

Environmental Degradation and The Law in Tanzania

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Introduction

Environmental degradation is basically a result of development measures undertaken without due consideration being paid to the maintenance of a clean state of the environment, therefore causing irreparable damages. Development and the maintenance of the environment in a clean state may appear contradictory, since it is evident that throughout man's production history his actions have increasingly worked against the valued composition of the environment. It is, however, important to observe that development and the protection of the environment should actually be regarded as complementaries. A clean state of the environment is necessary and assures mankind of the natural support for his development aspirations. When misused, the environment's capacity to absorb man's harsh attacks on it get limited and its role in offering various support on development engagements or its capacity to absorb dangerous waste, thus cleaning itself, is equally reduced, and the results have tended to be disastrous to the existence of mankind. Since the essence of development is, *inter alia*, the betterment of mankind as well as the prolongation of mankind on this earth, the protection of this environment assures him - not only development but his existence as well.

This paper does not deal with the merits of economic development and the preservation of the environment, but attempts a brief survey of the nature of environmental problems experienced in Tanzania as well as a short study of the corrective measures, basically legal, so far introduced by Tanzania, aiming at controlling and eventually reducing the degradation of the environment. It is intended to examine the legal instruments so far promulgated in order to determine their sufficiency in providing adequate protection to the environment. Further to this is the question whether the existing legal regime simply regulates and controls and restricts man's actions against a systematic destruction of the environment or, whether it does indeed acknowledge the existence of the environment and, therefore, proceeds to grant it specific rights in respect of its further existence. It is only Tanzania mainly that is the subject of this brief survey.

Causes for Environmental Degradation

It is the need for survival as well as the economic betterment or welfare that is central to the current environmental degradation in Tanzania. The move toward economic development at an individual, communal or national level underlines this factor. Three areas have fallen victim to such developments, namely: the land environment, including lakes and rivers, the marine environment as well as the air.¹ Most problems have been experienced on land and marine environment, whereas the air has not been very much polluted by pollutants originating from Tanzania but somewhere else, emphasizing the aspect of the transboundary nature of air pollution. It is not the main objective of this contribution to explore in greater details the various aspects and consequences of environmental destruction pursued in respect of each of the categories mentioned, but a brief overview of selected activities is necessary for the examination of the success achieved through the laws in the protection of the environment under study.

(i) Land environment: Land based activities which have threatened the composition of the environment range from deforestation of the existing forest system to overcrowding in urban centres. Taking deforestation as an example of extreme measures being taken against the forest ecosystem, it is important to emphasize the reasons behind such actions. Leading among the reasons is the fact that wood is a chief source of cheap fuel not only to the rural areas of Tanzania, but also to the urban dwellers. Since a large percentage of the population cannot afford to get modern sources of energy or fuel, the forest ecosystem serves as a major source of fuel for most Tanzanians.² Wood is not only a source of energy or fuel but also a very important building material for almost all structures erected in Tanzania.³ The dependency of man on the forest ecosystem is rather heavy and its result is the depletion of the forest. The depletion of the forest invites other serious environmental problems, one of them being soil erosion, especially where the soil is exposed to high temperature and rain,

- 1 Tanzania has a landmass of 945,050 sq. km with a population of 23 million. The coastline forming the marine environment of the Western Indian Ocean, is 800 km long, and the population is about 3,147,344. For further information see: UNEP Regional Seas Reports and Studies, No. 41 (1984). See *Tiyaniama Maluwa: Environment and Development: An Overview of Basic Problems of Environment Law and Policy*, Mimeo. Presented at a seminar on *Environment Law in Africa*, organized by the Gesellschaft für Afrikanisches Recht, at the University of Marburg F.R.G on 7th - 8th July 1989. The paper deals with the problems of law and policy in environmental questions, where the issue of development is vital.
- 2 More on this see *Misana, Salome B.* "The shrinking forests and the problem of deforestation in Tanzania" in *Journal of Eastern African Research and Development*, Nairobi, vol. 18 (1988), p. 108-118; *Allen, Julia C.* "Wood Energy and Preservation of Woodlands in semi-arid developing countries" in *Journal of Development Economics*, Amsterdam, vol. 19 (1985), p. 59-84.
- 3 See *Misana, Salome B.* "Man and Vegetation Change" in *Journal of Eastern African Research and Development*, vol. 18 (1987), p. 53-62.

