

# **Integrated Natural Resources and Environmental Management for Sustainable Development in Kenya**

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**Kariuki Muigua**

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### **Abstract**

*Natural Resources and the environment in general are central to both the anthropocentric and ecocentric approaches to sustainable development agenda. These resources are considered to be the most important source of livelihood for the human beings. However, most of these resources are finite in nature and must therefore be managed in a sustainable manner to guarantee the wellbeing of the current as well as future generations. As such, there are various approaches that are acceptable within the international environmental legal and institutional frameworks for the achievement of these goals. This paper examines these approaches within the context of Kenya and argues that none of these approaches can fully achieve the sustainable development goals if adopted on its own and thus makes a case for an integrated approach based on the positive aspects of each approach.*

### **1. Introduction**

Natural resources law represents a major and perhaps one of the most important regulatory regimes in most countries.<sup>1</sup> One of the crucial issues addressed by natural resources law is how to avoid harm and serious damage to resources.<sup>2</sup> Therefore, policymakers have a variety of approaches available when legislating to enable holistic protection and management of the environment and natural resources.<sup>3</sup> These approaches include command and control, market-based approaches, incentives (taxation and subsidies) amongst others. Community based natural resource management (CBNRM) and traditional resource management institutions have also been used with some success in Kenya.<sup>4</sup> Ecosystem-based approaches such as integrated water resources management (IWRM) or River basin management, integrated coastal zone

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<sup>1</sup> Hutter, B.M, 'Socio-Legal Perspectives on Environmental Law: An Overview' in Hutter B.M. (ed), *A Reader in Environmental Law*, (Oxford University Press, 1999) 3, p.4.

<sup>2</sup> Gunningham, N. & Sinclair, D., 'Designing Smart Regulation,' in Bridget M. Hutter (ed), *A Reader in Environmental Law* (Oxford University Press, 1999), p.305.

<sup>3</sup> *Ibid*, p.305.

<sup>4</sup> See generally, Measham, T.G. & Lumbasi, J., "Success factors for Community Based Natural Resource Management (CBNRM): lessons from Kenya and Australia." *Environmental Management*, Vol. 52 (3), 2013, pp. 649-659.

management (ICZM) and integrated management of land and other resources are other approaches to NRM.<sup>5</sup> This paper discusses these approaches, assesses their role in sustainable development, and proposes reforms on how to improve natural resource management in light of the provisions of the Constitution.

Notably, the relationship between development and environment is central to the sustainable development concept.<sup>6</sup> Sustainable development aims to improve the quality of life in a comprehensive manner, including economic prosperity, social equity and environmental protection, by integrating all these aspects in a harmonious manner to enhance the intergenerational well-being.<sup>7</sup> At the United Nations Sustainable Development Summit on 25 September 2015, world leaders adopted *the 2030 Agenda for Sustainable Development*, which includes a set of 17 Sustainable Development Goals (SDGs) to end poverty, fight inequality and injustice, and tackle climate change by the year 2030.<sup>8</sup> The 2030 Agenda for Sustainable Development<sup>9</sup> is a plan of action for people, planet and prosperity. It also seeks to strengthen universal peace in larger freedom and was formulated in recognition that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development.<sup>10</sup>

While various groups define sustainability differently, where some restrict it to environmental sustainability and others include broader issues affecting human life, the most common one sees sustainability as the requirement to maintain the capacity to provide non-declining well-being over time.<sup>11</sup>

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<sup>5</sup> See Feeny, C. & Gustafson, P., “Integrating Catchment and Coastal Management-A Survey of Local and International Best Practice,” *Prepared by Organisation for Auckland Regional Council, Auckland Regional Council Technical Report 2009/092*, 2010.

<sup>6</sup> ‘Theories of Economic Development,’ p. 14. Available at [www.springer.com/cda/content/document/cda\\_downloaddocument/9789812872470-c2.pdf?SGWID=0-0-45-1483317-p177033406](http://www.springer.com/cda/content/document/cda_downloaddocument/9789812872470-c2.pdf?SGWID=0-0-45-1483317-p177033406) [Accessed on 29/12/2018].

<sup>7</sup> See generally, Chambers, R., *Sustainable Livelihoods, Environment and Development: Putting Poor Rural People First*, IDS Discussion Paper 240, Brighton: IDS, 1987. Available at <https://opendocs.ids.ac.uk/opendocs/bitstream/handle/123456789/875/rc279.pdf?sequence=1&isAllowed=y> [Accessed on 29/12/2018].

<sup>8</sup> United Nations Development Programme, ‘Sustainable Development Goals (SDGs),’ available at <http://www.undp.org/content/undp/en/home/mdgoverview/post-2015-development-agenda.html> [Accessed on 30/12/2018].

<sup>9</sup> *Transforming our world: the 2030 Agenda for Sustainable Development*, Resolution adopted by the General Assembly on 25 September 2015, [without reference to a Main Committee (A/70/L.1)], Seventieth session, Agenda items 15 and 116, 21 October 2015.

<sup>10</sup> *Ibid*, Preamble.

<sup>11</sup> Neumayer, E., ‘Sustainability and Well-being Indicators,’ Research Paper No. 2004/XX, (UNU World Institute for Development Economics Research (UNU-WIDER), March 2004, p.1. Available at

It is therefore, in recognition of the central role of the environment in human wellbeing that this paper explores the various approaches aimed at facilitating effective environmental governance that balances the foregoing aspects. The basis of this is that while development in all its dimensions is necessary, it should not be carried out at the expense of the environment. It also recognises that some approaches work better than others in achieving some goals hence the need to examine all of them.

These approaches are to be applied as complementary tools in natural resource management. They are not mutually exclusive as they overlap with one another in their application.<sup>12</sup> Command and control and market-based mechanisms can be used in a synergetic manner such that while broader environmental objectives are set by public authorities, the methods of achieving those objectives are determined by the business fraternity.<sup>13</sup> Some argue that<sup>14</sup> while market-based mechanisms are seen to extend the freedom to the market players, in command and control mechanisms, the benefits are said to flow to the consumers due to government intervention. Further, the government will always play its role of granting rights, imposing responsibilities, and extend, restrict, or eliminate privileges, while the market conservatives argue that once there is efficient market then the free play of the market forces will allocate resources to their highest valued uses and governments should therefore stay away.<sup>15</sup>

## **2. Command and Control Approaches**

This approach is based on standards or regulations. It is one of the most common approaches to environmental governance in many countries. This is true because natural resources management has direct consequences for human wellbeing, social justice and creates

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<http://www.lse.ac.uk/geographyAndEnvironment/whosWho/profiles/neumayer/pdf/SustainabilitywellbeingArt..pdf>  
[Accessed on 30/12/2018].

<sup>12</sup> Blanco, E. & Razzaque, J., *Globalisation and Natural Resources Law: Challenges, Key Issues and Perspectives*, (Edward Elgar Publishing Limited, 2011), p. 106; See also Miller, B. W. & Morisette, J. T., "Integrating research tools to support the management of social-ecological systems under climate change," *Ecology and Society*, Vol. 19, No. 3, 2014, Art. 41.

<sup>13</sup> Hanks, J.P., "Self-Regulation and Co-Regulation-Cost-effective Policy Options for Industrial Sustainable Development," in "*Industries and Enforcement of Environmental Law in Africa-Industry Experts Review Environmental Practice*," (UNEP/UNDP Joint Project on Environmental Law and Institutions in Africa), pp.48-58.

<sup>14</sup> Swaney, J.A., "Market versus Command and Control Environmental Policies," *Journal of Economic Issues*, Vol. 26, No. 2, Jun., 1992, pp. 623-633, p. 624.

<sup>15</sup> *Ibid.*

conflicting individual interests in democratic institutions.<sup>16</sup> Command and control approach has several different meanings. It means that natural resources protection systems rely on laws, regulations and penalties.<sup>17</sup> Regulation traditionally refers to the use of law to constrain and organize economic activity. It directs attention to state intervention through law, and typically involves regulation through public agencies charged with the implementation of the law.<sup>18</sup> In Kenya, the main agency charged with the implementation of natural resources laws is the National Environment Management Authority (NEMA). Sectoral laws create a multiplicity of agencies dealing with sector specific issues.<sup>19</sup>

The command and control mechanism therefore involves the ‘command’ of the law and the legal authority of the State. Typically, it entails regulatory law, backed by criminal sanctions.<sup>20</sup> It is based on potential coercion rather than voluntary goodwill and on penalties rather than positive incentives.<sup>21</sup> The command and control mechanism is what has predominantly informed the development of Kenya’s natural resources protection regime.<sup>22</sup>

In command and control, government agencies try to control exploitation and conservation of natural resources by issuing detailed regulations and permits.<sup>23</sup> This mechanism presupposes the government’s ability to identify environmental problems and set rational priorities, develop regulations that provide technologically workable and politically viable solutions and enforce those regulations effectively. It is the state or international institution that establishes both the regulatory parameters and the conditions and instruments that are to be used.<sup>24</sup>

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<sup>16</sup> Blanco, E. & Razzaque, J, *Globalisation and Natural Resources Law: Challenges, Key Issues and Perspectives*, *op cit*.

