Commission Internationale Des Grands Barrages. Quattorziere Congress des Grands Barrages, Rio de Janeiro. Q. 54 R. 37, pp. 601-613
4 figs., 4 tables, 12 refs.

Discusses five years (1975-1980) Bathymetric survey of sediment yield of the Tana River on the Kumbutu and Thimba reservoirs. Report reviews soils, land use, erosion and theoretical studies of sediment yields and includes estimates of sediment yield using sediment rating curves for Kamburu. Discussion of the validity and accuracy of the rating curves is also included.

Soil types/Land use/USLE/Survey/Sedimentation

431 MUCHENA, F.N. 1983 IDS

THE ROLE OF SOIL SURVEYS AND LAND EVALUATION IN ASSESSING SOIL EROSION HAZARD

In: Soil and Water Conservation in Kenya. Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982.
(Eds). Thomas, D.B. and Senga, W.M. IDS Occasional Paper No. 42, pp79-86.
1 fig.

Briefly describes the major soil types of Kenya and their susceptibility to soil erosion.

Survey/Soil types/Soil erodibility

432 MUCHENA, F.N. 1985 KSS

THE EXTENT AND MANAGEMENT OF THE "PROBLEM SOILS" (PLANOSOLS, SOLONETZ, SOLONCHAKS - ERODED AND DEGRADED SOILS) IN KENYA

Paper presented at the Sixth Meeting of the Eastern African Sub-Committee for Soil Correlation and Land Evaluation, Maseru, Lesotho, 9-18 Oct. 1985
13 pp(?)., 1 fig., 7 tables, refs(?).

Paper discusses the occurrence, distribution, characteristics and management of soils whose chemical and physical characteristics impede the use of the soils especially for agricultural purposes.

Soil types/Chemical properties/Physical properties/Soil productivity

433 MUCHENA, F.N. 1985 KSS

LAND-USE PLANNING FOR INTEGRATED RANGE MANAGEMENT

Paper presented at the Workshop on "Rangeland Resources: Wildlife/ Livestock Interfaces", Taita, 22-25 April, 1985.
12 pp., 1 fig., 15 refs., 1 appendix.

Paper discusses the status of rangeland in Kenya with special emphasis on proper land use planning of rangeland resources. Argues that data obtained during rangeland resource surveys can be used in land evaluation for rangeland use for both domestic livestock and wildlife.

Land use/Vegetation cover

434 MUCHENA, F.N. 1986 KSS

SOIL FERTILITY CONSTRAINTS IN IMPROVING CEREAL YIELDS IN SOILS OF THE ARID AND SEMI-ARID AREAS OF KENYA

Paper presented at the OAU-SAFGRAB Drought Symposium, Nairobi, 19-23 May, 1986.

(not available for annotation)

Soil types/Chemical properties/Soil productivity

435 MUCHENA, F.N. 1989 DAE, KSS

DEGRADATION OF SALINE AND SODIC SOILS IN NORTH EASTERN PROVINCE, KENYA

In Soil and Water Conservation in Kenya - Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp.25-33.
(Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O
DAE, SIDA
4 figs., 1 table, 12 refs.

This paper discusses the degradation hazards of the saline and sodic soils which occupy a large part of North Eastern province of Kenya. The paper lays special emphasis on those degradation processes that result from excess of salts and their subsequent effect on physical properties.

Salinization/Chemical properties/Physical properties/Soil types

436 MUCHENA, F.N., GACHENE, C.K.K. 1983 KSS

PROPERTIES, MANAGEMENT AND CLASSIFICATION OF VERTISOLS IN KENYA

Paper presented at the Fifth Meeting of the Eastern African Sub-Committee for Soil Correlation and Land Evaluation, Wad Medan, Sudan, 5th-10th Dec. 1983.
1 fig., 1 table, 25 refs.

Paper provides a brief outline of the vertisols found in Kenya. Describes the occurrence and distribution, morphological characteristics, and physical and chemical characteristics of the soils. Discusses the management and genereal classification of the soils.

Vertisols/Physical properties/Chemical properties

437 MUCHENA, F.N., GACHENE, C.K.K. 1984 KSS

SOILS OF THE HIGHLANDS AND MOUNTAINOUS AREAS OF KENYA WITH SPECIAL EMPHASIS ON AGRICULTURAL SOILS

2 figs., 2 tables, 11 refs.

Paper gives the location and physical features, climate and land use in the highlands. Discusses in details the important soil types in the highlands. Summarizes the efforts and strategies in use to conserve soil in the highlands.

Survey/Soil types/Land use/Rainfall characteristics/Soil and water conservation

438 MUCHENA, F.N., MBUVI, J.P. 1984 KSS

A CRITICAL EVALUATION OF THE PLACEMENTS OF THE ANDEPTS OF KENYA ACCORDING TO THE PROPOSED KEY FOR ANDISOLS

Paper presented at the 6th International Soil Classification Workshop, Chile/Equador, 9-20 January, 1984.
12 pp., 1 fig., 1 table, 12 refs.

Describes and maps the occurrence and distribution of Andepts in Kenya. Discusses the physical characteristics of these soils in relation to their phosphate retention capacity and high bulk density.

Soil types/Maps/Physical properties/Chemical properties

439 MUCHENA, F.N., MBUVI, J.P.,WOKABI, S.M. 1988

REPORT ON SOILS AND LAND USE IN ARID AND SEMI-ARID LANDS OF KENYA

Ministry of Environment and Natural Resources, NES.
38 pp.

(not available for annotation)

Soil types/Land use

440 MUCHENA, F.N., MOCHOGE, B.O.,CHWEYA, J.A. 1986 KSS

OCCURRENCE, UTILIZATION AND RESEARCH ACTIVITIES ON VERTISOLS IN KENYA

Paper presented at the IBSRAM Seminar, Nairobi, Kenya, 1-6 Dec., 1986
14 pp., 1 fig., 2 tables, 13 refs.

Paper describes the occurrence, distribution and characteristics of vertisols in Kenya. Discusses the present utilization and research on vertisols in the country.

Vertisols/Physical properties/Chemical properties

441 MUCHENA, F.N., VAN DER POUW, B.J.A. 1981 TARDA, KSS

SEMI-DETAILED SOIL SURVEY OF THE PROPOSED BURA EAST IRRIGATION SETTLEMENT SCHEME

Kenya Soil Survey Semi-Detailed Soil Survey Report No. S5.
153 pp., 2 figs., 5 tables, 2 maps 1:20,000, 3 appendices.

Report describes the soil conditions of the proposed Bura East Irrigation Settlement Scheme and gives an evaluation of the suitability of the soils in the area for irrigated agriculture. Examines the physical and chemical conditions of the soils. Lays special emphasis on those soil properties that could influence trhe irrigitability of these soils.

Survey/Soil types/Chemical properties/Physical properties

442 MUCHENA, F.N., WOKABI, S.M. 1986 KSS

THE RED SOILS OF KENYA: THEIR OCCURRENCE, DISTRIBUTION AND MAJOR CHARACTERISTICS

Paper presented at the Regional Symposium on the Properties and Management of the Red Soils of East and Southern Africa, Harare, Zimbabwe, February, 1986.
22 pp., 1 fig., 1 table, 25 refs., 1 annex.

Paper describes the occurrence, distribution and utilization of red soils in Kenya. Discusses the classification, physical and chemical characteristics, of the soils, in relation to their agricultural potential.

Survey/Soil types/Physical properties/Chemical properties

443 MUCHIRI, G. 1985 DBT

DRYLAND TILLAGE TECHNIQUES FOR SMALL FARMERS

In: Agricultural Research and Extension for the Drylands of Kenya Proceedings of a Workshop held in Embu, Kenya, 2-6 December 1985 pp. 56-70
5 figs., 1 table

The paper gives the objectives of dryland tillage through which the problems of soil loss and water loss, and poor soil moisture utilization are overcomed. The paper analylises the shortcoming of traditional tillage practices. The paper also discusses the innovative dryland tillage techniques and the limitations of farmers to use the new technology.

Tillage/Soil and water conservation

444 MUCHIRI, G. 1989 DBT

MINIMUM TILLAGE OPTIONS FOR SEMI-ARID KENYA

Paper presented at the ASAL Soil and Water Conservation Programme Development Workshop, Embu, 18th-22nd Sept., 1989.
8 pp., 1 table.

Paper discusses tillage options for small farms, 4-5 ha, in agro-ecological zones IV and V, where tractor mechanization is not available and where livestock is a part of farming. Describes the soil conditions of the zones and points out he need to control weeds in crop growing fields. Gives the objectives of a tillage in semi-arid areas and the current tillage practices in the zones for both alfisols and vertisols. The tillage innovations for the zones are also discussed.

Soil types/Tillage

445 MUCHIRI, G., GICHUKI, F.N. 1983 IDS

CONSERVATION TILLAGE IN SEMI-ARID AREAS OF KENYA

In: Soil and Water Conservation in Kenya. Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982.
(Eds). Thomas, D.B. and Senga, W.M. IDS Occasional Paper No. 42, pp. 395-419
10 figs., 8 tables, 9 refs.

Discusses in detail existing tillage systems and describes the development of the Desi-plough for the semi-arid areas of Machakos, for better crop yield, soil moisture retention, reduced furrow runoff, low draught requirement, fast operation, good seed bed preparation on dry soil and better runoff control.

Machakos District/Tillage/Soil and water conservation

446 MUHAMMAD, L., OCKWELL, A.P.,MAVUA, J. 1986 ACIAR

THE IMPACT OF DROUGHT ON FARMING SYSTEMS IN THE SEMI-ARID REGIONS OF EASTERN KENYA

Paper presented to the OAU/SAFGRAD International Drought Symposium on Food Grain Production in the Semi-arid Regions of Africa, Nairobi 19-23 May, 1986.
21 pp., 4 tables, 13 refs.

Paper discusses small scale rainfed mixed farming systems in the semiarid environment of Eastern Kenya. Attempts a characterization of farming environment as well as variation in the key factors. Highlights the consequences of shortfalls in production for subsistence and response strategies that are employed to cope with the situation

Eastern Kenya/Farming systems research

447 MUHAMMED, M. 1988 SIDA

SUMMARY OF STUDIES - EMBU DISTRICT

MOA, Soil and Water Conservation Branch
11 pp., 1 fig.

The pamphlet is a summary of four studies in Embu district which covered: socio-economic profiles of Runyenjes division; technical evaluation of soil conservation practices in Runyenjes division; socio-economic profile of of Gachoka division; and technical evaluation of soil conservation measures in Gachoka division.

Embu District/Socio-economic aspects

448 MUHAMMED, M. 1988 SIDA

SUMMARIES OF STUDIES - KITUI DISTRICT

Ministry of Agriculture, Soil and Water Conservation Branch
11 pp., 1 table

This study is a summary of five studies which dwelt on soil conservation profiles, the opinions of soil conservation officers, technical and economic evaluation of soil conservation programmes, in Kanyaa and Kalio sub-locations of Kitui district.

Kitui District/Extension/Economic considerations

449 MUHAMMED, M. 1988 SIDA

SUMMARIES OF STUDIES - NYERI DISTRICT

Ministry of Agriculture, Soil and Water Conservation Branch
16 pp., 4 figs.

This pamphlet summarises seven studies on soil erosion which dwelt on socio-economic evaluation, soil conservation profile, views of divisional officers, technical evaluation of soil conservation, and woody biomass in agriculture, in Othaya division. Also included in the pamphlet is soil conservation in Gura sub-location, and an evaluation of soil conservation in Nyeri District as a whole.

Nyeri District/Othaya/Extension/Evaluation

450 MUHAMMED, M. 1988 SIDA, SWCD

SUMMARIES OF STUDIES - KIAMBU DISTRICT

Ministry of Agriculture, Soil and Water Conservation Branch.
6 pp., 5 figs.

Report summarizes a study - technical evaluation of soil conservation methods in small scale farms in Kiambu District - by B. Mati in 1984. Lists the objectives for which the study was meant to fulfil. Gives bargraphs on terraced farms in Kiambu District.

Kiambu District/Terraces

451 MUHIA, C.D.K. 1989 DAE, SIDA

GRAZING-LAND MANAGEMENT AND IMPROVEMENT

In: Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 323-331. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
5 refs.

This paper, based on studies in Kitui, Machakos, Baringo and Marsabit Districts of Kenya, summarizes the problems arising from traditional grazing land management, and reviews possible interventions towards better management and improvement in the context of soil and water conservation.

Management practices/Socio-economic aspects/Policies

452 MUIRU, D.M. 1983 DBT

SOIL CONSERVATION IN NAROK DISTRICT.

Paper presented at the Technical Meeting for Soil and Water Conservation Project. 14 January, 1983 Nairobi.
4 pp.

Describes the problem of soil erosion in the district. Mentions some of the problems affecting soil conservation activities and discusses contour ploughing, grass or unploughed strips, trash lines, cutoff drains, gully control and establishment of soil conservation committees in the district, divisional and locational levels as the methods used in fighting erosion in Narok. Also gives two feasible objectives for the future.

Narok District/Contouring/Grass strips/Trash lines/Structural methods

453 MULAMULA, H.P., OGEMA, M.W.,OLUM, F. 1976

THE EFFECT OF PRIMARY TILLAGE AND INITIAL TIME OF SEED BED PREPARATION AND YIELD OF WHEAT IN KENYA

In Proceedings of the sixth Eastern African Cereal Research Conference.

(not available for annotation)

Tillage/Soil productivity/Management practices

454 MULARI, J.K. 1980 DAE

SOIL CONSERVATION EVALUATION PROJECT ON IKONDENI RIVER CATCHMENT.

Postgraduate Diploma Project Report, University of Nairobi, Department of Agricultural Engineering.
86 pp., 5 figs., 12 tables, 17 refs., 1 fold map, appendix.

Examines land use and soil erosion on Ikodeni River Catchment, Machakos District. It deals with existing soil conservation methods on different slopes, crops grown, soils, rainfall data, forest, grazing lands, water supply, drainage and the severety of the erosion problem.

Machakos District/Land use/Land degradation/Soil and water conservation

455 MUNENE, M. 1989 DAE

KENGO STRATEGIES, APPROACH AND EXPERIENCES IN SOIL AND WATER CONSERVATION, LAIKIPIA DISTRICT

Paper presented at the Water Conservation Seminar, Nanyuki, 7-11 August, 1989.
3 pp.

Paper discusses the approach, strategies and experiences gained in trying to conscientize people to conserve soil and water resources in Laikipia District.

Laikipia District/NGO's

456 MUNGAI, D.N. 1984 KSS

A NOTE ON THE OCCURRENCE OF WET AND DRY SPELLS OF THE MAJI MAZURI, KENYA

Paper presented at the 6th AGM of the Soil Science Society of East Africa, Nyeri, July 30 - August 1, 1984.

(not available for annotation)

Rainfall characteristics

457 MUNGAI, D.N., WAMICHA, W.N. 1985 SIDA

THE MAJOR SOILS OF THE ARID AND SEMI-ARID AREAS OF KENYA IN RELATION TO SOIL AND WATER CONSERVATION

In: Proceedings of a Soil Conservation Workshop on Grazing Lands, 9-12 April, 1985, Nairobi, pp. 118-140 Biamah, E.K. (Ed). Ministry of Agriculture and Livestock Development.
1 fig., 3 tables, 11 refs.

Paper describes the major soils occuring in the arid and semi-arid areas of Kenya in terms of their susceptibility to erosion and conservation needs of the grazing lands. Paper classifies the soils according to the FAO/UNESCO Soil Map of the World Legend (FAO 1974). Also describes various types of soil surveys done by the Kenya Soil Survey in arid and semi-arid areas of Kenya.

Survey/Soil types/Maps/Chemical properties/Physical properties

458 MUNI, R.K. 1989 DBT

RAIN WATER HARVESTING FOR LIVESTOCK IN SANDY ARID AND SEMI-ARID REGIONS

Paper presented at the ASAL Soil and Water Conservation Programme Development Workshop, Embu, 18th-22nd Sept., 1989.
6 pp., 10 refs.

Paper outlines the design of a co-operative research project between Kenya and Israel under US-Isreal CDR Programme that seeks to reclaim vast semi-arid areas by growing more pasture. Paper reviews literature on water harvesting in the arid and semi-arid lands, and lists five techniques of rain water harvesting. Gives the conditions that will be considered to determine the ultimate amount of rain water that can be collected.

Water harvesting

459 MUNUVE, J.M. 1989 DAE

OVERVIEW ON CATCHMENT STUDIES IN SEMI-ARID AREAS INFLUENCE OF LAND USE ON THE WATER SOIL CONSERVATION

Paper presented at the Water Conservation Seminar, Nanyuki, 7-11 August, 1989.
7 pp., 3 tables, 3 refs.

Paper discusses the interdependence of the hydrological cycle and soil conservation with special emphasis on rainfall erosivity and frequency, infiltration, storage of soil moisture and maintenance of high infiltration rates, evaporation, transpiration and streamflow. Argues that trees are by far the best ground cover to stabilize soil increase infiltration and protect steep slopes from erosive rainfall

Land use/Rainfall characteristics/Vegetation cover/Soil erodibility/-Physical properties

460 MURIUKI, R.M. 1989 DAE.

INTEGRATED FOOD SECURITY PROGRAMME ASAL DEVELOPMENT PROJECT WAMBA/ SAMBURU

Paper presented at the Water Conservation Seminar, Nanyuki, 7-11 August 1989.
4 pp.

Paper gives a historical outline of the project whose aim is to identify a self-reliance concept in co-operation with and for the people of Wamba Division, and enable them to improve their food and living situation. Discusses livestock and natural resources development.

Laikipia District/Wamba

461 MURIUKI, S.K. 1982 PER

CONTROLLING DESERTIFICATION IN EASTERN PROVINCE: SOIL AND WATER CONSERVATION IN RELATION TO LAND CAPABILITY AND POPULATION PRESSURE

Paper presented at a Conference on Environmental Enhancement Resource Management in Eastern Province: Decentralised efforts to arrest desertification. Meru, March 30-April 2, 1982
12 pp., 1 fig., 3 tables, 4 refs.

Article reviews the soil and water conservation measures undertaken in the districts of Eastern Province in the period of 1969-1980. Also examines the problems of human and animal population pressure and suggests possible solutions.

Land degradation/Overpopulation/Soil and water conservation

462 MURIUKI, S.K. 1983 PER

SOME SALIENT PROBLEMS IN THE MANAGEMENT OF SOILS IN THE HUMID PARTS OF KENYA

Paper presented at a sminar on Soil Management, IITA, Ibadan, Nigeria, 30 May - 18 June, 1983
12 pp., 2 figs., 12 refs.

Deals with water and nutrient management of the soils of the high potential of the humid areas of Kenya. It includes sections on agronomic practice, cropping systems, minimum tillage, terracing, contour farming, fertilizers and manure application for nutrient recycling, and the role of government and non-governmental organizations in soil and water conservation.

