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HOW FAR ARE DEVELOPING COUNTRIES FROM THE CALL OF ECOLOGICAL TAX REFORM? A REVIEW OF ENVIRONMENTAL FISCAL POLICY FOR KENYA

Abstract: The main objective of this paper is to determine whether ecological tax reform paradigm that hitherto is employed by a section of industrialized countries as an instrument of environmental management has possibilities of application in developing countries. This is an imperative consideration because of possibilities of diffusion, the need to approach global environmental issues from a global policy framework and, the tendency to global environmental policy convergence. This paper begins by reviewing the conceptual strengths and weaknesses of environmental tax in general and ecological tax reform in particular. Environmental taxes are particularly difficult to apply due to their potential political ramifications. The theory of double dividend that sprung up as a solution to this has also run into problems in the process of application as ecological tax reform. For empirical analysis, the paper relies on a case study of the environmental management policy in Kenya that reveals a strong evidence of global environmental policy convergence. Another great revelation is that environmental taxes that are the genesis of ecological tax reform already exist in the form of official policy instruments and are in actual application. But this does not mean ecological tax reform has freeway into the Kenyan policy environment. There are far too many hurdles like over-reliance on standards and enforcement, north-south politics, industrialization myth and, the double dividend flaw. The conclusion is that ecological tax reform is possible and perhaps desirable for a developing country situation but with requisite contextualisation.

Key words: environmental policy, double dividend, ecological tax reform, environmental taxes, developing countries, Kenya.

INTRODUCTION

Ecological tax reform is a fiscal concept or paradigm that is confined to the developed world especially the Western and Central European countries. These countries seek to reduce material consumption of natural resources as means of minimizing ecological damage to the earth arising from unsustainable resource use. In this respect, the interrogatory portion of the title of this review sets its objective: to find out to what extent ecological tax reform could apply to the rest of the world and in particular to developing countries, in this case Kenya.

Today, few could disagree with the common say that the world is a global village. This means that although ecological tax reform as a paradigm of environmental taxation took root in the developed world particularly the industrialized European countries, the currents of diffusion may not spare developing countries. Pedersen (2005) has discussed three factors that can influence the global diffusion of environmental taxes:

i) Environmental taxes are based on conventional logic that is of universal application.
ii) International institutions like the UN and its various environmental and development agencies.
iii) The superannuate and bureaucratic nature of existing environmental regulation instruments (like command and control).

The question therefore is, if environmental taxes are of general or universal application but given also that ecological tax reform is based on a different cultural experience, is it applicable in a developing country situation? Secondly, as Tews *et al* (2003) have pointed out, the international diffusion of ideas, approaches, institutions and instruments in the field of environmental protection is responsible for global convergence of environmental policies. This begs the question as to whether developing countries share the global objectives of ecological tax reform. Are there prospects for global convergence in ecological tax reform?

Thirdly, according to Bluffstone (2003), in developing countries environmental taxes only complement administrative rules and standards due to the countries' weaknesses in economic, political and legal structures. But in the last decade and a half, developing countries have been pursuing transformation policies that have seen them embrace neoliberal structures of governance that mainly focus on market mechanism as the main economic mode of production and consumption. In reference to the case of the transitional economies of Eastern Europe, Welfens (199:945) had noted that " the switch to a market economy creates new environmental problems of its own and also raises the question of which type of strategy is adequate for ecologically and environmentally sustainable development". On this account therefore, we can ask whether ecological tax reform is an appropriate answer to the system of market economy. Kenya is one such country that has neoliberalized in the recent past.

This review takes on Kenya as a case study developing country that would provide answers to the three queries posed above. After looking at the conceptual issues concerning environmental taxation in general and ecological tax reform in particular, the review proceeds into the case study country. In the latter, it also takes a general look at the policy instruments for environmental management followed by a particular look at the tax instruments. Finally the review makes an assessment of the Kenyan possibilities for ecological tax reform. On a balance of prospects and limitations, the review concludes that ecological tax reform is possible for Kenya as a developing country but within tight limits.