the other being desertification, where the absence of forest diminishes chances for rain.⁴ Most industries, heavy as well as light, are based on land. A lot of organised and disorganised mining is carried on in the interior, breaking the surface of the earth and causing irreparable environmental damages.⁵ A large percentage of the industries is found along the coast, i.e. in urban centres and their negative effect on the environment is so far observed in relation to the state of the marine environment. However, in some areas inland, the industries use lakes and rivers for the discharge of effluents. Most notorious of these is the pulp and paper mill on the Ruaha river whose discharge of suspended solids is likely to cause serious damages to the fishing industry along the river.⁶ Since the river pours into the Indian Ocean, the effect of such industrial discharges is quite negative on the general marine environment.

Agriculture as well as livestock keeping, when unregulated or improperly regulated, may cause serious environment damage especially in the form of soil erosion. It is known that 90% of the population in Tanzania is in some way involved in agriculture.⁷ This is basically subsistent farming, and some cash crop production is also carried on. Pesticide and other chemical agencies are used in order to protect the crop against pests or to increase yields. The use of such agents has its own serious impacts on the environment.⁸

One of the leading national economic projects in Tanzania is the Rufiji River Basin. The Basin covers 177,000 sq km or 20% of the country. Apart from having almost 50% of Tanzania's hydroelectric stations, it has one of the leading projects in energy production as well as associated economic potentials. The Stiegler Gorge project is to be both a source of energy as well as a flood control facility in the Basin. A 134 m long dam is being constructed which will create a 1,200 sq. km water reservoir. From this reservoir a stable

4 On the question of soil erosion problems in Tanzania see Soil Erosion Control and Agroforestry in West Usambara Mountains, Berlin West (1987); *Simon Wieland*: Felder ohne Früchte, Deutscher Taschenbuch Verlag, München (1987); *Anderson, David*: "Depression, Dustbowl, Demography and Draught: The colonial state and soil conservation in East Africa during the 1930s" in: African Affairs, London, vol. 83 (1984), p. 332. It is also important to see *Östberg, Wilhelm*: The Kondo Transformation, Uppsala (1986); and *Suzi Bonaventure* "Crisis in colonial agriculture" in Utafiti Dar es Salaam, vol. 5 (1980), p. 27-58.

5 See *Christiansson, Carl*: "Heavy industry in a rural tropical ecosystem", in Ambio, Stockholm, vol. 14 (1985), p. 122-133.

6 See UNEP Regional Seas Reports and Studies, No. 41 (1984), para. 60.

7 See UNEP Regional Seas Report, op. cit., para. 87.

8 *Bawn, Eckhard*: "Opportunities and constraints of small scale farms to adopt agroforestry methods in the Western Usambaras of Tanzania" in: Der Tropenlandwirt, Witzzenhausen (1984), p. 67-76; and *Bohlen, Eberhard*: Crop pests in Tanzania and their control, 2nd edition, Berlin West, 1978. Note: Some of the herbicides, pesticides as well as chemical fertilizers have been banned in the agricultural production of the highly developed countries, but they are offered for export to the developing countries. Developing countries eager to increase their yields import these agents at the expense not only of their environment but the health of their population.

annual fish catch for the population in the Basin is likely to be provided.⁹ Apparently, there are some environmental problems associated with the project. First of all, the reservoir is likely to occupy 3% of the Sealous Game reserve. Secondly the dam being constructed is expected to lead to a reduction of the mangrove forest by some 10%. The mangrove forest is a very important part of the Tanzanian marine environment since it provides habitat for shrimps or prawns.¹⁰ Thirdly, there is some concern in relation to the discharge of effluents into the rivers by the Mufindi pulp and paper industry in the area. The reservoir may actually trap tons of sediments contaminated with chlorinated organic toxics. This is likely to pose a danger to the expected fishing industry.¹¹

Marine Environment: The destruction of the marine environment in Tanzania is mainly a result of land based economic activities. These activities may be divided into the following three major categories:

(i) **Industries:** Almost 80% of all industries in Tanzania are found in Dar es Salaam. These are mainly soap, cotton seed, textiles, wood processing and phosphate complexes. A good number of these industries discharge their wastes directly into the Indian Ocean. This is made even more serious by the fact that some of the industries do not have proper treatment system and end up discharging mostly organic and chemical wastes directly into the Ocean.¹² These industries, one may conclude, are the source of the pollution of the marine environment.¹³

Debris or sediments brought into the Indian Ocean by the major rivers, include some wastes from industrial complexes upcountry, where the rivers are considered to be the best places for the disposal of such wastes. These wastes end up increasing the pollution of the marine environment.