Management practices/GoK/NGO's

463 **MUSEMBI, D.K. 1984**

IDENTIFICATION OF CROP-GROWING SEASONS IN SEMI-ARID KENYA BY ANALYSIS OF SOIL MOISTURE PATTERNS

M.Sc. Thesis, Texas A & M University, 1984.

4 pp.

(not available for annotation)

Soil moisture/Crop production

464 **MUSLIM, F. 1977**

DESERTIFICATION - THE LEGAL PERSPECTIVE OF

Paper presented at the Kenyatta National Seminar on Desertification. Nairobi, July 6-8, 1977.

16 pp.

Paper points out the extent and seriousness of desertification in Kenya and discusses various acts such as the Forest Act Section 8(1)(a)vi, the Crop Production and Livestock Act Cap. 321, Section 48 of the Agricultural Act, Land Planning Act, the Agriculture (Basic Land Usage) Rules, 1965, Section 14 of the Water Act, that have direct relation to control desertification. Gives some criticism of the weakness of the legal acts and recommendations for the ammendments.

Land degradation/GoK

465 **MUSLIM, F. 1979**

THE FOREST BILL, 1978 - AN ENVIRONMENTAL MISADVENTURE

National Environment Secretariat, Nairobi.

19 pp.

Discusses the problems which the Forest Bill 1978 sought to resolve. Examines the main characteristics and the legal and administrative innovations it ought to introduce. Analyses the factors which led to the opposition the Bill encountered which led to its subsequent withdrawal.

Agroforestry/GoK

466 MUSYOKA, F.N. 1989 DAE

SOIL AND WATER CONSERVVATION - EMI ASAL, EMBU

Paper presented at the Water Conservation Workshop, Nanyuki, 7-11 August, 1989.
4 pp.

Paper outlines the physical environment of the area focussing on issues pertaining to rainfall, climate and soils. Also outlines the objectives of the project, soil conservation methods and structures, and the problems facing soil conservation.

Rainfall characteristics/Soil types/Structural methods

467 MUTAI, S.K. 1989 DAE, SIDA

IMPLEMENTATION OF SOIL AND WATER CONSERVATION AND AFFORESTATION IN ARID AND SEMI-ARID AREAS OF SOUTHERN KITUI DISTRICT,EASTERN PROVINCE

In: Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 243-253. (Eds). Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
2 figs., 6 tables, 4 refs.

Paper describes the government and farmers efforts in combating soil erosion in the semi-arid areas of Southern Kitui District. Describes the approach and results of soil surveys conducted in the area. Analyses land use patterns which comprise crop production, livestock farming and afforestation. Looks at river bank protection as stipulated in the Agriculture Act, and the constraints that hinder conservation work.

Kitui District/Extension/Land use/Survey/Revegetation

468 MUTEA, J., KEYA, S.O.,GURNAH, A.M. 1977 KAB

THE EFFECT OF VARIOUS TYPES OF MULCHES ON SOIL MOISTURE IN A COFFEE FIELD AT KABETE, KENYA.

FAO Soils Bull. No. 43 pp. 129-144. Rome
6 figs., 6 tables, 9 refs.

Deals with an investigation on the effect of polyethelene and vegetative grass mulches on soil moisture and nutrients under arabica coffee at Kabete. Recommends the grass mulch in preference to the artificial mulch.

Nairobi District/Kabete/Mulching/Soil moisture

472 MUYA, F.S. 1985 DAE

A DRAINAGE STUDY FOR THE GESUSU SWAMP IN KISII DISTRICT

Postgraduate Diploma Project Report, University of Nairobi, Department of Agricultural Engineering.
82 pp., 27 figs., 18 tables, 13 refs.

Study gives general information about Kisii District and the Kisii Valley Devlopment Project in which the study was conducted. Gives background data on the physical environment of the area focussing on location, climate, hydrology, topography, soils and land use. Describes soil mapping and classification if the area. Also describes the methodology used to investigate the main drain design and gives results for the design procedure. Discusses cutoff drains, water table fluctuation and fertility status of the peat.

Kisii District/Gesusu/Cut-off drains/Soil types

473 MUYERA, R. 1987 SIDA

NANDI REPORT 1987

Ministry of Agiculture, Soil and Water Conservation Branch
15 pp., 3 figs. 1 table, 6 photos

The report is a profile of Kilibwoni division of Nandi district. It presents brief information on land use, soil types, cropping, land ownership, agricultural economics, causes of erosion, and erosion processes.

Nandi District/Kilibwoni/Land use/Soil types/Socio-economic aspects

474 MWAKILEO, B.N. 1989 DAE

TAITA - TAVETA RURAL DEVELOPMENT PROGRAMME (SOIL AND WATER CONSERVATION)

Paper presented at the Water Conservation Seminar, Nanyuki, 7-11 August, 1989.
5 pp., 2 tables.

Paper gives background information on Taita - Taveta District in relation to soil and water conservation programmes carried out by both DANIDA and SIDA. Also gives Mkwanyi Soil Conservation Catchment progress report and a summary and ideas which could benefit the newly set Mwatate soil conservation campaign and others. Outlines the problems facing the DANIDA and SIDA conservation programmes.

Taita - Taveta District/NGO's/Soil and water conservation/Policies

475 MWANGI, G.C. 1978 IDS

WORK DONE BY THE SOIL CONSERVATION STATION AT MARIAKANI, COAST PROVINCE

In Soil and Water Conservation in Kenya. Report of a Workshop, University of Nairobi, Sept. 21-23, 1977, pp. 45-47.

Briefly states the general problem of soil erosion in the Coast Province and describes the establishment of the Mariakani Soil Conservation Unit and its activities in the past.

Soil and water conservation/Soil and land degradation

476 MWANIKI, D.M. 1980 DAE

DESIGNING OF ARTIFICIAL WATERWAYS FOR DISPOSAL OF RUNOFF FROM FARMS AND ROADS.

Postgraduate Diploma Project Report, University of Nairobi, Department of Agricultural Engineering, Nairobi.
33 pp., 4 figs., 10 tables, 1 fold map, 7 refs.

Describes the steps and the problems faced in the design of grassed waterways at three sites in Kandani area of Murang'a District.

Murang'a District/Kandani/Waterways/Design/Stabilisation

477 MWATHE, 1989 DBT

"SOIL AND WATER CONSERVATION IN LOW POTENTIAL AREAS". POTENTIALS AND POSSIBILITIES OF IRRIGATION DEVELOPMENT IN THE ARID AND SEMI-ARID AREAS

Paper presented at the ASAL Soil and Water Conservation Programme Development Workshop, Embu, 18-22 Sept., 1989.
3 pp., 1 table.

Paper discusses the physical and social factors that determine the potentials and possibilities of irrigation development in arid and semi-arid zones of Kenya. Lists the resources required for irrigation and the development options along the water courses. Also mentions the obstacles that would need to be overcome to achieve irrigation developments in ASAL areas.

Water resources

478 MWENDANDU, R., WOOD, P.J.,KYALO, E.,SANG, F.K., ODUOL P. 1986 KARI, ICRAF

ON-FARM EVALUATION OF MULTIPURPOSE AGROFORESTRY TREE SPECIES FOR SEMI-ARID LANDS

Research Report No. 5. Dryland Agroforestry Research Project;1983-86
23 pp., 8 tables.

Paper reports on species screening on denuded subsoils of Kakuyuni Dam site, assessment of species distributed to farmers, performance of fruits issued to farmers, on-farm live fencing trials and treatment of existing trees and grazing land. Recommends tree species with the best performance.

Agroforestry

479 MWICHABE, S. 1986 KSS, ICRAF

PRESENT LAND USE OF THE NAROK AREA

Kenya Soil Survey Miscellaneous Report No. M31
29 pp., 1 table, 6 refs., 1 map, 6 appendices.

Paper describes the present land use focussing on such aspects as the cultivated land, mixed farming, grazing and browsing, forestry, bushland thickets, wildlife conservation and tourism. Argues that the present land use in the area is influenced by both the environmental factors and the sociological virtues of the local people.

Narok District/Land use/Socio-economic aspects

480 MWONGA, S., MOCHOGE, B.O. 1989 DAE, SIDA

THE EFFECTS OF CULTIVATION ON SOME PHYSICAL AND CHEMICAL SOIL PROPERTIES OF THREE KENYAN SOILS

In: Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 38-50.
(Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
5 tables, 26 refs.

Paper gives an outline of a study done to evaluate the changes in organic carbon-nitrogen cation exchange capacity and bulk density of three intensively cultivated soils in Kenya. Describes the method and materials used to carry out the analysis. Gives possible factors that could have contributed to soils vulnerability to erosion.

Machakos District/Katumani/Soil types/Tillage/Physical properties

481 NAIR, P.K.R. 1981 KAB, ICRAF

SOIL MANAGEMENT IN AGROFORESTRY.

In Proceedings of the Kenya National Seminar in Agroforestry, 12-22 Nov. 1980. pp. 251-277.
1 fig., 9 tables, 24 refs.

Deals with soil management under agroforestry; the land use pattern, soil types, soil properties, land capability for agroforestry, changes in fertility, soil conservation and soil physical condition. Also includes a strategy for soil management in agroforestry.

Agroforestry/Soil types/Land use/Chemical properties/Physical propert

482 NATIONAL AGRICULTURE RESEARCH PROJECT 1986 ACIAR

NATIONAL IRRIGATION AND DRAINAGE RESEARCH PROJECT

Ministry of Agriculture and Livestock Development
37 pp.

Chapter 3 looks into the physical environment of the project area, focusing on location, population, climate, geology and soils, physiography and hydrology, vegetation and land use, and swamps that would need reclamation. Chapter 6 examines the drainage of agricultural lands, water management of the red soils in the Upper Tana Basin, and in potentially salt affected soils.

Land use/Salinization

483 NATIONAL COMMITTEE ON MALINDI BAY SILTATION 1974

REPORT OF THE MALINDI BAY SILTATION.

Ministry of Finance and Planning, Nairobi.

(not available for annotation)

Sedimentation

484 NATIONAL ENVIRONMENT SECRETARIAT 1981 DBT, NES, MO

KITUI DISTRICT ENVIRONMENTAL ASSESSMENT REPORT

NES, Clark University, USAID
117 pp., 11 figs., 31 tables

The study is a comprehensive summary of information and data on the environmental status of Kitui district. The study analyses the physical and natural environment, land uses,soil erosion trends, monitoring and research needs, as well as recommendations for environmental intervention.

Kitui District/Environmental impact assessm./Land use/Soil erodibility

485 NATIONAL ENVIRONMENT SECRETARIAT 1984 NES

NAKURU DISTRICT ENVIRONMENTAL ASSESSMENT REPORT

NES, USAID, SECID, Clark University
144 pp., 14 figs., 48 tables, 27 refs., 2 appendices.

Gives an outline of physical environment on issues pertaining to terrain, geology, soils, climate, water resources, vegetation, wildlife resources and fisheries. Discusses the population dynamics and land use patterns and gives some recommendations on socio-economic interactions as they affect the environment.

Nakuru District/Land use/Environmental impact assessm./Socio-economic aspects

486 NATIONAL ENVIRONMENT SECRETARIAT 1985 NES

LOWER TANA RIVER DISTRICT ENVIRONMENTAL ASSESSMENT REPORT

NES, ETMA, USAID, SECID & Cark University
65 pages; 17 figs; 14 tables; 39 refs.

Gives an overview of the natural environment of Lower Tana District on issues pertaining to location, terrain, geology, soils, climate, water, vegetation and fisheries. Discusses the development patterns in fisheries and forestry and the impact of population growth on resources and general infrastructures. Also discusses the state of agriculture and the conservation of indigenous areas.

Lower Tana River District/Environmental impact assessm./Socio-economic aspects /Land use/

487 NATIONAL ENVIRONMENT SECRETARIAT 1985 NES

KWALE DISTRICT ENVIRONMENT REPORT

NES, USAID, Clark University, SECID, ETMA.
236 pp., 28 figs., 61 tables, 53 refs.

Study is divided into three parts. The first part gives an overview of the Kwale environment touching on such aspects as soils, climate, vegetation, geology, land tenure, agriculture, livestock population, and communication. Part two deals with the natural resources and conservation, land use and development, and human environment. Part three is a conclusion on the socio-economic and environmental development dynamics in the district.

Kwale District/Environmental impact assessm./Land use/Socio-economic aspects

488 NATIONAL ENVIRONMENT SECRETARIAT 1985 NES

LAMU DISTRICT ENVIRONMENTAL ASSESSMENT REPORT

NES, USAID, ETMA
118 pp., 18 figs., 41 tables, 42 refs.

Report consists of three parts. Part I describes the location and history of settlements in Lamu District, an overview of natural resources, and that of human environment. Part II has detais on environmental problems and development, with emphasis on the terestrial environment, coastal and marine resources, and human environment. Part III summarises the Lamu environment.

Lamu District/Environmental impact assessm./Socio-economic aspects/-Land use

489 NATIONAL ENVIRONMENT SECRETARIAT 1985 NES

MOMBASA DISTRICT ENVIRONMENTAL ASSESSMENT REPORT

NES, USAID, SECID, ETMA, Clark University.
132 pp., 11 figs., 39 tables, 38 refs., 2 appendices.

Part I of the report briefly describes the Mombasa District environment. Part II discusses natural resources management, land use development, human environment and development. Part III concludes by pointing out the areas that require human intervention for environmental conservation.

Mombasa District/Environmental impact assessm./Land use/Socio-economic aspects

490 NATIONAL ENVIRONMENT SECRETARIAT 1985 NES

MERU DISTRICT ENVIRONMENTAL ASSESSMENT REPORT

NES, ETMA, USAID
101 pp., 11 figs., 37 tables, 23 refs., 2 appendices.

Gives an outline of physical and natural environment on issues pertaining to terrain, geology, soils climate, vegetation, water resources, fisheries and wildlife. Discusses the human environment as it relates to environmental perception and land use patterns in the District, and recommends human intervention in a number of environmental problems.

Meru District/Environmental impact assessm./Land use/Socio-economic aspects

491 NATIONAL ENVIRONMENT SECRETARIAT 1987 NES

KIRINYAGA DISTRICT ENVIRONMENTAL ASSESSMENT REPORT

NES, Ministry of Environment and Natural Resources.
128 pp., 23 figs., 37 tables, 26 refs.

Briefly describes the physical and human environment of Kirinyaga District with emphasis on soils, geology, topography, climate, water resources, natural hazards, vegetation, wildlife and fisheries. Contains details on natural resource use and conservation, land use and development, human environment and its dynamics.

Kirinyaga District/Environmental impact assessm./Socio-economic aspects /Land use/

492 NDEGE, H. O. 1987 SIDA

NAROK REPORT - 1987

Ministry of Agriculture, Soil and Water Conservation Branch
19 pp., 2 figs., 2 tables, 5 refs.

The report is a socio-economic profile of East Mau division of Narok district. The report gives basic facts on runoff and drainage, soils, climate and vegetation, population factors, agricultural activities, and the general infrastructure. It also describes the situation of land, labour and capital availability.

Narok District/East Mau/Socio-economic aspects

493 NEUNHAUSER, P. 1983 ACIAR

APPROPRIATE LAND USE SYSTEMS FOR SMALL HOLDER FARMS. A SURVEY OF ECOLOGICAL AND SOCIO-ECONOMIC CONDITIONS IN THE MACHAKOS DISTRICT

Centre for Advanced Training in Agric., Develop. Tech. Univ. Berlin.

(not available for annotation)

Machakos District/Socio-economic aspects

494 NGUGI, A.W., BRADLEY, P.N. 1986 KWDP, SIDA

AGROFORESTRY, SOIL CONSERVATION AND WOODFUEL IN MURANG'A DISTRICT PART I

Kenya Woodfuel Development Programme
5 figs., 14 tables, 3 appendices.

Study discusses soil physical characteristics of Murang'a District, field survey methodology on agroforestry and soil conservation, soil conservation structures, practices and profiles.

Murang'a District/Agroforestry/Physical properties/Structural methods/-

495 NGUGI, M.N. MICHIEKA, R.W. 1989 DAE, SIDA

CURRENT FINDINGS ON CONSERVATION TILLAGE IN A MEDIUM POTENTIAL AREA OF KENYA

In: Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp.155-162.
(Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O
DAE, SIDA
4 tables, 14 refs.

The paper presents some research findings on minimum tillage as one method of soil conservation in medium potential areas of Kenya. The paper also establishes and confirms the yield advantages using minimum tillage over conventional tillage as observed in other parts.

Embu District/Tillage

496 NGUGI.A.W. KABUTHA, C.N. 1989 KWDP, NES, D

AGROFORESTRY AND SOIL CONSERVATION ON SMALL-SCALE FARMS IN MURANG'A DISTRICT

In: Soil and Water Conservation in Kenya - Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986 pp. 195-214.
(Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O
DAE, SIDA
2 figs., 3 tables, 4 refs.

The paper is a summary of a study done by the Kenya Woodfuel Development Programme researchers to find the extent to which agroforestry would help in soil conservation. The paper discusses at length the major aspects of soil erosion and conservation in the district, agroforestry, woody biomass and fuelwood supply in the farms.

Murang'a District/Soil and water conservation/Agroforestry

497 NIGHTINGALE, J.M., NIGHTINGALE, G.M. 1983 IDS

THE 'COUNTER-CONTOUR' SYSTEM OF SOIL AND WATER CONSERVATION AND LAND DRAINAGE

In: Soil and Water Conservation in Kenya. Proceedings of a Second National workshop, Nairobi, March 10-13, 1982.
(Eds). Thomas, D.B. and Senga, W.M. IDS Occasional Paper No. 42, pp. 235-240
6 pp., 3 figs.

Describes a method of farming where runoff is directed against the contour to have more time to infiltrate and deposit sediment before being discharged safely out of the field, in a farm near Nakuru.

Nakuru District/Contouring

498 NJENGA, P.M. 1985 DAE

A STUDY OF GIKUNI GULLY IN KIAMBU DISTRICT AND PROPOSALS FOR ITS CONTROL AND RECLAMATION

Postgraduate Diploma Project Report, University of Nairobi, Department of Agricultural Engineering.
70 pp., 12 figs., 10 tables, 31 refs.

Report describes an investigation into the origins and control of a large gully at Gikuni in Kabete location, Kiambu District. Attempts to find out when and how the gully started and its development; reasons for failures to control the gully in the past; amount of runoff from the gully catchment and the factors controlling it; alternative technical and feasibility methods of controlling the gully and reclaiming the eroded area for productive use; amount of land and soil lost through gully erosion.

Kiambu District/Kabete/Gully erosion/Gully control/USLE

499 NJIHIA, C.J. 1977

THE EFFECT OF TIED RIDGES, STOVER MULCH AND FARM YARD MANURE ON RAINFALL OBSTRUCTION IN A MEDIUM POTENTIAL AREA, KATUMANI, KENYA

Paper presented at International Conference on Role of Soil Physical Properties, Ibadan, Nigeria, 6th Dec. 1977
11 pp.