<sup>17</sup> Davies J.C. & Mazurek, J., *Pollution Control in the United States: Evaluating the System* (Resources for the Future, 1998), p. 15.

<sup>18</sup> Hutter, B.M., ‘Socio-Legal Perspectives on Environmental Law: An Overview,’ *op. cit.*, pp. 3 & 4.

<sup>19</sup> See for example, the Kenya Wildlife Service (Established under the Wildlife Conservation and Management Act, 2013, No. 47 of 2013); Kenya Forest Service (under Forests Conservation and Management Act, 2016); and the various agencies under the Water Act, 2016.

<sup>20</sup> Hutter, B.M., ‘Socio-Legal Perspectives on Environmental Law: An Overview,’ *op. cit.*, pp.3 & 5.

<sup>21</sup> Davies J.C. & Mazurek, J., *Pollution Control in the United States: Evaluating the System*, *op. cit.*, p.15.

<sup>22</sup> Ochieng’, B.O., ‘Institutional Arrangements for Environmental Management in Kenya,’ in Okidi C.O., et al, *Environmental Governance in Kenya: Implementing the Framework Law*, (East African Educational Publishers Ltd, 2008), p.200.

<sup>23</sup> Babich, A., ‘Understanding the New Era in Environmental Law’ in Blumm, M.C. (ed), *Environmental Law* (Dartmouth Publishing Company Limited, 1992), p. 364.

<sup>24</sup> *Ibid*.

At its core is the centralization of authority for natural resource management in the public authorities with little delegation of responsibilities to other authorities or communities and limited participation of local communities.<sup>25</sup>

## **2.1 Effectiveness of Command and Control Mechanisms**

One reason that makes command and control mechanisms effective is its criminalization aspect in regulation.<sup>26</sup> It creates a kind of social control over the use of natural resources. Through command and control mechanisms, new categories of criminal law and criminal behaviour have been created.<sup>27</sup> Entities which would have escaped with criminal behaviour are now put on their guard. An example is the culpability of corporations.<sup>28</sup> Under the penal law in Kenya, when a body corporate commits an offence it is its managers who are held culpable<sup>29</sup> but under environmental law, culpability is assigned to the body corporate in its capacity as such, together with its managers.<sup>30</sup> This is important in ensuring compliance of large industries which are often responsible for pollution which may negatively impact natural resources.

Under command and control approaches, criminal law is used as a preventative tool by use of punitive sanction.<sup>31</sup> This is because from an economic perspective, criminal sanctions when effectively enforced raise the cost of certain conduct and therefore encourages compliance with laws.<sup>32</sup> Where the criminal penalty is greater than the benefits that would have obtained from continuing with the pollution activity, the corporation will prefer to comply with the law. In addition to fines, EMCA proposes other penalties such as forfeiture of items used as well as cancellation of licenses and permits.<sup>33</sup> Corporations will fear shutting down due to cancelled permits and losing their assets as these will directly impact their profits.

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<sup>25</sup> Ochieng, B.O, 'Institutional Arrangements for Environmental Management in Kenya,' *op. cit.*, p.200; *cf.* Ribot, J.C., 'Democratic Decentralization of Natural Resources: Institutionalizing Popular Participation,' *World Resources Institute*, 2002.

<sup>26</sup> Hutter, B.M., 'Socio-Legal Perspectives on Environmental Law: An Overview,' *op. cit.*, pp. 3 & 5; *cf.* Ashworth, A., 'Conceptions of Over criminalization,' *Ohio State Journal of Criminal Law*, Vol. 5, 2008. pp. 407-425.

<sup>27</sup> See Bethell, E., 'Environmental Regulation: Effective or Defective? Assessing Whether Criminal Sanctions Provide Adequate Protection of the Environment,' *Plymouth Law Review*, 2009, p.1.

<sup>28</sup> *Ibid.*

<sup>29</sup> S. 23, Penal Code (Cap 63), Laws of Kenya.

<sup>30</sup> S. 145(1), Act No. 8 of 1999.

<sup>31</sup> Mbote, P.K. 'The Use of Criminal Law in Enforcing Environmental Law' in Okidi, C.O., *et al*, *Environmental Governance in Kenya: Implementing the Framework Law* (East African Educational Publishers Ltd, 2008) 110, p.112.

<sup>32</sup> *Ibid*, p. 110.

<sup>33</sup> S.146, Act No. 8 of 1999.

Another reason that makes command and control effective is that, environmental laws are regarded as protective of public good.<sup>34</sup> Most environmental problems, pollution among them, must be solved by government action to avoid the tragedy of the commons.<sup>35</sup> Activities of relatively powerful groups are regulated in favour of a less powerful majority.<sup>36</sup> Indeed, it has been observed elsewhere that public nuisance, because of pollutants being discharged by big factories to the detriment of the poorer sections, is a challenge to the social justice component of the rule of law.<sup>37</sup> This is so simply because without the imposition of governmental restraints, firms and individuals could pollute with utter contempt.<sup>38</sup>

## **2.2 Criticisms against the Command and Control Approach**

Despite command and control being an effective tool, it has many critics. One recurring criticism is that regulatory agencies are under the threat of “regulatory capture” by the regulated population, if they identify too closely with their interests and hence may become lax in their enforcement of the law. Regulatory capture is also evident in the apparent imbalance between the capacities of the regulatory agencies and the regulated industries. This means that at times the business enterprises, may enjoy some advantages over the public regulator as they have more money, specialized staff, greater capacity to fight the regulator on both the technical and legal grounds and more information on the environmental problem, its extent and possible technological remedies.<sup>39</sup>

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<sup>34</sup> Hutter, B.M., ‘Socio-Legal Perspectives on Environmental Law: An Overview,’ *op cit*, pp. 3 & 11.

<sup>35</sup> Krier, J.E. ‘The Pollution Problem and Legal Institutions: A Conceptual Overview’ in Michael C. Blumm (ed), *Environmental Law* (Dartmouth Publishing Company Limited, 1992) 181, p.181; See also Hardin, G. ‘The Tragedy of the Commons,’ *Science*, New Series, Vol. 162, No. 3859 (Dec. 13, 1968), pp. 1243-1248, p. 1245.

<sup>36</sup> Hutter, B.M., ‘Socio-Legal Perspectives on Environmental Law: An Overview,’ *op. cit*, pp. 3 & 11.

<sup>37</sup> *Municipal Council, Ratlam v Shri Vardhichand & ors*, 29 July, 1980, Supreme Court of India, 1980 AIR 1622, 1981 SCR (1) 97, p. 12.

<sup>38</sup> Krier, J.E., *op cit*, p.181; See also generally Stewart, K. ‘Avoiding the Tragedy of the Commons: Greening Governance through the Market or the Public Domain?’ Available at [http://www.yorku.ca/drache/talks/pdf/apd\\_stewartfin.pdf](http://www.yorku.ca/drache/talks/pdf/apd_stewartfin.pdf), [Accessed on 30/12/2018].

<sup>39</sup> Hutter, B.M. “A Reader in Environmental Law”, (Oxford University Press, 1999); See also Stallworthy, M, *Understanding: Environmental Law* (Sweet & Maxwell, 1<sup>st</sup> ed., 2008), pp. 79-81; See also Laura Tlaiye, L. & Biller, D, ‘Successful Environmental Institutions: Lessons from Colombia and Curitiba, Brazil,’ *LATEN Dissemination Note*, No.12, December, 1994, p. 5.

Command and control approaches also suffer from a lack of resource capacity in terms of staffing of the agencies, which leads to inability to carry out their mandates.<sup>40</sup> Lead agencies such as Kenya Wildlife Service and the National Environmental Management Authority lack enough officials to monitor and check on activities likely to harm the environment. Poor enforcement of standards on the part of national Environment Management Authority (NEMA) can partly be said to be the reason for increased pollution in the country. For example, lead agencies' inspectors have the discretion to decide what constitutes an offence and whether to refer a case for prosecution or not. Their interpretation of the law becomes quite important as it constitutes the bridge between the government's decision to intervene and protect the environment and the impact of the intervention upon both the environment and the regulated.<sup>41</sup> In such scenarios, incentive-based mechanisms become more useful.