ENVIRONMENTAL TAXATION

A clear distinction can be made between environmental tax and ecological tax reform. Environmental tax is also known as green tax or eco-tax and can be defined as any tax affecting the price or cost of an environmentally detrimental product or activity (Barde 2000).

The conceptual development of environmental taxation began with Pigou who pioneered the idea of negative externalities arising from the failure of market mechanism as an instrument of resource allocation (Kohlhaas 2000, Pedersen 2005). The externalities in this case is the environmental pollution. Those who cause pollution do not account for the cost they impose on society hence an environmental tax is required to meet this cost (Kerr 2001).

In spite of Pigou's reasoning, environmental taxes remained politically tricky. Levying the tax only for revenue purposes raises ethical questions. In most cases the perception is that it is tantamount to legitimizing the social crime of pollution so long as one has the ability to pay (Romstad and Folmer 2000). Binswanger attempted to sort out this problem by introducing the concept of "double dividend" in order to make the tax more socially and politically acceptable. Double dividend is discussed in detail in the next section of the paper, but the basic argument was that taxation of energy consumption could be combined with tax relief on labour resulting into double gains in terms of environmental protection and employment creation (Pedersen 2005).

In spite of the social and political acceptability that has dogged environmental taxation, it has gained prominence as an instrument of environmental policy especially since 1972 when the world started thinking seriously about the safety of the environment (Pedersen 2005). In 1972, for example, the OECD coined the principle of "polluter pays". This is also the year of the Stockholm Conference that marked the pursuit of global environmental policy and the need to relate environment with development. This was followed up with the establishment of the World Commission on Development in 1983. The commission submitted its report—popularly known as the Brundtland Report—in 1987. The greatest impact of the report is its definition of sustainable development. According to Pedersen (2005) the report had great impact on the political agenda in the Scandinavian countries and placed environmental taxes at the forefront of environmental policy. For the rest of the world, this was a situation analysis report that led to the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro.

The Rio conference endorsed sustainable development as a global environmental policy and came up with a policy document known as Agenda 21. Concerning energy use and protection of the atmosphere, Agenda 21 calls upon countries of the world to "evaluate and, as appropriate, promote cost-effective policies or programmes, including administrative, social and economic measures, in order to improve energy efficiency" according to their national socio-economic development and environment priorities (United Nations 1997:79). Also of relevance was its focus on unsustainable patterns of production and consumption and, the development of policies and strategies to encourage changes in unsustainable consumption patterns. In line with this, European countries have interpreted "cost-effective" policies and "economic" measures in terms of environmental tax.

Environmental taxes as applied in Europe are ecologically motivated taxes on energy use that intend to reduce CO_2 emissions and hence curtail climate change (Tews *et al.* 2003). For that matter, they are also known as energy or carbon taxes. They are commendable because traditional instruments of environmental policy, particularly the use of regulations, are inadequate for achieving sustainable development (Welfens 1999). The use of environmental taxes in this case has several advantages. These include provision of incentives for curtailing emissions by cutting on wasteful production or consumption, installation of abatement equipment or change of inputs, reduction of output, or invention of new technologies for cleaner production (Romstad and Folmer 2000). Environmental taxes also bring the benefit of revenue and in essence their total social costs are lower than those of non-revenue raising policy instruments (Kerr 2001). But the disadvantages of environmental taxes owing to its logistic problems are many. First, since the main aim is to discourage a particular activity or behaviour, when the tax is successful in this objective, the tax base gets eroded (Romstad and Folmer 2000). The erosion of the tax base therefore undermines the concept of double dividend over time. Although the concept of double dividend is discussed in the antecedent section, for the sake of clarity, it is necessary to touch on it here.

