

Presentation of the Newly Developed Framework for Effective Implementation of Building Policies, Laws and Regulations in Developing Sub-Sahara African Countries

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Abstract:- This paper presents the newly developed Framework for effective implementation of Building Policies, laws and Regulations (FEIBPLR) in developing sub-Sahara African countries. The framework is rooted within the RIBA Plan of work 2010 vastly used within the construction industry of several developed nations as well as on the literature submissions on policy development and theories of policy implementation. Also, in the development process consideration was given to the interactions amongst various stakeholders, culture and sociopolitical institutions. It is submitted that the analysis exercise of the data gathered has contributed in identifying the sources of vulnerabilities in the effectiveness of the implementation of the developed regulations and policies in the building construction sector. Those vulnerabilities include amongst others institutional corruption, ignorance of laws and policies, insufficient technical knowledge and confusing policies and confusing responsibilities. We conclude that the interaction between key stakeholders and the rigorous use of prescribed documents can strengthen the robustness of the implementation process and yield a better implementation and compliance rate in the building construction field. The instrument developed is characterised by five phases with integrated prescribed documents all facilitated by five identified complementary implementation drivers at each phase.

Keywords:- Building Policies; Implementation Framework; Developing Countries.

I. INTRODUCTION

Earlier research on building policies and regulations (Tene et Al 2017 and 2018) has shown that there is a need to develop an implementation strategy to discipline the stakeholders in the building construction field in developing countries to boost the implementation rate of existing laws and regulations. An implementation instrument that could show what to do, who will do it, when it has to be done and suggestions as to how it should be done would drastically reduce the impact risks on the industry and help solve the problem of non-implementation of existing building policies and regulations. The challenge highlighted in those earlier

researches was to develop a framework that will be equally timely, relevant and fit for its purpose. The National Implementation Research Network (NIRN) reiterates the view shared by several other scholars that “implementing a well-constructed, well-defined, well-researched program can be expected to take 2 to 4 years (Bierman et al., 2002; Fixsen et Al, 2001; Panzano & Roth, 2006; Prochaska & DiClemente, 1982; Solberg, Hroschikoski, Sperl-Hillen, O’Conner, & Crabtree, 2004).” The framework is designed essentially for well-constructed policies and as such effort was made throughout the construction of the framework to ensure that the policymaker and implementers monitor the implementation process permanently and use their findings to evaluate and reconstruct the policy where necessary for better outcome. Overall, this article presents and describes the Framework for Effective Implementation of Building Policies, laws and regulations (FEIBPLR) in developing countries. The instrument is rooted within the existing scientific implementation theories and the RIBA Plan of Work. The methods followed in prosecuting the research are summarily presented below at section one. The article initially summarises the aim and objectives of the framework (II) before referring to the theoretical approach taken in its development (III) and the process followed (IV). It then follows with the full description of the features underpinning the framework (V), its benefit and its full presentation (VI) before drawing a conclusion (VII).

II. METHOD AND RESULTS

A. Method (Heading 2)

To develop the framework, we reviewed the various theories upon which public policies and consolidated implementation framework are rooted as well as the existing building laws and policies of several selected countries in both developed and developing countries. The process was carried out through a mixture of qualitative and qualitative method of data gathering and analysis. The case study approach was adopted with Cameroon used as target country for the study. Qualitative data included observational field notes, analysis of existing building laws, policies and regulations, in-depth interviews and focus group discussions with building practitioners, building occupiers, staffs of the Central and local authorities of several councils. Those data were analysed using the thematic and content approach.

Quantitative data were collected through survey questionnaires addressed to all categories of stakeholders and were analysed using the integrated Bristol Online Survey software. Upon the development of the final version of the framework, it was duly assessed and evaluated by a panel of high ranked stakeholders including practitioners and government executives through a further focus group activity.

B. Results

The data so obtained and analyzed through the described methods assisted in the comprehensive identification and understanding of constructs and practices which hamper the effective implementation of the government building policies in the case study country. Our strategies to using pre-existing theories on policy development and implementation as well as reference to existing implementation instruments within the building construction sector led to actionable findings for enhancing implementation effectiveness of existing laws and policies during and beyond the various building construction phases. The instrument ultimately developed sets out principles and responsibilities at all levels of the chain with clear actions expected from each category of stakeholders. The framework which is rooted in the RIBA Plan of Work 2013 also prescribes specific documents and identifies relevant drivers which must be complied with in the building process to remain compliant towards laws and regulations. The instrument draws its inspiration from the Contextual Implementation Theory (CIT) and from the Fixsen's drivers to advocate working in for collaborative working and efficient compliance with documentary prescriptions to ensure a consistent approach to coordinating and standardizing regulatory practice. The framework developed was assessed as innovative and relevant to the context of developing countries and therefore fit for its purpose.

III. AIM AND OBJECTIVES OF THE FEIBPLR

➤ Aim of the FEIBPLR

The aim of the development activity was to provide a working instrument which can be adjusted to different situations by different stakeholders to help implementers successfully deploy the government building construction policies in practice and all stakeholders of the building construction industry to adhere to those policies and regulations. The framework acts as an instrument to help stakeholders about the steps and strategies needed to build sustainably in compliance with existing laws and regulations. For non-professional or inexperienced practitioners, it provides a transparent process to follow; for experienced building professionals, policymakers and local authorities it provides building construction considerations such as the good practice habits and describes dynamically complex working relationships and systems, as well as a uniformed approach which will help decision makers and implementers to input into practice and use the framework

developed and to perpetuate its continued review. With that in mind the framework developed is designed to guide the stakeholders to work collaboratively at key stages of a building project and inspire implementers and policymakers in the way they facilitate and encourage the deployment of the indexed policies. By interacting in such manner stakeholders of the building construction would optimize their actions, improve confidence in the regulations and in each other, resulting in a greater adherence to existing laws and regulations and higher standards in the sector. It was also considered that an efficient tool should ideally be capable of bringing the best out of a given building policy no matter how poor it is perceived and as one which can competently clarify or answer the following questions and take the answers into the implementation strategy:

- Whether those who need to act to achieve the expected outcome at all stages do what is required from them;
- Whether the actual preferences, behaviors and experiences of the various categories of stakeholders have been taken into consideration;
- Whether all the people/organizations involved in delivery have been identified and most importantly to establish the links between the various stakeholders.

