Engineers' Critical Role in Public Policy Formulation – Time is Now

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Abstract

Public policy making entails identification and resolution of public problems through creation of new policy or reform of existing policy. Typically, this involves agenda setting, formulation, legitimation, implementation and evaluation. It is a complex process that involves many stakeholders and processes. Owing to their nature of rational and systematic approach to problem solving, engineers are well suited to advocate and formulate feasible solutions to problems facing the society through public policy. However, Engineers have hitherto been largely second and third stage implementers of public policies rather than first stage influencers and formulators. The cost of lack of robust active participation of engineers in policy formulation is ineffective policies of unjustifiably expensive ones. The time to change this narrative is now. The engineering profession needs to do more.This paper explores how engineers can position themselves to have more influence and effective active participation in agenda setting and formulation of public policies for sustainable economic recovery and development. It discusses strategies that can assist in achieving this objective in the context of the complex nature of public policy making process.

Keywords: Agenda setting, Engineers, Influence, Policy Formulation, Public Policy

1. Introduction

The UN Sustainable Development Goals (SDGs) provide a universal framework to tackle the biggest problems facing our planet. From ending world hunger to improving global healthcare, the SDGs seek to shape development policies and investment to deliver the best impact [1]. Bringing the UN's newest Sustainable Development Goals (SDGs) to fruition will demand the skills of engineers. Important goals where engineers have a role include clean water and sanitation for all (Goal 6), availability of sustainable energy sources (Goal 7), creating strong and resilient infrastructure (Goal 9) and liveable cities (Goal 11).

A policy can broadly be defined as a course or a principle of action adopted or proposed by a government, party, business, or an individual [2] . It is a document which outlines what a government or an individual aims to achieve for society as a whole. Some policies require enactment of supporting legislation for execution while others are self executing.

Examples of recent policies in Kenya include National Energy Policy 2018, National Water Policy (sessional paper No. 1 of 2021), National Housing Policy (Sessional Paper No. 3 of 2016), National Agricultural Mechanization Policy 2021, Kenya Cancer Policy 2019-2030 among others. Public policy makers generally include elected public officials, public officials appointed by those elected public officials, and higher level civil servants whose careers are driven by appointed and elected public officials.

In the context of Kenya constitutional framework, public policy formulation happens both at National and County governments. At the national level the key actors include the Executive, Parliament, Office of the Attorney General and Government Printer. At the County government, the key formulators are the Executive, the County Assembly and County Government Press.

Deliberate and active participation in Public Policy Formulation has not been a priority for Engineers, resulting in little attention to this area that, in reality, affects engineers and their quality of life. Engineers' involvement in public policy development is sadly lacking[2]. Some of the consequences of this state of affairs are engineers holding fewer leadership positions resulting in reduced voice on critical issues. Key engineering leadership positions are filled by other professionals, despite their lack of understanding of the engineering issues.

Engineers are left to be largely second and third stage implementers of public policies rather than first stage influencers and formulators. Some of the reasons cited for this situation are:

i) Engineers prefer not to get caught up in the perceived "corrupt" and "political" process.
ii) The uncomfortable feeling of many of the Engineers to stand up and speak out on public policy issues.

The impact of this state of affairs is ineffective policies of unjustifiably expensive ones. This narrative needs to change and engineers need to do more. This paper highlights public policy formulation process, explores engineers edge in the process and some of the strategies engineers can adopt in order to have more influence in public policy formulation process.

2. Public Policy Formulation Process in Kenya

In the Kenyan context, public policy formulation process involves the following steps [2].