(not available for annotation)

Machakos District/Katumani/Mulching/Ridging

500 NJIHIA, C.M. 1989 DBT

ASAL SOIL AND WATER CONSERVATION PROGRAMME DEVELOPMENT. SOIL AND WATER MANAGEMENT - NATIONAL RESEARCH PRIORITIES AND SUGGESTIONS FOR EFFECTIVE RESEARCH-EXTENSION LIASON

Paper presented at the ASAL Soil and Water Conservation Programme Development Workshop, Embu, 18-22 Sept., 1989.
17 pp., 1 table, 10 refs.

Paper presents the goals of the National Soil and Water Management Research Programme research priorities for the ASAL areas. Gives the physical environment of the area and suggests effective research-extension liaison. Maintains that it is essential that research forges effective linkages with extension, as well as with other research institutions, if research-extension liaison has to be achived.

Soil and water conservation/Extension/Policies

501 NJIHIA, C.M., OWIDO, S.F.O. 1981

INFILTRATION AND MOISTURE STORAGE CHARACTERISTICS OF THE MAGARINI LAND SETTLEMENT, COAST PROVINCE, KENYA.

Ministry of Agriculture, Irrigation and Drainage Research Project.

(not available for annotation)

Infiltration/Land use/Soil moisture

502 NJOROGE, C.R.K., MUCHENA, F.N. 1980 KSS, NAL

AN ADVISORY REPORT ON SOILS AND CONSERVATION MEASURES TO BE CARRIED OUT IN KARIUKI'S FARM, LIMURU.

Kenya Soil Survey, Site Evaluation Report No. 50.
6 pp., 2 figs., 7 refs.

A short survey report dealing with the susceptibility of soil to erosion due to slope steepness. Recommends conservation measures (terraces) if area is to be cultivated, and use of grass cover for grazing.

Slope angle/Terraces/Vegetation cover

503 NJOROGE, K. 1985 ACIAR

ASSESSMENT OF RESEARCH PRIORITIES FOR DRYLAND FARMING SYSTEMS IN KENYA
In Support of Agricultural Technology Project Design

Scientific Research Division, MOA and Winrock International, USA
103 pp., 4 figs., 24 tables, 46 refs. appendix.

Programme addresses itself to the scientific research priorities to be carried out in order to produce and develop technologies that would increase and sustain productivity of drylands. Areas of study include soil and water management, cropping management, agroforestry, animal production, socio-economics, technology transfer and its adoption and development.

Agroforestry/Socio-economic aspects/Soil productivity/Policies/Management practices

504 NJOROGE, S.N.J. 1983 IDS

SOIL AND WATER CONSERVATION EXTENSION - THE KENYA EXPERIENCE

In: Soil and Water Conservation in Kenya. Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982.
(Eds). Thomas, D.B. and Senga, W.M. IDS Occasional Paper No. 42, pp. 174-184

An outline of policy, training, interdepartmental cooperation and daily activities of the soil and water conservation extension programme in Kenya. Covers the labour intensive approach and the mechanise method and the training of senior officers, technical assistants, provincial adminstration staff, local leaders and farmers. Also includes type of routine activity.

Policies/Training/Extension

505 NJUGUNA, R.W. 1989 DAE

DRYLAND FARMING AND WATER HARVESTING: EXPERIENCES OF WEST POKOT DISTRICT

Paper presented at the Water Conservation Seminar, Nanyuki, 7-11 August, 1989.
3 pp.

Paper outlines the major ecological zones of the West Pokot District in relation to soil and water conservation. Discusses the approach and progress of both the agricultural development and the soil and water conservation projects funded by the ASAL development programme in West Pokot District.

West Pokot District/Water harvesting/Soil and water conservation

506 NJUI, K., DAINES, S.H. 1977 ASAL

WATER CONSERVATION AND HARVESTING

In Preliminary Project Identification Proposals V. II. Palmer, B.C (Ed)
Marginal/Semiarid Land Study Team
95 pp.

Project proposal for the mid-point review. It includes water conservation, and harvesting, soil conservation research, the need, objectives and importance of grassland revegetation, afforestation and the establishment of soil and water conservation section at the divisional level.

Machakos District/Kitui District/Soil and water conservation/Water.-harvesting /Revegetation

507 NORTH, H.T.

A STUDY OF THE AREAL AND TEMPERAL DISTRIBUTIONS OF RAINFALL ANOMALIES IN EAST AFRICA

E. Afr. Met. Dept. Tech. Memo. No. 19. Nairobi.

(not available for annotation)

Rainfall characteristics

508 NORTON-GRIFFITHS, M. 1983 IDS

APPLICATION OF LOW LEVEL AERIAL SURVEY TO STUDIES OF SOIL EROSION.

In: Soil and Water Conservation in Kenya. Proceedings of a Second National Workshop, Nairobi, March, 10-13, 1982.
Eds. Thomas, D.B. and Senga, W.M. IDS Occasional Paper No. 42, pp.123-150.
12 figs., 5 refs.

Describes the method of the systematic reconnaissance flight to monitor and evaluate soil erosion in relation to land use, sheet wash, rills, gullies, eroding stream banks and road sides. Gives examples and the costs.

Aerial photo analysis/Land use/Sheet erosion/Rill erosion/Gully erosion

509 NYAGAH, J.J. 1987 UNEP, NES

OUR FUTURE LIES IN CO-ORDINATION

In: UNEP-NEWS AFRICA, UNEP June-July-August, 1987. pp. 14-15.

This is an interview with Kenya's minister for environment and natural resources on African Ministerial Conference on the environment. Gives policy changes and strategies to combat land degradation.

Policies/Land degradation

510 NYAMBOK, I.O., ONGWENI, G.S.O. 1975 DBT, KAB

GEOLOGY, HYDROLOGY, SOIL EROSION AND SEDIMENTATION

In: African Dam. Odingo, R.S. (Ed). Ecological Survey of Kamburu/Gitaru Hydroelectric Dam area. Department of Geography, UoN pp.10-36 (also in) Ecological Bulletins, Stockholm No. 29 pp. 17-37.
7 figs., 10 tables, 11 refs.

A report of a study on climate, geology, soil erosion and sedimentation on the Kamburu/Gitaru Dam area. Gives data on suspended sediment and water chemistry.

Dams/USLE/Sedimentation/Soil and land degradation

511 NYORO, G. 1978

AN EVALUATION OF SOIL CONSERVATION IN NYERI DISTRICT

Postgraduate Diploma Project Report, University of Nairobi, Department of Agricultural Engineering, Nairobi.

(not available for annotation)

Nyeri District/Evaluation

512 NZIOKI, M. 1983 IDS

INFORMATION FOR SOIL AND WATER CONSERVATION

In: Soil and Water Conservation in Kenya. Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982.
Eds. Thomas, D.B. and Senga, W.M. IDS Occasional Paper No. 42, pp. 213-219
1 fig., 5 refs.

Deals with the nature and types of information (literature) in soil and water conservation, the growth of information from 1930 to 1980, and the lack of coordination in gathering and disseminating information.

Education/Extension

513 O'KEEFE, P. 1983 SIDA

THE CAUSES, CONSEQUENCES AND REMEDIES OF SOIL EROSION IN KENYA

Ambio 12(6):302-305
2 figs., 1 table, 16 refs.

Article presenting the problem of soil erosion in Kenya, the social aspects, the need for wood fuel, tree felling, and labour migration to towns. It also discusses the technical solutions like terraces, ground crop cover, crop residue, cutoff drains, grass strips leading into bench terraces and zero tillage.

Soil and land degradation/Causes/Socio-economic aspects/Management - practices /Structural methods

514 OBAGA, S.O., OTHIENO, C.O. 1989 DAE, SIDA

THE PHYSICAL EFFECTS ON THE SOIL OF DIFFERENT METHODS OF UPROOTING OLD MORIBUND TEA (CAMMELLIA SINENSIS L.) AND SOIL REHABILITATION BEFORE PLANTING

In Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 51-58.
(Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
1 fig., 4 tables, 16 refs.

Paper presents the findings of an experiment carried out to investigate the effects on the soil physical status caused by different methods of uprooting tea and rehabilitating the soil by green cover crops for a fixed period of two years. Also presents data on the results of a one-and-a half years prior to the replanting of tea in the area.

Kericho District/Land use/Crop vegetation cover/Physical properties

515 OBASI, G.O.P., KIANI, P.M.R. 1977

MONTHLY DISTRIBUTION OF WATER BALANCE COMPONENTS IN KENYA.

Kenya Met Tech. Memo. No. 24, Nairobi.
(not available for annotation)

Physical properties

516 OGOLA, J.F. 1978 IDS

SOIL AND WATER CONSERVATION ON SUBDIVIDED LARGE SCALE FARMS IN UASIN GISHU.

In: Soil and Water Conservation in Kenya. Report of a Workshop, University of Nairobi, Nairobi, 21-23 Sept. 1977.
IDS Occasional Paper No. 27. p.44.

A brief article describing the problems of soil erosion on large scale farms which had been sub-divided without considering previous soil conservation measures.

Uasin Gishu District/Land degradation

517 OGUTU, Z.A. 1989 DAE, SIDA

A LABORATORY METHOD OF TESTING GRASS SPECIES FOR EROSION CONTROL IN A SEMI-ARID ENVIRONMENT

In: Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986 pp. 339-351. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
3 figs; 5 tables, 21 refs. Appendix

Paper presents a laboratory method for testing the suitability ofgra ss species for erosion control. Two grass species, crested wheat gr ass (Agropyron pectinneforme) and hard fescue (Festuca ovina) were grown under controlled temperature and precipitation regimes in two soil types and two slope angles. Found the former to be more effective.

Vegetation cover/Soil types/Slope angle

518 OJANY, F.F. 1978

EROSION AND PLANTATION SURFACES IN THE MACHAKOS KITUI AREA OF KENYA

University of Nairobi, Department of Geography.
Geogr. J. (German, F.R.) 2(4):289-294

(not available for annotation)

Machakos District/Kitui District/Revegetation/Land degradation

519 OKOTH, P.F., MUYA, E.M. 1984 KSS

RELATIONSHIP BETWEEN MOISTURE, ORGANIC MATTER CONTENT AND SOIL TEXTURE IN A SOIL TOPOSEQUENCE IN THE KORDJA PLAIN, MAGADI, KENYA

Paper presented at the 6th AGM of the Soil Science Society of East Africa, Nyeri, July 30 - August 1, 1984.

(not available for annotation)

Kajiado District/Physical properties

520 OKOTH-OGENDO, H.W.O. 1979

THE IMPLEMENTATION OF LAND USE REGULATIONS WITH SPECIAL REFERENCE TO THE PROTECTION OF THE SOIL AND ITS FERTILITY

Paper presented to the Environmental Chemistry Workshop, Chiromo Campus, University of Nairobi, 20-27 July, 1979

(not available for annotation)

Policies/Land use

521 OLANG', M.O. 1984 ICRAF

VEGETATION COVER ASSESSMENT IN TURKANA DISTRICT, KENYA

In: Proceedings of the Workshop on Land Evaluation for Extensive Grazing (LEEG), Addis Ababa, Ethiopia, Oct.31-Nov.4,1983 pp.183-193
(Eds) Siderius, W.
ILRI, Netherlands,1984.
3 figs., 2 tables, 11 refs.

Paper contains an overview of the Turkana District state of climate, rainfall distribution, land forms, and soils. Uses the point centre quarter method (PCQ) to collect data on woody biomass, and the quadrant method to estimate the composition and the production of the herb layer.

Turkana District/Soil types/Physiographical parameters/Rainfall distribution /Vegetation cover

522 OMORO, L.A. 1985 DAE

A STUDY ON EFFECTS OF GRASSES IN EROSION CONTROL ON CROPLAND AT KABETE, KENYA

Postgraduate Diploma Project Report, University of Nairobi, Department of Agricultural Engineering.
47 pp., 4 figs., 11 tables, 29 refs., 1 map, 8 appendices.

Study explores the use of grass strips for soil and water conservation in Kenya. Observes that the role of grass strips in controlling both runoff and soil loss is appreciable, and should be encouraged so long as the strip width does not exceed 1.5 m. Finds that grass species for bank stabilization useful but says that it affects the overall crop yield which is nevertheless compensated by the grass harvest for livestock.

Nairobi District/Kabete/Grass strips/USLE/Soil productivity

523 OMWEGA, A.K. 1989 DGKU

CROP COVER, RAINFALL ENERGY AND SOIL EROSION IN GITHUNGURI (KIAMBU DISTRICT), KENYA.

A Thesis submitted to the University of Manchester for the Degree of Doctor of Philosophy in the Faculty of Science.
195 pp., 22 figs., 28 tables, 138 refs., 2 appendices.

Study discusses soil erosion under various annual crops at different seasons in an intensively cultivated high rainfall area of Kenya. Observes that annual crops usually grown twice a year, progressively weaken the soil's resistance to erosion and frequently expose the soil to forces of rainfall erosion. Argues that most of the soil loss and runoff is the result of a few extreme magnitude, high intensity storm, events that contribute to a large proportion of the total erosive energy.

Kiambu District/Githunguri/Vegetation cover/USLE/Rainfall intensity

524 ONGWENI, G.S. 1980

SOIL EROSION AND CONSERVATION IN KENYA

UNEP - IFIAS Workshop, Sochi.

(not available for annotation)

Land degradation/Soil and water conservation

525 ONGWENY, G.S. 1976

AN OUTLINE OF SOIL EROSION AND SEDIMENTATION PROBLEMS IN KENYA

In: Soil Resources of the Earth, their Utilization and Preservation. Proceedings of a UNEP/IFIAS Project Planning Workshop held in Samarkand, Uzbekistan, USSR, 11-21 June, 1976.

(not available for annotation)

Land degradation/Sedimentation

526 ONGWENY, G.S. 1977

PROBLEMS OF SOIL EROSION AND SEDIMENTATION IN SELECTED WATER CATCHMENT AREAS IN KENYA WITH SPECIAL REFERENCE TO TANA RIVER.

Aqua 1:85-91

(not available for annotation)

Soil and land degradation/Sedimentation/Impacts

527 ONGWENY, G.S. 1978

WATER AND SOIL CONSERVATION IN KENYA

Proceedings of the third World Conference on Water Resources. Sao Paulo, Brazil.

(not available for annotation)

Soil and water conservation

528 ONGWENY, G.S. 1978 IDS

PROBLEMS OF SOIL AND WATER CONSERVATION WITHIN THE UPPER TANA CATCHMENT

In: Soil and Water Conservation in Kenya. Report of a Workshop, University of Nairobi, 21-23 Sept. 1977.
IDS Occasional Paper No. 27, pp. 87-91.
7 refs.

Report of a study on the sediment load of the Upper Tana Catchment area and the extent of soil erosion for a period of 1974 to 1977.

USLE/Sedimentation

529 ONGWENY, G.S. 1978 MCL

EROSION AND SEDIMENT TRANSPORT IN THE UPPER TANA CATCHMENT WITH SPECIAL REFERENCE TO THE THIBA BASIN.

PhD. Thesis. University of Nairobi, Nairobi.

Thesis on erosion and sediment transport problems in the Upper Tana Catchment based on four years field and laboratory study covering three land use (forest, cultivation and grazing area). Thesis also gives data on plot experiments on hill slopes (runoff and soil loss under different conditions of slope, vegetation density and soil type). Test of the USLE for grazed and cultivated areas areincluded. It also assesses soil conservation works and proposes land management techniques.

Land degradation/Sedimentation/USLE/Management practices/Structural - methods

530 ONGWENY, G.S. 1979

RAIN AND STORM WATER HARVESTING IN AFRICA WITH REFERENCE TO KENYA.

Consultancy Paper, UNEP, Nairobi.

(not available for annotation)

Water harvesting

531 ONGWENY, G.S. 1979 DBT

THE HYDROLOGY OF SEDIMENT PRODUCTION WITHIN THE UPPER TANA BASIN, IN EASTERN KENYA.

Proceedings of the Canberra Symposium, December 1979. IAHS-AISH Publication No. 128, pp. 447-457.
6 figs., 4 tables, 6 refs.

Discusses the climate, hydrology and land use of the Upper Tana Basin. Gives sediment yield values for forested and cultivated areas for nine gauging stations. Estimates sediment yields for the lower grazing lands, develops relationship between suspended sediment yield and mean annual runoff. Paper includes simulated rainfall trials on hillslope plots 0.9 - 1.9 m by 1.8 - 5.4 m on a steep slope over 20 %.

Rainfall simulation/Land use/USLE/Sedimentation

532 ONGWENY, G.S. 1980

MONITORING OF SOIL LOSS WITHIN GRAZING AND AGRICULTURAL CATCHMENT WITHIN THE UPPER TANA CATCHMENT OF EASTERN KENYA

International Symposium on Erosion and Sediment Transport Measurement, Florence, Italy.

(not available for annotation)

USLE

533 ONGWENY, G.S. 1983 IPAL

A PRELIMINARY ACCOUNT OF EROSION, SEDIMENT TRANSPORT AND SURFACE WATER RESOURCES OF PARTS OF MARSABIT DISTRICT

IPAL Technical Report No. B-2, Nairobi, pp. 7-178.

Defines the rate of sediment production for various catchment areas within IPAL area. Geology, topography, drainage, soil ecology, land use, source of sediment, method of harnessing, conserving surface area, and past erosion study are included. Recommends soil and water conservation methods for the area.

Marsabit District/Sedimentation/Soil and water conservation

534 ONSTAD, C.A., KILEWE, A.M.,ULSAKER, L.G. 1984

AN APPROACH TO TESTING USLE FACTOR VALUES IN KENYA

In Proceedings of the Harare Symposium on Challenges in Africa Hydrology and Water Resources. IAHS Publication No. 144, pp. 439-450

(not available for annotation)

USLE

535 ORENDAIN Jnr, L.E., BARROW, E.G.C. 1989 DAE, SIDA

SOIL CONSERVATION ALONG THE LODWAR - KAKUMA ROAD PROJECT

In: Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1989, pp. 432-441. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
5 figs., 3 refs.

Paper describes and shows the benefits and costs of constructing cutoff ditches, cutoff banks, and bunds, as suitable measures for reducing soil erosion along roads.

Turkana District/Cut-off drains/Terraces/Construction/Costs

536 OSTBERG, W. 1984 DAE

SOCIO-ECONOMIC ASPECTS OF SOIL CONSERVATION IN KENYA
Summary and a Guide to the Reports

MALD, Soil and Water Conservation Division
14 pp., 15 refs.

The booklet is an adminstrative summary of a study set up in Kitui, Keiyo-Marakwet and Nyeri districts, to asses the socio-economic impacts of soil conservation, and factors responsible for farmers' participation or non-participation in the programme.

Socio-economic aspects

537 OSTBERG, W. 1987 ICRAF

RAMBLINGS ON SOIL CONSERVATION - AN ESSAY FROM KENYA

83 pp., 22 photos, 52 refs.