➤ Objectives of the FEIBPLR

The main objective of this framework is to provide guidance on how best to adhere to existing building laws and regulations by setting processes that would prompt all stakeholders of the building construction field to work in a way that leads to effective implementation of building policies, laws and regulations. That is achieved through this instrument that:

- Establishes an effective collaborative framework between key stakeholders;
- Encourages key stakeholders, both individually and collectively to develop practices and strategies that will achieve effective adherence to building regulations, coordination and planning in the delivery of their respective responsibilities in a building project cycle;
- Establishes an effective management framework and help clarify roles and responsibilities from the project conception till the post construction phase;
- Provides guidance on services and contractual arrangements to assist in achieving best practice of the building construction
- Encourages practices that would lead to the construction of safer and sustainable buildings.
- Encourages working methods and focus that would adhere to the government building and sustainability policies.
- Establishes a pathway towards a compliance regime that enhances awareness raising, training and development of key staff and that monitors and evaluates the progress measures.

IV. THEORETICAL APPROACH USED IN THE DEVELOPMENT OF THE FEIBPLR

This section initially presents the distinction between theories, models and framework and provides a justification as to why the development of an integrated framework as implementation instrument rather than the other instruments in this research was adopted, before presenting the methodology adopted in the development of the framework.

❖ *The Form of the Developed Framework*

In order to develop an appropriate and relevant instrument, it was appropriate to distinguish between theories, models and frameworks within the implementation science. It was thought that doing so would guide us in selecting and applying the most relevant theoretical recommendations with the hope of yielding a greater implementation rate using the developed instrument. Nilsen (2015) suggests that the choice of the relevant tool is capital for the success of any implementation. He insists that “while there is overlap between some of the theories, models and frameworks, awareness of the differences is important to facilitate the selection of relevant approaches”. He then goes on to clarify the distinction between the theories, framework and models which are all perceived as relevant tool for effective implementation of policies. In that exercise he draws from his comparative study on the topic to submit that a theory is a set of analytical principles or statements designed to structure actual observations, subjective understanding and explanation of phenomenon. He summarizes his intervention by placing an emphasis on the important feature of a theory which is to operate by defining variables initially and then draw predictions from the nature of relation between the different variables. In conclusion, Nielsen (ibid) clarifies that a theory would be considered as relevant where it plainly explains how and why given relationships lead to specific events. It therefore transpires that a theory as working instrument will be suitable where the aim is to explain a phenomenon. On this basis developing a theory would have been the best option for us in this research if from the data gathered clear variables could be identified so as to construct the exact nature of relationships between them and draw predictable conclusion from those relationships. This would have required a longer period of study and different conditions to develop a sound, convincing and reliable theory and the overall aim would have been focused on explaining the finding. On that basis we took the view that developing a theory from the data gathered would not be the best approach to resolve our research questions and to enhance the implementation rate of building laws and regulations in developing countries. Nielsen (ibid) also looked at models and concluded they are identified by a conscious and deliberate simplification of phenomenon to render them more accessible to the common users. In general, it is considered that a model will be more relevant where the aim is to go beyond the mere definition of a phenomenon to provide a local understanding of that phenomenon. In practice it is difficult at times to establish a difference between model and theory but the material distinction resides in that “a model is descriptive, whereas a theory is explanatory as well as descriptive” (Nielsen ibid).

Given the close proximity between the two instruments and for the reasons indicated above we concluded that whilst developing a model would go a long way to set grounds for better implementation of building laws and regulations in the intended jurisdiction by helping to understand why policies were not currently observed or adhered to, it would not be the best option available to have an immediate and timely impact as sought from the research questions.

The third tool examined by Nilsen in his research was the framework. He observes that the main feature of a framework is that it can be a structure, an overview or a plan “consisting of various descriptive categories, e.g. concepts, constructs or variables, and the relations between them that are presumed to account for a phenomenon”. Under these lenses, a framework is more comprehensive, and its strength appears to come from the fact that it only describes hard evidence and does not entertain speculations and empty explanations. The framework goes beyond mere description or speculation (theory) to provide a contextual explanation of the identified phenomenon and bear in mind various other surrounding factors in its development. On these findings it transpires that a framework would be better suited where phenomena are observed and classified into different groups. Given that the overarching aims of the use of theories, models and frameworks in implementation are to describe and/or guide “the process of translating research into practice”, understand what influences implementation outcomes and evaluate the whole implementation process or develop “theoretical approaches which aim at understanding and/or explaining influences on implementation outcomes, we concluded that developing a framework would be more relevant and better contribute to solving the research questions of our study. That decision was made on the basis that a framework would integrate broader contextual elements such as political, financial, administrative and socio-economic issues as well as motivation, lobbying, and technical, professional and administrative support.

❖ *Methodology Adopted for the Framework Development*

The methodology adopted for the development of the framework was inspired on the principles of “Applied Construction Research” as detailed in Holt (1998; p12) with specific reference to the stages leading to the developed framework. In the application of that methodology, specific ingredients drawn from the literature reviews were also selected and integrated within the framework conception. Those selected ingredients specifically came from secondary theoretical strategies namely the Fixsen’s implementation framework presented within the literature review section of this thesis in Chapter two, the RIBA Plan of work process document and the Contextual Interaction theory (CIT hereafter) detailed below.