Another challenge in relation to enforcement is the fact that command and control mechanisms employ a deterrent/sanction model. In this model, a penal style of enforcement accords prosecution an important role as its main objective is to prohibit certain activities. It is also accusatory and geared towards catching law breakers.<sup>42</sup> The penalties for violating standards tend to be too low and enforcement tends to be weak; that standards tend to be less cost-effective and the fact that to be effective, standards must be revised frequently which is not the case since in practice legislation tends not to keep up with the change.<sup>43</sup>

Command and control mechanism has further been criticized as being effective only in achieving short-term economic gains as against long-term benefits due to its oversimplified perception of problems and solutions for control of the same.<sup>44</sup> It is argued that the command and control approach, implicitly assumes that the particular problem in question is well-bounded, clearly defined, relatively simple, and generally linear with respect to cause and effect.<sup>45</sup> Where

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<sup>40</sup> See Amechi, E.P., "Poverty, Socio-Political Factors and Degradation of the Environment in Sub-Saharan Africa: The Need for a Holistic Approach to the Protection of the Environment and Realisation of the Right to Environment," *5/2 Law, Environment and Development Journal*, 2009, pp. 119-120.

<sup>41</sup> *Ibid.*

<sup>42</sup> Swaney, J.A., "Market versus Command and Control Environmental Policies," *Journal of Economic Issues*, Vol. 26, No. 2, Jun., 1992, pp. 623-633, p. 624.

<sup>43</sup> Sourced from [http://www.unescap.org/drrpad/vc/orientation/M5\\_10.htm](http://www.unescap.org/drrpad/vc/orientation/M5_10.htm), [Accessed on 31/12/2018]; See also Bethell, E. 'Environmental Regulation: Effective or Defective? Assessing Whether Criminal Sanctions Provide Adequate Protection of the Environment,' *op cit.*

<sup>44</sup> Holling C. S. & Meffe, G.K. "Command and Control and the Pathology of Natural Resource Management," *Conservation Biology*, Vol. 10, No. 2 (Apr., 1996), pp. 328-337, p. 329.

<sup>45</sup> *Ibid*; See also generally Sposito, V.A & Faggian, R., 'Systemic Regional Development-A Systems Thinking Approach,' *Informationen zur Raumentwicklung Heft*, January, 2013. Available at

it is applied to complex real situations, it may not achieve the desired and predictable outcome thus risking severe ecological, social, and economic repercussions.<sup>46</sup> Instead of pursuing short-term benefit through command and control, there should be effective natural resource management that promotes long-term system viability based on an understanding of the key processes that structure and drive ecosystems, and on acceptance of both the natural ranges of ecosystem variation and the constraints of that variation for long-term success and sustainability.<sup>47</sup> Some economists and legal scholars have argued that command and control mechanisms are beset by excessive bureaucratic centralization and rigidity, which lead to delays and wastage of time.<sup>48</sup> A command and control approach relies on centralizing authority for environmental management in the hands of public institutions with little if any delegation of responsibilities to communities.<sup>49</sup> This leaves little room for participation of local communities.<sup>50</sup> In this way, a command and control approach may ignore local and other traditional knowledge relevant in natural resources management, which could be more cost effective and less time consuming.<sup>51</sup>

The use of criminal law and criminal sanctions to control regulatory behaviour also poses a challenge. Criminal law typically regulates situations and activities which are potentially harmful. In other words, actual harm need not have been caused for an offence to have been committed. Even when harm has been caused, the source of an offence may be difficult to detect because of the complex technical nature of the activities subject to control.<sup>52</sup> EMCA provides that the court may issue an environmental restoration order against any person who has harmed, is harming or is reasonably likely to harm the environment.<sup>53</sup> It, therefore, seeks to regulate a situation where harm has not yet actually occurred.

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[http://www.researchgate.net/publication/268180957\\_Systemic\\_Regional\\_Development\\_\\_A\\_Systems\\_Thinking\\_Approach](http://www.researchgate.net/publication/268180957_Systemic_Regional_Development__A_Systems_Thinking_Approach) [Accessed on 31/12/2018]

<sup>46</sup> *Ibid.*

<sup>47</sup> *Ibid.*, p. 335; See also generally Simon A. Black, S. A., *et al.*, "Using Better Management Thinking to Improve Conservation Effectiveness," *ISRN Biodiversity*, vol.2013, 2013.

<sup>48</sup> Mintz, J.A., 'Economic Reform of Environmental Protection: A Brief Comment on a Recent Debate' in Michael C. Blumm (ed), *Environmental Law* (Dartmouth Publishing Company Limited, 1992) 343, p. 345.

<sup>49</sup> Ochieng', B.O., 'Institutional Arrangements for Environmental Management in Kenya,' *op. cit.*, p. 200.

<sup>50</sup> *Ibid.*

<sup>51</sup> See generally, Berkes, F., 'Alternatives to Conventional Management: Lessons from Small-Scale Fisheries,' *Environments*, Vol. 31, No.1, 2003.

<sup>52</sup> Hutter, B.M., 'Socio-Legal Perspectives on Environmental Law: An Overview,' *op. cit.*, pp.3 & 6

<sup>53</sup> S. 111(1), Act No. 8 of 1999.

Further, evaluating environmental harm is difficult because of geographical and chronological factors.<sup>54</sup> To determine the need for regulation, the government agency assesses the risk of each activity, which procedure is slow and resource intensive.<sup>55</sup> Industry, also constantly adds new risks and pollutants to the thousands already existing.<sup>56</sup> EMCA, for example has legislated on standards for water quality among others.<sup>57</sup> It only identifies poisons, toxic substances<sup>58</sup> and effluent<sup>59</sup> as water pollutants. However, there are many sources of water pollution which NEMA is yet to identify and legislate upon. Once risks are assessed, regulators face the difficulty of setting an acceptable level of risk as this involves balancing environmental considerations against economic costs of risk reduction.<sup>60</sup>

Command and control mechanisms also have undesirable impacts where they seek to regulate activities that are crucial to the economic growth of a country.<sup>61</sup> For example, one of the flagship projects under Vision 2030 is the development and creation of at least five small and medium enterprise industrial parks.<sup>62</sup> This focus immediately raises important questions concerning the general effects and implications of natural resources conservation legislation. How useful will the law be as a regulatory tool, particularly when it is attempting to control activities which may be regarded as central to the economy?<sup>63</sup> It may fail in this quest depending on what government is seeking to achieve at any particular time.

Finally, one of the major weaknesses of command and control mechanisms is that they are not self-enforcing. The law fails to provide incentives for members of the regulated community

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<sup>54</sup> Hutter, B.M., 'Socio-Legal Perspectives on Environmental Law: An Overview,' *op cit*, pp.3 & 7; See also generally, Koomey, J. & Krause, F., 'Introduction to Environmental Externality Costs,' available at <http://enduse.lbl.gov/Info/Externalities.pdf> [Accessed on 31/12/2018].

<sup>55</sup> Babich, A., 'Understanding the New Era in Environmental Law,' *op cit* p.367; See also, Eskeland, G. S. & Jimenez, E., "Policy Instruments for Pollution Control in Developing Countries," *The World Bank Research Observer*, vol. 7(2) (July 1992), pp. 145-169.

<sup>56</sup> *Ibid*, p. 367.

<sup>57</sup> S. 71, EMCA.

<sup>58</sup> S. 72(1).

<sup>59</sup> S. 73.

<sup>60</sup> Babich, A., 'Understanding the New Era in Environmental Law,' *op. cit*, p. 370.

<sup>61</sup> See generally, 'Regulation.' Available at <http://www.treasury.govt.nz/publications/briefings/1990/big90-11.pdf> [Accessed on 31/12/2018]; See also Coglianese, C., 'Measuring Regulatory Performance: Evaluating the Impact of Regulation and Regulatory Policy,' *OECD Expert Paper No. 1*, August 2012. Available at [http://www.oecd.org/gov/regulatory-policy/1\\_coglianese%20web.pdf](http://www.oecd.org/gov/regulatory-policy/1_coglianese%20web.pdf) [Accessed on 31/12/2018].

<sup>62</sup> Republic of Kenya, *Kenya Vision 2030 Popular Version*, (Government of Kenya, 2007) p.14.

<sup>63</sup> Hutter, B.M., 'Socio-Legal Perspectives on Environmental Law: An Overview,' *op cit*, pp. 3 & 6.

to police themselves and one another.<sup>64</sup> Under the command and control system, the regulated community's sole responsibility is to comply with government edicts.<sup>65</sup> If a statute or regulation does not forbid a particular practice, people may engage in that practice with impunity. Thus, the risk that environmental hazards have escaped scientific scrutiny and regulatory control is borne by the public.<sup>66</sup>

### **2.3 Application of Command and Control in Kenya**

For a long period of time, environmental governance in Kenya has been informed by the command and control approach. For instance, Part IX of the Environmental Management and Coordination Act<sup>67</sup> provides for environmental restoration orders, environmental conservation orders and environmental easements.<sup>68</sup> EMCA also criminalizes activities that contribute to the degradation of the environment and prescribes penalties for any non-compliance or violation of the laws. Such provisions either spell out orders or provide for disincentives under the law to discourage violation. However, very low penalties and lack of synchronization of penalties in sectoral laws with EMCA has led to a general failure of the command and control mechanism in protecting natural resources in Kenya. Further, EMCA provides for the appointment of environmental inspectors to assist in enforcement of the provisions of the Act.<sup>69</sup> Some sectoral laws in Kenya have gone as far as para-militarizing enforcement agencies in an attempt to enhance command and control. Kenya Wildlife Service, for example, is established as a 'uniformed and disciplined' service under the *Wildlife Conservation and Management Act, 2013*<sup>70</sup> while Kenya Forest Service provides for 'uniformed and disciplined' enforcement officers. Both Services are authorized to use fire arms to ensure compliance with the conservation standards provided for under the law.