(ii) **Mining:** Mining activities taking place on the coast have a disastrous effect on the composition of the marine environment. Mining is done with the aim of extracting coral line limestone, for instance at Wazo Hill, for the production of cement in the construction industry. There is also an increasing quarrying activity by individual operators for the construction of industry as well. As a result of these activities large quantities of materials are being dumped into rivers and carried to the Indian Ocean.

9 See UNEP Regional Seas Report, op. cit., paras. 70-73.

10 Ibid.

11 Ibid., para. 72.

12 Ibid., para. 59.

13 A survey done in 1983-84 showed that out of 178 complexes, 27 were known to be sources of pollution. - Ibid. p. 59.

The exploitation of the salt pans is leading to the clearing of many mangrove swamps. The effects of the several gas exploitations along the coast or off-shore have yet to be felt on the marine environment as well as the coastal populations but it is already clear that the Indian Ocean is considered as a place for the disposal of the resultant wastes. The coral reef is damaged causing irreparable destruction to the marine environment.

(iii) Construction industry: The construction industry is increasingly working on the mangroves. This has resulted in the deforestation of the mangrove forest to satisfy this demand with rather disastrous effect on the marine environment.¹⁴

Another source of environmental hazard on the marine environment is the discharge of domestic and municipal waste into the Indian Ocean, causing damages to the coral reef.

Fishing by dynamite is one of the activities currently causing a lot of destruction to the composition of the marine environment. Such fishing has the effect of destroying the habitat in the nearby shore area. Oil pollution from ships is another factor that adds to the destruction of this environment. There are occasionally such cases in Tanzania where some foreign vessels have discharged oil on the surface of the Indian Ocean within the limits of the International Waters. Another damage caused by sea going vessels results from their careless dropping of the anchor which tends to destroy the coral reef.

Adverse environmental impacts arise from the activities summarised above. Most of these tend to affect the coral reef which is actually one of the main foci of marine life in this region. The coral reef acts as a barrier to protect the shoreline from erosion by wave action and provides materials for beaches,¹⁵ apart from providing important breeding ground for fish.

Pollution of the coral reef in Tanzania is caused by land-based sources as well as from oil of ships. When heavy sediments are dumped at sea they smother the coral reef obscuring the light and increasing the nutrient content with consequent growth of algae.¹⁶ The reef life is thus irreparably damaged.

Further damage is carried by dynamite fishing. This way of fishing reduces the reef to a lifeless rubble as a result of the explosion. In this state the coral reef is not longer in the position to afford protection to the coast by keeping it intact against the forces of soil erosion.

¹⁴ More on the mangroves read: *Man in the Mangroves*, United Nations University, (UNU), Tokyo, 1986.

¹⁵ See UNEP Regional Seas Report, para. 134.

¹⁶ *Ibid.*, para. 135.

Air Environment: Very little may be said with respect to air pollution in Tanzania at the moment. There are relatively few industries which emit pollutant materials into the air, for instance, the cement factories. As much as their damage could be considered minimal, it is important to note that air pollution is a transboundary problem. Consequences of such pollution have not yet been noticed in Tanzania, but this does not mean the damage is not there. It only takes a long time to make itself noticeable.