i) Policy Initiation – players in this step include government Ministries, Departments and Agencies (MDAs), citizens, institutions, and stakeholder groups among others.
ii) Research - the respective MDA undertakes comprehensive and comparative research on the matter to be regulated. This may involve constitution of taskforces, committees and other consultative machineries to ensure that all entities likely to be affected by the policy contribute to the policy process at the formative stages. This approach is critical in ensuring acceptability and ownership of the final policy by all relevant MDAs and other actors.
iii) Negotiation and Public Participation – in this step, substantive contents of the draft policy framework are debated and negotiated with various stakeholders.
iv) Finalization of the Policy – here, the concerned MDA crystallizes the issues, options available after debate and public participation and draws up a final policy document.
v) Cabinet or County Executive Committee Approval – Once satisfied with the policy document, the Cabinet Secretary or County Executive Committee Member submits the policy to the Cabinet (in case of National Policy) or the County Executive Committee(in case of County Policy) respectively, for approval.
vi) Parliamentary or County Assembly Approval - The Assembly or House to which the policy is subjected for debate and adoption is dependent on the subject matter and functional jurisdiction. The respective legislative body shall, in accordance with the Standing Orders, introduce the policy document in the House, subject it to the relevant House Committee for scrutiny and further consideration. The Committee reports back to the whole House. The policy document may be approved with or without amendments.
vii) Assent - Upon passing by the respective House, the Speaker of the respective House submits the approved policy to the President or the Governor, to formally endorse, by affixing the National Seal or County Seal respectively, and signing the policy. This process is called assent.
viii) Publication - Upon assent, the policy is published as a White Paper. The Executive is expected to widely circulate the policy and to keep the public informed of the likely effects of the Policy. The White Paper is a statement of intent and a detailed policy plan, which often forms the basis of legislation.
ix) Draft Bill - If it is determined at the ministerial level that a new law is necessary to achieve the policy's objectives and aid implementation, the concerned MDA will commence the process of drafting the Bill to give full effect to the policy directives. However, for self – executing policies, they are effective immediately without the need for ancillary legislation.

It is noted that although members of the public, private sector, professional bodies, Civil Society, Non-Governmental Organizations (NGOs), Community-Based Organizations (CBOs), Faith-Based Organizations (CBOs) and International Development Partners may propose and even facilitate the formulation of policies, such policies may be adopted or implemented only if the above processes of adoption are strictly adhered to.

3. Edge of Engineers in Public Policy Formulation Process

Typically, public policy making process involves problem identification, agenda setting, formulation, adoption, implementation and evaluation.

Engineering is the application of science to the needs of humanity. Through training and experience, Engineers perform services or creative work as consultation, testimony, investigation, evaluation, planning, design and

design coordination of engineering works and systems, planning the use of land and water, performing engineering surveys and studies, and the review of construction or other design products for the purpose of monitoring compliance with drawings and specifications.

A careful look at the correlation between public policy making process and engineering work points to a promising finding that an Engineer is entrusted with critical attributes that are key to public policy formulation. These include:

i) The training and practice of critical thinking in solving problems
ii) The moral and ethical obligations that Engineers follow as part of the Engineering profession to protect the health safety and welfare of the public.
iii) Engineers are problem solvers. They use skills or information including results of scientific discoveries, empirical experience gained from centuries of construction, Innovative approaches gained from recent projects, Analyses of costs versus benefits over the life of projects, Evaluation of environmental impacts versus benefits, Consideration of political, cultural and social environments at project locations[3]

Thus, Engineers cannot afford to sit on the sidelines while others shape our physical environment and public policy. By virtue of our training and experience, we are well qualified to apply innovative problem-solving skills in public policy formulation and implementation.

4. How Engineers can have More Influence in Public Policy Formulation

The Engineer of the 21st Century will have to assume leadership positions from which they can serve as a positive influence in administration of government, industry and in the making of public policy. This includes the political process, public policy formulation, funding mechanisms, government-business interaction, laws and regulations, public education and involvement, and public service responsibility of professionals[1].

Public policies are influenced by various factors including public opinion, new scientific discoveries, technological change, economic conditions, interest groups, non-governmental organizations (NGOs), business lobbying, and other political activity. Groups and individuals attempt to influence public policy through advocacy , education or mobilization of interest groups.

In this way, public policy formulation process involves efforts by competing interest groups to influence policy makers in their favour. Advocacy is attempting to influence public policy through education, lobbying, or political pressure. It is evident that public policy priorities are influenced through advocacy.

Strategies through which Engineers can have more influence in public policy formulation are as follows:

i) Understand public policy making process
ii) Understand the thinking of public policy makers - Linear thinkers are driven by rules. When presented with an issue, they apply universally accepted rules and reason logically to a conclusion that is driven by those rules. Engineers are classic examples of linear thinkers. On the other hand, Non-linear thinkers are not concerned about rules. They are concerned about getting from "Point A to Point C." They are "goal-oriented." Public policy makers….elected public officials, public officials appointed by elected public officials, and higher-level civil servants whose careers are driven by appointed and elected officials are classic non-linear thinkers. This is illustrated in Fig 1 and Fig 2[1].