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<sup>64</sup> Babich, A., 'Understanding the New Era in Environmental Law,' *op. cit.*, p.375; See 'Chapter xv. Regulatory And Economic Instruments For Solid Waste Management,' UNEP Division of Technology, Industry and Economics (DTIE), Available at <http://www.unep.org/ietc/Portals/136/SWM-Vol1-Part4.pdf> [Accessed on 31/12/2018].

<sup>65</sup> *Ibid*; See also Aalders, M.V.C. & Ton Wilthagen, T., 'Moving beyond command-and-control: reflexivity in the regulation of occupational safety and health and the environment,' *UvA-DARE, the institutional repository of the University of Amsterdam (UvA)*, 1997. Available at <http://dare.uva.nl/document/2/27432> [Accessed on 31/12/2018].

<sup>66</sup> *Ibid*; cf. Wang, A., "The Role of Law in Environmental Protection in China: Recent Developments," *Vermont Journal of Environmental Law*, Vol.8, 2006, pp.195-223.

<sup>67</sup> No. 8 of 1999, Laws of Kenya.

<sup>68</sup> Ss. 108-115, No. 8 of 1999.

<sup>69</sup> *Ibid*, S. 117.

<sup>70</sup> No. 47 of 2013, Laws of Kenya.

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EMCA and the other sectoral laws, use tools such as licensing, registration and certificates to control access to and use of natural resources. Such licenses and certificates come with conditions which have to be met or there will be risk of withdrawal of the license among other penalties.

The effectiveness of this approach was however exemplified in the case of *Waweru v Republic*,<sup>71</sup> where the Court reiterated the position of Section 3 of Environment (Management and Conservation) Act 1999 (EMCA) which requires that courts take into account certain universal principles when determining environment cases, including but not limited to: Sustainable development; Precautionary principle; Polluter pays; and Public trust (not spelt out in EMCA).<sup>72</sup> Regarding public trust, the Court stated that the essence of the public trust is that the state, as trustee, is under a fiduciary duty to deal with the trust property, being the common natural resources, in a manner that is in the interests of the general public.<sup>73</sup> The Court also stated that environmental crimes under the *Water Act*, *Public Health Act* and *EMCA* cover the entire range of liability including strict liability and absolute liability and ought to be severely punished because the challenge of the restoration of the environment has to be tackled from all sides and by every man and woman. Courts thus play an important and indispensable role in achieving sustainable development which means conflicts must be dealt with effectively.

Article 22(1) of the constitution provides that every person has the right to institute court proceedings claiming that a right or fundamental freedom in the Bill of Rights has been denied, violated or infringed, or is threatened. This includes the right to clean and healthy environment as envisaged under Article 43 thereof. The role of Courts in environmental matters is further reinforced by the constitutionally recognised Environment and Land Court established under the *Environment and Land Court Act, 2011*<sup>74</sup> which Act was enacted to give effect to Article 162(2)(b) of the Constitution; to establish a superior court to hear and determine disputes relating

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<sup>71</sup> (2007) AHRLR 149 (KeHC 2006).

<sup>72</sup> *Ibid*, para. 25.

<sup>73</sup> *Ibid*, para. 31. The Court relied on the broad duty as contemplated in the Pakistani case of *General Secretary West Pakistan Salt Miners Labour Union v The Director of Industries and Mineral Development* 1994 s CMR 2061, where residents who were concerned that salt mining in their area would result in the contamination of the local watercourse, reservoir and pipeline. The residents petitioned the Supreme Court of Pakistan to enforce their right to have clean and unpolluted water and filed their claim as a human rights case under Art.184(1) of the Pakistan Constitution. The Supreme Court held that as Art. 9 of the Constitution provided that ‘no person shall be deprived of life or liberty save in accordance with the law’ the word ‘life’ should be given expansive definition, the right to have unpolluted water was a right to life itself.

<sup>74</sup> No. 19 of 2011, Laws of Kenya. See S. 4.

to the environment and the use and occupation of, and title to, land, and to make provision for its jurisdiction functions and powers, and for connected purposes.<sup>75</sup> Further, in exercise of its jurisdiction under Article 162(2) (b) of the Constitution, the Court has power to hear and determine disputes, relating to environmental planning and protection, climate issues, land use planning, title, tenure, boundaries, rates, rents, valuations, mining, minerals and other natural resources; relating to compulsory acquisition of land; relating to land administration and management; relating to public, private and community land and contracts, choses in action or other instruments granting any enforceable interests inland; and any other dispute relating to environment and land.<sup>76</sup> The Court is also empowered to hear and determine applications for redress of a denial, violation or infringement of, or threat to, rights or fundamental freedom relating to a clean and healthy environment under Articles 42, 69 and 70 of the Constitution.<sup>77</sup> The Court may make any order and grant any relief as the Court deems fit and just, including, interim or permanent preservation orders including injunctions; prerogative orders; award of damages; compensation; specific performance; restitution; declaration; or costs.<sup>78</sup>

This affirms the role of the state and courts in command and control approach in environmental matters.

### **3. Market-Based Approaches**

Market-based approaches employ market-based instruments, which are defined as regulations that encourage behavior through market signals rather than through explicit directives regarding environmental matters.<sup>79</sup> Lack of a price on environmental goods has been cited as a major reason for their overuse, depletion and unsustainable management.<sup>80</sup> Due to this reason, command and control approach to environmental management has at times been seen as

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<sup>75</sup> No. 19 of 2011, Preamble.

<sup>76</sup> *Ibid*, S. 13(2).

<sup>77</sup> *Ibid*, S. 13(3).

<sup>78</sup> *Ibid*, S. 13(7).

<sup>79</sup> Stavins, R.N., 'Experience With Market-Based Environmental Policy Instruments.' *The Handbook of environmental Economics*, 2001, p 1. Available at [http://www.hks.harvard.edu/fs/rstavins/Papers/Handbook\\_Chapter\\_on\\_MBI.pdf](http://www.hks.harvard.edu/fs/rstavins/Papers/Handbook_Chapter_on_MBI.pdf)[Accessed on 31/12/2018].

<sup>80</sup> See 'Protecting the Environment and Economic Growth: Trade-Off Or Growth-Enhancing Structural Adjustment?' p.2. Available at [http://ec.europa.eu/economy\\_finance/publications/publication7726\\_en.pdf](http://ec.europa.eu/economy_finance/publications/publication7726_en.pdf)[Accessed on 31/12/2018]; See also Rosegrant, M.W., *et al*, 'Water policy for efficient agricultural diversification: market-based Approaches,' *Food Policy*, 1995, Vol. 20, No. 3, pp. 203-223.

the most appropriate tool for environmental management for its interventionist approach, to dictate what people should do with respect to environmental management.<sup>81</sup>

### **3.1 Application of Market-Based Approaches**

The National Environment Action Plan under EMCA, attempts to incorporate the market-based approaches in environmental management by way of providing for appropriate legal and fiscal incentives that may be used to encourage the business community to incorporate environmental requirements into their planning and operational processes.<sup>82</sup>

## **4. Incentives**

Proponents of market-based approaches seem to suggest that government should replace command and control mechanisms with a system that creates incentives to enhance protection of natural resources in a more efficient manner.<sup>83</sup> As such, natural resources laws should be modified to incorporate incentives.<sup>84</sup> The fundamental changes necessary to prevent wholesale destruction of the environment will occur only if people have powerful incentives to rethink and reform their behaviour towards the environment.<sup>85</sup> As an attempt to move away from command and control, there should be a shift from coercive to cooperative regulation, where persuasion instead of punishment and rewards (incentives) as against punishment, are preferred.<sup>86</sup> It is argued that practices of environmental responsibility by citizens and businesses may make good business sense by reducing harmful impacts of industry before the introduction of restrictive

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<sup>81</sup> See 'Chapter 4: Regulatory and Non-Regulatory Approaches to Pollution Control,' *Guidelines for Preparing Economic Analyses*, December 2010, pp. 4.2-4.3. Available at [http://yosemite.epa.gov/ee/epa/erm.nsf/vwAN/EE-0568-04.pdf/\\$file/EE-0568-04.pdf](http://yosemite.epa.gov/ee/epa/erm.nsf/vwAN/EE-0568-04.pdf/$file/EE-0568-04.pdf) [Accessed on 31/12/2018].