The Existing Laws

After having briefly examined the causes of environmental degradation, let us now turn to the corrective measures applied with the aim of bringing to a halt or reducing the rate of the damage effected on the environment. As indicated above, corrective measures here mean, by and large, legal instruments promulgated in order to counter the degradation of the environment. When we deal with corrective measures, it is important to draw a distinction between steps taken for conservation of the environment from those taken against pollution of the environment. Conservation measures are normally through rather prohibitive instruments that have sometimes tended to frustrate the economic welfare of the inhabitants in the areas to be conserved.¹⁷ The instruments aim at stopping man's economic activities in the protected area, leaving the area in its intact natural state.¹⁸ The corrective measures in respect to this topic are those policy considerations incorporating legislation on the protection of the environment without necessarily prohibiting further exploitation or uses of the particular environment in question. A good example here could be the Fisheries Act of 1970. Though the Fisheries (Explosions, Poisons and Water Pollution) Regulations of 1982 prohibits the use of dynamite fishing, it does not prohibit fishing itself. In short, this means regulatory legislation in respect of environmental protection.

In order to observe whatever development in this aspect of law, it is imperative to examine the situation within the three categories as given above, with the view to establishing the effectiveness of this legal regime in combating environment degradation.

(i) Land: Of all the categories above mentioned, the land environment seems to have some legislation controlling particularly pollution. Most prominent of this is the Natural Resources Ordinance Cap 259. This ordinance provides for the improvement of natural

¹⁷ This is noticeable particularly during the early years of British colonialism in Tanzania. A number of ordinances were passed prohibiting "natives" from hunting in certain areas declared as protected. See for instance: Game Park Ordinance Cap 86; The National Parks Ordinance Cap 253; and The Ngorongoro Conservation Area Cap 413.

¹⁸ See Costa R. Mahalu: "The Laws on Ngorongoro Conservation Area" in Wil Verwey (Ed.) *Nature Management and Sustainable Development*, I.O.S. Amsterdam (1989), p. 265-277.

sources of the county including soil and waters.¹⁹ The Ordinance makes it a punishable offence to negligently divert or injure any soil or water conservation work. Apparently, the Ordinance does not outline conservation or improvement measures to be promoted or observed in relation to the natural resources. In its provisions, the environment, let us say in the form of natural resources, is not given any specific status underlying the need for its protection.

Closely related to this is the Water Utilization (Control and Regulation) Act 1977 which provides that all water in the United Republic of Tanzania is vested in the United Republic.²⁰ The reasons behind this provision are clear, among them presumably is the granting of the specific status to water in Tanzania so that its protection and pollution control may be carried out by government agencies without undue claims from individual interests. The Act grants the right to use water for various purposes as long as it is not polluted with any matter to the extent of making it likely to cause injury either directly or indirectly to public health, livestock, fish or crops. It is a punishable offence to pollute the water in any river, stream or water course or in any body surface. The punishment upon conviction ranges from cash fine to a term of imprisonment or both.

In 1981, the Water Utilization (Control and Regulation) Act was amended in this way providing for better provisions in the control of pollution of water by establishing a Central Water Board²¹, whose functions are to research and investigate on pollution. The Board is supposed to formulate steps to be taken by the Government in respect of pollution control. Its role is simply advisory and can hardly enforce its pollution control measures concluded after its research.²²

The Mining Act of 1979 bears provisions relating to pollution control. Under the Act a person granted a licence should give a statement with particulars of the programmes of proposed mining operations. Together with this must be a statement with the proposal for the prevention of treatment of pollution, the safeguarding of fishing and navigation and the minimisation of the effects of mining on water areas and adjoining lands.²³ Safeguards are also required in respect of land based mining operations. The enforcement of the provisions of this Act is not totally successful in some aspects. The gold rush in Geita and Kahama as well as the Southern Highlands districts has not taken into consideration the irreparable damage being done to the environment by the prospectors or miners. In its provisions, the

¹⁹ See Natural Resources Ordinance Cap 259 sec. 2(a)a(b).

²⁰ Water Utilization (Control and Regulation) Act 1974, S. 2.

²¹ See Water Utilization (Control and Regulation) (Amendment) Act 1981.

²² See *Kabudi, P. J.*: "The Law for Environmental Protection Against Pollution in Tanzania", Mimeo. Paper presented at the seminar on "The Law of Planning and Environmental Control" organized by the Faculty of Law, Sept. 21-24 1987, University of Dar es Salaam.

²³ See Sec. 37 (1).

Act tends to regulate closely the activities of companies and corporations who are actually aware of its existence and regulations, whereas the individual prospector and miner goes on about his injurious missions without knowledge of the existence of the Act.