A. *The Applied Construction Research Principle*

The applied construction research instrument was used as skeleton for the overall development process of the framework as it provides coherent strategic path for the development of an instrument in the magnitude of the one we are aiming for. This method was chosen because it is recommended for processes aiming at finding solution to

specific problems such as the one posed in our research. It was considered that adhering to the steps recommended by Holt (1998) would certainly lead to a relevant tool and would enable us to develop a sound and efficient framework. The principle operates on the basis that the current system of work is inexistent or imperfect and would require specific actions to be improved. In order to avoid the bias of developing a process that is not fit for purposes, several steps were followed as precautions to reach a scientific improvement of the current process. Those steps are illustrated in Figure 1 below and require the tool developer to 1) start by identifying the current practice (evidence-based findings), i.e. what is the norm as currently applied on the ground and then 2) analyze and understand how the norm operate to identify the scope for

improvement. Once the potential for improvement has been identified, 3) analyze the best way to use the current knowledge whether theoretically, practically or from existing research to develop an improved way of doing things. 4) The new model so developed can then be put through a sound validation mechanism in order to assess its soundness and evaluate the extent of improvement and the workability of the instrument. At this stage it is recommended that feedbacks generated from the validation method used be referred to and analyzed to adjust and where necessary sharpen the proposed instrument before its publication. 5) once satisfied of the value of the proposed instrument it can now be put at use. Those steps are show by holt (1998) as illustrated within the Figure below:

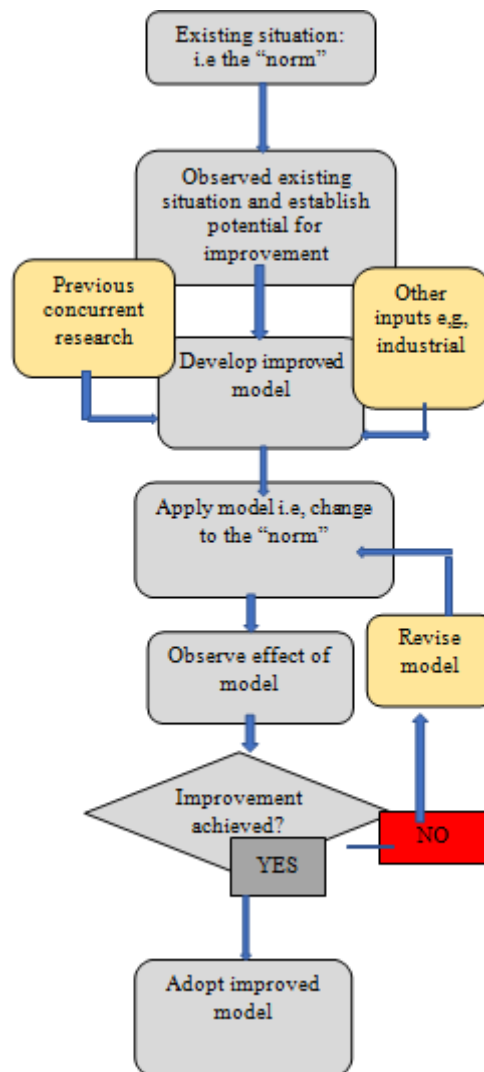


Fig 1:- Process in Applied Construction Research (Source: Holt, 1998; P12)

B. The RIBA Plan of Work 2013

The RIBA plan of work is a reference document developed and describe a logical sequence of steps that should be taken by all those involved in the briefing, design, construction and post occupancy process of buildings to ensure greater cohesion within the construction industry through adequate and timely decision on construction projects management and delivery. The document

distinguishes 8 crucial stages (2013 version) and 8 major lines of tasks that must be followed by stakeholders on all building sites to enhance efficiency in the project delivery. The eight stages are designed in a way that covers task undertaken by various categories of Develop improved model Adopt improved model Apply model i.e, change to the "norm" Observe effect of model Improvement achieved? Other inputs e.g., industrial Previous concurrent research

Revise model stakeholders throughout the building process starting from the project initiation phase to the building occupancy.

Overall the RIBA Plan of Work sets each work stage with clear boundaries, and details the tasks and outputs required at each stage to cover each of the 8 stages.

C. *The Contextual Interaction Theory (CIT)*

The main feature of the CIT is the ability to raise the collective moral and to get people working the central government through to the local implementers and simple enforcers on the ground within a specific environment. That is typically achieved through education, training, mutual open and frank discussions as well as the improvement of the social environment for the general public's benefit without disregarding the existing empirical factors. That can only be achieved where there is enough trust between the stakeholders to entrust the central administration with a discretionary power knowing that they will account honestly to the people. Whilst that trust is held firmly, it operates both ways as the central government also holds such trust in the local implementers that they are granted real and effective powers to dictate the deployment of the policy on the ground. Where appropriately implemented the CIT leans on its three pillars to guarantee a successful outcome. Those pillars are: (a) Stakeholders' motivation, (b) Education/information of stakeholders and (c) real power of implementers.

V. THEORETICAL APPROACH USED IN THE DEVELOPMENT OF THE FEIBPLR

The Oxford English dictionary defines process as "series of actions or steps taken in order to achieve a particular end". As mentioned above, the process of developing the framework was done following the skeleton proposed by Holt (1998). The finding drawn from the data gathered on the field, current practice within the building construction industry like the RIBA Outline Plan of Work 2013, Building Information Modeling (BIM) as well as theories stemming from earlier researches or publications made by scholars on implementation such as the CIT and the Fixsen model and other secondary data provided the foundation for developing the FEIBPLR.

