

## CHALLENGES ON COMPLIANCE AND ENFORCEMENT OF THE WASTEWATER MANAGEMENT LEGISLATION IN TANZANIA

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### SUMMARY

The lack of compliance and enforcement of wastewater management legislation in Tanzania has raised concerns due to the significant environmental and public health threats that result from unregulated discharge of industrial effluents. Utilization of the “Table of Eleven” tool, a behaviour-analysis model providing insight into the level of legislative compliance, makes it possible to explore motives that encourage industries to comply with, or violate, existing wastewater management legislation. This paper discusses how application of the “Table of Eleven” tool has enabled the government of Tanzania reveal strong and weak points pertaining to the compliance and enforcement of the wastewater management legislation. As a result, it is clear that more attention is needed to improve comprehension of the legislation and to increase the use of incentives and economic instruments. Future steps should include applying this knowledge to the development of environmental indicators.

### 1 INTRODUCTION

Despite the enactment and implementation of environmental legislation at the national and international levels, various measures of environmental quality show continuing global degradation across a broad spectrum, resulting in serious consequences for ecosystems and public health (Constantinides 2001). One of the main reasons for the continuing degradation is non-compliance with existing

environmental legislation. Also contributing to the degradation is the failure to invest in compliance and enforcement coupled with the fear that improving compliance and enforcement will increase the cost to industry, harm industry's competitiveness at home and abroad, and deter foreign investment. However, investing in enforcement and compliance not only improves environmental quality and public health, it also improves the competitiveness of firms and nations. Improving enforcement and compliance in Tanzania will likely enhance respect for the rule of law; therefore, strengthening the foundation for improved environmental governance (*see Zaelke et al. 2002*).

In Tanzania, the regulatory and administrative framework surrounding wastewater management is driven by international conventions, regional treaties, and national environmental policies and strategies (cross-cutting and sector-based). The primary regulators for compliance assurance and enforcement of effluents operate at national and local levels.

Inadequate coordination between actors and poor application of legal instruments are among of the reasons that contribute to the current situation wastewater management in Tanzania (Lugwisha 2004). Additionally, there are no indicators available in Tanzania that can be used to assess compliance and enforcement. The government has been using the *State of Environment* reports and annual targets, along with the strategic plans of government departments, as a base for exploring potential indicators. These resources suggest the need to investment in compliance and enforcement programs, capacity building, and quality of water resources. However, due to a lack of well established environmental database systems, it has been difficult to measure the effectiveness of compliance and enforcement with the legislation based on these indicators. In this respect, the "Table of Eleven" tool (Dutch Ministry of Justice 2006) was used while conducting studies in Dar es Salaam, Tanzania and gave the estimates of compliance with the wastewater management legislation. The tool has also revealed motives for non-compliance, enforcement efforts, and helped in developing measures for improving the existing regulatory and administrative frameworks.

**Table 1: Dimensions of “Table of Eleven”**

Compliance dimensions		Enforcement dimensions	
1	<u>Knowledge of rules</u> : Target group familiarity with legislation, clarity (quality) of laws and regulations.	6	<u>Risk of being reported</u> : Possibility that an offence may be revealed during official investigation or inspections and may be officially reported.
2	<u>Costs/Benefits</u> : Material and non material advantages and disadvantages resulting from violating or observing legislation.	7	<u>Risk of inspection</u> : Likelihood of being subject to physical inspection by authorities.
Compliance dimensions		Enforcement dimensions	
3	<u>Level of acceptance</u> : The extent to which the target group accepts policy and legislation.	8	<u>Risk of detection</u> : Possibility of being detected of an offence during inspection.
4	<u>Normative commitment</u> : Target group’s respect for authority and willingness to comply with legislation.	9	<u>Selectivity</u> : Extent to which inspectors succeed in checking offenders more than who obey the legislation.
5	<u>Informal control</u> : Social control. Noncompliant behaviour of the target group can be detected and disapproved by third parties and severity of sanctions that might be imposed by the third parties.	10	<u>Risk of sanction</u> : Possibility of sanctions being imposed if an offence has been detected through controls and investigations.
		11	<u>Severity of sanction</u> : Severity and type of sanction and associated adverse effects caused by imposing sanction e.g. loss of respect and reputation.