The Petroleum (Exploitation and Production) Act of 1980 looks more on to the marine environment than land. All the same, the Act makes provisions which are equally useful to the exploration or production operation likely to be carried out upcountry. The Act requires all those persons involved in the exploration and production of petroleum in Tanzania, to observe "good oil practices", meaning: practises accepted as good, safe and efficient in the carrying on of explorations or development operations.²⁴ The holder of a licence whether of exploration or development is placed under a duty to control the flow and prevent the waste or escape in the exploration or development area of petroleum, gas or water and he is obliged to prevent any mixture of water or drinking fluid and petroleum or any other matter.²⁵ He is also placed under a duty to prevent the pollution of any water wall, spring, stream, river, lake, reservoir, estuary, harbour etc. or any other waste products or effluents.

The Commissioner of Petroleum is the designated person in such matters, where licence holders have to inform him in details about the techniques to be employed during exploration or development as well as the safety measures taken during the drilling of the well.²⁶ A fine of about T shillings 100,000 (US \$ 700) is usually imposed on a person failing or neglecting to comply with the anti-pollution requirements.

The minister responsible for Energy is empowered by the Act to make regulations on the control of flow and the prevention of escape of petroleum, water, gases or other noxious or deleterious matter. He can make regulations on the prevention of escape of petroleum, water and other substances produced in association with the exploration for the recovery of petroleum.²⁷ Activities of most industries fall under The Public Health (Sewerage and Drainage) Ordinance Cap 336. This Ordinance regulates pollution by prohibiting a person to throw or empty drainage or chemical refuse or waste into a stream. The fine imposed on a person contravening this Ordinance is rather low, i.e. T shilling 100 (US \$ 0,70).

The main emphasis as indicated by the short survey of existing laws on environmental protection, is on pollution regulation and control. This shows the main concern of the activities in Tanzania on environmental degradation to be only in the region of pollution.

²⁴ See Sec. 5 (1).

²⁵ See Sec. 58 (2)(a)a(b).

²⁶ See Sec. 58 (2)(9).

²⁷ See Sec. 91 (1). The Minister has already issued the Petroleum (Exploration and Production) Transitional Rules, 1982, whose main emphasis is the control of pollution.

(ii) Marine: There are almost non-existent regulations in relation to the depletion of the mangrove forest. There is thus, a remarkable lacunae. The Public Health (Sewerage and Drainage) Ordinance may be applied in relation to the controll of pollution resulting from land based activities, especially wastes from industries. The Mining Act of 1979 as well as the Petroleum (Exploration and Production) Act of 1980 are applicable to activities likely to soil the marine environment.

The marine environment in Tanzania, is one of the areas which is currently showing the damages caused to it through the activities taking place on land, yet legal development in its protection has been very slow, if one examines the lopsided nature of the legislation already described. The Fisheries Act, 1970 contains provisions in relation to pollution control in the Territorial Waters.²⁸ The Fisheries (General) Regulations of 1973 prohibits the throwing overboard of certain substances like balast, coal ashes, or other prejudicial deleterious susbstances in water where fishing is carried on.²⁹ The Regulations further prohibit the causing or knowingly permitting of putting any water lime, chemical substances or drugs, poisonous matter, dead or decaying fish or remnants, mill rubbish, saw dust or anything injurious to fish or spawning grounds, sproun or food.³⁰ Failure to observe the provisions of these Regulations results in a penalty of T shilling 10,000 (US \$ 70). For second and subsequent offences, the fine is T shilling 20,000 (US \$ 140) or a term of imprisonment not exceeding 5 years, or both.³¹

It is actually the Fisheries (Explosives, Poisons, and Water Pollution) Regulations of 1982, which comes with a provision defining pollution. Water pollution is defined as man made or man included alteration of chemical, physical, biological or radiographical integrity of water. No person is allowed, therefore, to cause or permit to flow or pass into water any solid, liquid or gaseous matter to a concentration which will be injurious to any aquatic flora or fauna.³² Dynamite fishing is prohibited through this Regulation.