As we have noted, an environmental tax can change production and consumption patterns or lead to substitution of a dirty good for a clean one or promote technological inventions that would eliminate pollution by a dirty good. If this is successfully done, it means the dirty good would lose relevance as a source of tax revenue. The argument here is that tax revenue from a dirty good is required to achieve the second dividend on a revenue-neutral swap basis. The more the revenue base is successively eroded, the lesser the amount of revenue available to swap for the second dividend hence the smaller the second dividend would be. The dwindling of the second dividend therefore undermines the whole idea of a double dividend. Theoretically, when an environmental tax successfully discourages the use of a dirty good, it means the good is eliminated hence no more revenue. This will hallmarks the conceptual flaw of the double dividend. The second dividend needs sustainable revenue swap while the first, when virtually achieved, precludes sustainable revenue realization. Hence the first dividend cannot practically sustain the second in the double dividend theory. The contradiction is that revenue can be sustained only if the tax is not completely successful in discouraging a dirty good; in which case the environmental tax itself is not an efficient instrument just like the other taxes it is intended to correct through the second dividend. Historical examples of virtual success of environmental tax in eliminating dirty goods exist. For instance, Romstad and Folmer (2000:530-531) have given an illustrious example of how an environmental tax on leaded fuel helped to eliminate the dirty good from the Swedish market between 1986 and 1994. By 1994, leaded fuel had been completely wiped out of the market and tax revenue from it was not available to the Swedish government for whatever purpose the government would have contemplated using it. Otherwise the double dividend is based on a perpetual balance sheet of private and social costs that do not intend pollution as a phenomenon to end but only adjust according to market mechanism.

Secondly, environmental taxes present administrative problems in terms of fixing the tax rate. Due to the erosion effect, the tax rate may not remain constant and this brings

problems both to tax payers and tax collectors. Environmental taxes also lead to increased costs to those facing the regulation which instigates strong opposition from the target groups. Raising prices also means that the distributive effect of the taxes may be unfavorable to vulnerable groups (Kerr 2001). The analysis in this section therefore, shows that although environmental taxes may be propped by economic ideals, their political ramifications always render them controversial and limit the prospects of their application.

ECOLOGICAL TAX REFORM

Ecological tax reform on the other hand is a distinct paradigm or concept that refers to a particular thinking in the history and philosophy of environmental taxation. The three words that compose the concept gains distinct meaning only when used in this particular order with no possibility of substitution. For instance, saying environmental tax reform will have a different meaning all together. The "reform" component in ecological tax reform gives it the distinctive characteristic of purpose. It implies the introduction of environmental taxes that would correct the distortion characteristics of an already functional tax system. Ecological tax reform is therefore a normative concept.

The concept is predicated on the theory of double dividend. This theory holds that an environmental tax is not a revenue-raising tax but rather an economic leverage tax that is levied on a "revenue-neutral" basis. The tax if properly levied will therefore be able to achieve two objectives, one which is not primarily intended. The first dividend or the "intended" objective is connected to the purpose of economic leverage, in that the tax will be able to achieve environmental conservation; the economic burden of the tax would induce a change in the consumption or production behaviour that was detrimental to the environment. The second dividend is the "unintended" revenue that levying of the tax would inevitably generate.

Ecological tax reform is more of a policy experience rather than a concept and we know it only in the way it has been implemented in certain countries. In these countries the revenue is not seen as a dividend for its own sake. The argument is that the "revenue-neutral" policy means that revenues from environmental taxes could be used to cut other distortionary taxes and public contributions for the sake of economic improvement (Budzinski 2002) hence the term ecological tax reform. According to Lightfoot and Luckin (1999), it means shifting the policy from taxing the "goods" to taxing the "bads". This linkage, as we have noted, was brought in order to make environmental taxes acceptable.

Budzinski (2002) has broken down the second dividend into:

i) Efficiency dividend arising from the use of a less distortionary instrument.
ii) Employment dividend arising from the swap of environmental tax revenue with labour tax revenue causing a fall in labour costs.
iii) Distribution dividend arising from just distribution that may arise from cuts in distortionary taxes.

Writers like Budzinski (2002), Kohlhaas (2000) and others have okayed ecological tax reform. On the other hand, others maintain that the double dividend approach is conceptually flawed (Backhaus 1998). Whether the double dividend is possible has been a question of debate in the European countries where ecological tax reform is being implemented (Bayindir-Upmann and Raith 2005). Questions have arisen as to whether employment and higher environmental standards do in fact form an inevitable tradeoff (Schneider 1997).