Book gives a fact sheet on soil conservation programmes in Kenya. Discusses in details the success story of soil conservation in Kitui District, during and after colonial period. Looks at the role of women in their informal groups in soil conservation, the impact of adminstration, and the need to train farmers in the art of conservation.

Kitui District/Socio-economic aspects

538 OSTBERG, W. 1988 ICRAF

WE EAT TREES: TREE PLANTING AND LAND REHABILITATION IN WEST POKOT DISTRICT KENYA
A BASELINE STUDY.

SUAS, IRDC, Working Paper 82.
Development Study Unit, Department of Social Anthropology, University of Stockholm.
123 pp., 3 figs., 1 table, 18 photos, 4 maps, 3 appendices.

Study addresses itself to a tree planting project and its activities in the Trans Nzoia and West Pokot districts. Gives background information on three tree plantations in West Pokot, farming and herding, the social fabric, land use and soil conservation, and the significance of trees in Pokot culture. Discusses the development experience and how to create an impact in tree planting in the area.

Trans Nzoia District/West Pokot District/Land use/Revegetation

539 OSTBERG, W. MADSEN, B. 1984 DAE

SOCIO-ECONOMIC ASPECTS OF SOIL CONSERVATION IN KENYA - THREE CASE STUDIES

Department of Social Anthropology, University of Stockholm
38 pp., 1 fig.

This is a compilation of socio-economic studies of soil conservation carried out in 1984 in Keiyo-Marakwet, Kitui and Nyeri districts. For each case the authors discuss the socio-economic activities prevalent in the areas, the soil conservation methods and programmes, as well as the ecological setting.

Socio-economic aspects

540 OTHIENO, C.O. 1974 KARI

FIRST YEAR STUDIES ON RAINFALL, RUNOFF AND SOIL EROSION IN A FIELD OF YOUNG TEA.

Tea in East Africa. 19(1):11-18
2 figs., 5 tables, 1 refs.

Deals with first year study of soil erosion and runoff in a tea plant of plot experiments, under four soil management systems. Gives soil loss and runoff values for bare soil manually hand weeded, bare soils with herbicides and hand weeded, plots with oat strips, herbicide and hand weeded, and lastly plots with mulch.

Kericho District/Management practices/Run-off plots/USLE

541 OTHIENO, C.O. 1975 KAB

SURFACE RUNOFF AND SOIL EROSION ON FIELDS OF YOUNG TEA

Trop. Agric., Trin. 52:299-308
2 figs., 4 tables, 4 refs.

Deals with an experiment carried out for three years at Kericho to assesses the effect of four management treatments on young tea on runoff plots of 10% slope. Gives data on runoff, soil loss and rainfall.

Kericho District/Management practices/Slope angle/USLE/Rainfall characteristics

542 OTHIENO, C.O. 1977 KAB

FACTORS AFFECTING SOIL EROSION WITHIN TEA FIELDS

Trop. Agric., Trin. 54:323-330
2 figs., 2 tables, 8 refs.

Describes rainfall intensity, runoff and percentage ground cover as the major factors affecting soil erosion within a 10% tea plantation at Kericho.

Kericho District/Vegetation cover/Slope angle/Rainfall intensity

543 OTHIENO, C.O. 1978 IDS

AN ASSESSMENT OF SOIL EROSION ON A FIELD OF YOUNG TEA UNDER DIFFERENT SOIL MANAGEMENT PRACTICES.

In: Soil and Water Conservation in Kenya. Report of a Workshop, University of Nairobi, Nairobi, 21-23 Sept., 1977
IDS Occasional Paper No. 27, pp. 62-73
2 figs., 3 tables, 1 plate, 6 refs.

Describes an experiment carried in Kericho District on soil loss and runoff measured from runoff plots under young tea plantation with four different management practices for a period three years (1971-1974).

Kericho District/USLE/Management practices/Run-off plots

544 OTHIENO, C.O. 1978 SSD

EFFECTS OF MULCHING ON SOILS AND GROWTH OF THE TEA PLANT

Ph.D. Thesis. University of Nairobi, Department of Soil Science.
226 pp., 25 figs., 40 tables, 6 plates, 159 refs.

Thesis on the effect of mulch on yield of tea, soil erosion and runoff. Analyses different erosivity indices and gives correlation coefficient of different indices for soil loss under the different management practices. Also calculates soil erodibility.

Kericho District/Mulching/USLE

545 OTHIENO, C.O. 1979 MAL

AN ASSESSMENT OF SOIL EROSION ON A FIELD OF TEA UNDER DIFFERENT SOIL MANAGEMENT PROCEDURES

E. Afr. Agric. For. J. 43:122-127 (special issue)
2 figs., 2 tables, 4 refs.

Report of three years measurements of soil erosion and runoff recorded on runoff plots on a tea field under four management treatments.

Kericho District/Management practices/USLE/Run-off plots

546 OTIENO, A.K. 1984 SIDA

SOIL EROSION IN UKAMBANI: A GEOGRAPHICAL AND HISTORICAL PERSPECTIVE

A Masters of Arts Thesis Presented to the Graduate Faculty of the College of Arts and Sciences of Ohio University
115 pp., 17 figs. 5 tables, 112 refs.

This study provides a chronological assesment of the evolution of the day-to-day environmental problems in Ukambani during colonial period, with a special focus on soil erosion. The study relates the consequences of human and livestock population growth to land use, and the impacts of colonial land alienation policies to the evolution of the soil crisis in Ukambani land. The study also gives a detailed discussion on soil conservation measures applied in the area and reasons for failure.

Overpopulation/Overgrazing/Land use/Soil and water conservation

547 OTIENO, A.K. ROWNTERE, K.M. 1986 SIDA

A COMPARATIVE STUDY OF LAND DEGRADATION IN MACHAKOS AND BARINGO DISTRICTS, KENYA

Presented at the Annual Conference of The Institute of the British Geographers at Reading University, UK, January 6-9, 1986.
15 pp., 2 tables, 47 refs.

The paper compares the extent of soil erosion in both Machakos and Baringo districts of kenya. On a historical perspective, the paper examines the physical environment of each area as it pertains to assesment of erosion risk, the socio-economic-political factors as they determine land use systems, upto the year 1964.

Machakos District/Baringo District/Land use/Socio-economic aspects

548 PALMER, B.C. 1979 KADOC, ASAI

SECOND QUARTERLY PROGRESS REPORT (OF THE MARGINAL SEMIARID LANDS PROJECT), JUNE 1 - AUGUST 31, 1977.
KADOC No. 10092

Submitted to the Ministries of Agriculture, Finance and Planning, Natural Resources, water Development and USAID
28 pp.

Activities of a team in the Machakos and Kitui Districts to identify constraints hampering development and recommend possible solutions. The following fields are reviewed: agronomy, farm and livestock management, soil conservation with special reference to terracing and reafforestation and water conservation, with special reference to the construction of small dams.

Machakos District/Kitui District/Management practices/Terraces/Revegetation

549 PALMER, B.C. (Ed.) 1977 KADOC

INTERIM RESOURCES INVENTORY REPORTS
KADOC No. 10090

Prepared for the Mid-Point Review, Nairobi, Kenya, 29 Nov. - 2 Dec., 1977. Vol. 1.
340 pp., 72 tables, 13 graphs, 7 maps, 13 pp. of bibliography.

Reviews of surveys on resources and current situation of the agricultural sector followed by reconditions and description of proposed or on-going projects. Study includes tillage practices hydrology, rainfall, water conservation, irrigation, forestry, livestock development, land management and population. Akamba social organization and land tenure and prevailing systems are described. Also describes the soil areas mapped by the project.

Management practices/Socio-economic aspects

550 PALMER, B.C., SHANER, W.,GICHOHI, C.,HASH, C.T., MBATHA, B.M. 1978 KADOC

MARGINAL/SEMIARID LANDS PRE-INVESTMENT INVENTORY REPORT NO. 1. ANALYSIS AND PROJECT IDENTIFICATION
KADOC No. 10734

276 pp.

Report on a pre-investment survey and resource inventory in Kenya's Marginal/Semiarid lands. Analyses the key issues such as food production, causes and remedies of soil erosion. Describes the present conditions in Machakos, Kitui and Embu, future conditions without development programme and recommends productive possibilities. Appended are a benefit cost analysis showing the viability of the project and other subjects the including cost of soil conservation measures.

Causes/Soil and water conservation/Costs

551 PEREIRA, H.C. 1952 MAL

INTERCEPTION OF RAINFALL BY CYPRESS PLANTATIONS

E. Afr. Agric. For. J. 18:73-76
3 figs., 1 table, 2 refs.

Analysis of a five and half yearrs data collected to study rainfall interception by bamboo and cypress.

Vegetation cover

552 PEREIRA, H.C. 1954 MAL

THE PHYSICAL IMPORTANCE OF FOREST COVER IN THE EAST AFRICAN HIGHLANDS

E. Afr. Agric. J. 19:233-236
22 refs.

Deals with the change in the stream flow as a result of forest clearing. Shows the occurence of severe soil erosion due to lack of cover and recommends a system of rotation in tree felling.

Deforestation/Vegetation cover

553 PEREIRA, H.C. 1956 KAB

A RAINFALL TEST FOR STRUCTURE OF TROPICAL SOILS

J. Soil Sci. 7:68-74
2 figs., 1 table, 1 plate, 13 refs.

Describes a new laboratory apparatus for simulating rain drops (size and intensity) for undisturbed soil core samples and gives examples of rainfall test and soil structure.

Rainfall simulation/Rainfall intensity/Soil structure

554 PEREIRA, H.C. 1959 KAB

LESSONS GAINED FROM GRAZING TRIALS AT MAKAVETE. KENYA.

E. Afr. Agric. J. 25(1):59-62
2 tables, 4 refs.

Summarizes the results from the 10 years study of the restoration of overgrazed thorn scrub area near Machakos. Covers ploughing, ley establishment, bush clearing, fencing, control of grazing, manuring, and carrying capacity. Gives six recommendations.

Machakos District/Reclamation/Management practices

555 PEREIRA, H.C. 1979 ICRAF

HYDROLOGICAL AND SOIL CONSERVATION ASPECTS OF AGROFORESTRY

In: Soils Research in Agroforestry. Mongi, H.O. and Huxley, P.A. (Eds)
ICRAF. Nairobi, Kenya. pp. 315-326.
10 refs.

Presents results of the hydrological effects of two types of plantations, studied for 20 years. Covers tea plantation, stream flow, water use, agroforestry, soil conservation measures, cropping practice and livestock management. Shows tea as a good erosion control agent and recommends good cropping practice and livestock management in order for soil conservation earth works to succeed.

Agroforestry/Vegetation cover/Management practices/Structural methods

556 PEREIRA, H.C., BECKLEY, V.R.S. 1952 MAL

GRASS ESTABLISHMENT ON AN ERODED SOIL IN A SEMI-ARID AFRICAN RESERVE

Emp. J. Exp. Agric. 21:1-14
3 figs., 9tables, 2 plates, 6 refs.

Report of an experiment carried to test methods of grass establishment on eroded semi-arid soil of Machakos area. Methods tested were: sowing, planting, ploughing, manuring and ridging. It also includes grass establishment and grazing capacity. Test includes four grass species.

Machakos District/Reseeding/Tillage/Ridging

557 PEREIRA, H.C., DAGG, M.,HOSEGOOD, P.H. 1962 MAL

THE WATER BALANCE OF BOTH TREATED AND CONTROL VALLEYS

E. Afr. Agric. For. J. 27:36-41 (special issue)
2 figs, 4 tables.

Reports the dependence of runoff on rainfall intensity, evapotranspiration from forest and cleared areas. Includes the Sambret Catchment study where forest land was cleared and replaced with tea plantation. Result compares stormflow and runoff from forested and young tea fields.

Rainfall intensity/Vegetation cover

558 PEREIRA, H.C., HOSEGOOD, P.H.,DAGG, M. 1967 MAL, NAL

EFFECT OF TIED RIDGES, TERRACES AND GRASS LEYS ON A LATERITIC SOIL IN KENYA

Expl. Agric. 3:89-98
2 figs., 5 tables, 17 refs.

Report of a six years study of contour ploughing and tied ridging on 10-12% slope Kikuyu red loam latosol under rainfall intensities exceeding 2 in/hr and rotation with grass ley. Gives measurements of runoff, soil structure and yield for the different systems and rotations.

Contouring/Ridging/Slope angle/Rainfall intensity/USLE

559 PEREIRA, H.C., HOSEGOOD, P.H.,THOMAS, D.B. 1961 MAL

THE PRODUCTIVITY OF TROPICAL SEMI-ARID THORN SCRUB COUNTRY UNDER INTENSIVE MANAGEMENT

Emp. J. Expt. Agric. 29:269-286
1 fig., 9 tables, 2 plates, 10 refs.

Report of the methods of improving severely eroded grazing land in a semi-arid scrub infested area of Ukamba Land. Includes ploughing, ridging, manure dressing, seeding, planting of grasses and test of four new grasses.

Vegetation cover/Soil moisture/Soil productivity/Reclamation

560 PEREIRA, H.C., WANGATI, F.J. 1980

EFFECTS OF LAND USE CHANGE ON WATER RESOURCES

Kenya National Seminar on Agroforestry Proc., 12-22 Nov., 1980. (special pamphlet)

(not available for annotation)

Land use

561 PEREIRA, H.C., WOOD, F.A.,BROZOASTOWSKI, H.W., HOSEGOOD, P.E. 1958 MAL

WATER CONSERVATION FALLOWING IN SEMI-ARID TROPICAL EAST AFRICA

Emp. J. Exp. Agric. 26:213-227
3 figs., 7 tables, 1 plate, 13 refs.

Deals with four years experiment with fallowing grass cover and voluntary regeneration of vegetation under ground nuts rotation to conserve soil moisture and subsequent increase in yield.

Vegetation cover/Soil moisture/Soil productivity/Reclamation

562 POLE-EVANS, I.B. 1939 MAL

REPORT OF A VISIT TO KENYA

Government Printer, Nairobi.
36 pp., fold map.

A report on vegetation, soil erosion problem, and grazing in the Ukamba, Kikuyu, Kamasia and West Suk and Central and Northern Kavirondo Reserves of Kenya. It also gives some recommendations to tackle soil erosion problems such as and reconditioning, stock removal and rest.

Land degradation/Vegetation cover/Impacts/Closure

563 POULSEN, K.K. 1974

LAND PREPARATION

In: Growing Wheat in Kenya.
Hodder and Stoughton, London.

(not available for annotation)

Management practices

564 PRATT, D.J. 1957

LAND CONDITION AND POTENTIAL WITHIN THE PERKERRA CATCHMENT AREA

Department of Agriculture, Nairobi. (cyclostyled report)

(not available for annotation)

Baringo District

565 PRATT, D.J. 1963 MAL

RESEEDING DENUDED LAND IN BARINGO DISTRICT, KENYA

E. Afr. Agric. for. J. 29:78-91
3 figs., 10 tables, 2 plates, 6 refs.

Deals with techniques of reseeding denuded lands with perennial grasses at three experimental stations in Baringo District (Ngambo, Radat, Sabur). Test includes fourteen different grass species.

Baringo District/Reseeding

566 PRATT, D.J. 1964 MAL

RESEEDING DENUDED LAND IN BARINGO DISTRICT, KENYA. TECHNIQUES FOR DRY ALLUVIAL SITES

E. Afr. Agric. For. J. 29:243-259
1 fig., 17 tables, 2 plates, 6 refs.

Describes the methods of reseeding denuded alluvial sites at Marigat Baringo District. Method includes the use of ploughing, fallowing, strip cultivation, seed bed and protection. Seven different grass types were tested.

Baringo District/Marigat/Reseeding

567 PRATT, D.J. 1977

RANGELAND MANAGEMENT AND ECOLOGY IN EAST AFRICA

Hodder and Stoughton, London.

(not available for annotation)

568 PRATT, M.A.C. 1962 MAL

RELATIONSHIP OF RUNOFF TO RAINFALL

E. afr. Agric. For. J. 27:73-75 (special issue)
3 pp., 1 table

Experimental report dealing with the relation and prediction of storm flow from rainfall distribution and intensity. It also presents tests on the effects of change in land use and antecedent soil moisture conditions on the effect of storm flow.

Prediction/Rainfall distribution/Rainfall intensity/Land use/Soil moisture

569 QURESHI, J.N. 1988 KARI, ACIAR

NATIONAL SOIL FERTILITY AND PLANT NUTRITION RESEARCH PROGRAMME

Republic of Kenya, Ministry of Agriculture
51 pp., 3 tables, 37 refs.

Study relates the overall soil fertility management to soil chemical and physical properties, climatic data and moisture availability, and different land use to develop suitable technology for crop production through technically and economically appropriate input of mineral and organic fertilizers. Focuses on the chemistry of the soils, nutrients, foods and feeds, and the development of analytical techniques.

Physical properties/Chemical properties

570 RAINTREE, J.B. 1983 ICRAF

PRELIMINARY DIAGNOSIS OF LAND USE PROBLEMS AND AGROFORESTRY POTENTIALS IN NORTHERN MBERE DIVISION, EMBU DISTRICT, KENYA

ICRAF Working Paper No. 1.
16 pp., 2 figs., 2 tables, 15 refs.

Discusses the use of alley cropping where trees are closely planted along the contour in form of bunds to control soil erosion, and provide green manure mulch during the rainy season, and to be used for fuelwood, forage and other products.

Embu District/Mbere/Agroforestry/Alley-cropping/Mulching

571 RANK, A.H. 1977 SD

MAGARINI LAND SETTLEMENT PROJECT SOIL CONSERVATION AND MANAGEMENT. ANNEX 9

C.P. McGowan and Associates Pty. Ltd.

The report deals with the present factors influencing erosion hazard and soil conservation practices and methods. Topics covered include: cover crops, stubble mulching, rotations, minimum tillage, strip cropping, ridging, subsoiling, diversion channels, terraces, waterways stock unit. Gives some recommendations.

Management practices/Structural methods

572 REID, L.M. 1982 MAL

SOIL EROSION IN MACHAKOS DISTRICT. SURVEY OF AGRICULTURE AND LAND USE VOL. 3.

Government of Kenya, Ministry of Economic Planning and Development. Machakos Integrated Development Programme.
106 pp., 16 figs., 13 tables, 8 maps, 59 refs.

A comprehensive report on the area, geology, soils, topography, climate, hydrology, natural vegetation, land use, the erosion problems :sediment sources (gully, rill, sheet wash, stream bank erosion) their description and their distribution to land use parameters (cultivated, grazing, road surface). It also gives suggested measurements for sheet wash, rill, gully erosion on cultivated, grazed and road surfaces.

Machakos District/Measurements/Water degradation/Soil and land degradation

573 REID, L.M. 1983 IDS

A RECONNAISSANCE SURVEY OF EROSION PROCESSES IN MACHAKOS DISTRICT

In: Soil and Water Conservation in Kenya. Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982.
Thomas, D.B. and Senga, W.M. (Eds) IDS Occasional Paper No. 42, pp. 105-122

Deals with the extent, cause, spatial distribution and land use of gully and sheet erosion as determined and evaluated from systematic reconnaissance flight survey of Machakos District.