The development began with a process evaluation of the Cameroon building laws and regulations and their implementation. That exercise consisted of documenting how they were made, how they operate in practice and to describe the process that may explain the observed outcomes which the initial hypothesis was (that existing laws and Regulations are not effectively implemented). Particular attention was given to contextual factors that could influence the outcome (level of education of the general population, cultural factors, budget constraints, corruption). In general, contextual factors were determined as all elements at the micro level that might have an impact on the implementation of existing regulations for the construction of compliant buildings. Those factors can be found at personal level, such as individual's perception of

the aim of a building, perceived quality of building by professionals, the level of organization of the staff of the local administration and their perception of their role as well as the interactions between all stakeholders. The above factors were classified based on the extensive literature on policy implementation (Hogwood and Gunn 1984; Makinde Taiwo 2005; Fixsen et al. 2005; Durlak & Dupre 2008) and in doing so four main factors were found to have a potential impact on effective implementation of the building laws and regulations in our case study country (Cameroon) as identified below:

- socio-cultural factors (resistance to change, corruption, inadequate support from the government, lack of political will; abuse of power and maintaining of the status quo)
- Strategic planning and delivery (lack of awareness as to the regulations by all stakeholders, lack of control; unclear policy goals, lack of coordination of the central authority's action, lack of incentive),
- economic accessibility (reduced capacity to cope with administrative costs associated with building project; poverty; cost of building material, budget constraints),
- Technical deficiencies (insufficient qualitative and quantitative human resources; poor or non-existent processes; lack of training).

These four factors served as focus points in our data analysis as we used the grounded theory approach to analyze the interviews and the thematic method to analyze data collected from the earlier focus group discussions. Throughout the analysis phase we proceeded from our philosophical positioning (realism) to use both inductive and deductive approaches to identify and classify factors which could be considered as drivers of a framework which could adjust or correct the inadequacies noted as triggering the poor implementation. Overall, the study mainly revealed that existing building laws and regulations were not adequately/effectively implemented due to a plethora of causes and that there was a need for an implementation framework to trigger an improvement. Practically, the framework process was developed so as to produce a mirror effect of the skeleton proposed by Holt (ibid). It was considered that the existing situation in building constructions would be the entire building policy, building laws and building regulations of the jurisdiction in consideration. For the purpose of this study the case study jurisdiction was Cameroon and therefore the existing situation was represented by the country's current building policies, laws and regulations. In addition, the national standards on building constructions set by ANOR (the national standard setting agency) were considered relevant in addition to the unreferenced ISO for areas not yet considered by the ANOR. Given the uncoordinated and scattered nature of the statutory and regulatory instruments affecting building constructions in the country it was impossible to properly identify the full plethora of other laws and regulations such as those related the environment, to energy use and to health and safety. It was also considered that although several processes exist in the building construction field, the commonly and

straightforward process was the RIBA Plan of work developed by the UK and observed in most countries. The process is simple and efficient and as such we adopted 5 implementation phases which would encompass the eight phases of the RIBA plan in their dynamic. The difference is due to the fact that an implementation instrument is different from an execution instrument such as the RIBA Plan of Work giving their initial aims. The five implementation stages (phases) retained in our framework development were: (1) the project initiation and pre-design phase, (2) the design phase; (3) the planning phase; (4) the construction phase and (5) the occupancy and operations phase. This distinction was made with the timing of impact of relevant building laws and regulations in general in mind as they are applicable at distinct stages. We considered that adhering to this breakdown in the framework development would reflect what is already done in practice on the ground whether consciously or not. In our case study it was obvious that the regulations distinguished between those five stages and specific requirements were set for each stage.

Drawing from the analysis of the extensive data gathered during the investigation process (Tene et Al 2018), gaps were identified in the way building regulations and policies were implemented in practice and the scope of their improvement assessed. The said assessment formed the basis for the development of the framework which we believe would contribute in improving the implementation rate by plugging the gaps identified and suggesting innovative ways of dealing with the issues. In the development process care was also taken to follow the theoretical recommendations made in the CIT as shown above and by Fixsen et Al (2005). Building from the literature positioning of these two approaches to hit effective implementation of policies, we considered the context (developing countries) and drew from the data collected to select a mixture of drivers deriving from both the CIT and the recommendations of Fixsen et Al (ibid) to adopt 6 drivers identified as capable of enhancing the implementation rate in the building construction field of the targeted audience. Those drivers are classified under the following banners: Organizational, Leadership, Competency, Collaboration, Communication and motivation.

Analysis of the data gathered suggested that a framework constructed with this cocktail of drivers handpicked from the research work of Fixsen et al and from the CIT with emphasis on local context would significantly transform the building construction field in developing countries if efficiently observed. Steps were taken to identify tasks that would need to be executed in addition or alongside those prescribed within the RIBA Plan of work as well as processes that should be followed to ensure that those drivers are activated aptly in the implementation process so as to yield the desired outcome. To better understand the function of the adopted drivers in the framework we summarize them individually as follows:

Competency Drivers: these are the inspiration behind the set of tasks directly related to the recruitment, training and coaching of stakeholders who will be intervening in the building project at various phases. It is submitted that a framework with focus on the timely recruitment of skilled and knowledgeable staff as well as good training prior to the start and throughout the project life will make them more competent and thereby trigger confidence in each other as well as the trust of the project owner and of the general public. The same applies to the coaching part, particularly as the newly recruited and probably under skilled staff would need support to mature and acquire the necessary technical knowledge to be comfortable in the change of behavior. Training/ coaching and good working environment are facilitator of behavior change and as such the training part of this driver is intended to progressively impact upon the stakeholders and provoke the sought-after behavior change.