It is important to note that controversy is reserved only for the attainment of the second dividend and not the first. Whereas consensus exist on the attainment of the first dividend, Schöb (1998) has pointed out that the first dividend cannot be taken for granted and that a negative impact on the environment is probable from ecological taxes. Schöb presents a two case scenario known as the first-best and second-best worlds. A first-best world ecological tax reform involves introducing or increasing environmental tax in a non-distorted tax system. Since environmental tax is levied on a revenue-neutral basis and the second dividend is not applicable in this situation, the revenue has to be refunded to the taxpayers in terms of lump-sum tax rebates. According to Schöb, an increase in ecological tax in this case may increase emissions if marginal tax revenues from lump-sum taxes are negative.

The second-best world ecological tax reform involves introducing or increasing environmental tax in a distorted tax system. The revenue-neutral principle is still applicable hence the second dividend is desirable. According to Schöb, an ecological tax reform that deteriorates the environment is most likely to occur in a second-best world involving the double dividend. This is because the tax revenue from a dirty good has to be refunded by reducing tax on a clean good. But if the marginal tax revenue of the clean good is relatively low compared to the dirty good, consumption of the clean good will reduce at a higher rate than the dirty good. Therefore, comparatively, the marginal rate of emissions for the dirty good would be high, and this does not constitute an optional economic performance.

Logistically too, the double dividend is not sustainable because the achievement of the first dividend may preclude the second. By successfully attaining environmental objectives the environmental tax base gets eroded to the extent that the revenue for tradeoff with labour-based or other distortionary taxes are reduced. This position is also true to developing countries where environmental taxes may not raise enough revenue for tradeoff with the distortionary taxes. Therefore, the idea of the double dividend that was conceived as the main prop for ecological tax reform is also its main weakness as an environmental tax policy.

ENVIRONMENTAL MANAGEMENT IN KENYA

Environmental management policy for Kenya is mainly spelt out in the Environmental Management and Coordination Act of 1999, popularly abbreviated as EMCA. This environmental law is based on three basic principles among others. These are: the

principle of intergenerational and intra-generational equity (sustainable development), polluter pays principle and the precautionary principle. EMCA gives the responsibility of overall environmental management to the National Environmental Management Authority (NEMA). In terms of actual environmental management, EMCA provides for the use of four categories of instruments: regulatory standards, economic incentives, international standards and conventions, and lastly, penalties and compensation. Economic incentives is discussed in detail in the antecedent section.

National Environmental Standards

EMCA provides for the establishment of a Standard and Enforcement Review Committee (SERC) that deals with water, air and noise pollution standards. In terms of air quality that is pertinent to ecological tax reform, EMCA at Section 78(1) gives the Committee indeterminable powers to "do all such things as appear necessary for the monitoring and controlling of air pollution" (Republic of Kenya 1999). This allows it unlimited use of command and control measures. Nevertheless, EMCA also gives it specific responsibilities which include making recommendations for follow up by NEMA on: ambient air quality standards, emission standards, air pollution control measures among other things. For purposes of application of standards, EMCA provides for other instruments like emission licenses for those activities that are likely to pollute the environment. A license is issued or cancelled depending on the rate of pollution to the environment against established standards. For purposes of ensuring adherence to standards, EMCA (in Part X) also provides for environmental policing through appointment of environmental inspectors.

International Conventions

Part XI of EMCA deals with international treaties, conventions and agreements. Where Kenya is party to any such treaties, conventions or agreements, EMCA empowers the National Environmental Council (NEC) to initiate legislative instruments for their implementation. NEC is also charged with the duty of identifying "other appropriate measures necessary for the national implementation of such treaty, convention or agreement" (Republic of Kenya 1999). This is a positive point for ecological tax reform; supposed there was an international agreement that called for application of economic incentives or ecological tax reform as the primary instrument for environmental management and Kenya was a signatory then operationalization structures already exist. Secondly, where certain environmental standards are adopted for universal application, these would be easily implemented in Kenya. One example of application of international convention is the policy on the protection of the ozone layer.