Machakos District/Survey/Land use/Gully erosion/Sheet erosion

574 REIJ, C. TURNER, S.,KUHLMAN. T. 1986 DAE

SOIL AND WATER CONSERVATION IN SUB-SAHARAN AFRICA: ISSUES AND OPTIONS

International Fund for Agricultural Development
3 tables, 1 map

The study discusses the extent, causes, effects and the socio-economic processes influencing soil erosion in the region. The study describes what accounts for the failure of soil and water conservation programmes. The study proposes a national soil and water conservation strategy and discusses the importance of external aid.

Causes/Impacts/Failures/Policies

575 REPUBLIC OF KENYA 1974

WATER CONSERVATION PROGRAMME - OVERALL PLAN FOR IMPLEMENTATION

Government Printer, Nairobi.

(not available for annotation)

Soil and water conservation/GoK

576 REPUBLIC OF KENYA 1975 TARDA

WATER CONSERVATION AND DEVELOPMENT IN TAITA HILLS

Ministry of Water Development, Nairobi.
49 pp., 3 figs., 2 tables, 19 refs., appendix A.

Paper describes the physical attributes of the area - geology, physiography, hydrology and water potential. Also discusses and describes appropriate soil and water conservation measures and proposes a continuing programme of activity with estimates of manpower and cost. Details on instructions for assembling and erecting of gabions are given in the appendix.

Taita-Taveta District/Soil and water conservation/Socio-economic aspects /Construction/

577 REPUBLIC OF KENYA 1988 SWCB

RESOLUTIONS FROM A KANU AND COUNTY COUNCIL LEADERS SEMINAR ON SOIL AND WATER CONSERVATION HELD FROM 20TH-30TH MARCH, 1988, ELDORET.

MOA, Soil and Water Conservation Branch, Rift Valley Province
46 pp.

Report contains resolutions and recommendations passed in a seminar attended by commissioners of the Permanent Presidential Commission on Soil Conservation and Afforestation, as well as KANU and county council officials from seven districts of Rift Valley Province.

Soil and water conservation/Revegetation/GoK

578 RICE, J.H. 1947 KAB, MAL

SOIL CONSERVATION ORGANIZATION IN FORT HALL DISTRICT AS ADAPTED FROM "NGWATIO" SYSTEM

E. afr. Agric. J. 12:200-201

Deals with the use of African traditional communal work and the involvement of the local leaders (chiefs and parishoners) in the planning ofsoil conservation work.

Organization

579 ROCHELEAU, D., WEBER, F.,FIELD-JUMA, A. 1988 ICRAF,DBT,S

AGROFORESTRY IN DRYLAND AFRICA

ICRAF, Nairobi.
311 pp., 142 refs., 7 appendices, ill.

The book is divided into three parts. The second part deals with agroforestry practices as it relates to soil and water conservation and fuel wood supply. Analyses tree species in use, management of agroforestry systems, the design of conservation structures, and the benefits of agroforestry.

Agroforestry/Economic considerations/Forest management/Structural methods /Design

580 ROWNTREE, K.M. 1983 IDS

RAINFALL EROSIVITY IN KENYA - SOME PRELIMINARY CONCLUSIONS.

In: Soil and Water Conservation in Kenya. Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982.
Thomas, D.B. and Senga, W.M. (Eds). IDS Occasional Paper No. 42, pp.1-19.
4 figs., 3 tables, 12 refs.

Gives seasonal variation of erosivity for Katumani research station for the period 1974-1981 as calculated by the P2/P and EI30 indices in relation to vegetation cover and soil moisture deficit and an erosion risk map is given as determined by the P2/P value.

Machakos District/Katumani/Vegetation cover/Soil moisture/USLE

581 RUTAGWENDA, T. 1989

ADAPTATION OF INDIGENOUS SHEEP AND GOATS TO SEASONAL CHANGES OF FORAGE ON A SEMI-ARID THORNBUSH IN NORTHERN KENYA

PhD. Dissertation, University of Hannover, 1989.

(not available for annotation)

582 SANDS, E.B., THOMAS, D.B.,KNIGHT, J.,PRATT, D.J. 1970 MAL

PRELIMINARY SELECTION OF PASTURE PLANTS FOR SEMI-ARID AREAS OF KENYA

E. Afr. Agric. For. J. 36:49-57
4 tables, 1 ref.

Deals with 5 years experimental study to select useful pasture grasses and legumes that can be adapted to the semi-arid areas of Machakos and Baringo. Test involved 19 grass and legume types.

Machakos District/Baringo District/Crop vegetation cover

583 SCHERER, L. 1982

RUNOFF HARVESTING FOR KYUSO AND EASTERN DIVISION.

Internal Memo.
MALD, Kitui District.

(not available for annotation)

Kitui District/Water harvesting

584 SCHERER, L. 1989 DAE, SIDA

KITUI ASAL PROJECT: SOIL CONSERVATION PROBLEMS AND SOLUTIONS

In: Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 486-495. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
3 tables, 1 ref. appendix.

Paper addresses itself to the social and technical problems hindering soil conservation programmes in the Kitui ASAL Project. For each category of problems the paper provides some solutions. Gives tables showing the number of accomplished tasks in the project.

Kitui District/Evaluation

585 SESE, L.O. 1978 DAE

LAND EVALUATION AND SOIL CONSERVATION IN PART OF NAKURU DISTRICT

Postgraduate Diploma Project Report, University of Nairobi, Department of Agricultural Engineering, Nairobi.
33 pp., 2 figs., 8 tables, 7 refs.

Report on a survey of twenty large scale farms and ten small farms in part of Nakuru District on land utilization and soil conservation. It points out the negligence of the previous soil conservation measures (terraces, cutoffs and waterways) in the subdivision of land due to population pressure.

Nakuru District/Land use/Structural methods/Evaluation/Overpopulation

586 SHAXSON, T.F. 1981 ASAL

SOIL AND WATER CONSERVATION IN EMBU AND MERU DISTRICTS, KENYA: SUMMARY

Overseas Development Adminstration, Land Resources Development Centre, tolworth Tower, Surbiton, Surrey, England. Project Report 109. 10 pp., 1 fig.

Presents causes and effects of soil erosion in the areas below 4500 ft. of Embu and Meru - medium and low potential areas. Recommends high infiltration by maintaining the soil surface in a porous condition, runoff detention, maximum ground cover through good land use system and qualified extension personnel, and making conservation an integral part of farming system. Lists a suggested programme of assistance to Government of Kenya.

Embu District/Meru District/Causes/Impacts/Infiltration

587 SIMIYU, S.C. 1989 DAE

SOIL AND WATER CONSERVATION RESEARCH - KATUMANI EXPERIENCE

Paper presented at the Water Conservation Seminar, Nanyuki, 7-11 August, 1989.
6 pp., 9 refs.

Gives the historical background and the current development of soil and water management in the arid and semi-arid regions of Kenya. Reviews the research on soil and water conservation at Katumani and the current research activities in the institute. Current programmes include mulching and ridging studies, reclamation of eroded lands, and utilization of runoff water from surrounding lands for crop production in semi-arid regions.

Machakos District/Katumani/Mulching/Ridging/Reclamation

588 SINDIGA, A. 1989 DAE, SIDA

POPULATION PRESSURE AND RESOURCE DEGRADATION IN MAASAILAND

In: Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 309-314. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
1 fig., 1 table, 10 refs.

This paper examines the vegetation and intensity of population pressure by land potential in Kenya using Kajiado and Narok Districts as the example. Describes the field research, and tabulates and interprets the results.

Kajiado District/Narok District/Vegetation cover/Overpopulation

589 SKETCHLEY, H.R., SCILLEY, F.M.MBUVI, J.P.,WOKABI, S.M.
1978 USAID

RECONNAISSANCE SOIL SURVEY OF MACHAKOS-KITUI-EMBU AREA, KENYA

USDA, Soil Conservation Service and Republic of Kenya, Ministry of Agriculture, Project Management and Evaluation Division in cooperation with USAID.
322 pp., 12 figs., 55 refs., fold map, appendix

Covers the different types of soils, geology, geomorphology, climate present land use, soil fertility, tillage and soil conservation of the Machakos-Kitui-Embu Area.

Land use/Soil and water conservation/Soil types/Chemical properties/-Tillage

590 SKETCHLEY, H.R., SCILLEY, F.M.,MBUVI, J.R.,
WOKABI, S.M. 1978 USAID

RECONNAISSANCE SOIL SURVEY, LAKE BARINGO-KERIO VALLEY AREA.

USDA, Soil Conservation Service and Republic of Kenya, Ministry of Agriculture, Project Management and Evaluation Division in cooperation with USAID.
111 pp., 10 figs., 22 refs., fold map, appendix.

Describes the climate, geology, geomorphology, hydrology and soils of the area. Assesses sheet, rill and gully erosion. Gives overgrazing and shifting cultivation as the causes of erosion and evaluates soil conservation practices of the area.

Baringo District/Soil types/Water degradation/Overgrazing/Land use

591 SMITH, P.D. 1983 DBT

SOIL CONSERVATION IN THE TUGEN FOOTHILLS OF BARINGO

Paper presented at the Technical Meeting on Soil and Water Conservation Projects, Ministry of Agriculture, Nairobi, Jan. 14, 1983.
10 pp., 2 figs., 5 refs.

Discusses soil conservation practices currently under use in the Tugen Foothills. Describes research needs specially concerning erosion and runoff from stoney hill sides. Points out the long term solutions to range management problems and suggests solutions to the possible alternate strategies.

Baringo District/Soil and water conservation

592 SMITH, P.D., CRITCHLEY, W.R.S 1983 IDS

THE POTENTIAL OF RUNOFF HARVESTING FOR CROP PRODUCTION AND RANGE REHABILITATION IN SEMI-ARID BARINGO

In: Soil and Water Conservation in Kenya. Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982.
Thomas, D.B. and Senga, W.M. (Eds). IDS Occasional Paper No. 42, pp.305-323.
19pp., 4 figs., 1 table, 11 refs.

Describes test results of contour ridging, semi circular ridges, impounding of road runoff and zero cultivation methods of runoff harvesting for crop production and range rehabilitation carried out by the Baringo Pilot Semi-arid Area Project.

Baringo District/Water harvesting/Contouring/Tillage/Reclamation

593 SNOWY MOUNTAIN ENGINEERING CORPORATION 1977 SD

MAGARINI LAND SETTLEMENT PROJECT SURFACE WATER INVESTIGATIONS. ANNEX 2.

C.P. McGowan and Associates Pty. Ltd., pp. 17-21,29.
2 tables.

Report on the method of estimating runoff using the CN (USSCS) method for the study area. Gives table on estimates of monthly runoff volumes, trap plan for the Sabaki River Sediment load. Recommends contour ploughing and terracing to reduce sediment transport from plots.

USLE/Sedimentation/Contouring/Terraces

594 SOMBROEK, W.G., MBUVI, J.P.,OKWANO, H.W. 1975 KSS

SOILS OF THE SEMI SAVANNAH ON THE NORTH-EASTERN KENYA

Kenya Soil Survey Miscellaneous Paper No. 2.
16 pp., 2 figs., 2 plates, 12 refs.

Deals with topography, soil genesis and drainage. Discusses geomorphology and the erosional history of the plains. Lays emphasis on the problem of overgrazing.

Physiographical parameters/Soil development/Overgrazing

595 SPECK, H. 1983 ACIAR

MOUNT KENYA AREA, ECOLOGICAL AND AGRICULTURAL SIGNIFICANCE OF SOILS - WITH 2 SOIL MAPS.

University of Berne, Switzerland

(not available for annotation)

Soil types

596 STEWART, I., HASH, C.T. 1982 USAID

IMPACT OF WEATHER ANALYSIS ON AGRICULTURAL PRODUCTION AND PLANNING DECISIONS FOR THE SEMI-ARID AREAS OF KENYA

Reprinted from Journal of Applied Meteorology Vol. 21. No. 4, April 1982. pp. 477-494
6 figs., 14 tables, 43 refs.

Presents a case study in which 'effective rainfall' for Katumani Composite B-type maize, grown at Katumani, Machakos District, is evaluated for each of the 48 wet seasons in the 24-year record. The newly developed analysis takes into account rainfall, evaporation, soil depth and water holding capacity, and growth characteristics of the crop influencing water uptake and yield.

Machakos District/Katumani/Soil productivity/Physical properties/Rainfall characteristics

597 STILES, D.N. 1983 IBRD

CAMEL PASTORALISM AND DESERTIFICATION IN NORTHERN KENYA

Desertification Control. UNEP No. 8:2-8
7 pp., 1 table, 3 plates, 24 refs.

Paper gives background of the area, lack of awareness of the people on desertification in relation to overgrazing and deforestation, cover and stocking. Compares the increase of camel population and reduction cattle; the camel being efficient in use and food production, utilizes trees, shrubs and grasses, spreads when grazing and has less trampling effect. Points out the need to offer atractive alternative investment in order to destock animal population.

Land degradation/Overgrazing/Deforestation

598 STOCKING, M. 1987 SIDA, KARI

NATIONAL SOIL AND WATER MANAGEMENT RESEARCH PROGRAMME

Proposal for Support by Swedish International Development Authority. 81 pp., 19 refs.

Report sets out a proposal framework for a national soil and water management research programme for KARI and recommends a number of projects which are scientifically viable for the Kenyan context. Gives a comprehensive view of: national policy and objectives for soil and water management research; what the KARI scientists would like to do; internationally recognized valid areas for scientific inquiry in soil and water management; the views of the donors, principally SIDA, on what are fundable projects.

Policies

599 STYCZEN, M. 1983 DBT

RESEARCH ACTIVITIES CARRIED OUT BY THE SOIL AND WATER CONSERVATION SECTION, N.D.F.R.S., KATUMANI.

Paper presented at the Technical Meeting on Soil and Water Conservation Projects. Ministry of Agriculture, Nairobi, 14 Jan., 1983. 14 pp., 2 figs., 4 tables, 2 refs.

Discusses primary results of research carried out at Katumani in cooperation with the Machakos Integrated Development Project. Research includes monitoring of erosion on rangeland and testing cheap and simple systems (Gerlach trough types and erosion pins) for measuring erosion on rangelands. Test of the effect of different physical soil conservation methods like terraces, buffer strips, and contour tillage, are included.

Machakos District/Katumani/USLE/Terraces/Contouring

600 SUMMAN, W.O. 1939 MAL

LAYING OUT CONTOURS IN ESTABLISHED COFFEE

E. Afr. Agric. For. J. 5:224

A short article describing an easy way of carrying out levelling operations in coffee fields and laying out terraces.

Terraces/Layout/Contouring

601 SUNEJA, Y., KIRIGWI, J.W. 1989 DAE, SIDA

THE WEEP IRRIGATION TRIALS

In: Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 390-395. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
Appendix

Paper presents the findings of irrigation trials using microscopic fibre tubing made of polyethylene. The experiments investigated such aspects as installing and handling, the width and depth of wetted area, effect of sunlight, water consumption, insect attacks on tubing, and the economic life of the tube. Gives problems associated with the tube.

Water resources

602 SUTHERLAND, R.A., BRYAN, R.B. 1989 DAE, SIDA

SEDIMENT BUDGET STUDIES IN THE KATIORIN CATCHMENT, BARINGO: A PRELIMINARY ASSESSMENT

In: Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept. 1986. pp. 88-98. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
4 figs., 16 refs.

Paper outlines the overall research design and objectives of a geomorphic soil erosion project in Baringo District. Objectives of the study are to: provide detailed information on the processes and controls on runoff and erosion; quantify the relationship between erosion, deposition and sediment storage; develop simple geomorphic indices of sediment storage to be used to identify key areas for erosion control.

Baringo District/Causes/Impacts/Sedimentation

603 SWARZENSKI, W.V., MUNDORFF, M.J. 1977 TARDA

GEOHYDROLOGY OF NORTH EASTERN PROVINCE, KENYA.

Water Department, Ministry of Agriculture, and USAID.
68 pp., 3 figs., 13 tables, 5 plates, 27 refs.

Study describes a survey to evaluate the water resources of the North Eastern Province and for the development of plans for the optimum utilization of rangelands and available water resources in selected areas of the province. Discusses the economy of the area, groundwater situation, and the impact of livestock farming during the dry weather.

Evaluation/Water resources

604 SWEDISH UNIVERSITY OF AGRICULTURAL SCIENCES 1985 SIDA

REPORT OF A STUDY TOUR ON SOIL CONSERVATION IN EAST AFRICA.

13 appendices.

A study tour report that covered Kenya and Ethiopia. In Kenya the students went to Murang'a, Nyeri and Kitui. Appendices include the soil conservation profiles of Nyeri and Kitui districts, as well as socio-economic and technical evaluation of soil conservation in the two districts.

Nyeri District/Kitui District/Education/Evaluation

605 SWEDISH UNIVERSITY OF AGRICULTURAL SCIENCES 1988 DAE, SIDA

LIVESTOCK INTEGRATION IN SOIL CONSERVATION PROGRAMMES - A STUDY WITH PARTICULAR REFERENCE TO THE HIGH AND MEDIUM POTENTIAL AREAS OF KENYA

SUAS, IRDC Working Paper No. 66
64 pp., 1 fig., 11 tables, 12 photos, 26 refs., 6 appendices.

Study examines the integration and economics of livestock production in the farming system, livestock development, soil and water conservation in relation to livestock production, and peoples' participation in conservation work in high potential areas. Examines the same issues for the medium potential areas but also adds agroforestry as a new link in production chain.

Murang'a District/Farming systems research/Agroforestry

606 TALBOT, L. 1960 MAL

LAND USE SURVEY OF NAROK DISTRICT

Narok District Commissioner's Office, Narok.
68 pp., 4 maps.

Deals with the ecology of the district, land condition, soil erosion problems and overgrazing.

Narok District/Land use/Impacts/Overgrazing

607 TANA AND ATHI RIVERS DEVELOPMENT AUTHORITY 1983 TARDA

KIAMBERE HYDRO-ELECTRIC POWER PROJECT: PRECONSTRUCTION ENVIRONMENTAL IMPACT STUDY

Final Report. Volume III. Maps.
African Development and Economic Consultants Ltd, and Mutiso Menezes International.
Maps 1:50,000; 1:100,000; 1:250,000.

Contains 10 maps on Tana River Basin, location of the study area, immediate catchment area, project physical features, reservoir levels, study area and project area boundaries, soils, vegetation, land use, sub-location boundaries, administrative boundaries and economic centres, archaelogical sites, landscape features and recreational sites.

Environmental impact assessm.

608 TANA AND ATHI RIVERS DEVELOPMENT AUTHORITY 1983 TARDA

KIAMBERE HYDRO-ELECTRIC POWER PROJECT: PRECONSTRUCTION ENVIROMENTAL IMPACT STUDY

Final Report. Volume 1. Main Report.
African Development and Economic Consultants Ltd. and Mutiso Menezes International, Nairobi.
4 figs., 10 annexes, 13 maps.