The maintenance of the marine environment in this particular case is emphasized by the fact that the Director of Fisheries is obliged to maintain and establish a system of consultation and cooperation with the appropriate officials of the Ministers of Industries for the purposes of requiring any person who contravenes the Regulations to clean the polluted water within reasonable time at his own expense. This is designed to prevent pollution caused by the increasing industrial activities along or near the coast causing land based pollution problems³³.

28 See Sec. 57 (1) (a).

29 See Regulation 27.

30 Ibid., Regulation 28 (1).

31 Ibid., Reg. 43.

32 See Fisheries (Explosives, Poisons, and Water Pollution) Regulations, 1982. Regulation 6 (1).

33 See *Kabudi, P. J.*, op. cit., paper p. 12.

The Fisheries Act of 1970 with its Regulations is not restricted to activities on or along the waters of the Indian Ocean. Its applicability is nation wide where fishing as an industry takes place.

The main cause for concern in the marine environment is the fear of oil spillages and oil contamination from ships. The Merchant Shipping Act of 1967 together with the Petroleum (Exploration and Production) Act of 1980, attempt to provide for the necessary control as well as conservation of the marine environment. The Merchant Shipping Act, promulgated 20 years ago³⁴, deals with the problem of pollution by vessels accidentally or deliberately discharging oil. Under its Part II Sections 309 (2) the Act provides that any oil or oily mixture discharged from any ship into a harbour or into the sea within 100 nautical miles from the coast of the United Republic, or from any Tanzanian ship into the sea within 100 miles of any land, the owner or master of such ship shall be guilty of an offence and shall on conviction be liable to a fine of T shilling 10.000 (US \$ 70).³⁵

(iii) Air: There is almost no legislation regulating and controlling pollution of the air. The air is, therefore, unprotected, if one ventures to say so. This does not mean that pollution of the air is an unknown problem as indicated by the lack of legislation. As it has been observed above, it could be a question of time, since damages resulting from air pollution take some time to manifest themselves.

The Nature of the Existing Legal Regime on Environment

Almost all legislation briefly examined here is aimed at controlling pollution. As much as pollution attacks the environment, it is not the only threat to it. There are many agents that destroy it. The legislation in their objectives fail to provide for the protection of the environment as such. They have regulations that allow activities that cause damage to the environment, but in a given way. This is quite understandable, since a total prohibition of such activities would mean bringing the economy to a halt. Mining is destruction in all its aspects, but it has to be regulated by the Mining Act of 1979, because it is one of the sources of Tanzania's hard currency earnings. Fishing is an important industry in Tanzania, since it provides protein to a large percentage of the population. The Fisheries

³⁴ For a short critique on this see: *Costa R. Mahalu*, Public International Law and Merchant Shipping: An East African Aspiration, Nomos Verlagsgesellschaft, Baden-Baden (1984). See also: *Kabudi, P. J.*, "Some Legal Aspects of Marine Resource Protection and Management in Tanzania", LLM Coursework Paper, University of Dar es Salaam, Faculty of Law, 1984/85.

³⁵ In early 1980, an Indian registered vessel, MV Balancha accidentally discharged a lot of oil within the Internal Waters of Tanzania. The fine of T shilling 10.000 caused a public outcry through debates in the mass media that the fine was very low. The owner of the ship was to pay the fine and meet expenses for cleaning up the damage. See Daily News (Tanzania), 22nd January.

Act of 1970 does not provide provisions prohibiting fishing, but controls the ways used in catching fish in this way attempting to make reserves for future catches.

Protection of the environment as such does not feature directly. The environment as such is denied its prominence in the provisions of the legislation. A brief examination of the Natural Resources Ordinance, The Fisheries Act, the Town and Country Planning Ordinance³⁶ as well as the Rufiji Basin Development Authority (Rubada) Act³⁷, show this weakness. Some of the legislation tends to overlap, for instance, the Natural Resources Ordinance, The Water Utilization Act or the Public Health (Sewerage and Drainage) Ordinance have basically the same objective.

Institutional Enforcement of Environmental Protection

There is ample evidence showing non-compliance with the pollution control provisions especially by the industry. The failure in closely observing these provisions is most probably a result of the lack of institutional enforcement of these regulations, as well as the ridiculous fines imposed on offenders. The Central Water Board, established by the Water Utilization (Control and Regulation) Amendment Act³⁸, has no power to enforce its steps. It is simply recommendatory in its functions. The National Environment Council, established by the Government in 1986, is again recommendatory in its functions in the sense that it advises the Government on matters related to the Environment and its protection. The National Environmental Council is even too ill-financed to carry out its functions³⁹. The enforcement of such regulations has been largely kept to the police force, especially in the question of dynamite fishing.