Organizational drivers: Fixsen et Al include as constituents of this group of drivers the facilitative administration, the system intervention and the decision support data system. They are presented in the form of activities or difficulties encountered at each stage of the implementation process of the identified policy. with specific focus on facilitative administration the data gathered revealed that the administration did not show enough attention as to whether building laws and policies were actually observed on the ground. It was therefore considered that a tool that integrate ingredients capable of bringing greater scrutiny to existing laws and regulations and procedures would participate in enhancing the implementation rate on the ground. Most compliance instruments now open information on risks, stakeholders' qualification, private third party's vetting, and open processes on inspection and controls of building sites. The literature review and the subjective opinions voiced during the interviews and group discussions suggest that compliance and efficiency in planning regulations and building constructions can be achieved by promoting greater transparency. This can be implemented through dedicated tasks or activities by efficiently adopting strategies that can reduce excessive discretion in planning and building permit approvals and establishing a system of disclosure of information on how technical and other criteria have been met. We considered that a strategy that renders the administration proactive and triggers actions from them which could focus on the intended goal to reshape and lead organizational change at each stage would be one appropriate to bear in mind in the framework development.

Leadership Drivers: Reflecting on the outcome of the data analysis, it became crucial that the drivers identified by Fixsen et al under this title be integrated in the development of the framework. Indeed, the evidence revealed that there was a consensus amongst all stakeholders on the nature of the challenge facing the industry as well as the proposed solutions for effective implementation of building policies in the jurisdiction. In that respect, it was crucial to ensure that the relevant stakeholders involved in the delivery have an actual incentive to deliver. In this perspective, it was worth keeping in mind that the data analysis exposed an

embarrassing lack of expertise and ignorance at all level and it is submitted that this situation necessitates the need for a top-down approach to raise awareness amongst the stakeholders involved in the house building process as well for the purpose of having an adequate leadership in the implementation mission. Because the research also revealed that there were inadequate or insufficient technical and practical skills in the current system to effectively see through the implementation of existing regulations, we took the view that including ingredients that could immediately adjust plug the gap through leadership could strengthen the chances of successfully implementing the existing policies.

Collaboration Drivers: The data collected revealed that there was a systemic lack of collaboration between stakeholders of the building made worst by the poor communication between different branches of the central and local authorities. Research participants agreed in a concerted manner that this lack constituted a serious barrier to achieving the national building policies goal. Bearing the finding we considered that an efficient framework should include a strategy that can enhance collaboration and thereby reduces the risk of failure. A review of building laws and regulations of Cameroon and England respectively and the data gathered from the interviews conducted in the United Kingdom suggested that the success rate observed in the implementation of the latter's implementation mission as opposed to the failure of the former's implementation task was rooted within the level of cooperation existing in their respective system. A building project involves complex issues and stakeholders are all interdependent.

On that basis it is self-obvious that a better collaborative framework the project delivery would lead to a better outcome. In the development of the framework all of the above was born in mind with greater consciousness of the ISO44001 which sets out the framework for successful collaboration in the delivery of complex projects. In that perspective consideration was given to the 8 stages of effective collaboration as set by ISO44001, namely:

- the Strategic awareness of the areas and associated benefits of collaboration and its conformity to the aims of existing laws and regulations;
- Strategic knowledge of the risks of strategic collaboration and the pre-conditions for successful implementation;
- an effective assessment of the organization's capacity and ability to collaborate adequately, particularly in a

context where stakeholders are ignorant of the laws and regulations in the first place;

- A structured process for stakeholders and colleagues' selection;
- A structured approach to define in simple terms how the collaboration should function and how the stakeholders should actually work together';
- A joint focus for innovation and the creation of mutual added value;
- A clearly specified directives as to how the cooperation will be monitored and maintained during the project and after its delivery and
- A proper contract setting out obligations and rights that must be abide by for the collaborative relationship to survive

Motivation Drivers: existing research show that for any given policy to be effectively implemented, stakeholders must be motivated and as such we used the case study undertaken in this inquiry to establish the specifics things that can motivate stakeholders of the building construction field to abide by the regulations and thereby cause a better and greater implementation of the national building policies and regulations. The study revealed that motivating factors were different from each category of stakeholders and ranging from incentives to adhere to existing policies to fear of severe penalties for breach of existing regulations amongst many others. In designing the framework care was taken to include specific tasks that would enable professionals to feel a sense of achievement during and at the end of their mission. For building owners, occupiers of building and public authorities, specific tasks aiming at reinforcing the consciousness and reassurance of safety features on building construction sites and in buildings were incorporated as analysis of focus group discussion identified this feature as one of the most important motivational drivers capable to provoke a better implementation and adherence to existing regulations. Effort was also made to create a shared vision through the introduction of tasks and processes aiming at improving the unfairness perception of the existing processes overwhelmed by corrupt practices as deplored by all categories of participants.

All the above ingredients were put together in the framework development through a dynamic process summarised within the below mind map developed from the skeleton of the Applied Construction Research.