Chapter 3 of the text has sketchy notes on reservoir characteristics and physical characteristics of Kiambere Dam. Chapter 4 looks at the present environment of the area with special focus on climate, soils, vegetation,, wildlife, aquatic biology. population, land use, economic activities, community health, archeology and traditional sites. Chapter 5 covers hydrology, whereas chapter 6 contains notes on environmental monitoring, and some recommendations.

Dams/Environmental impact assessm.

609 TANA AND ATHI RIVERS DEVELOPMENT AUTHORITY 1984 TARDA

KIAMBERE HYDRO-ELECTRIC POWER PROJECT: PRECONSTRUCTION ENVIRONMENTAL IMPACT STUDY

Final Report. Volume 2. Technical Annexes.
African Development and Economic Consultants Ltd. and Mutiso Menezes International, Nairobi.
10 annexes.

Annex 4 describes soils and concludes that the major reclamation practice would be to provide a vegetation cover to protect the soil from further erosion. Recommends afforestation to prevent further erosion on the hillslopes. Annex 7 deals with sociology and land issues common among the population of the area.

Environmental impact assessm./Dams/Revegetation/Socio-economic aspects

610 TANA AND ATHI RIVERS DEVELOPMENT AUTHORITY 1985 MAL

SOIL AND WATER CONSERVATION PROGRAMME - MASINGA DAM CATCHMENT AREA. EXECUTIVE SUMMARY

49 pp., 11 figs., 8 tables.

Discusses means of controlling soil erosion and conserving water resources within the catchment, and reducing siltation in Masinga Reservoir. Describes the physical environment, regional socio-economic environment, and the regional soil erosion problem. Proposes a soil and water conservation programme for the area.

Sedimentation/Dams/Socio-economic aspects/Soil and water conservation

611 TANA RIVER DEVELOPMENT AUTHORITY 1979 KADOC

FORWARD PLANNING PROGRAMME (1979-1984) OF THE TANA RIVER DEVELOPMENT AUTHORITY
KADOC NO. 40111

45 pp., fold map, scale 1:3,000,000, 8 refs.

A foward planning programme from 1979 to 1984 for the Tana River Development. The current situation is outlined, showing progress of work in Upper Tana Reservoir, large and small hydroelectric power prospects and irrigation projects. Also gives information on collection of hydrological records, catchment management and Athi River Basin Development. The development potentials are studied and selected, then project implementation schedules are given.

Policies

612 TANA RIVER DEVELOPMENT AUTHORITY 1984 TRDA

SOIL AND WATER CONSERVATION PROGRAMME MASINGA CATCHMENT AREA. DRAFT (ANNEXES)

Atkins Land and Water Management
526 pp., 42 figs., 90 tables, 11 plates, 132 refs.

This consultancy report contains six annexes covering hydrology and sedimentation, soils and soil erosion, land use and runoff characteristics. Conservation practices, sediment input into the reservoir, estimates of bed load transport, potential impact of soil and water conservation measures on the life of Masinga reservoir, rainfall erosivity, erodibility, present erosion status, hazard, susceptibility, tolerance, priority area, conservation needs and measures are discussed in details.

Evaluation

613 TAYLOR, C.M., LAWES, E.F. 1971 KAB

RAINFALL INTENSITY - DURATION - FREQUENCY DATA FOR EAST AFRICA

E. Afr. Met. Dept. Tech. Memo. No. 17, Nairobi
30 pp., 17 figs., 8 tables.

Gives tables and graphs of rainfall intensity and frequency of occurrence for the 15, 30, 60 min. and 3, 6, and 24 hours storms for 16 stations (7 in Kenya) in East Africa.

Rainfall intensity/Rainfall duration/Rainfall frequency

614 TEEL, W., HIRST, T. 1984 NES, KENGO

A POCKET DIRECTORY OF TREES AND SEEDS IN KENYA

KENGO
151 pp., illustrated.

Directory gives 90 tree species - indigenous, exotic and fruit, - listed alphabetically by their botanical names. Gives the suitable climatic conditions for the growth of every tree. Seeds and seedling suppliers, are listed by province at the end of chapter four.

Nurseries/Revegetation

615 TEFERA, F. 1981 PER

AN EVALUATION OF THE APPLICABILITY OF THE CONSISTENCY C5_10 INDEX AND THE WATER DROP METHODS FOR PREDICTING CRUSTING, RUNOFF AND SOIL LOSSES FOR SOME KENYAN SOILS.

Postgraduate Diploma Project Report, University of Nairobi, Department of Agricultural Engineering, Nairobi.
43 pp., 16 figs., 5 tables, 27 refs.

Project report where the Consistency C5_10 index and the water drop method of aggregate stability were tested on 15 different Kenyan soils to assess their value in predicting crusting, runoff and soil loss.

Soil types/Aggregates/Sealing and crusting/Consistency/Prediction.

616 TEFERA, F. 1983 DAE

THE EFFECT OF NARROW GRASS STRIPS IN CONTROLLING SOIL EROSION AND RUNOFF ON SLOPING LAND

MSc. Thesis, University of Nairobi, Department of Agricultural Engineering, Nairobi.
140 pp., 13 figs., 11 tables, 14 plates, ref. appx.

A research study of the effect of different grass strips in reducing soil loss and runoff on a 10% ground slope Kabete Nitisol. Also gives results on soil erodibility, runoff coefficient, depth of deposition, and erosivity indices. Thesis also includes simulated rainfall trials and field observations in Nandi and Narok Districts.

Nairobi District/Kabete/Grass strips/Slope angle/Run-off plots

617 TEMPANY, H. 1949 MAL

THE PRACTICE OF SOIL CONSERVATION IN THE BRITISH COLONIAL EMPIRE.

Commonw. Bur. Soil Sci., Tech. Commun. No. 45, Harpenden, England.
106 pp., 7 figs., 22 plates, 31 refs.

The publication deals with methods of soil conservation i.e., terracing, ridging, trenching contour bunds, silt pits, storm drains, gully control, cultural practices like contour ploughing, contour ridge planting, tied box ridges, mulching, strip cropping, rotations grass strips, hedges, live wash stopes, protective covers, wind breaks, control on grazing land, destocking, bush burning, erosion around homes, machinery and tools, and legislation. Legislation in Kenya is separately dealt.

Management practices/Structural methods/GoK

618 THOMAS, D.B. 1961 DBT

REPORT ON AN EXPERIMENT TO COMPARE THE EDGE EFFECT OF DIFFERENT PLANTS FOR FACING BENCH TERRACES

Katumani, Rep/2/111/9
(unpublished)
6 pp., 2 tables, 3 plates.

Report of an experimental trial of three seasons (1959-1960) on the edge effect of seven grass types and stone bank on the yield of adjacent crops. Grasses showed a marked edge effect upto six feet. Recommends stone wall and Makarikari grass.

Machakos District/Katumani/Crop vegetation cover/Terraces/Stabilisatic

619 THOMAS, D.B. 1974 KAB

AIR PHOTO ANALYSIS OF TRENDS IN SOIL EROSION AND LAND USE IN PART OF MACHAKOS DISTRICT, KENYA

MSc. Thesis University of Reading.
91 pp., 19 figs., 11 tables, 24 plates, 93 refs.

Thesis analyses 1948 and 1972 aerial photo to determine changes in land use and soil erosion trends. It discusses the growth of gully and sheet erosion between 1948 and 1972, points out increase in length of terracing, inadequate bank cover of bench terraces, and gully formation due to failure in diversion ditches.

Machakos District/Aerial photo analysis/Land use/Gully erosion/Sheet-erosion

620 THOMAS, D.B. 1975 KAB

LAND USE AND SOIL EROSION IN PART OF KALAMA LOCATION, MACHAKOS DISTRICT

Kijani 1(1):16-17

Deals with gully erosion developed from cattle tracks and discusses the problems of land use, associated with soil erosion from a study of the 1948 and 1972 aerial photo. Also includes the problems of individual approach and uncontrolled terracing.

Machakos District/Kalama/Gully erosion/Land use/Terraces

621 THOMAS, D.B. 1978 IDS

SOME OBSERVATION ON SOIL CONSERVATION IN MACHAKOS DISTRICT, KENYA, WITH SPECIAL REFERENCE TO TERRACING

In Soil and Water Conservation in Kenya. Report of a Workshop, University of Nairobi, 21-23 Sept., 1977.
IDS Occasional Paper No. 27, pp. 25-39.
2 figs., 4 tables, 16 refs.

Discusses the results of a survey of soil conservation practices on 121 farms in Machakos District. Covers the "fanya juu" terraces, cutoff ditches, vegetative cover on terrace banks and grazing lands.

Machakos District/Cut-off drains/Terraces/Stabilisation

622 THOMAS, D.B. 1978 DBT

SOME THOUGHTS ON SOIL EROSION BASED ON MACHAKOS DISTRICT, KENYA

Address given to NCCK Conference, Limuru.
16 pp.

Describes erosion, relates erosion to rainfall, the significance of erosion - depletion of soil potential both indepth and fertility, and the sedimentation problem. Address covers the recognition of change, impact of settlements, denuded grazing-lands, acceptable soil loss limits according to soil, and the misconceptions of neglect of rainfall impact and ground cover and on decreasing rainfall.

Machakos District/Land degradation/Impacts/Rainfall characteristics/-Vegetation cover

623 THOMAS, D.B. 1980 KAB

AGROFORESTRY IN RELATION TO SOIL AND WATER CONSERVATION: THE UTILIZATION OF STEEP SLOPES

In Proceedings of the Kenya National Seminar on Agroforestry, 12-22 Nov. 1980, pp. 235-250, Nairobi.
1 fig., 2 tables, 19 refs.

Paper reviews some of the problems of erosion related to land use on steep slopes and examines the possibilities for control by cultural and physical measures.

Agroforestry/Land use/Physiographical parameters/Management practices/-

624 THOMAS, D.B. 1980 DBT

THE USE OF AIR PHOTOS IN LAND USE PLANNING WITH SPECIAL REFERENCE TO SURVEYING LAND USE AND EROSION PLANNING SOIL AND WATER CONSERVATION MEASURES

Paper prepared for Land Use Planning, Egerton College.
11 pp., 12 refs.

Review the ways in which aerial photo can be of assistance in surveying land use, erosion and planning conservation measures. Details include assessing extent and severity of erosion, catchment planning specially surface dams, monitoring the changes in land use and erosion over a period of years, farm and ranch planning, and qualitative and quantitative assessment of erosion inventories, causes and vegetation cover.

Aerial photo analysis/Land use/Soil and water conservation

625 THOMAS, D.B. 1980 NES, DBT

THE ENVIRONMENTAL IMPACT OF LAND USE CHANGES IN KENYA WITH SPECIAL REFERENCE TO SOIL AND WATER CONSERVATION

An Input: GOK/UNEP/UNDP Project on Environment and Development.
44 pp., 41 refs.

The paper contains five sections where Section I deals with identifying the changes in land use taking place, and next section shows the impact of these changes on the environment. Section III attempts to show how far the government has been able to direct and control land use and reduce the environmental problems arising from development. Last two sections cover education, research and concluding remarks.

Land use/Environmental impact assessm./Education/GoK/Soil and water - conservation

626 THOMAS, D.B. 1980 DBT

PERENIAL GRASSES FOR LOW RAINFALL AREAS OF KENYA WITH SPECIAL REFERENCE TO THE REVEGETATION OF DENUDED GRAZING

Address given to Seminar on Agroforestry sponsored by NCCK and CDES at Machakos
6 pp., 7 refs.

A short article based on personal experience and deals with the present state of grazing land, what progress was made in developing and utilizing the resources, and examines some of the possibilities and the problems. It covers overgrazing, desertification, sedimentation of reservoirs, climatic fluctuations, erosion and runoff, improving infiltration, grass splits and species, grass seeds, protection, bush and termites, and priorities for revegetation.

Overgrazing/Land degradation/Sedimentation/Dams/Revegetation

627 THOMAS, D.B. 1981 DBT

TECHNICAL PAPER ON SOIL AND WATER CONSERVATION. APPENDIX 1.

In Baringo Pilot Semi-arid Areas Project Credit 952-KE Supervision Mission: April 6-10, 1981
21 pp., 37 refs.

A consultancy report covering soil conservation on cropland, rehabilitation of degraded land by the method of restoring ground cover through grazing control, reseeding and selection of adaptable grass species, control of sedimentation, gully stabilization through gabion weirs, road drains, water harvesting for crop production and pasture, water supply and education. Lists four well suited grass species.

Sedimentation/Soil and water conservation/Reclamation/Physical infrastructures /Water harvesting

628 THOMAS, D.B. 1982 DBT

EROSION, SEDIMENTATION, LAND USE AND CONSERVATION

In: Kerio Valley Development Authority, Republic of Kenya, "The Socioeconomic Impact of the Turkwell Gorge Multipurpose Project". Nairobi, Chapter V.
32 pp., 4 figs., 2 tables.

Describes the process, factors affecting and distribution of erosion within the Turkwell Catchment. It also gives sedimentation processes and rates. Estimates rates of erosion.

Baringo District/Soil and water conservation/Reclamation/Prediction

629 THOMAS, D.B. 1983 IDS

THE DESIGN OF ARTIFICIAL WATERWAYS FOR DENSELY SETTLED AREAS OF STEEP LAND.

In: Soil and Water Conservation in Kenya. Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982.
Thomas, D.B. and Senga, W.M. (Eds). IDS Occasional Paper No. 42, pp. 241-256
4 figs., 5 tables, 20 refs.

Reviews data needed and factors to be considered in the design of artificial waterways based on the estimate of runoff coefficient, area, slope, ground cover, soil type, availability of land and capital for either grassed, partly or fully stone lined waterways.

Design/Waterways/Vegetation cover/Physiographical parameters

630 THOMAS, D.B. 1984 KADOC

UNIVERSITY EDUCATION FOR SOIL CONSERVATION WITH SPECIAL REFERENCE TO PROGRAMMES AT THE UNIVERSITY OF NAIROBI.

In Report from Workshop on 'Training in Soil Conservation in Tanzania' Feb 19-March 3, 1984, Nairobi, pp.160-168.
Regional Soil Conservation Unit/SIDA
1 ref.

Paper reviews the role of the university in education for soil conservation and looks critically at the strength and weaknesses of existing programmes. Paper distinguishes between the capacities of a degree graduate and that of a diploma graduate in conservation work. Argues why soil conservation as a scientific discipline is ideal for postgraduate students, and describes programmes at the University of Nairobi, as well as career prospects for soil conservation specialists.

Education/GoK

631 THOMAS, D.B. 1985 DBT

SOIL AND WATER CONSERVATION ON GRAZING LAND IN SEMI-ARID AND SUBHUMID ARES

In: Agricultural Research and Extension for the Drylands of Kenya Proceedings of a Workshop held in Embu, Kenya, 2-6 Dec. 1985 pp31-4 Ministry of Agriculture and FAO.
15 refs.

The paper looks at the state of the knowledge about the causes of degradation and desertification, and also discusses procedures for reclaiming denuded and eroded land. The paper reviews the ideas, at the time, in light of research findings and experience.

Land degradation/Causes/Reclamation/Soil and water conservation

632 THOMAS, D.B. 1989 DAE

COMMON FEATURES OF SUCCESSFUL STRATEGY IN CONSERVATION POLICY

Paper Prepared for Commonwealth Secretariat Consultation on Sustainable Agricultural Development in the Sudano-Sahelian Region of Africa, Banjul, The Gambia, 29 May - 2 June, 1989.
9 pp., 3 refs.

The paper briefly outlines the main requirements of a conservation policy and identifies those features that are common to a successful strategy. The paper analyses the conservation drawbacks witnessed in the past, and the necessary features for a strong conservation policy.

Policies

633 THOMAS, D.B. 1989 DAE

CONSERVATION STRUCTURES: THE NEED FOR KENYAN STANDARDS AND SPECIFICATIONS

Paper prepared for the Annual Seminar of Kenya Agricultural Engineers Kabete, Nairobi, 6-7 July, 1989
4 pp., 7 figs. 6 refs., 2 appendices.

The paper identifies the problems which arise in soil conservation in general, due to lack of clear definition of standards and specifications. The paper poses challenging discussions on design criteria for the different soil conservation structures already in use, the application of the structures, and on how to evaluate the success of the structures.

Structural methods/Evaluation/Design

634 THOMAS, D.B. 1989 DBT

SOIL EROSION IN THE ASAL AREAS - WHAT HAVE WE LEARNED?

Paper presented at the ASAL Soil and Water Conservation Programme Development Seminar, Embu, 18-22 Sept., 1989.
Ministry of Agriculture, Soil and Water Conservation Branch
5 pp.

Paper takes stock of the current knowledge about soil erosion in arid and semi-arid lands. Lists the sites where soil erosion could be quite severe, and discusses the significance of erosion rates. Also discusses rainfall fluctuation and its impact on land-use patterns and soil erosion, and, soil surface sealing, as a major problem preventing rainfall infiltration. Argues that ground cover is the most important factor in controlling erosion.

Land degradation/Soil loss tolerance/Rainfall characteristics/Sealing and crusting /Vegetation cover

635 THOMAS, D.B., BARBER, R.G. 1978 DBT

REPORT ON RAINFALL SIMULATOR TRIALS IN IUNI, MACHAKOS, KENYA.

18 pp., 1 fig., 3 tables, 4 refs.

Deals with a trial of 25, 50, 69 and 100 mm/hr simulated rainfall applied on 1 by 1.5 m plots to assess the effect of ground cover on soil erosion. Study shows reduced erosion on good ground cover grazingland and erosion on bare ground depends on the extent and nature of the surface crust. High intensity rainfall produced high rates of runoff.

Rainfall simulation/Run-off plots/Vegetation cover/USLE/Rainfall intensity

636 THOMAS, D.B., BARBER, R.G. 1979 DBT

A PROPOSED DESIGN PROCEDURE FOR STEEP BACKSLOPE TERRACES IN THE SEMI-ARID AREAS OF MACHAKOS DISTRICT

Paper presented at the third Annual General Meeting of Soil Science Society of East Africa, July 25-27, 1979. Muguga, Kenya.
20pp., 2 figs., 5 tables, 15 refs.

A nomograph and a formula for designing and calculating the depth of steep back slope terraces that can hold all runoff are discussed. Nomograph uses minimum infiltration rate, rainfall data, terrace spacing and ground slope.

Machakos District/Design/Terraces

637 THOMAS, D.B., BARBER, R.G. 1983 DBT

THE MANAGEMENT OF ERODIBLE SOILS IN EAST AFRICA - A CONSERVATION PLANNING MODEL FOR SUPPORT PRACTICES.

In: More Food from Better Technology. Holmes, J.C. and Tahir, W.M. (Eds). FAO, Rome, pp. 366-382.
1 fig., 36 refs.