³⁶ Cap 378. Its main concern is pollution control. It empowers the Area Planning Committee to order the demolition of any building which is likely to involve danger or injury to health or pollution of any waters.

³⁷ Act of 1975. This Act was passed in order to tap and develop the potentials of the Rufiji Basin. Apart from regulating the generation of hydroelectric power, flood control, agricultural activities, forestry, fishing and tourism, it empowers the Minister for Finance, Economic Affairs and Planning to make regulations designed to minimize pollution of the waters within the Development Area. No Regulation has so far been issued despite pollution threats from the Mufindi pulp and paper industry in the region.

³⁸ Act of 1981.

³⁹ See *Ngasamiakwi, P.S.M.*, and *Mvungi, S.E.A.*, Public Administration and Environment Control in Africa - The case of Tanzania, Mimeo. Presented at a seminar in Munich, June 1989, p. 26-27.

The Status of the Environment

As it has been pointed out, the current legislation does not fully protect the environment. Pollution control regulations are not in themselves sufficient to ensure a clean environment. Despite the existence of the legislation, pollution is perpetuated through various activities in Tanzania. This calls, however, for a critical examination of the environmental protection policy, if at all it exists, in Tanzania. It is important, however, to identify the legal status given to the environment as such. In all of the examined legislation references to the environment is indirectly made. The environment does not have a great impact on the background of the various legislation. The status in the various legislation depends on the basic question, how narrowly the judges will interpret the Fisheries Act. Should a judge interpret the Fisheries Act narrowly by noting the commission of a prohibited activity? Or should he go further and also consider the rubble caused by the exploding dynamite, which has caused damages to the structure of the coral reef and which will promote soil erosion on the coast? Most probably, he will restrict himself within the nature of the offence committed, and the environmental repercussions will be something quite remote. If this should be true case, then the legislation would be playing a very minor role in the protection of the environment by giving the environment little or no prominence at all. This is further indicated by the amount of the fines imposed against offenders. Obviously, the damage caused to the environment clearly exceeds the T shilling 100 (US \$ 0,70) paid by an offender who has polluted water streams. If we go by the fact that the fine reflects the importance and status of the environment, then the importance and value of the Tanzanian environment cannot be high.

The latest legislation made, in the wake of global environmental problems, fail to take into consideration the question of environmental protection. The Territorial Sea and Exclusive Economic Zone Act of 1989 does not bear any provisions in its rules relating to the protection of the marine environment. Section 12 of the Act allows the application of other laws, among them the Merchant Shipping Act, and laws related to the management of the national environment. The Minister for Foreign Affairs, in consultation with the appropriate authority and with the approval of Parliament, may extend the application of any legislation to the Territorial and Exclusive Economic Zone.⁴⁰ In the absence of appropriate legislation calling for the protection of the environment, this section may not be all that useful. It would have been much more appropriate, if the Act had its own provisions of the protection of the marine environment, in anticipation of the various hazardous economic activities to be carried on in the Territorial Sea or Exclusive Economic Zone.

⁴⁰ See Sec. 12 (2).

Conclusion and Recommendations

As it has been observed above, the existing legislation on environment aims at controlling pollution. There are not many provisions outlining protective measures to be taken by users of industrialists in restoring, where possible, the state of the environment damaged. Despite the existing legislation, pollution is still continued through various activities based basically on land. Dynamite fishing has of late compelled the government to draft a bill prohibiting this form of fishing⁴¹. There is, indeed, a need to give the environment a specific legal status, so that its protection should be recognized by courts of law. It is imperative to have a magistrate or a judge put more weight on the injured environment as well as its protection than simply concentrating on the violation of pollution control provision.