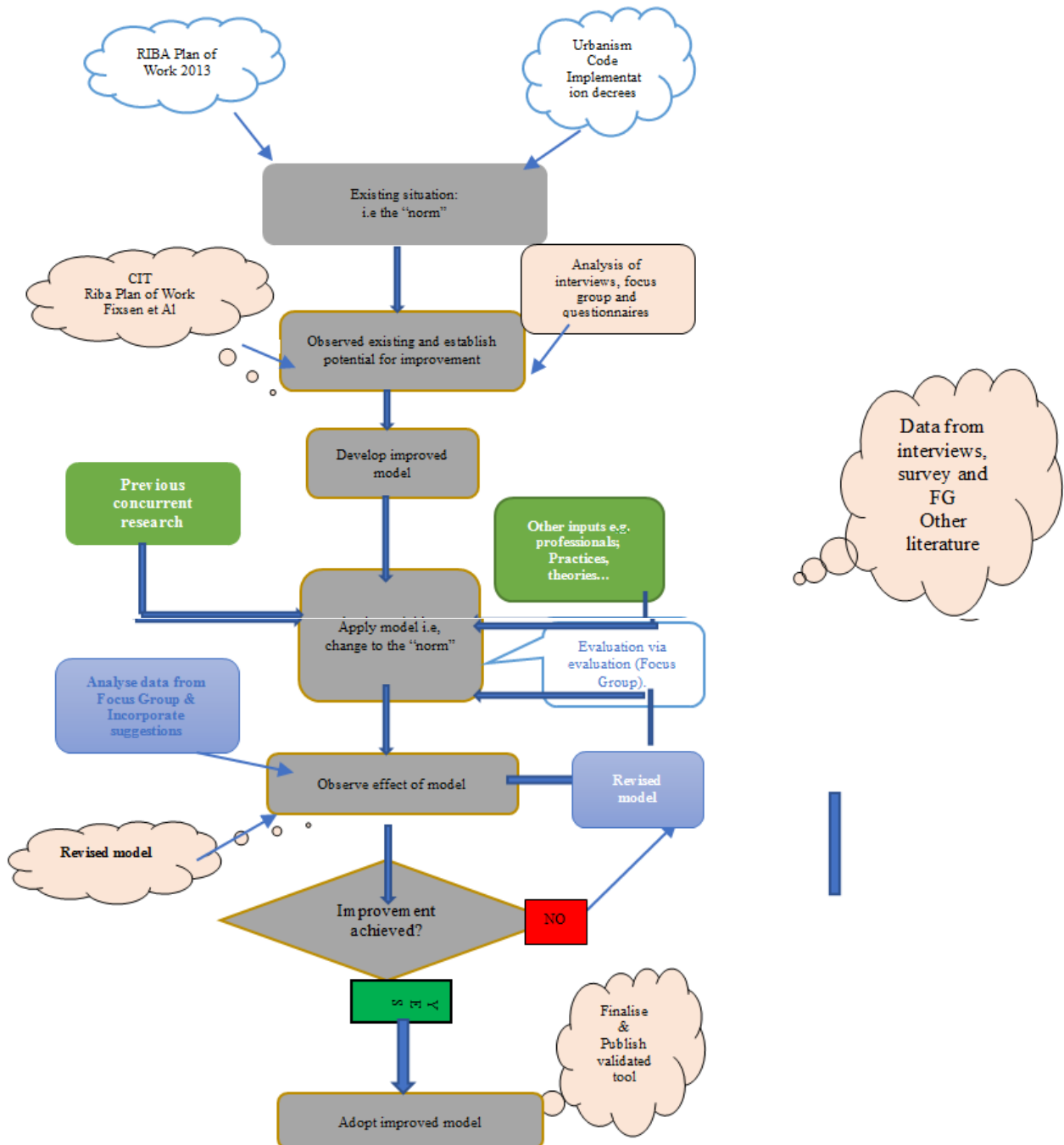


Fig 2:- Illustration of activities planned and taken for the proposed framework development

A. The RIBA Plan of Work 2013

The RIBA plan of work is a reference document developed and describe a logical sequence of steps that should be taken by all those involved in the briefing, design, construction and post-occupancy process of buildings to ensure greater cohesion within the construction industry through adequate and timely decision on construction projects management and delivery. The document distinguishes 8 crucial stages (2013 version) and 8 major lines of tasks that must be followed by stakeholders on all building sites to enhance efficiency in the project delivery. The eight stages are designed in a way that covers task undertaken by various categories of stakeholders throughout

the building process starting from the project initiation phase to the building occupancy.

Overall the RIBA Plan of Work sets each work stage with clear boundaries, and details the tasks and outputs required at each stage to cover each of the 8 stages.

B. The Contextual Interaction Theory (CIT)

The main feature of the CIT is the ability to raise the collective moral and to get people working together from the central government through to the local implementers and simple enforcers on the ground within a specific environment. That is typically achieved through education, training, mutual open and frank discussions as well as the

improvement of the social environment for the general public's benefit without disregarding the existing empirical factors. That can only be achieved where there is enough trust between the stakeholders to entrust the central administration with a discretionary power knowing that they will account honestly to the people. Whilst that trust is held firmly, it operates both ways as the central government also holds such trust in the local implementers that they are granted real and effective powers to dictate the deployment of the policy on the ground. Where appropriately implemented the CIT leans on its three pillars to guarantee a successful outcome. Those pillars are: (a) Stakeholders' motivation, (b) Education/ information of stakeholders and (c) real power of implementers.

VI. DESIGN AND DESCRIPTION OF THE FEIBPLR

This section presents the design and description of the integrated FEIBPLR, developed from the field activities carried in this research. Effort is made to provide justification for each aspect of the framework. The aim, objectives and advantages of the framework have already been presented in the preceding section. The design of the framework is presented within the first bullet point below and the full description of the framework is presented within the second bullet point below. It should be highlighted that the suggested processes within the framework are not prescriptive in nature but could be adapted by the project team so as to reflect the specific context, the technical, human and financial resources available and above all the cultural approach.