Discusses factors like farm holding, climate, waterways, slope, soil depth, erodibility and drainage that influence decision making in choosing conservation support practices. The article also reviews existing support practices, mainly ridging, grass strips, and the different types of terraces. It presents a key and a flow chart for decision making on small scale farming.

Soil erodibility/Rainfall characteristics/Ridging/Grass strips/Waterway

638 THOMAS, D.B., BARBER, R.G. 1983 DBT

THE CONTROL OF SOIL AND WATER LOSSES IN SEMI-ARID AREAS: SOME PROBLEMS AND POSSIBILITIES

The Kenyan Geographer 5(1 & 2):72-79 (special issue)
1 fig., 23 refs.

Deals with the seriousness of soil erosion and land degradation (desertification) and the controlling of soil erosion in the grazing and crop land of the semi-arid areas with special reference to works carried out at Machakos. Gives data on infiltration, runoff, surface seal and regeneration of vegetation.

Machakos District/Land degradation/Infiltration/Sealing and crusting/-

639 THOMAS, D.B., BARBER, R.G.,MOORE, T.R. 1980 KAB

TERRACING OF CROPLAND IN LOW RAINFALL AREAS OF MACHAKOS DISTRICT, KENYA

J. Agric. Eng. Res. 25:57-65
7 pp., 2 figs., 4 tables, 19 refs.

Presents proposals for the design of terraces to retain all runoff and a nomograph for calculating the depth of storage required is discussed.

Machakos District/Design/Terraces

640 THOMAS, D.B., BIAMAH, E.K. 1989 DBT, SIDA

THE ORIGIN, APPLICATION AND DESIGN OF THE 'FANYA JUU' TERRACE

Paper presented at International Workshop on Conservation Farming on Hillslopes, Taichung, Taiwan, 19-25 March, 1989.
10 pp., 3 figs., 7 refs.

This paper looks at the origin of the 'fanya juu' terrace and its current application. The advantages and disadvantages are discussed and the design principles are reviewed. The paper highlights areas requiring research and investigation and makes recommendations for specific situations.

Terraces/Design

641 THOMAS, D.B., DARBY, G.M.,NJOROGE, P.N.,MUCHIRI, G., WILLIS, W.D. 1982 DBT

REVIEW OF SOIL AND WATER CONSERVATION RESEARCH IN THE SEMI-ARID AREAS OF EASTERN KENYA.

Report of a Consultancy carried out at the request of the Government of Kenya, F.A.O. and U.S.A.I.D. No. 30.
60 pp., 45 refs.

Review of research and development work on soil and water conservation under way by the Government of Kenya, UNDP, FAO, UDA USAID - Dryland Farming Research Development and Cropping Systems Research Project. Paper also covers research and extension links and recommends on long term research needs, desirability of increased assistance, institutional development and farming systems approach.

Farming systems research/Extension/Policies

642 THOMAS, D.B., EDWARDS, K.A.,BARBER, R.G.,HOGG, I.C.G. 1981 DBT

RUNOFF, EROSION AND CONSERVATION IN REPRESENTATIVE BASIN IN MACHAKOS DISTRICT, KENYA

In: Tropical Agricultural Hydrology and Watershed Management. Lal, R.and Russell, E.W. (Eds).
John Wiley and Sons Ltd., Chichester. pp. 395-417.
4 figs., 9 tables, 25 refs.

The paper assesses runoff and sediment yield at the outfall of a catchment and runoff and soil loss from simulated rainfall on small plots within the catchment representing different land use. Results show high runoff and soil loss from bare land and much lower from new pasture. Recommends the use of conservation practices on cultivated land and improving cover of pasture land with a critical cover of 15-20% being important.

Machakos District/USLE/Rainfall simulation/Land use/Soil and water conservation

643 THOMPSON, A.W. 1939 MAL

SOME ASPECTS OF SOIL CONSERVATION BASED ON OBSERVATIONS IN THE CENTRAL AND NORTHERN KAVIRONDO NATIVE RESERVES

E. Afr. Agric. J. 4:272-277
1 table.

Discusses the causes of soil erosion mainly of rainfall, slope, soil cover, density of population and the problems of soil conservation in the native reserves under shifting cultivation. It also presents different ways of minimizing soil erosion under nine specific land conditions.

Causes/Land use/Soil and water conservation/Soil erodibility

644 TJERNSTROM, R. 1989 DAE, SIDA

REPORT ON TECHNICAL AND SOCIO-ECONOMIC EVALUATION OF SOIL CONSERVATION BY THE MINISTRY OF AGRICULTURE AND LIVESTOCK DEVELOPMENT

In: Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 445-457. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
3 figs., 2 tables, 4 refs.

Paper reviews studies carried out in Keiyo Marakwet, Nyeri and Kitui Districts to describe the obstacles to the implementation of the soil conservation programme and to present suggestions on how to change the programme in order to attain its long-term goals. Paper points out that farmers have problems in maintaining terraces and cut-off drains. Suggests that group labour be encouraged and gives some suggestions on how it should be approached.

Maintenance/Terraces/Cut-off drains/Organization/Evaluation

645 TRAMBER, C.

RECONNAISSANCE SOIL AND VEGETATION SURVEY OF THE AMBOSELI-KIBERENI AREA

Kenya Soil Survey Reconnaissance Paper No. 6 (in cooperation with FAO)

(not available for annotation)

Survey/Soil types/Vegetation cover

646 TRENCH, A.D. 1932 MAL

SOIL WASH

Paper read at Coffee Planting Days, June 19-30, 1932.
Government Printer, Nairobi, Bull. No. 11.
3 pp.

A speech delivered on the general erosion in coffee plantations and some of the common methods of controlling such as contour planting, terracing, cutoff drains, manuring and mulching.

Contouring/Terraces/Cut-off drains/Mulching

647 TROJANOV, M. 1983 IDS

WATER CONSERVATION ACTIVITIES IN ARID AND SEMI-ARID ZONES OF KENYA

In: Soil and Water Conservation in Kenya. Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982.
Thomas, D.B. and Senga, W.M. (Eds). IDS Occasional Paper No. 42, pp. 263-273

Describes the relations of water and soil conservation, the activites in the arid and semi-arid areas, type of water conservation structures, implementation, operation and maintenance of water conservation. The health and socio-economic aspects of water conservation programme are also included.

Water harvesting/Structures/Maintenance/Socio-economic aspects

648 ULSAKER, L.G. 1983 IDS

THE DESIGN AND INSTALLATION OF RUNOFF PLOT EQUIPMENT FOR THE NATIONAL DRYLAND FARMING RESEARCH STATION, KATUMANI, MACHAKOS

In: Soil and Water Conservation in Kenya. Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982.
Thomas, D.B. and Senga, W.M. (Eds). IDS Occasional Paper No. 42, pp. 50-64

Describes the design criteria considered for the runoff plots equipment installed at Katumani Research Station. It gives soil type and background of the field.

Machakos District/Katumani/Design/Run-off plots/Installations

649 ULSAKER, L.G., KILEWE, A.M. 1983 DBT

RUNOFF AND SOIL EROSION FOR AN ALFISOL IN KENYA

E. Afr. Agric. For. J. 44:210-241 (special issue)
9 figs., 20 tables, 49 refs.

Describes the site and installation of 12 runoff plots at Katumani and soil erosion study carried out for three years under different soil management practices. Discusses effects of soil management practices on agronomic results, rainfall erosivity and soil erosion, tillage, soil moisture content at different depths, soil erodibility contouring effect, cover-management effect on soil loss.

Machakos District/Katumani/Run-off plots/Management practices/Soil erodibility

650 ULSAKER, L.G., ONSTAD, C.A. 1984

RELATING RAINFALL EROSIVITY FACTORS TO SOIL LOSS IN KENYA

Soil Sci. Soc. Am. J., 48:891-896.

(not available for annotation)

USLE/Rainfall characteristics

651 UN SUDANO SAHELIAN OFFICE 1979 UNEP

ASSESSMENT OF THE PROBLEM OF DESERTIFICATION AND REVIEW OF ONGOING AND PROPOSED ACTIVITIES TO IMPLEMENT THE PLAN OF ACTION TO COMBAT DESERTIFICATION IN THE REPUBLIC OF KENYA

New York
38 pp., 3 figs., 3 tables.

Deals with the nature of the problem of desertification, areas affected, cause of desertification, forms of desertification, and the socio-economic impact. It gives general information on Kenya - population, terrain, climate, natural resources and development strategies. The paper also discusses desertification control planning, the national strategy and ongoing activities.

Land degradation/Causes/Socio-economic aspects/Policies

652 UNIVERSITY OF NAIROBI IDS CONSULTANTS 1979 ASAL

ARID/SEMI-ARID LANDS PREINVESTMENT STUDY. THARAKA (KITUI/MERU/EMBU) REPORT STATISTICAL APPENDIX

Natural Resources Conservation XIII
10 tables.

Chapter 13 of this report lists data arranged in tables collected on household survey in three districts on the following topics: methods used to prevent soil erosion, decrease in size of woodland over the last 10 years, tree replacement, methods being used to replace trees change in soil fertility, steps taken to improve soil fertility, direction of change in soil fertility, change in ground cover over the last 10 years, cuses of an increase in ground cover and cause of decrease in ground cover.

Soil and water conservation/Deforestation/Revegetation/Land use

653 VAN DE WEG, R.F., MBUVI, J.P. 1975

SOILS OF KINDARUMA AREA

Kenya Soil Survey , Report No. R1, Nairobi.
136 pp., 15 figs., 4 maps, 125 refs.

Reconnaissance survey of the erosion (sheet and gully) problem of the area. An erosion hazard and land use maps are provided. Warns of the danger of land becoming unproductive if cultivation of steep slopes and present practice continues.

Sheet erosion/Gully erosion/Maps/Slope angle/Soil productivity

654 VAN WIJNGAARDEN, W.

RECONNAISSANCE SOIL AND VEGETATION SURVEY OF THE TSAVO AREA (MUTITO AND VOI SHEETS)

Kenya Soil Survey Reconnaissance Paper No. 7 (in cooperation with VIDTRO of Netherlands)

(not available for annotation)

Survey/Vegetation cover/Soil types

655 VIAK (EA) Ltd., KENYA, NORPLAN, OSLO, NORWAY 1976 KADOC

TURKWELL DAMS AND RESERVOIR RECONNAISSANCE SURVEY, SUMMARY REPORT.
KADOC No. 10134

44 pp., 9 photos, fold map, scale 1:10,000,000.

Summary of a reconnaissance survey on the feasibility of a dam at the Turkwell Gorge. Geology, seismicity, climate, water resources, ecology and land use in the Suam - Turkwell catchment area are reviewed.

Environmental impact assessm./Dams

656 VIAK (EA) Ltd., NAIROBI, KENYA 1976 KADOC

TURKWELL DAM AND RESERVOIR RECONNAISSANCE SURVEY
KADOC No. 10711

Data Volume
52 pp., 3 figs., 16 tables, 31 graphs, 3 maps scale 1:1,000,000

Data appended to a dam feasibility study on the Turkwell River. Covers soil and geology including fluvial sediment and rock classification as well as water resources with data collected at gauging stations and water quality.

Dams/Water resources

657 VIERTMANN, W. 1980 ASAL

PILOT SOIL AND WATER CONSERVATION PROJECT, EMBU/MERU AREA

FAO, Rome.
47 pp., 2 figs., 5 tables, annex

Deals with a pilot project in Embu District carried by FAO, where grass bunds and trash lines together with sweet potato completely arrested soil erosion. Points out the deterioration of traditional grazing lands, and warns the danger and the need for appropriate measures. Recommendations on the improvement of the farming systems, farm inputs and economic assistance involving the farmers in implementation of improvement works are given.

Embu District/Trash lines/Grass strips/Overgrazing/Socio-economic aspects

658 WACHIRA, K.K. 1978 IDS

SOME PROMISING NATIVE LEGUMES FOR REHABILITATING DEGRADED SUB HUMID KENYA HIGH LAND SOILS

In: Soil and Water Conservation in Kenya. Proceedings of a Workshop, Nairobi, September 21-23, 1977.
IDS Occasional Paper No. 27, pp. 56-61.
14 refs.

Describes five indigenous legumes that are prevalent on the Thika-Nairobi area that could be used in rehabilitating the sub humid Kenyan highlands.

Nairobi District/Kiambu District/Reclamation/Crop vegetation cover

659 WAHOME, E.K. 1981 KREMU

SOIL MANAGEMENT AND CONSERVATION MEASURES IN THE RANGELANDS

Paper prepared for a lecture to be delivered in the National Soil Conservation Training Course in Nairobi, Kenya.
KREMU (FAO / GOK-MOA)
26 pp., 7 figs., 14 refs.

Deals with soil erosion in the rangelands. Points out overgrazing, seasonal grass burning, deforestation and shifting cultivation as practices that greatly contribute to soil erosion processes. It also discusses water erosion intensity, classification and rainfall simulation experiments on rainfall intensity, drop size, plant root density, ground cover (canopy, basal, litter and vegetation type), soil type, topography and human factors.

Overgrazing/Deforestation/Rainfall simulation/Rainfall intensity/Vegetation cover

660 WAHOME, E.K. 1984 KREMU

SOIL EROSION CLASSIFICATION AND ASSESSMENT USING LANDSAT IMAGERY: A CASE STUDY IN BARINGO DISTRICT, KENYA

Paper presented for Rangeland Extended Course at the Regional Centre for Services in Surveying, Mapping and Remote Sensing. KREMU.
21 pp., 3 figs., 1 table, 11 refs.

Deals with the use of landsat imagery in classifying and assessing the status of erosion and soil erosion potential in Baringo District at a reconnaissance level based on features and indicators. Gives seven erosion classes. Points out overgrazing, trampling, new land clearing, and poorly regulated agricultural practices (shifting cultivation) as the major erosion controlling factors. Map is included.

Aerial photo analysis/Overgrazing/Land use/Maps

661 WAHOME, E.K. 1989 DBT, KREMU

SOIL EROSION MEASUREMENTS UNDER NATURAL RAINFALL FOR EVALUATING THE UNIVERSAL SOIL LOSS EQUATION IN MANITOBA

An MSC Thesis Presented to the Faculty of Graduate Studies of the University of Manitoba
216 pp., 5 figs. 29 tables, 177 refs.

The study develops and presents a comprehensive field data base on soil loss due to natural rainfall that can be effectively used in evaluating the accuracy of the Universal Soil Loss Equation (USLE) application under conditions in Manitoba, Canada. The study discusses the applications, limitations, evaluations and modifications of USLE, and the materials and methods used for the research.

USLE

662 WAIN, A.S. 1983 IDS

ATHI RIVER SEDIMENT YIELDS AND THE SIGNIFICANCE FOR WATER RESOURCE DEVELOPMENT

In: Soil and Water Conservation in Kenya. Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982
Thomas, D.B. and Senga, W. M. (Eds). IDS Occasional Paper No. 42, pp. 274-293
4 figs., 3 tables, 6 refs.

Assesses the sediment yields of the Athi River sampled during 1980 - 1981 at Munyu and Mavindini and gives a survey of the hydrologic characteristics - area, rainfall, runoff, sediment load, of the Middle and Upper Athi River Basin.

Machakos District/Sedimentation/Rainfall characteristics/USLE

663 WAITHAKA, D.K. 1989 DBT

STRATEGY FOR IMPLEMENTATION OF SOIL AND WATER CONSERVATION PROJECT IN MUTOMO DIVISION, KITUI DISTRICT.

Paper presented at the ASAL Soil and Water Conservation Programme Development Workshop, Embu, 18th-22nd Sept., 1989.
7 pp.

Paper addresses itself to the strategies that need to be followed to implement soil and water conservation in ASAL areas. It outlines the strategies followed in Mutomo Division in Kitui District to implement phase 1 of the programme. Analyses the contribution and links between the local population and the programme, and the incentive schemes used to ensure total participation of all parties. Argues that the programme has made a strong impact.

Kitui District/Mutomo/Management practices/Structural methods/Organization

664 WALSH, N.M. 1960 KARI

SOIL CONSERVATION PRACTICES ON NYANZA TEA ESTATES

Tea 2(1):36-39

Discusses the dangers of soil erosion during land clearing for tea plantations and gives general measures for soil and water conservation. Recommends the use of terraces, contour tea planting, contour mulching, cutoff drains depending on ground slope. Article also reviews road alignments, drainage channels, terrace construction, contour planting, trench planting, level terraces and terrace maintenance.

Deforestation/Management practices/Structural methods/Physical infrastructures /Constructions

665 WAMBIJI, H., MUSINTSI, J. 1986 USAID

SOIL MONOLITH COLLECTION AND PREPARATION

Egerton College Research Paper Series
22 pp., 2 tables, 12 refs., 5 appendices.

Study undertaken to act as a data bank on various soils of economic importance to Kenya. The samples covered in the study were collected from western part of the Great Rift Valley. Results revealed that hygroscopic moisture of samples in high rainfall areas increased with depth. There was not significant differences in phosphorus content of all samples.

Soil types

666 WAMICHA, W.N., MAINGI, P.N.,D'COSTA, V. 1986 KSS

SALINE AND SODIC SOILS OF KENYA

Paper presented at the 13th International Soil Science Congress, Hamburg, West Germany, 13-20 August, 1986.

(not available for annotation)

Chemical properties/Salinization

667 WANGATI, J.E. 1981 KAB

SOIL AND WATER CONSERVATION IN AGROFORESTRY.

In: Proceedings of the Kenya National Seminar on Agroforestry, Nairobi, 12-22 Nov., 1980, pp. 193-197.
10 refs.

Discusses the effect of land clearing for cultivation on soil and water conservation - soil loss and runoff, on the Aberdares.

Deforestation/Agroforestry/USLE

668 WANJAMA, A.M. 1978 IDS

SPECIFICATION, CONSTRUCTION AND USE OF THE METRIC LINE LEVEL

In: Soil and Water Conservation in Kenya. Report of a Workshop. University of Nairobi, 21-23 Sept., 1977.
IDS Occasional Paper No. 27, pp. 40-43

Article describing the construction of the metric line level giving some examples on how it is used for setting and laying out of terraces.

Tools/Layout/Terraces

669 WAPAKALA, W.W. 1974 KADOC

METHODS AND TECHNIQUES OF ASSESSING THE EXTENT OF THE ENVIRONMENTAL DAMAGE IN THE RURAL AREAS OF EAST AFRICA
KADOC No. 10375

Paper presented at a workshop on environment and rural development in East Africa, Nairobi, 11-30 Nov. 1974.
13 pp., 22 refs.

Reviews factors involved in environmental damage with reference to soil erosion, deforestation, over grazing, irrigation, overpopulation, agricultural and industrial chemicals.

Environmental impact assessm./Deforestation/Overgrazing/Overpopulatio

670 WAPAKALA, W.W. 1978 KADOC

APPROPRIATE TECHNOLOGY FOR CONSERVATION OF SOIL FERTILITY.
KADOC No. 10380

Paper presented at a seminar on Science and Technology for Development, 21-22 March 1978.
8 pp., 20 refs.