Protection of the Ozone Layer

EMCA gives due recognition to the need to protect the ozone layer as a national goal. It gives NEMA the responsibilities of (Republic of Kenya 1999):

i) Elimination of substances that deplete the stratospheric ozone layer
ii) Controlling of activities and practices likely to lead to the degradation of the ozone layer and the stratosphere

iii) Reduction and minimization of the risks to human health created by the degradation of the ozone layer and the stratosphere
iv) Formulation of strategies, preparation and evaluation of programmes for phasing out ozone depleting substances

This is a promising case of national action against a global problem. It is also a case of national policy development that is informed by global environmental awareness. It is also a case of global environmental policy convergence. It serves as an indication that Kenya as a nation is prepared to abide by international environmental conventions, treaties and agreements. This means therefore that if ecological tax reform became a global environmental policy instrument, Kenya may be willing to apply it.

Penalties, Compensation and Restitution
Part XIII of EMCA deals with penalties for environmental offences. These apply in the contravention of environmental standards where the penalty is a fine of not more than Kenya Shillings five hundred thousand or jail term of not more than twelve months upon conviction. For offences relating to pollution a fine of not more than Kenya Shillings five hundred thousand is applicable. In addition to sentencing, the court may oblige the polluter to:

i) Pay NEMA the full cost of cleaning up the pollution, or
ii) Clean up the pollution to the satisfaction of NEMA, and
iii) Compensate any third parties affected by the incident of pollution

THE FISCAL ENVIRONMENT

Economic Incentives
In the precedent section, we have noted that economic incentives is one of the policy instruments that can be employed for purposes of environmental management in Kenya. EMCA, at Section 57, empowers the Minister for Finance to introduce tax and other fiscal incentives, disincentives or fees to induce or promote the proper management of the environment and natural resources or the prevention and abatement of environmental degradation. Such taxes and fiscal incentives or fees may include (Republic of Kenya 1999):

i) Customs and excise waiver on imported capital goods which prevent or reduce environmental degradation.
ii) Tax rebates to industries or firms that invest in plants, equipment and machinery for pollution control et cetera.
iii) Tax disincentives to deter bad environmental behaviour that leads to depletion of environmental resources or that cause pollution.
iv) User fees to ensure that those who use environmental resources pay proper value for the utilization of such resources.

Environmental taxes fall under the tax disincentives at iii), but other economic instruments are also allowed as already listed. In Kenya, environmental taxes have already been tested in the fiscal environment. For example, there was a tax on emissions

charged on imported second hand vehicles. However this tax was conceived and applied in a rudimentary manner. It was based on the simplistic assumption that old vehicles pollute the environment thereby necessitating a deterrent tax. The tax was not based on any amount of or category of emissions but simply involved just a flat rate levy on imported second hand vehicles. The tax has since been withdrawn and replaced with a regulatory ban. Currently the importation of vehicles that are older than eight years are banned.

Tax Revenue

The withdrawal of the emissions tax has left little to talk about the experience of environmental taxes in Kenya. Table 1 shows the actual or estimate tax revenues.

Table 1: Central Government Tax Revenue (KSh. Million)

	2000/01	2001/02	2002/03	2003/04	2004/05
DIRECT TAXATION					
Income Tax	53,428.93	55,861.95	66,744.28	70,862.00	78,777.00
INDIRECT TAXATION					
VAT on domestic manufacturers	26,226.01	26,325.46	26,502.31	32,491.00	34,664.00
VAT on imports	23,994.85	24,546.22	29,632.94	26,492.00	28,303.00
Import duties	28,803.74	21,583.67	18,436.23	21,907.00	21,392.00
Excise duties	28,317.99	32,076.93	35,684.12	47,590.00	45,304.00
Trading licenses	86.30	98.66	105.36	197.70	202.05
Licenses and fees under Traffic Act	1,049.99	885.40	1,145.00	2,349.00	1,989.00
Other taxes licenses and duties	1,170.98	1,312.53	22.98	1,280.11	1,325.71
Total	109,649.86	106,828.87	111,528.94	132,306.81	133,179.76
GRAND TOTAL	**163,078.79**	**162,690.82**	**178,273.22**	**203,168.81**	**211,956.56**

Source: Reconstructed from *Economic Survey 2005* p.104

From the table, we can see that there are no contributions from environmental taxes. Labour taxes in the form of income taxes on the other hand are high. Given the double dividend concept, the fiscal environment is therefore appropriate for ecological tax reform as far as labour taxes are concerned. Labour taxes constitute roughly one third of tax revenue. This is a very high tax rate on labour especially for a developing country where majority fall outside the income tax bracket. It means that the few who are earning taxable incomes are being overburdened by the tax especially those who are at the lower levels of the tax bracket. The highest tax rate charged in Kenya is 30% of the monthly income.