❖ *Design*

The integrated framework draws from the existing process of initiating, designing, constructing operating and using building projects to identify or suggest tasks and activities which if followed can contribute in making stakeholders more compliant as long as building laws and regulations are concerned. The framework was designed to incorporate the 5 main phases of a building construction project. These are: (a) the project initiation and pre-design phase, (b) the design phase, (c) the planning phase, (d) the construction phase and (e) the post construction phase reflected by occupancy and operation. Leaning on the RIBA plan of Work 2013, the framework for effective implementation of building policies, laws and regulations works across the full range of sectors involved in a building construction projects and directs how to effectively deploy activities related to the full project management, actual building construction activities, procurement management and policymaking and implementation processes. The instrument identifies legally binding and other non-binding but recommended documents which should be kept in the suggested good practice form so as to increase the chances of achieving the government's implementation target on the building policies and regulations. This reference document also works on the central principle of suggesting how the stakeholder should approach the delivery of the agreed building contract taking a holistic view of the existing legal and policy requirements and focusing upon the relationship

between key stakeholders in hitting the shared goal with much fidelity.

❖ *Description*

Taking inspiration from the existing research and bridging from the secondary data and outcomes of this research we opted to develop a framework that is integrated in the RIBA Plan of Work 2013. Because effective implementation requires a substantial amount of legal and administrative tasks, the FEIBPLR identifies and sets out various documents which can be either compulsory or merely recommended by the policymakers and sets out activities that we propose to integrate at each of the building construction stages as mapped by the RIBA Plan of Work 2013 and which we believe will enhance the implementation of building policies laws and regulations during construction projects. In this exercise the framework specifically indicates the leadership level of intervention of each stakeholder by differentiating between which stakeholder initiates an activity and which party approves it. The document also includes a column in which the relevant drivers for each phase and activity are recorded. That column serves as a prompt for stakeholders, so they can remain focus on the overall objective and smoothly move into the desired change mode. The last column (Notes) is designed to provide basic guidance to stakeholders on what should be initiated to successfully enforce the proposed ideas and clarifies how success could be measured.

The FEIBPLR works on 5 operation phases which encapsulate the 7 phases of the RIBA Plan of Work as shown in the below table mapping the integration achieved in the process. As can be noted from the same table below, the FEIBPLR has integrated the planning part of the process which is merely a task in the RIBA 2013 Plan as a full stage into the existing RIBA Plan highlighted in red and identified as stage 4a within the table. It was crucial for us to set the planning section as a full stage because planning laws and regulations are central part of all government building policies. Because the aim of the FEIBPLR is to enable an effective implementation of building policies rather than mere project management it was crucial to give greater scrutiny to activities that take place at the planning stage as much of the successful implementation cannot be achieved without a special attention to this element which by its nature is the rock bed of all building laws and policies.

At this junction it has to be said for clarity' sake that the tasks identified or recommended and described within the FEIBPLR are purely designed with the policy in mind and do not alter the main activities described in the RIBA Plan of work for each prescribed stage. In fact, it is suggested that they work hand in hand and our model simply lean against the RIBA Plan of work to further direct stakeholders of the building construction in developing countries to adhere to a methodical working process and thereby achieve higher standards and fidelity in the policy delivery. This is why the documents, activities and drivers described within the FEIBPLR aim at reaching the output of the RIBA Plan of work at Stages 1-2 through the activities described at the Project Initiation phase whereas the output

of Stage 3-4 are reached through to the prescribed activities of the Design Phase and the output of Stage 5 better delivered through the clarified and added activities listed at the Construction phase of FEIBPLR and the same for output of stages 6-7 through the occupancy and Building Operation

phase. Throughout the process, the tasks listed within the RIBA 2013 and the FEIBPLR work concurrently to achieve the same goal, the added value of the latter being an emphasis on compliance and fidelity in the delivery of the overall policy goal.

RIBA 2013	Framework For Effective Implementation of Building Policies integrated to the RIBA 2013 Stages								
FFIBPLR	ST0	ST1	ST2	ST3	ST4	ST4a	ST5	ST6	ST7
	Strategic Definition	Prep & brief	Concept design	Developed design	Technical design		Construction	Handover	In use
	Project Initiation & Pre-design stage		Design Phase			Planning	Construction	Occupancy & Operation	
	Communication system/ Information Exchange & Collaboration through BIM or any other recommended system								

Table 1

The different components of the developed framework, namely the phases, the documents and the drivers are succinctly presented in the below sub-sections

A. FEIBPLR Phases

As explained above, the framework is designed to cover the seven stages of the RIBA Plan of work as it is already aligned with the standard construction phases

approved internationally and endorsed by powerful organisations such as the British Construction Industry Council (CIC). The adopted phases aimed at providing step by step guide to stakeholders of the build environment and establish greater cohesion and collaboration amongst them knowing that this would lead to an effective delivery of the government building policies. The 5 phases work together to generate the final output as shown in the below diagram