In conclusion, I would like to make the following proposals in relation to the guarantees and protection of the environment in Tanzania:

(a) The legal status. It is important to have the environment identified in legal terms, through a separate instrument or, if possible, the Constitution, giving it a specific legal status and guaranteeing its protection. Some Western writers have tended to argue that the environment should be given specific rights under the constitution⁴², in which case the constitution will recognize or establish fundamental rights, which require judicial application, interpretation and protection.⁴³ The fifth amendment of the constitution of 1984 makes no reference to the environment at all. It is silent. Chances of making amendments to the Constitution in respect of the environment are rather narrow and probably, at the moment, complicated. The only chance is through amending the Natural Resources Ordinance, by making provisions giving the environment a fundamental value in the Tanzanian society, requiring judicial protection.

(b) The legislation alone? Legislation in itself is not sufficient enough in consolidating environmental protection policy. Despite the existing laws, the destruction of the environment continues. It is indeed important to educate the population about the value of the environment and the way through which it could be protected. Punitive legislation in the absence of offering useful alternatives does not assist in protecting the environment. A legislation prohibiting the felling of trees in favour of protecting the forestry is useless, if it

41 Daily News (Tanzania), 1. September 1989: "Govt. Draft Bill on Dynamite Fishing". This Bill aims at providing deterrent punishment to fishermen who use dynamite. The 1970 Fisheries Act, provides sentences up to 10 years imprisonment to a person convicted of dynamite fishing. This punishment is today considered as not deterrent enough.

42 See *Briden*, Environmental Rights in Theory and Practise in: *Minn L. Rev.*, vol. 67 (1978), p. 163; *Sax*, *Defending the Environment*, New York (1970), and *Stevenson*, A New Perspective in Environmental Rights after the Charter, in: *Osgoode Hall L.J.*, vol. 21 (1983), p. 390.

43 *Stevenson*, *op. cit.*, p. 395-396.

does not provide for alternative sources of fuel or energy. One cannot expect the legislation to provide for such alternatives. Rather, the public is supposed to be educated on such alternatives, if available and cheap. The role of the legislation should be to regulate or control matters that are publicly known to be causes of environmental disaster. The educated public should thus be able to assist in the realization of the objectives of the legislation. The National Environmental Council could play a vital role in increasing public awareness of the value of the environment. This could be attained through seminars and campaigns made in schools, in villages as well as in urban centres, where the role of the public as caretaker of the environment should be emphasized, together with the knowledge of the laws on environmental protection.

approach to conservation, as opposed to sustainable development, combined with the economic incentives both for debt and debtor countries.

Debt-for-Nature Swaps: Environmental Colonialism or a Way Out from the Debt Crisis that Makes Sense?

By Hildegard Bedarff, Bernd Holznagel, and Cord Jakobeit

The paper describes the mechanism of debt-for-nature swaps and illustrates this new concept by presenting the most interesting cases which have been initiated so far. In one case, the authors give insight into the detailed arrangement. Finally the pros and cons of debt-for-nature swaps are discussed in the light of the future prospects of this innovative way to finance environmental protection in the Third World.

It is argued that these swaps are neither environmental colonialism nor a way to solve the debt crisis. However, as it is pointed out, they are a creative way to alleviate a small part of the Third World debt while saving much-needed funds for the fight against environmental degradation in many Third World countries - degradation that is closely tied to the emergence of the debt crisis itself. Whereas a comprehensive debt reduction and/or forgiveness would be more effective and desirable for the environment, it is, under today's conditions, neither likely nor easily feasible. Debt-for-nature swaps, in turn, are a workable and already existing way to help the environment, albeit on a small scale.

Considering the West German perspective, the article concludes with four recommendations for policy-makers, bankers and the public.

Environmental Degradation and the Law in Tanzania

By Costa R. Mahalu

The article gives an insight into the state of environmental degradation from a factual and a legal point of view. On the factual side, the author covers the effects of pollution on the Tanzanian land, marine and air environment.

In the case of the marine environment the wide range of causes for pollution is explained. Among them is the pollution from land based sources, from extensive fishing practices, construction activities and disposal wastes, oils spills as well as - last but not least - the exploitation of salt pans.

Following this broad survey of causes for environmental degradation the article reviews the existing instruments of Tanzanian law including both institutional and prohibitive measures. Respect is given not only to primary measures such as environment protection acts, but also to other legal instruments with a positive effect on the environment.