<sup>82</sup> S. 38(c), No. 8 of 1999.

<sup>83</sup> Babich, A., 'Understanding the New Era in Environmental Law,' *op cit*, p.375; See also Porto, M. & Lobato, F., 'Mechanisms of Water Management: Command & Control and Social Mechanisms,' Parte 1 de 2. Available at <http://socinfo.eclac.org/samta/noticias/documentosdetrabajo/7/23397/InBr01605.pdf> [Accessed on 31/12/2018].

<sup>84</sup> Mintz, J.A., 'Economic Reform of Environmental Protection: A Brief Comment on a Recent Debate,' *op cit*, p. 345.

<sup>85</sup> Babich, A., 'Understanding the New Era in Environmental Law,' *op cit*, p. 361; See also Bhat, S., *Natural Resources Conservation Law* (SAGE, Publications India, 2010).

<sup>86</sup> Braithwaite, J., "Rewards and Regulation," *Journal of Law and Society*, Vol. 29, No. 1, New Directions in Regulatory Theory (Mar., 2002), pp. 12-26, p. 13.

legislation.<sup>87</sup> EMCA provides for tax incentives, fiscal incentives, customs and excise waivers and tax rebates.<sup>88</sup>

Incentives are forms of rewards extended to the business players as a way of encouraging them to adopt measures that help in preserving the environment while discarding or avoiding those that contribute to the degradation of the environment. They may take several forms which range from tax/fiscal to exclusion from the effects of certain policy measures which would otherwise harm businesses.<sup>89</sup>

EMCA provides that taxes and other fiscal incentives, disincentives or fees may be proposed to government to induce or promote the proper management of the environment and natural resources or the prevention or abatement of environmental degradation.<sup>90</sup> Such taxes, fiscal incentives, disincentives or fees may include customs and excise waiver in respect of imported capital goods which prevent or substantially reduce environmental degradation caused by an undertaking.<sup>91</sup> They also include tax rebates to industries or establishments that install plants, equipment and machinery for pollution control, recycling of wastes, water harvesting and conservation, prevention of floods and for using alternative energy sources as substitutes for hydrocarbons.<sup>92</sup> Section 57 (1) also covers tax disincentives to deter bad environmental behavior that leads to depletion of environmental resources or that cause pollution.<sup>93</sup> Finally, it covers user fees aimed at ensuring that those using environmental resources pay proper value for the utilization of those resources.<sup>94</sup> It can thus be surmised that fiscal incentives can play a critical role in ensuring that natural resources are sustainably exploited, utilized, managed and conserved as required by the Constitution.<sup>95</sup>

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<sup>87</sup> Forsyth, T., "Environmental Responsibility and Business Regulation: The Case of Sustainable Tourism," *The Geographical Journal*, Vol. 163(3), Nov., 1997, pp. 270-280, p. 271.

<sup>88</sup> S. 57.

<sup>89</sup> See 'The Cost Effectiveness and Environmental Effects of Incentive Systems: The U. S. Experience with Economic Incentives for Protecting the Environment,' 2001, available at [http://yosemite.epa.gov/ee/epa/erm.nsf/vwAN/EE-0216B-04.pdf/\\$file/EE-0216B-04.pdf](http://yosemite.epa.gov/ee/epa/erm.nsf/vwAN/EE-0216B-04.pdf/$file/EE-0216B-04.pdf) [Accessed on 31/12/2018].

<sup>90</sup> S. 57 (1), EMCA.

<sup>91</sup> *Ibid*, S. 57 (2) (a).

<sup>92</sup> EMCA, S. 57 (2) (b).

<sup>93</sup> *Ibid*, S. 57 (2) (c).

<sup>94</sup> *Ibid*, S. 57 (2) (d).

<sup>95</sup> Art. 69 (1) (a) of the Constitution.

#### **4.1 Effectiveness of Incentive Based Mechanisms**

Natural resources laws, like any social rules require a higher degree of voluntary compliance for their success.<sup>96</sup> Incentives achieve the same aggregate level of natural resources protection as command and control approaches but they allocate the burden of this protection more efficiently among industry.<sup>97</sup> EMCA provides that the National Environment Action Plan should recommend appropriate legal and fiscal incentives that may be used to encourage the business community to incorporate environmental requirements into their planning and operational process.<sup>98</sup> This will lay the burden of environmental protection on businesses as opposed to the Government. Voluntary compliance in the United States of America (USA) has reduced environmental harm below what it would otherwise be.<sup>99</sup>

Incentives have a number of advantages for the private sector. They encourage flexibility in pollution control technologies used and motivate industries to devise new products or production technologies to reduce environmental harm.<sup>100</sup> This drives industries towards cost-effective solutions and also towards more research and development in search of cheaper and better damage abatement techniques.<sup>101</sup> People, therefore, have a choice either to opt out of burdensome regulation or to develop environmental control technology.<sup>102</sup> EMCA provides that NEMA should promote the use of renewable sources of energy by creating incentives for the promotion of renewable sources of energy.<sup>103</sup> This will drive industries to use cost-effective clean energy.

Government agencies also benefit since incentives can be used to provide the Government with new sources of revenue.<sup>104</sup> The cost of incentives is also much lower than command and control costs. For example, it has been estimated that abatement costs of sulphur dioxide (SO<sub>2</sub>) emissions in USA through a tradable permits system has saved about USD 1 billion a year in

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<sup>96</sup> Clarence, D. J & Mazurek, J., *Pollution Control in the United States: Evaluating the System*, (Resources for the Future, 1998) p.15.

<sup>97</sup> André, F., 'Firms and the Environment: Ethics or Incentives?' in Dăianu, D. & Vranceanu, R. (eds), *Ethical Boundaries of Capitalism: Corporate Social Responsibility Series* (Ashgate Publishing Ltd., 2005), p.209.

<sup>98</sup> S. 38(c).

<sup>99</sup> Clarence D. J & Mazurek, J., *Pollution Control in the United States: Evaluating the System*, *op cit*, p.15.

<sup>100</sup> Mintz, J.A., 'Economic Reform of Environmental Protection: A Brief Commend on a Recent Debate' in Michael C. Blumm (ed), *Environmental Law* (Dartmouth Publishing Company Limited, 1992) p.343-346.

<sup>101</sup> André, F., 'Firms and the Environment: Ethics or Incentives?' *op cit*, p.209.

<sup>102</sup> Hutter, B.M., 'Socio-Legal Perspectives on Environmental Law: An Overview' in Hutter, B.M., (ed), *A Reader in Environmental Law*, (Oxford University Press, 1999), p.3, p.22.

<sup>103</sup> S. 49(b).

<sup>104</sup> Mintz, J.A., 'Economic Reform of Environmental Protection: A Brief Commend on a Recent Debate' in Blumm, M.C., (ed), *Environmental Law* (Dartmouth Publishing Company Limited, 1992), p.343, p.346.

compliance costs.<sup>105</sup> The fact that costs are borne by industry alleviates the financial burdens on government.<sup>106</sup> Law enforcement costs are significantly reduced as is the government wage bill because fewer law enforcement officers are required.

#### **4.2 Critique of Incentive Based Mechanisms**

One of the shortcomings of incentives, and a reason they are not widely used as an environmental protection method, is that they do not fit every problem.<sup>107</sup> For example, Kenya cannot have blanket incentives to protect water resources countrywide. The pollution problem and nature of pollutants for Nairobi River are very different from those in Lake Victoria. When concerns are with respect to local environmental problems, it is the level emitted by individual firms that must be controlled.<sup>108</sup> In this case, a conventional command and control approach such as uniform standards may be the preferred policy.<sup>109</sup>

Another shortcoming is that there may be bureaucratic obstacles to the successful use of incentives including the difficulties of the economic calculations involved.<sup>110</sup> For example, there may be no precise measures for the emissions involved because there may be no reliable technology available to undertake the measurement.<sup>111</sup> EMCA tries to side-step this difficulty by making it the responsibility of the Minister responsible for finance to propose incentives.<sup>112</sup>

Another reason why incentives are not widely used is that environmentalists view the pollution problem more as a moral failing of corporate and political leaders, rather than a by-product of society that can be reduced in an efficient way by use of incentives.<sup>113</sup> Ethics comes to

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<sup>105</sup> André F., 'Firms and the Environment: Ethics or Incentives?' in Dăianu, D. & Vranceanu, R. (eds), *op. cit.*, p.210.

<sup>106</sup> Hutter, B.M., 'Socio-Legal Perspectives on Environmental Law: An Overview' in Hutter, B.M., (ed), *op. cit.*, p. 23.