Source: Dutch Ministry of Justice 2006

## 2 THE “TABLE OF ELEVEN” TOOL

### 2.1 What Is “The Table of Eleven” Model Tool?

The “Table of Eleven” Model tool was developed by the Dutch government as a monitoring tool (Dutch Ministry of Justice 2006). It provides insight into the level of compliance of any legislation. It is a behaviour-analysis model allowing legislators, policy makers, and enforcers to get a picture of the motives for compliance or non-compliance of a specific rule in a specific target group. The tool uses a checklist that consists of eleven dimensions which are classified into two

groups of compliance and enforcement (Table 1, Dutch Ministry of Justice 2006). The compliance dimensions are the factors that affect the incidence of voluntary compliance – that is, compliance that would occur in the absence of enforcement.

## 2.2 Testing the “Table of Eleven” Tool in Tanzania

Prior to the general application of the “Table of Eleven” tool in Tanzania, the mechanism was tested in the field and improved to suit the country’s specific situation. The tool’s checklist module, which provides an impression of the extent to which the legislation is complied, was also modified. Additionally, the data management module, which offers the possibility of documenting several formal data on the tested legislation, was increased from ten to 50 documentations.

The focus for the study was on industrial effluents that, as discussed above, have been the major concern for the pollution to the environment; as a result, the target group for the “Table of Eleven” assessment was industries. Assessment was done through focused group interviews with (1) representatives nominated from the organisations that regulate the legislation and (2) representatives from a group of industries. A total of seven groups were involved in the interview using the “Table of Eleven” checklist. Groups of industries consisted of 15 people from the following polluting industries: textile mills, food processing and beverages, soap manufacturing, and the Confederation of Tanzania Industries. Groups from regulators, with the number of representative from individual organisations in brackets, included: the Dar es Salaam City Council (6); Ruvu Wami Water Basin (3); Dar es Salaam Water Supply and Sewerage Authorities (5); Occupational Safety and Health Agency (6); Government Chemist Laboratory Agency (10); and the National Environment Management Council (8). Wastewater management legislation that was assessed include: The Public Health (Sewerage and Drainage) Ordinance of 1955; Water Utilization (Control and Regulation) (Amendment) Act No. 10 of 1981; Water Utilization (Miscellaneous Amendments) Act No. 8 of 1997; Water Laws (Miscellaneous Amendments) Act No. 1 of 1999; the Dar es Salaam Water Supply and Sewerage Authority Act, 2001; the Occupational Health and Safety Act 2003; Industrial and Chemicals (Management and Control) Act 2003 (ICC); and the Environmental Management Act No. 20 of 2004.

Industries assessed all the above mentioned legislation while the organisations assessed legislation that the individual organisation regulates. Therefore, resulting opinions represent views of the organizations, not the individual. For the purpose of security and to remain anonymous, code numbers were used to represent the industries.

The rest of this paper discusses the results of the following Acts: the Public Health (Sewerage and Drainage) Ordinance of 1955; Water Utilization (Control and Regulation) No. 42 of 1974 and its amendments; and the Environmental Management Act No. 20 of 2004.

### 3 FINDINGS ON THE EXTENT OF COMPLIANCE AND ENFORCEMENT OF THE WASTEWATER MANAGEMENT LEGISLATION IN TANZANIA

Application of “Table of Eleven” in Dar es Salaam, Tanzania revealed the main strengths and weaknesses of the existing systems of compliance and enforcement of the wastewater legislation in managing industrial wastewater discharge. Based on the evaluation of the regulators and industries, the key findings are the following (See also boxes 1 to 3 for the details):