Describes technology for conservation of soil fertility especially the use of fertilizers, soil conservation tillage, irrigation and population control.

Chemical treatment/Tillage

671 WAWERU, F.M. 1978 DAE

COMPARISON ON EVALUATION OF "FANYA JUU" TYPE OF TERRACE AND CHANNEL TYPE TERRACES IN KYANGULUMI SUB LOCATION MACHAKOS DISTRICT

Postgraduate Diploma Project Report, University of Nairobi, Department of Agricultural Engineering, Nairobi.
77 pp., 29 figs., 3 tables, 9 refs.

Comparative study of the "fanya juu" and the channel type terraces on the effectiveness of these terraces to conserve oil and water, construction and maintenance costs.

Machakos District/Kyangulumi/Terraces/Soil and water conservation

672 WAWERU, F.M. n.d ASAL

TAVETA PROJECT: SOIL AND WATER CONSERVATION PAPER.

Arid and Semi-Arid Land Development Branch.
23 pp., 5 figs., 3 tables, 8 refs.

Describes the area, topography, vegetation, climate, hydrology, irrigation, agriculture and land use. Discusses the general soil erosion problem and soil conservation measures and presents a soil and water conservation project proposal with organization, personnel, equipment, activities, justification for the project and estimate of cost for the construction of cutoff drains, gully control structures, tools, nursery establishment and dam construction included.

Taita-Taveta District/Soil and water conservation/Costs/Dams/Soil - and land degradation

673 WEBSTER, C.C. n.d. MAL

LAND UTILIZATION AND SOIL FERTILITY MAINTENANCE IN KENYA: A REVIEW OF RESEARCH IN PROGRESS.

Commission for Technical Cooperation in Africa South of the Sahara. Document 113 Section 111 B. U.K.
7 pp., 3 refs.

Describes an ongoing research on ridging and mulching in the semi-arid areas of Kenya to improve soil moisture and crop yield.

Ridging/Mulching/Soil moisture/Soil productivity

674 WENNER, C.G. 1976 KADOC

COURSE SEMINAR ON SOIL CONSERVATION IN SMALL SCALE FARMING IN HIGH POTENTIAL AREAS USING LABOUR INTENSIVE METHODS. SOIL CONSERVATION PROJECT, 1976/77.

KADOC No. 10702
Course-seminar on Soil Conservation, MOA, Land and Farm Management Division, Nairobi, 2-9 Sept., 1976
131 pp., tables, 2 maps, graphs, ill.

Describes the major topics covered during a course seminar on soil conservation in small scale farms in high potential areas. Covers status of soil erosion and plans for soil conservation, erosion processes and their control using cultural and physical methods especially cutoff drains. Discusses how technical assistants should approach farmers. Includes the Agricultural Act and outlines the soil conservation programme activities in 1976/77.

Soil and land degradation/Structural methods/Management practices/-Extension /Policies

675 WENNER, C.G. 1979 KADOC

AN OUTLINE OF SOIL CONSERVATION IN KENYA.
KADOC No. 40114

Ministry of Agriculture, Nairobi, Kenya.
56 pp., 24 figs., 5 tables, many ill.

Describes soil conservation measures with reference to terracing, cutoff drains, cost of cutoff drains and terraces, gully control, protection of river banks and artificial waterways, soil conservation on grazing lands, rehabilitation of desertified areas. Also contains aspects of soil conservation practices such as how to calculate the dimension of a cutoff drain, vertical and horizontal intervals and design of gully control.

Structural methods/Costs/Stabilisation/Reclamation/Layout

676 WENNER, C.G. 1980 KADOC

SOIL CONSERVATION POCKET BOOK FOR TECHNICAL ASSISTANTS.
KADOC No. 40187

Ministry of Agriculture, Nairobi, Kenya.
27 pp., 15 figs., 14 tables.

A guide to soil conservation by terracing, and cutoff drains. Also gives instructions on how to calculate the dimensions of a cutoff drain, gully control and other methods of conserving soil.

Terraces/Cut-off drains/Gully control/Design

677 WENNER, C.G. 1980 MAL

SOIL CONSERVATION IN KENYA. ESPECIALLY IN SMALL-SCALE FARMING IN HIGH POTENTIAL AREAS USING LABOUR INTENSIVE METHODS.

Ministry of Agriculture, Farm Management Branch, Project Management and Evaluation Division, Nairobi. 6th Edition.
191 pp., 9 pp. index, 28 pp. appendix, 81 refs. ill. and many tables

A handout for technical assistants containing eleven chapters and four appendices. Topics covered include: erosion processes and their preventive measures, prediction of soil loss and choice of conservation measure, conservation on cultivated and grazing lands, agroforestry, the Agricultural Act, soil conservation in farm planning, instructions to technical assistants, maps on soil conservation, instruments, and finally literature on soil conservation.

Prediction/Soil and land degradation/Soil and water conservation/Policies

678 WENNER, C.G. 1980 KAB

TREES IN EROSION AND SOIL CONSERVATION.

In: Proceedings of the Kenya National Seminar on Agroforestry, 12-22 Nov. 1980. pp. 199-235
23 figs., 1 table, 7 refs.

Discusses the role of trees in terracing to prevent erosion and in reclamation of denuded lands. Lists five tree species which are highly suited to land reclamation (with growth characteristics, and resource requirements of each) and a list of 20 other tree species is included.

Vegetation cover/Reclamation/Terraces/Agroforestry

679 WENNER, C.G. 1983 SIDA

SOIL CONSERVATION IN KENYA

Ambio 12(6):305-307
3 pp., 4 figs., 1 plate.

An interview, on soil conservation activities in Kenya, the role of low income farmers, the Keya model, organization and staff, difficulties in soil conservation, overgrazing problem, afforestation and the need for research.

Soil and water conservation/Overgrazing/Revegetation

680 WENNER, C.G. 1984 SIDA, DBT

GULLY EROSION AND GULLY CONTROL IN KENYA

115 pp., 30 figs., 3 tables, 16 photos, 3 appendices.

Report contains an assessment of the damages to land through gully erosion. Describes the various methods of gully control and recommends the appropriate ones. Certain erosion features and control activities in Kiambu and Murang'a Districts are used for illustrations.

Kiambu District/Murang'a District/Gully erosion/Gully control

681 WENNER, C.G., NJOROGE, S.N.J. 1982 KAB

. SOIL CONSERVATION

In: Farm Management Handbook of Kenya II. Part A. West Kenya (Nyanza and Western Provinces) Joetzold, R. and Schmidt, H.(Eds).
Ministry of Agriculture.
7 pp., 7 figs.

Deals briefly with land classification, conservation measures and gives specification on terrace length, gradient, terrace type, spacing, length of cutoff drains, width and depth of waterways, methods of gully control, cost of terraces and cutoff drains and government policy for subsidies.

Land use/Structural methods/Layout/Costs/GoK

682 WERNER, V.W. 1983 IDS

INTEGRATED FILTER SYSTEM FOR RESERVOIRS OF SMALL EARTH DAMS

In: Soil and Water Conservation in Kenya. Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982.
Thomas, D.B. and Senga, W.M. (Eds). IDS Occasional Paper No. 42, pp. 294-304
11 pp., 2 figs., 5 tables

Describes the use, advantage and cost of perforated PVC pipes buried in the permeable strata of small earth dams to filter water for safe public use in the arid and semi-arid areas as tested at Waiya Earth Dam, Machakos District.

Machakos District/Waiya/Dams

683 WILLCOCKS, T.J. 1974 KADOC

THE AGRICULTURAL ENGINEERING ASPECT OF SOIL CONSERVATION SERVICE, KENYA
KADOC No. 10704

72 pp., 53 tables, 4 refs., 2 ills., 9 photos.

Gives statistical data on utilization of tractors in soil conservation service and on staff organization. Discusses the maintenance and repair facilities and operational costing, giving recommendations.

Soil and water conservation/Costs/Maintenance/Organization

684 WILLIAMS, W.A. 1970

TECHNIQUES FOR CLASSIFYING SOILS IN RELATION TO THEIR USE AS EMBANKMENT MATERIALS, ACCORDING TO THEIR ERODIBILITY POTENTIAL, WITH PARTICULAR REFERENCE TO SOILS OF KENYA.

MSc. Thesis, Silsoe College, Cranfield Institute of Technology

Study argues that there is a close relationship between compaction and erosion, and that erosion is a function of compaction and slope. Using different soils compacted in trays in a laboratory the author designs a penetrometer to measure the density of the soils and uses the results to develop a technique to classify soils as embankment materials in terms of their erodibility potentials.

Soil types/Compaction/Soil erodibility

691 YEGO, J.K. 1982 DBT

THE SUITABILITY OF LANDSAT DATA TO MAP AND MONITOR SOIL EROSION HAZARDS IN SEMI-ARID LANDS: A CASE STUDY OF KITUI DISTRICT, KENYA

M.A. Thesis, University of California, Santa Barbara.
162 pp., 16 figs., 6 tables, 39 plates, 140 refs.

Thesis on the use of landsat data to map and monitor erosion hazards, determine spatial location, extent and severity of the hazards on a study site in Kitui District in 1979. Also gives two date change analysis (1973-1979) to detect spatial changes of erosion hazard

Kitui District/Aerial photo analysis/Soil erodibility

692 YOUNG, A. 1986 DBT,ICRAF

THE POTENTIAL OF AGROFORESTRY FOR SOIL CONSERVATION PART 1 EROSION CONTROL

ICRAF Working Paper No. 42
68 pp.,2 figs. 3 tables, 149 refs.

This paper covers agroforestry in erosion control. Trends in soil conservation research and policy are reviewed, and assesed with respect to their significance to agroforestry. Attention is given to predictive models, the importance of soil cover, land evaluation, effects of erosion and land productivity, and economic and policy aspects.

Agroforestry/Soil and water conservation/Land use/Economic considerations /Modelling

693 YOUNG, A. 1987 DBT, ICRAF

THE POTENTIAL OF AGROFORESTRY FOR SOIL CONSERVATION PART 2 MAINTENANCE OF FERTILITY

ICRAF, Working Papaer No. 43
135 pp., 12 figs., 25 tables, 237 refs.

This paper discusses agroforestry in the maintenance of fertility. Relations between fertility, soil degradation and sustainability are discussed. Processes by which the trees improve soils are considerd, including the cycling of organic matter, nitrogen and other nutrients, other soil properties, and the role of roots. Tree and shrub species with a soil improving potential are identified. Evidence for soil changes under agroforestry practices are summarised.

Agroforestry/Soil and water conservation/Chemical properties/Physical properties

694 YOUNG, A. 1987 ICRAF

THE POTENTIAL OF AGROFORESTRY FOR SOIL CONSERVATION - WITH SPECIAL REFERENCE TO VERTISOLS

Proceedings of the First Regional Seminar on Management of Vertisols under Semi-arid Conditions, Nairobi, 1986.
1 table, 29 refs.

Paper argues that the principal adverse effect of erosion is reduction in fertility through loss of soil organic matter and nutrients. Looks at the specific problems of vertisols. Maintains that six agroforestry practices can be effective in control of erosion, and eight in maintenance of fertility.

Agroforestry/Soil and water conservation/Nutrient loss/Vertisols

695 YOUNG, A. 1987 ICRAF

THE POTENTIAL OF AGROFORESTRY FOR SOIL CONSERVATION AND SUSTAINABLE LAND USE

ICRAF Reprint No. 39
16 pp., 1 table, 30 refs.

Paper reviews recent trends in research related to soil conservation, and their implications, and also outlines the potential of agroforestry in soil conservation.

Agroforestry/Soil and water conservation

696 YOUNG, A., CHEATLE, R.J.,MURAYA, P. 1987 DBT,ICRAF

THE POTENTIAL OF AGROFORESTRY FOR SOIL CONSERVATION PART 3 SOIL CHANGES UNDER AGROFORESTRY: A PREDICTIVE MODEL

ICRAF Worrking Paper No. 44
90 pp., 13 figs., 10 tables, 35 refs.

The paper describes the objectives, structure and functioning of a computerised model for prediction of soil changes under specified agroforestry systems within given environments. It provides estimates of changes in soil organic matter, represented by carbon, and soil erosion, together with the response of plant growth and harvest to soil changes.

Agroforestry/Modelling/Chemical properties/Physical properties

697 ZEICHMER, D. 1981

REPORT ON RUNOFF HARVESTING IN BPSAAP AREA.

Commissioned by World Bank.

(not available for annotation)

Baringo District/Water harvesting

698 ZOBISCH, M.A. 1980 PER

CONCISE SOIL AND WATER CONSERVATION PLAN FOR MAKULANI EARTH DAM CATCHMENT

Machakos Integrated Development Programme.
3 pp., 3 figs.

Gives estimates of the area under different land use and summary of soil conservation measures - terrace improvement, cutoff drains, pasture reclamation, afforestation, tree planting on farms, gully control, road improvement, water harvesting. Lists provision of services by Machakos Integrated Development Programme.

Machakos District/Makulani/Land use/Structural methods/Reclamation

699 ZOBISCH, M.A. 1983 IDS

PRACTICAL FARMERS TRAINING IN CONSERVATION

In: Soil and Water Conservation in Kenya. Proceedings of a Second National Workshop, Nairobi, March 10-13, 1982.
Thomas, D.B. and Senga, W.M. (Eds). IDS Occasional Paper No. 42, pp. 206-212.

A short outline on the Machakos Integrated Development Programme farmers training activities. It covers training units, selection of training units, selection of farmers, principles of course implementation, post-course considerations, instructors qualifications, visual aids and farmers after the trial courses.

Training

700 ZOBISCH, M.A. 1989 DAE, SIDA

THE CONCEPT OF A "MINIMUM SOIL DEPTH" AS A BASIS FOR REGIONAL SOIL CONSERVATION PLANNING

In: Soil and Water Conservation in Kenya. Proceedings of the Third National Workshop, Kabete, Nairobi, 16-19 Sept., 1986, pp. 509-517. (Eds) Thomas, D.B., Biamah, E.K., Kilewe, A.M., Lundgren, L. and Mochoge, B.O.
DAE, SIDA
2 tables, 5 refs.

Paper reports the findings of an experiment carried out in sixteen sites in rainfed areas of central Machakos to develop the concept of a "minimum soil depth" as a basis for regional soil conservation planning. Makes the assumptions that the minimum soil depth should be large enough to hold the maximum expected monthly rainfall less the corresponding evaporation for that month, and only soil in excess of the minimum soil depth should be allowed to erode.

Machakos District/Soil depth/Local/Soil loss tolerance

THE HIERARCHICAL SYSTEM FOR INDEXING SOIL AND WATER CONSERVATION LITERATURE

by Dr. R.H.G. Bos

The framework for key words and indexing is based mainly on the subject matters that are covered in this bibliography (see preface).

As far as possible the key word entries have been arranged in a logical structure. The framework consists of three main groups that cover respectively:

- processes of soil and land degradation
- the factors and characteristics that determine erosion processes, and
- all actions and subjects related to the conservation of soil and water.

These main groups are preceded by a general group that permits making index entries to those aspects not directly related to the physical processes in a narrow sense, and they are followed by a miscellaneous group. Each group has been subdivided into subgroups, and most sub-groups into lower level entries.

Because of the context of the framework, most entries are self explanatory, although they have been kept as brief as possible. In some cases some additional information concerning the range of entry seemed important; this has been added in italics. However, italic text has not been used for the index entries given in the bibliography.

The framework is an hierarchical one. It implies that all sub or lower level entries are part of the entry at the higher level. For example: the index entry "structural methods" implies, in principle, that the literature discusses all types of physical measures (e.g. cut-off drains, terraces etcetera) that are relevant to "**soil and water conservation**" (being the highest level in the hierarchy). Or that the information provided by the title and the annotation made was inconclusive as to enable such differentiation.

Where possible, the lowest level has been used to make the references as precise as possible. In case a higher level plus a reference to a lower level of the same group (e.g.../management practices/tillage/...) shows, it means that several of the subsequently specified management practices are discussed, but the emphasis is with 'tillage'. If .../management practices/... had not been used as an entry and just .../tillage/..., the implication would have been that the literature exclusively treated "tillage" as a management practice in 'soil and water conservation'.

The framework is as follows:

General soil erosion
- prediction
  - modelling
  - rainfall simulation
  - run-off plots
  - (U)SLE (inc. USLE factors and gen. models)
- survey
  - aerial photo analyses (incl. landsat, general remote sensing)
  - land use
  - maps
  - measurements

Soil and land degradation (processes and types)

- biological
  - imbalance of micro biological activity
- causes
  - deforestation
  - overgrazing
  - overintensive annual cropping
  - overpopulation
  - physical infrastructure
- chemical degradation
  - nutrient loss
  - salinization
  - waterlogging (gley)
- impacts
  - flooding
  - land degradation (incl. desertification)
  - sedimentation
  - soil loss tolerance
  - soil productivity
- physical degradation
  - compaction
  - dispersing action of salts
  - sealing of topsoil
- water degradation
  - channel erosion (streambanks)
  - gully erosion
  - mass movements
  - rill erosion
  - sheet erosion
  - splash erosion
- wind degradation
  - loss of topsoil

terrain deformation

Erosion factors

chemical properties
- base saturation
- nitrogen content

physical properties
- aggregates
- infiltration
- sealing and crusting
- soil depth
- soil moisture
- soil structure
- soil temperature
- texture
- vegetation cover

physiographical parameters
- exposure
- slope angle
- slope length

rainfall characteristics (and rainfall erosivity)
- rainfall distribution (including seasonality)
- rainfall duration
- rainfall frequency
- rainfall intensity
- rainfall kinetic energy

soil erodibility

Soil and water conservation

agroforestry (incl. forestry)
- forest management
- multi-purpose trees
- nursery

management practices
- alley cropping
- chemical treatment
- contouring
- crop cover
- grass strips
- mixed cropping
- mulching
- plant residues
- ridging
- rotation
- strip cropping

tillage
trash lines

polices (including regulations and planning)
GoK
local
management
NGO's

socio-economic aspects
economic considerations
education
environmental impact assessment
evaluation
extension
Farming system research
organization (women groups, self help groups, local participation etc)
training

structural methods
cut-off drains
dams
gully control
retention ditches
terraces
waterways

structures
construction
costs
design
failures
installations
lay out
maintenance
stabilization
tools

water harvesting (incl. water conservation and management)
macro catchments
micro catchments
spate irrigation

Miscellaneous

reclamation
closure
reseeding
revegetation
wells

soil development (renewal)

soil types
- andosol
- ferrallitic soils
- gley soils
- luvisol
- nitosol
- vertisol

Of course this framework is not complete. Especially at the lower level, future additions (when new literature will be added) can probably be expected. It also clear that not all entries given will carry the same quantity of references; some even have (for the time being) zero references.
The entries with zero references have not been left out since it might provide an indication of subjects/topics for which research data is scarce or even lacking, in comparison to well-covered areas.

GEOGRAPHICAL INDEX

SUBJECT INDEX