PROSPECTS FOR ECOLOGICAL TAX REFORM

There are three main factors that give good prospects for the implementation of ecological tax reform in Kenya. These include mechanism for implementation of international conventions, mechanism of economic incentives and high taxes on labour.

International Convention

As we have noted, there already exists a legal mechanism in Kenya that okays legislative and policy changes in order to incorporate international treaties, agreements and conventions that Kenya as a country may subscribe to. This means that in the event that ecological tax reform is adopted as a global environmental policy through the efforts of various international environmental institutions, Kenya will be ready to implement it. Although, it is important to note that currently, the global environmental policy as spelt in Agenda 21 leaves it to individual countries to make their own choices according to their national needs. At individual country level, ecological tax reform as a concept is still necessary and can be adapted to the environmental and development needs of each nation.

Economic Incentives Mechanism

Another positive prospect for Kenya as far as the implementation of ecological tax reform is concerned is that economic incentives policy upon which environmental taxation and ecological tax reform are based is already in place. Economic incentives instruments are clearly spelt out by EMCA and are legally permissible in Kenya. This therefore provides a basis upon which ecological tax reform policy can now be formulated for Kenya. It is even worthwhile to note that Kenya has tried levying environmental taxes. Although this was withdrawn in favour of regulatory instruments, it remains something to build on.

High Labour Taxes

Coincidentally, Kenya is levying very high labour taxes. Labour taxes as we have seen create distortions in the economy and may serve to discourage hard work in the case of Kenya. This may in turn lead to a slow down in economic development. The labour tax that exists in the form of income tax therefore requires some reform in order to encourage people to work more. Secondly, labour as a factor of production does not pollute as do machinery and equipment. Taxes that discourage the use of polluting machinery and equipment may lead to factor substitution for labour. Labour is quite abundant in Kenya and remains idle most of the time. Labour substituting technologies would therefore create employment and help achieve social objectives like reduction of unemployment, crime and other social ills associated with unemployment. Labour is also a reproducible hence a sustainable resource compared to productive ventures that cause depletion of natural resources like fossil fuel or the ozone layer. Labour intensive technologies would therefore help in achieving sustainable development.

LIMITATIONS OF ECOLOGICAL TAX REFORM

Although good prospects for implementation of ecological tax reform exist in Kenya, several limitations also attend to it. These include predominant use of command and control, climate change as a global issue, the strive for industrialization and the limited prospects of the double dividend concept.

Command and Control Policy

As Bluffstone (2003) correctly noted, developing countries like Kenya still heavily rely on regulatory instruments like command and control. Examples of command and control

include standards and licenses (Barde 2000). Kenya heavily relies on standards for purposes of environmental management. In this case standards are to be set and enforced by the SERC arm of NEMA. Enforcement involves creation of an environmental inspectorate as detailed in Sections 117 and 123. The inspectorate would be responsible for environmental audits and impact studies among other things. In the year 2004, NEMA called upon all going concerns in Kenya to undertake environmental audits. New projects must also be subject to environmental impact studies. Licenses will be issued depending on the outcome of these studies and audits. The use of this instrument involves a high social cost relating to operation of this machinery. Nevertheless, prospects for change are so far. One of the drawbacks we have seen, for example, involves the withdrawal of the emissions tax in favour of a regulatory ban. Instead there was need to improve on the tax in order to capture the amounts or categories of emissions. Although this in itself would involve more administrative and technical challenges hence a total ban comes in handy. The weakness of the ban, however, is that it does not deter vehicles that are more than eight years old but already in the country from polluting the environment.