<sup>107</sup> André F., 'Firms and the Environment: Ethics or Incentives?' in Dăianu, D. & Vranceanu, R. (eds), *op. cit.*, p.210.

<sup>108</sup> *Ibid*, p.210.

<sup>109</sup> *Ibid*, p.210; See also 'Why Regulatory Governance Matters,' *CRC Policy Brief*, No. 2, 2004, p. 3.

<sup>110</sup> Hutter, B.M. 'Socio-Legal Perspectives on Environmental Law: An Overview,' in Hutter, B.M., (ed), *op. cit.*, p. 23.

<sup>111</sup> *Ibid*, p.23.

<sup>112</sup> S. 57(1).

<sup>113</sup> André F., 'Firms and the Environment: Ethics or Incentives?' in Dăianu, D. & Vranceanu, R. (eds), *op. cit.* p.210; See also Stavins, R.N. & Whitehead, B.W., "The Greening of America's Taxes: Pollution Charges and Environmental Protection," CSIA Discussion Paper 92-03, (Kennedy School of Government, Harvard University, March, 1992).

the forefront of the debate rather than incentives. They worry that increased flexibility in pollution control advocated by incentives would lower the level of environmental protection.<sup>114</sup>

## **5. Community-Based Natural Resource Management (CBNRM)**

CBNRM is informed by the view that sustainable management of natural resources is most likely where local communities are able to manage and derive benefits from natural resources. They are characterized by a commitment to involve community members and local institutions in management of natural resources, devolution of power and authority to the grass roots, a desire to reconcile the objectives of socio-economic development and environmental conservation, the tendency to defend and legitimize local and indigenous property rights and a desire to include traditional values in modern management of natural resources.<sup>115</sup> It is a response to the challenges of a decentralized management system which occasions natural resources degradation. It is also a modern attempt to revive traditional mechanisms for the conservation of natural resources.<sup>116</sup> Giving local communities the rights to manage, use or own resources, creates incentives for them to collectively invest in natural resources management.<sup>117</sup>

### **5.1 Legal Framework on Community Based Natural Resources Management in Kenya**

National values and principles of governance such as sharing and devolution of power; democracy and participation of the people and sustainable development provide a basis for CBNRM.<sup>118</sup> The Constitution provides that the State shall protect and enhance indigenous knowledge of biodiversity of the communities.<sup>119</sup> The State is also obliged to encourage public participation in the management, protection and conservation of the environment.<sup>120</sup> In settling land disputes, communities are encouraged to apply recognized local community initiatives

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<sup>114</sup> *Ibid*, p.210.

<sup>115</sup> Nelson F. & Agrawal, A., "Patronage or Participation? Community-based Natural Resource Management Reform in Sub-Saharan Africa," *Journal of Development and Change*, vol. 39, No.4, 2008, pp.557-585; See also Kellert, S.R., *et al*, "Community Natural Resource Management: Promise, Rhetoric and Reality," *Society and Natural Resources: An International Journal*, Vol.13 (8), p.706.

<sup>116</sup> *Ibid*.

<sup>117</sup> *Ibid*, p.558.

<sup>118</sup> Art.10 of Constitution.

<sup>119</sup> *Ibid*, Art. 69(1) (c).

<sup>120</sup> *Ibid*, Art. (1) (d).

consistent with the Constitution.<sup>121</sup> This will enhance community involvement in natural resource management. All these provisions encourage in one way or the other the participation of local communities in the management, use or ownership of natural resources.

Land is also classified as private, public or community. Community land is land that is lawfully held, managed or used by specific communities as community forests, grazing areas or shrines.<sup>122</sup> This is also reflected in the Community Land Act 2016<sup>123</sup> which was enacted to give effect to Article 63 of the Constitution by providing for; first, the recognition, protection and registration of community land rights; second, the management and administration of community land; and third, the role of county governments in relation to unregistered community land and related matters.<sup>124</sup>

This classification is important as it will encourage land management by communities. It also defines community land as land that is ancestral land and one that is occupied by hunter and gatherer communities.<sup>125</sup> In this context, the Ogiek and the Endorois communities in Kenya are the main reference point. The reason for this is that they are forest dwellers and there has been an issue as to whether they should manage the forests in which they live in or it should be left to state institutions such as the Kenya Forestry Service. The Ogiek are a forest dwelling people who live in the Mau forest in Nakuru. The Endorois, on the other hand, live near the Lake Bogoria reserve. The claim of the two communities has been tenure rights within the forest and wildlife protected areas. The issue has been a subject of litigation at the African Commission on Human and Peoples Rights.<sup>126</sup> It can, therefore, be argued that the two communities have their rightful place in the forests according to the Constitution and since they manage the forests, they are part of the community-based organizations that manage natural resources.

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<sup>121</sup> *Ibid*, Art.60 (1) (g) and Art.67 (2) (f).

<sup>122</sup> Constitution of Kenya, Art.63(d).

<sup>123</sup> Community Land Act, No. 27 of 2016, Laws of Kenya.

<sup>124</sup> Preamble, Community Land Act 2016.

<sup>125</sup> Constitution of Kenya, Art.63(d).

<sup>126</sup> 276 / 2003 – *Centre for Minority Rights Development (Kenya) and Minority Rights Group International on behalf of Endorois Welfare Council v Kenya; Application No. 006/2012 – African Commission on Human and Peoples’ Rights v. The Republic of Kenya* (The Ogiek case arose from Communication No. 381/09 – *Centre for Minority Rights Development – Kenya and Minority Rights Group International (on behalf of the Ogiek Community of the Mau Forest) v Kenya*, which was before the African Commission on Human and Peoples’ Rights (the Commission), and later referred to the Court.)

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In that regard, the Constitution provides for community forests.<sup>127</sup> The protection of community land and by extension forests is guaranteed in the Constitution in the sense that all unregistered land should be held in trust by the county governments on behalf of the communities.<sup>128</sup> It is also provided that community land should not be disposed of or otherwise used in a manner that contravenes the rights of the members of that particular community.<sup>129</sup>

There is also a paradigm shift towards the use of incentives to encourage participation in wildlife management in Kenya.<sup>130</sup> If private land owners and communities are given incentives to keep wildlife on their land, then they will perceive wildlife as an economic good and protect the wildlife in the same manner they protect their private property. This is important because command and control approaches to wildlife management have failed to curb loss of wildlife. Economic incentives such as tax exemptions and waiver of stamp duties on land relating to wildlife will go a long way into encouraging Kenyans to conserve wildlife as an alternative land use method.

In forests management, the Forest Conservation and Management Act, 2016<sup>131</sup> creates the Forest Conservation Committee (FCC) as a key avenue in decision making and is comprised of community forest associations and local authorities.<sup>132</sup> The Act recognizes the need to strengthen community-based institutions where the public can be more involved in the conservation of forests. The key aspect in the Act and the Policy is the emphasis on the involvement of stakeholders through participatory mechanisms in the management and conservation of forests.<sup>133</sup> Forests laws seek to enhance environmental governance by incorporating participatory and collaborative management of forests through involvement of communities not only as interested groups but as key stakeholders.<sup>134</sup> This motivates communities to invest in sustainable

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<sup>127</sup> Kibugi, R. *Governing Land Use in Kenya: From Sectoral Fragmentation to Sustainable Integration of Law and Policy*. Thesis submitted to the Faculty of Graduate and Postdoctoral Studies in partial fulfillment for the Doctors of Laws (LL.D) degree, University of Ottawa (2011), p. 443.

<sup>128</sup> Art.63(3) of the Constitution.

<sup>129</sup> *Ibid*, Art.63 (4).

<sup>130</sup> One of the objectives of the *National Wildlife Conservation and Management Policy, 2012* is to promote partnerships, incentives and benefit sharing to enhance wildlife conservation and management. The Policy further proposes that the Government should provide economic incentives to induce or promote sustainable wildlife conservation and management; See also the *Wildlife Conservation and Management Act, 2013*, No. 47 of 2013, s.5.

<sup>131</sup> Forest Conservation and Management Act, No. 34 of 2016, Laws of Kenya.

<sup>132</sup> *Ibid*, sec. 20.

<sup>133</sup> *Ibid*, s. 48 & 49.