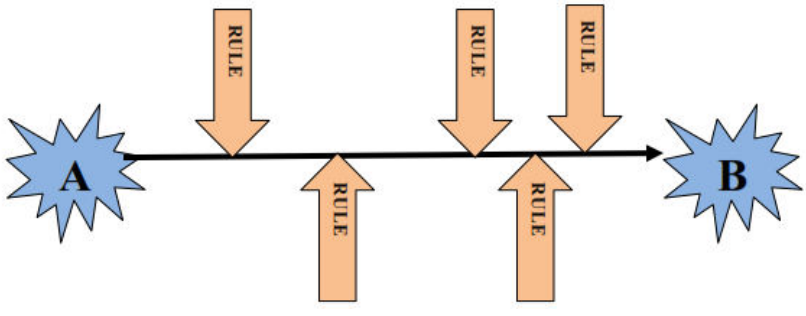

Fig 1. Linear Thinker

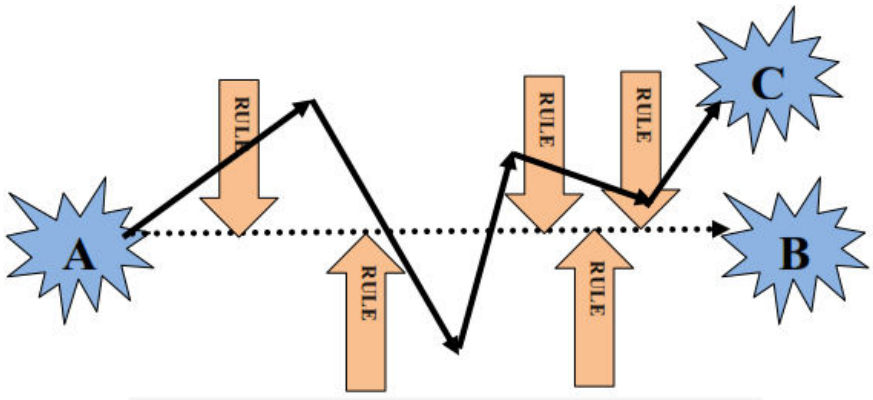

Fig 2. Non Linear Thinker

iii) Use emotional arguments and presentations not logical ones when attempting to influence public policy makers. Public policy makers are motivated almost exclusively by their political objective, which is either to get re-elected/re-appointed or to get elected/appointed to a higher office.

iv) Establish alliances with other organizations active in public policy arena having common objectives in order to pursue those objectives.

v) Take up leadership positions in order to be at the public policy formulation table - Getting involved in government enables us to take the lead in addressing critical quality-of-life issues facing our communities: poor infrastructure, environmental and economic decline, public transportation, low clean energy access, hazardous waste, and crime.

vi) Engage in advocacy and training – Engineers can get more involved in local and regional civic activities as volunteers where they can apply their knowledge enable making of sound decisions. Public seminars, school field-trips can also create widespread enthusiasm for science programs among the youth.

vii) Understand policy implementation – for policies to achieve intended purposes, they must be effectively implemented. Policy implementation refers to mechanisms, resources, and relationships that link assented policies to action [4]. This includes both technical and relational aspects, specifying the institutions responsible for implementation and ensuring that the institutions have the capacity for implementation and that the relations among institutions are conducive for collaboration. Factors that influence policy implementation processes include motivation, flow of information, balance of power and resources among stakeholders.

5. Conclusion

Engineers can positively influence the public policy formulation process by deliberately and actively participating in it. As is true with most areas in our lives that require change, change can only come about from those who are willing to stand up and be heard. Engineers must take a more active role in influencing public policy formulation and implementation to ensure that policies and supporting legislation that are enacted are truly in the interest of protecting the public health safety and welfare.

This paper has explored public policy formulation, the edge engineers hold and how engineers can have more influence in public policy formulation.

References

1. Royal Academy of Engineering. *Engineering a Better World*. (2016).

2. Kenya Law Reform Comission. *A Guide to the Legislative Process in Kenya*. (2015).

3. World Federation of Engineering Organizations' Committee on Technology. *Engineers and Sustainable Development*. (2002).

4. DFID. *Capacity Development Resource Guide - Implementation Barriers*. (2014).