- Both individual groups of regulators and industries have more or less the same observations on the motives that encourage compliance or violations.
- Industries are capable of understanding the legislation; however, the wastewater management legislation is not familiar to industries. The legislation lacks clarity as has not been translated in a simple language, including means to realise the objectives and outcomes (*e.g.*, how to meet national effluent standards and reduce pollution loads to the environment). In short, inadequate knowledge on the legislation has contributed to industries not accepting the legislation’s objectives and understanding its effects and outcomes.
- Despite of inadequate knowledge on the legislation, industries are concerned with enhancing good reputation and image of the business to the public and competitors, avoiding high costs to be incurred if they violate the legislation, avoiding risks being involved when inspected or detected of any violations and sanctions to be imposed, promoting their businesses through certification on the quality of the products (ISO 9000) and environment (ISO 14001), and avoiding negative reactions from public and within the industry’s sector.
- Industries would like to comply fully; however, there is a lack of compliance schemes, such as incentives and economic instruments to motivate compliance, within the legislation.
- While industries believe that they are respecting regulators, the latter seem not always necessarily agree.
- Industries, Dar es Salaam City Council, and Wami-Ruvu Water Basin identified “social control” as one of the factors that encourages compliance to the legislation, and the National Environment Management Council was observed to be weak.

See Appendix 1- Related to Compliance Profiles of Wastewater Management Legislation

## 4 RECOMMENDATIONS

In order to improve the current situation it is recommended that wastewater management is made more available and better explained to the industries and relevant actors, such as public. This can be accomplished by translating the legislation into simple language and raising awareness through the media, public forums, websites, etc.

Consultative forums of actors who have stake in wastewater issues (including regulator – industries forums) should be enhanced. This would encourage voluntary compliance. Also, industries need to have environmental management plans and commitments for implementing the same and conduct self-monitoring and report to the regulators.

The current situation can also be improved by developing transparent and consistent compliance schemes. These schemes could consider the activities and performance of each industry or sector, risks and impacts to the environment and public health, evaluate the proportionality of compliance (balance of action to protect the environment against risks and costs, deterrent effects, appropriateness).

Effective coordination among regulators should be established to avoid inconsistencies and ensure accountability while working to implement the objectives of applicable legislation. This could be enhanced by having binding benchmarks, memorandum of understanding, and protocols in executing responsibilities. The memorandum of understanding could incorporate issues such as responsibilities, information, resources, and accountability (specified and clear objectives, targets and indicators of performance, liability, procedures for conflict resolutions, etc.).

## 5 CONCLUSIONS

Application of the “Table of Eleven” tool has enabled the government of Tanzania to reveal strong and weak points pertaining to the compliance and enforcement of the wastewater management legislation. More attention is needed to improve comprehension of the legislation and the increase the use of incentives and economic instruments.

Effective collaboration among regulators would enhance joint use of merger resources from the government, effective information sharing and promote accountability.

Although the reasons for promoting compliance and non-compliance with the wastewater management legislation in Tanzania have been identified by both regulators and regulated community, a need to develop indicators that can

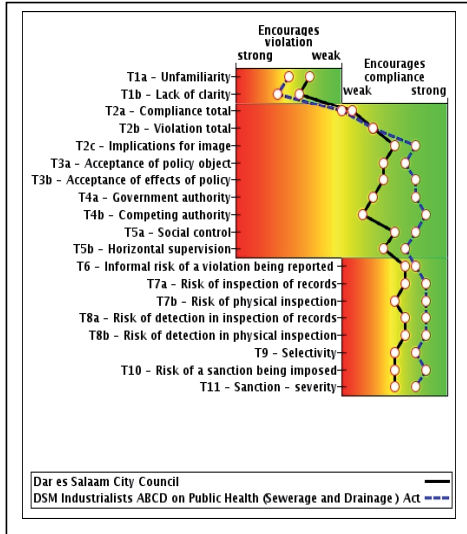
compliment the results, using international experience (including the Netherlands, USA, INECE, etc.), should be emphasised.