<sup>134</sup> Situma, F.D., Forestry Law and the Environment in Okidi, C. O, *et al*, *Environmental Governance in Kenya: Implementing the Framework Law* (East African Education Publishers, Nairobi 2008), p.250; See also S. 48 & 49 of the Forest Conservation and Management Act, 2016.

forestry management. Participation of communities in forests management is informed by the fact that exclusion of local communities in management and conservation of natural resources tends to escalate degradation rather than conservation.<sup>135</sup> The sense of ownership by communities facilitates gainful benefits to the local communities as well as encouraging community eco-governance.<sup>136</sup>

The Water Act, 2016 establishes the basin water resources committees<sup>137</sup> to encourage public participation in water resources management. They are to advise the Water Resources Authority on conservation of water resources, on use and apportionment of water resources and on the grant, adjustment, cancellation or variation of any permit to use water resources.<sup>138</sup> The basin area water resources management strategy is required to encourage and facilitate the establishment and operation of Water Resources Users Associations (WRUAs) as fora for conflict resolution and co-operative management of water resources in catchment areas.<sup>139</sup> The role of basin water resources committees and WRUAs in involving water users in decision-making has been critiqued. It has been said that the role of basin water resources committees is merely to advise WRMA, which is not obliged to take the advice. Doubts have also emerged as to how they are funded. In relation to WRUAs, it is said that in the absence of effective regulation of their relationship with WRMA, the latter may ignore the resolutions and decisions of the former.<sup>140</sup> The National Water Policy 1999 and the Water Act 2002, provided for a new institutional set-up for water resources management and water services provision at national and basin level. For participation of users/consumers and their empowerment, the Water Resources Users Associations (WRUAs) and Water Consumer Groups (WCGs) were established. In addition, Water Services Boards (WSBs) were established to promote asset development. The National Water Policy of 2012 (NWP 2012) was to build on the achievements of the sector reforms commenced with the Water Act 2002 and based on the sector principles lined out in the

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<sup>135</sup> See Vyamana, V.G., *et al*, 'Participatory Forest Management in the Eastern Arc Mountain area of Tanzania: Who is benefiting?' Available at [http://iasc2008.glos.ac.uk/conference%20papers/papers/V/Vyamana\\_134501.pdf](http://iasc2008.glos.ac.uk/conference%20papers/papers/V/Vyamana_134501.pdf) [Accessed on 31/12/2018].

<sup>136</sup> 'Eco-social sustainability in the Murray-Darling Basin,' *Case study: regional sustainability efforts in the Murray-Darling Basin*, (Hawke Research Institute, University of South Australia, 2010). Available at <http://w3.unisa.edu.au/hawkeinstitute/research/ecosocial/eco-case-study.asp#top> [Accessed on 31/12/2018].

<sup>137</sup> Ss. 25-27 of the Water Act, 2016.

<sup>138</sup> *Ibid*, S. 27.

<sup>139</sup> Water Act, 2016, S. 29.

<sup>140</sup> Akech M., "Governing Water and Sanitation in Kenya," in Okidi, C.O., *et al*, (eds) *Environmental Governance in Kenya: Implementing the Framework Law*, (EAEPL, 2008), p.324.

National Water Policy, 1999.<sup>141</sup> It was designed to facilitate compliance and alignment of the National Water Policy with the Constitution of Kenya 2010 and the Vision 2030. This Policy aims to ensure that these institutions carry out their mandates in line with the Constitution of Kenya, 2010. The Water Act 2016<sup>142</sup> which has since repealed the Water Act 2002 was enacted to provide for the regulation, management and development of water resources, water and sewerage services; and for other connected purposes. The Water Act 2016 provides that every person has the right to access water resources, whose administration is the function of the national government as stipulated in the Fourth Schedule to the Constitution.<sup>143</sup>

Section 29(1) of the Water Act 2016 provides that Water Resource Users Associations may be established as associations of water resource users at the sub-basin level in accordance with Regulations prescribed by the Authority. A Water Resource Users Association should be a community based association for collaborative management of water resources and resolution of conflicts concerning the use of water resources.<sup>144</sup>

Section 25 also tasks the Cabinet Secretary to establish a Basin Water Resources Committee for each respective basin area which shall be responsible for the management of the water resources within a respective basin area. A basin water resources committee should consist of- not less than four and not more than seven members appointed by the Authority in consultation with the Cabinet Secretary; and a representative of each county government whose area falls within the basin appointed by the appointing authority after approval by the county assembly.<sup>145</sup>

The persons appointed to the Basin Water Resources Committee must be residents of the respective basin area and should include- a representative of a ministry responsible for matters relating to water resources; a representative of farmers or pastoralists within the basin area concerned; a representative of a public benefits organisation engaged in water resources management programmes within the basin area concerned; and a representative of the business community operating within the basin area concerned.<sup>146</sup> The powers and functions of the Basin Water Resources Committee shall be: to advise the Authority and county governments, at the

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<sup>141</sup> National Water Policy of 1999 (NWP 1999) also referred to as Sessional Paper No. 1 on National Policy on Water Resources Management and Development, (Government Printer, Nairobi).

<sup>142</sup> Water Act, No.43 of 2016, laws of Kenya.

<sup>143</sup> S. 9, No.43 of 2016, Laws of Kenya.

<sup>144</sup> Ibid, S. 29(2).

<sup>145</sup> Water Act 2016, S. 26(1).

<sup>146</sup> Ibid, S.26(3).

respective regional office, concerning- conservation, use and apportionment of water resources; the grant, adjustment, cancellation or variation of any permit; protection of water resources and increasing the availability of water; annual reporting to the users of its services and the public on water issues and their performance within the basin area; collection of data, analyzing and managing the information system on water resources; review of the basin area water resources management strategy; facilitation of the establishment and operations of water resource user associations; flood mitigation activities; information sharing between the basin area and the Authority; the equitable water sharing within the basin area through water allocation plans; and any other matter related to the proper management of water resources.<sup>147</sup>

Cultural and social principles applied traditionally by communities are also recognized under EMCA in so far as they are not inconsistent and repugnant to justice and morality or any other written law.<sup>148</sup> The Community-based norms and practices often referred to as ‘living customary law,’ have endured in spite of efforts by both colonial and independent African governments to redefine citizen’s relationship to water through state laws and policies.<sup>149</sup> Encouraging community participation in natural resources management is also an effective channel for their empowerment which is important for realisation of SDG Goal 1 on ending extreme poverty in all forms by 2030 by improving their livelihoods as well as SDG Goal 2 on ending hunger, achieving food security and improved nutrition and promoting sustainable agriculture, among others.

## **6. Persuasion as an Approach to Natural Resources Management**

Persuasion is used where the command and control and market-based approaches are not working well or there is inadequate political support in their application.<sup>150</sup> It aims at information production and dissemination. The rationale behind policies on persuasion is to change people’s behaviour ‘...by forcing them to think about the harm they are causing and by publicizing that harm.’<sup>151</sup> Information-based instruments, as they are at times called, act as economic instruments. They include measures taken to enhance awareness on environmental issues such as

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<sup>147</sup> Water Act 2016, S. 27.

<sup>148</sup> S. 5(b) of the Environmental Management and Co-ordination Act, 1999.

<sup>149</sup> Hellum, A., et al, ‘The Human Right to Water and Sanitation in a Legal Pluralist Landscape: Perspectives of Southern and Eastern African Women,’ in Hellum A., et al (eds), *Water is Life: Women’s Human Rights in National and Local Water Governance in Southern and Eastern Africa*, (Weaver Press, Harare, 2015), p. 7.

<sup>150</sup> Hunter D, et al, *International Environmental Law and Policy* (Foundation Press, 4<sup>th</sup> Edition, 2011), pp.113-114.

<sup>151</sup> *Ibid*, p. 113.

naming and shaming of polluters, environmental awards, technical assistance programmes, eco-labelling, eco-auditing, advertising, performance reporting, group empowerment programmes and small business incentive schemes.<sup>152</sup> Some information-based instruments such as eco-labeling and eco-auditing are designed to capitalize on the perception that many consumers take into account environmental considerations when buying products and services.<sup>153</sup> The functions of NEMA include the carrying out of programmes intended to enhance environmental education and public awareness about the need for sound environmental management as well as enlisting public support and encouraging the efforts made by other entities in that regard.<sup>154</sup>

## **7. Ecosystem-Based approaches**

An ecosystem approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.<sup>155</sup> It is premised on appropriate scientific methodologies focused on levels of biological organization encompassing essential processed functions and interactions among organisms and their environment. It recognizes human beings and their cultural identities as integral components of ecosystems.<sup>156</sup> Integrated Water Resource Management (IWRM) and Integrated Coastal Zones Management (ICZM) are good examples of ecosystem-based approaches to natural resource management and are discussed hereunder. SDG Goal 15 seeks to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss. These approaches may therefore help in achieving this goal.

### **7.1 Integrated Water Resources Management (IWRM)**

IWRM is a cross-sectoral holistic approach to water management in response to the growing competing demands for finite freshwater supplies that aims at ensuring the coordinated

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<sup>152</sup> *Ibid.* See also Hutter, B.M. “A Reader in Environmental Law,” *op.cit.*

<sup>153</sup> *Sustainable Cities for the Third Millennium: The Odyssey of Urban Excellence*, ‘Chapter 2: For a New Balance among Nature, Humans and Artefacts in Cities. Mega, V.P. 2010. p. 33; See also generally Gerald J. & Dorothy R. F., ‘Ecolabels And The Greening Of The Food Market,’ in *Proceedings of a Conference Boston, Massachusetts November 7-9, 2002*, Lockeretz, W., (ed.), 2003. Available at <http://www.ams.usda.gov/AMSV1.0/getfile?dDocName=STELDEV3101478> [Accessed on 31/12/2018].