Global Concerns and National Sacrifice

The greatest drawback for ecological tax reform in Kenya would be its global objectives that alienate it from national concerns. As noted by Blanke (2002), environmental dangers are on the increase but they are more of a global nature hence less tangible. Issues of global warming, climate change, ozone layer depletion and so on would not ring a bell to many Kenyans. In fact they will think of them in terms of scientific discussions that have no bearing on ordinary citizens. This therefore means little political support for ecological tax reform.

Issues of international equity may also arise. It is clear which countries are responsible for polluting the global environment. Secondly, Welfens (1999) has regretted the fact that 80 percent of the world’s resources are concentrated in industrialized countries with only 20 percent of the world’s population. This 20 percent of the world’s population has been sustaining an extravagant lifestyle to the detriment of the rest in developing countries. Why then can it not be left to the industrialized countries to clean up this mess? Further, some of these industrialized countries have remained rogue polluters. The US for example, has failed to ratify the Kyoto Protocol. Concerning ecological tax reform, Kerr (2001) has noted that in the US a carbon tax is unlikely to be implemented and that where there are carbon taxes in Europe heavy industry is almost invariably exempt. Be that as it may, Welfens (1999:946) has admonished that “a continuation of production and consumption patterns as it exists in the industrialized countries, and their adoption by the developing countries will lead to the collapse of the earth’s eco-system”. This therefore, means that although the mess has been created by the developed world other than the developing world, it behoves all countries from across the divide to participate in correcting the mess otherwise we all perish.

The Strive for Industrialization

Developing countries are busy emulating the developed world in the quest for industrialization. Kenya has put its target to be an industrialized country by the year

2020. The target is unrealistic but it tells of the raw ambition that fuels the drive to industrialization. With such an ambition anything would count, why care about the environment. History is replete with the social ills of the industrial revolution. The developing world is in an opportune position to learn from the experience of their predecessors. The first lesson would be that the social ills of industrialization have a national impact before contributing to the global impact. Air pollution, for example, will first have a local effect before contributing to the global. Secondly, the national strive for industrialization will give industrialists enough ammunition to shoot down proposals for ecological tax reform.

Eco-Fiscal Illusion

Concerning the German case, Blanke (2002) has referred contemptuously to the concept of double dividend as "eco-fiscal illusion". Although for the German case research has been carried out that indicates actual eco-fiscal gains (Bach *et al.* 2001), in Kenya the fiscal gains are even far from imaginable. This can be stated without fear of contradiction to the prospective point made about income taxes in Kenya in the precedent section of this review. In the European setting, labour tax reform would involve relief from welfare taxes or social insurance contributions that make labour costs very high. The double dividend in this case would also obtain from capital taxes that unfortunately are not levied in Kenya. Given the low industrial base in Kenya, it also means that the tax base is so scant it cannot afford a tradeoff with other tax bases like labour. In Kenya, therefore, the double dividend may actually be illusive.

CONCLUSION

From the review, we have seen that there already exists goodwill of global policy convergence in a developing country situation as exemplified by Kenya. There is a mechanism in place for the internalizing of international conventions, treaties and agreements. Secondly, global environmental concerns like ozone layer depletion are already internalized and policy instruments exist for national action. Of particular interest is the fact that taxation is already recognized and has been used as one of the economic instruments for environmental management. It is worthwhile though to note that its scope is quite limited.

Given this kind of goodwill, ecological tax reform may stand a chance of implementation in a developing country situation particularly if it is promoted by international agencies as a global environmental policy instrument. But its usefulness would be greatly constrained by among others its historical logic of reliance on the concept of double dividend. This would be so due to the different economic and political circumstances obtaining in a developing country situation which include non-welfare oriented labour taxes, limited industrial development hence low tax base and the politics of intra-global equity. The conclusion therefore, is that although ecological tax reform would be applicable for a developing country like Kenya, it will have to be wrought without the double dividend model or within a localized double dividend model. Going by the example of Kenya, we can answer this topical question that: sure developing countries are not far from the call of ecological tax reform.

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