## 6 REFERENCES

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## APPENDIX 1: COMPLIANCE PROFILES OF WASTEWATER MANAGEMENT LEGISLATION

### Box 1: Compliance profile of the Public Health (Sewerage and Drainage) Ordinance based on industries and Dar es Salaam City Council

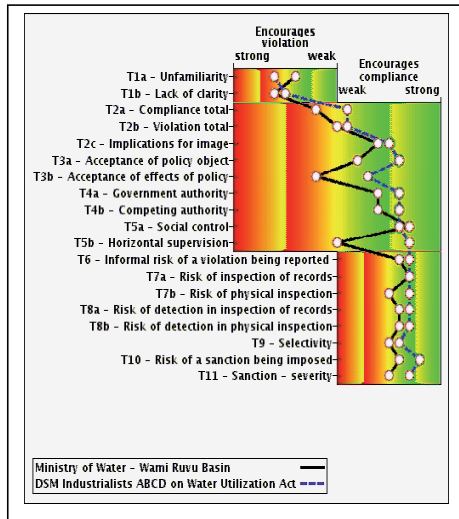


Although there variations in the perception of the level of compliance, both the City Councils and industries identified that the compliance to the Ordinance is strongly encouraged by fear of damaging image to the public, social control and risks of being inspected and detecting violations as well as the sanctions to be imposed.

While the city council realise that industries inadequately respect the regulators, the industries disagree.

Both groups also identified lack of incentives and economic instruments as motives that weakens compliance, while lack of clarity and unfamiliarity to the Ordinance encourage violation.

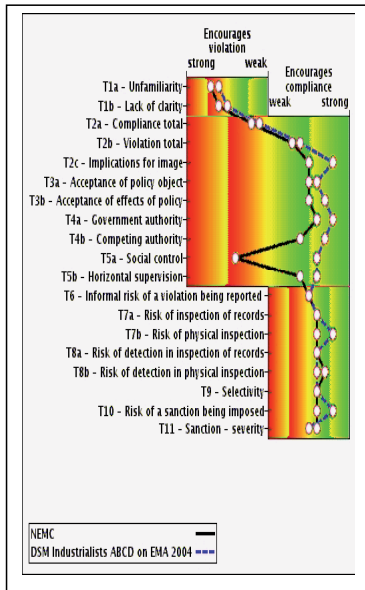
### Box 2: Compliance profile of the Water utilization Act No 42 of 1974 and its amendments based on industries and Wami-Ruvu Water Basin



Both industries and Water Basins realise that social control and reputation of the image and risk based management as well are factors that encourage compliance. Risks are on inspections and violations being detected and reported as well as sanctions to be imposed. Fear on high costs for compliance compared to the benefits weakens compliance. While, lack of clarity and familiarity of the Act, strongly encourage violations. This is due to the fact that the Act has been amended for many times and not translated in a simpler language to be understood well, and does not reflect the objectives of the National Water Policy 2002 to meet the existing challenges. From the figure this is highly indicated by the Water Basins.

While industries recognise the compliance is encouraged by the industries to implement ISO 9000 and ISO 14001, Water Basins do not see it.

### Box 3: Compliance profile of the Environmental Management Act No. 20 of 2004 based on industries and NEMC



Both NEMC and industries observed that:

- Compliance to the Act is encouraged as it creates good reputation to the public. Fear of high risks associated with inspections, detection of violations, high costs for violations as well as sanctions that could be imposed are also factors encourage compliance. Acceptance of the Act's objectives and its effect as well as respect to the authority by industries and implementing programmes that enhance businesses such as ISO 9000 AND ISO 14001 encourage compliance with the Act.
- Lack of incentives and economic instruments weaken compliance.
- Unfamiliarity and lack of clarity to the Act encourage violation.

Industries observed that detection of violation by public and non-government organisations that could result into high costs and bad reputation, encourage compliance. However, NEMC observed that, social control is still not effective to make industries to comply with the Act. This is attributed by the fact that the Act is not familiar and has not translated into a simpler form that the public can easily understand.

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