<sup>154</sup> S. 9 (2) (m) of EMCA.

<sup>155</sup> Convention on Biological Diversity, available at [www.cbd.int/ecosystem/](http://www.cbd.int/ecosystem/), [Accessed on 31/12/2018].

<sup>156</sup> *Ibid.*

development of water, land and related resources to optimise economic and social welfare without compromising the sustainability of environmental systems.<sup>157</sup> It is, therefore, a systematic process for the sustainable development, allocation and monitoring of water resource use in the context of social, economic and environmental objectives.<sup>158</sup> It highlights the interdependence of natural and social systems and provides a practical framework for such integration on a watershed basis.<sup>159</sup> It differs from the sectoral approach to natural resources management which leads to uncoordinated water resource development and management, resulting in conflict, waste and unsustainable systems.<sup>160</sup>

The concept of integrated water resources management, promotes the river basin as the logical geographical unit for its practical realization, because the river basin offers many advantages for strategic planning even at higher levels of government.<sup>161</sup> River basin management is also in line with the policy of decentralizing water resources management. This is informed by the fact that it is local organisations and communities who have better knowledge of the water resources and socio-economic situation and are the most affected by decisions taken on how to manage the resource. This is also because centralized government agencies may have difficulties in allocating and regulating water in a river basin as they are unaware of local interests and priorities of the people. However, the central government provides the rules and establishes the requisite framework for water management in a river basin.<sup>162</sup> River basin management, thus provides, the platform for the involvement and participation of the marginalised groups, including women in the decision-making processes regarding water resources.<sup>163</sup>

IWRM has been applied in the management of Tana River Basin and Mara River Basins in a process where interventions such as policy, laws, regulations, programs, plans are put in place

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<sup>157</sup> Global Water Partnership, "Integrated Water Resources Management", Global Water Partnership Technical Advisory Committee, Background Paper no.4, 2000.

<sup>158</sup> See generally, *The Training Manual on Integrated Water Resources Management for River Basin Organisations*, (Cap-Net & UNDP, 2008).

<sup>159</sup> Roy, D. *et al.*, "Ecosystem Approaches in Integrated Water Resources Management (IWRM): A Review of Transboundary River Basins," (International Institute for Sustainable Development (IISD), 2011), p.10.

<sup>160</sup> See generally *The Training Manual on Integrated Water Resources Management for River Basin Organisations*, *op.cit.*

<sup>161</sup> *Ibid.*

<sup>162</sup> *Ibid.*

<sup>163</sup> Earle, A. & Bazilli, S., "A gendered critique of transboundary water management," *Feminist Review*, Vol.103, 2013, pp. 99-119. p. 99; See also Chikozho, C., "Stakeholder Participatory Processes and Dialogue Platforms in the Mazowe River Catchment, Zimbabwe," *African Studies Quarterly*, Vol. 10, Issues 2 & 3, Fall 2008, pp. 27-44, p. 38.

in order to attain the highest possible flow of benefits over time without causing environmental degradation.<sup>164</sup>

IWRM approach can go a long way in realisation of SDG Goal 6 which seeks to ensure availability and sustainable management of water and sanitation for all.

## **7.2 Integrated Coastal Zone Management**

There are a myriad of challenges in the management of coastal zones. The Kenyan coastal zone is faced by problems of poor planning and uncoordinated coastal development as a result of a sectoral approach in planning and management; poor waste management; declining water quality; destruction and loss of coastal and marine habitats as a result of over-exploitation, poor land use practices, encroachment and unplanned and unregulated human settlements and urban development, amongst others.<sup>165</sup>

Consequently, section 55 (2) of EMCA empowers NEMA in consultation with the relevant lead agencies to conduct a survey of the coastal zone and prepare an integrated national coastal zone management plan based on the report of such survey. The “Integrated coastal zone management” (ICZM) involves comprehensive assessment, setting of objectives, planning and management of coastal ecosystems and resources, while taking into account traditional, cultural and historical perspectives and conflicting interests and uses, all within the limits set by natural dynamics.<sup>166</sup> ICZM is also defined as a dynamic process for the sustainable management and use of coastal zones, taking into account at the same time the fragility of coastal ecosystems and landscapes, the diversity of activities and uses, their interactions, the maritime orientation of certain activities and uses and their impact on both the marine and land parts.<sup>167</sup>

It is, thus, a continuous and evolutionary process for achieving sustainable development in the management of coastal and marine environment, covering the full cycle of information

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<sup>164</sup> See Water Resources Management Authority, *Integrated Water Resources Management and Water Efficiency Plan For Kenya*, (Government Printer, Nairobi, 2009); See also

Lake Victoria Basin Commission, *Mara River Basin-Wide Water Allocation Plan*, March, 2013.

<sup>165</sup> Integrated Coastal Zone Management Action Plan for Kenya 2011-2015, (NEMA), pp.8-9. Available at [http://www.nema.go.ke/index.php?option=com\\_phocadownload&view=category&download=315:iczm-national-plan-of-action&id=67:strategies&Itemid=567](http://www.nema.go.ke/index.php?option=com_phocadownload&view=category&download=315:iczm-national-plan-of-action&id=67:strategies&Itemid=567), [Accessed on 31/12/2018].

<sup>166</sup> *Ibid*, p. 10.

<sup>167</sup> Art. 2(f), the Protocol on Integrated Coastal Zone Management (Protocol to the Mediterranean Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean, done at Barcelona on 16 February, 1976, as amended on 10 June 1995).

collection, planning, decision-making, management and monitoring of implementation.<sup>168</sup> It is a process by which interventions in form of policies, laws, regulations, programs and plans are devised and implemented to change the way people use and interact with coastal ecosystems and their resources in order to attain the highest possible flow of benefits over time without preventing future generations from enjoying similar benefits.<sup>169</sup>

The objectives of integrated coastal zone management as outlined in the *Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean* (Mediterranean Convention) are to *inter alia*: facilitate, through the rational planning of activities, the sustainable development of coastal zones by ensuring that the environment and landscapes are taken into account in harmony with economic, social and cultural development; preserve coastal zones for the benefit of current and future generations; and to ensure the sustainable use of natural resources, particularly with regard to water use.<sup>170</sup>

The *Integrated Coastal Zone Management (ICZM) Policy 2014*<sup>171</sup> is a good example of Kenya's efforts in adopting this approach to maximize on the benefits accruing from its coastal and marine resources while ensuring environmental conservation for sustainability. This Policy should be fully implemented in order to maximize on the sustainable exploitation coastal resources in Kenya.

The Integrated Coastal Zone Management approach to coastal and marine resources management is hailed as part of the best practices in natural resources management and conservation and indeed, it features prominently in the international legal instruments on natural resources management and conservation.<sup>172</sup>

SDG Goal 14 calls for conservation and sustainable use of the oceans, seas and marine resources for sustainable development. Adoption of ICZM approach is arguably one of the ways that can help achieve this goal.

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<sup>168</sup> *Integrated Coastal Zone Management Action Plan for Kenya 2011-2015, (NEMA), op. cit.*

<sup>169</sup> *Ibid.*

<sup>170</sup> Mediterranean Convention, Art. 5.

<sup>171</sup> Sessional Paper No. 13 of 2014, Republic of Kenya.

<sup>172</sup> See Muigua, K., Kariuki, F., Wamukoya, D., *Natural Resources and Environmental Justice in Kenya*, Glenwood Publishers, Nairobi – 2015, Chapt. 12.

## 8. Conclusion

The quest for sustainability and sustainable development requires integrating economic, social, cultural, political, and ecological factors.<sup>173</sup> As indicated above, the various management mechanisms have relevance in the management of natural resources in the Kenyan context. If effectively applied, the result would be the realisation of environmental justice and sustainable use of resources. In addition, a hybrid approach which harnesses the positive attributes of each perspective, while minimizing the negative aspects of each, is also suggested as the most appropriate approach going forward. The achievement of environmental justice for all is important in line with SDG Goal 16 which seeks to promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels. All the approaches discussed this paper have a place in sustainability debate. An integrated approach to natural resources and environmental management is the way to go in order to attain sustainable development.

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<sup>173</sup> Gallopín, G., ‘A systems approach to sustainability and sustainable development,’ op cit., p.7; See also Goodland, R., ‘The Concept of Environmental Sustainability,’ *Annual review of ecology and systematics*, Vol. 26, 1995, pp.1-24, at p. 4.

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