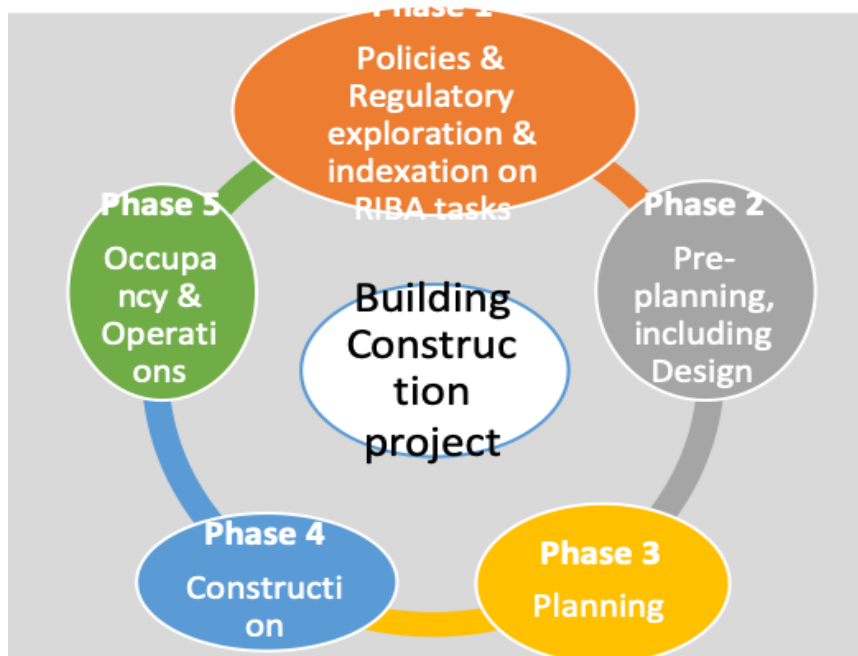


Fig 3:- Phases of the FFIBPLR

➤ Phase One (Exploration of Policies & Regulatory Requirement And Indexation on RIBA Activities)

This stage covers the strategic planning and preparation of the whole project. The activities prescribed at this phase are intended to enable the project management team and the owner to efficiently appraise the project and to have in place a dynamic approach and automatic gestures that would keep the government policies and regulations in mind at all times, inspire confidence in empowering the confidence of the project owner to be compliant and remain

so throughout the process. Activities prescribed at this stage also raise confidence in stakeholders as to their understanding of the project and reduce the scope of future strategic, technical or legal disputes.

➤ Phase Two: (Pre-Planning, Including Design Phase)

This phase leans against the tasks scheduled to take place at stages 2-4 of the RIBA plan of work and prescribes new activities which concurrently enhance the focus on the regulatory and implementation of the actual building

policies. Whilst the RIBA 2013 focuses on the achievement of excellence on technical and procedural delivery of the construction project, activities prescribed at this phase of the framework target gestures and good practices which will lead to better delivery and fidelity with the policy or regulatory goals. Like with all other phases, bespoke documents are generated and maintained throughout the project's life so as to prompt all participants to remain compliant and to engage with initiatives which would enhance the chances of effectively implementing the existing policies, laws and regulations whilst setting the basis for future policy development/improvement. The focus of this phase is on activities that would prompt the technical stakeholders to act in compliance with the legal specifications and local norms in the conception bearing in mind the overall country's building policies goal, notably with emphasis on sustainability.

➤ *Phase Three: (Planning Phase)*

This phase along with the fourth phase of the framework are considered as the most important with respect to implementation of existing building policies and regulations. In most developing countries such as Cameroon there is no building code and the bulk of building regulations is made of planning regulations and bylaws made by local authorities. As opposed to the RIBA Plan of work's approach where planning is only listed under their task bar, this framework has mapped it as a full phase with dedicated activities and prescribed documents which if observed adequately should increase the implementation rate or level of existing building policies. The documents identified are mostly already identified within the existing building regulations but because of laxity and permissiveness of various stakeholders including the actual implementers such as the local authorities and their staffs as well the poor quality and quantity of staffs and ignorance of all stakeholders they are either disregarded or not even created in the first place.

➤ *Phase Four: Construction Phase*

The RIBA Plan of work has excellently listed activities which must be completed in delivering a bespoke constructed building. The framework work around those tasks to prescribed further activities and paperwork which will contribute at ensuring that stakeholders remain true to the owner's project and deliver in full compliance with existing building laws and regulations. The documents prescribed within the framework are strategically designed to put pressure on stakeholders for further effort in complying with the policy and regulations and most importantly to curtail the wishful thinking of those inclined to give way to corrupt conducts whether as instigators or as beneficiaries.

➤ *Phase Five: Occupancy and Operations*

The last phase of this framework covers the activities listed within stages 6 and 7 of the RIBA Plan of work. The activities listed are crucial for successful commissioning. However, because the stakeholders would have discharged their respective commitment compliantly following the prescribed actions listed earlier phases this phase simply prescribes activities which will come to reinforce the confidence that the building has been constructed compliantly and where necessary prepare the future of the building to continue to operate beyond the construction phase in compliance with the overall building policies. Tasks listed aim at reinforcing health and safety policies through adequate maintenance. The drivers supporting the objective at this phase are leadership through their adaptive component, collaboration and competency.

B. Framework Documents

The research carried out in our case study has revealed that in developing countries building policies were not adequately supported to hit the intended goal. Analysis of the data gathered highlighted a significant gap between the aims of the building policies, laws and regulations and the actual practice of stakeholders. In summary the building field was found to be wanting in integrity, lacking in confidence and the whole of the building construction field was grossly characterized by poor governance flowing from the policymakers to the technical stakeholders and street level implementers. In 325nstill325g the overall picture, we concluded that an adequate strategy aiming at improving the dire picture and driving stakeholders to better compliance was by subjecting their day to day practice to adherence of dedicated prescribed documents. We put an emphasis on this prescription to solve the research question as we were persuaded that in all institutions, documents keep stakeholders compliant and provide for governance through transparency and traceability. Above all we took the view that they protect stakeholders' integrity and 325nstill confidence not only to the general public and investors but also to the building owners and in the government. Because of that position we analyzed the system and built the framework based on dedicated documents which would lead to the intended aim. It should be noted that some of the prescribed documents already exist in practice but are ignored by stakeholders or simply not taken into consideration due to poor culture and permissive approach adopted by the authorities. The list of documents specifically identified in each phase and highlighted within the framework are not exhaustive though. The main documents at various phases include the Owner Project Requirements, the catalogue of relevant regulations, laws and policies and their execution plan, the commissioning planning, the building construction pack, the incident resolutions log book, the basis of design document and the systems manual, the building control plan and the maintenance schedules information sheet. Overall the framework phases mapped with the RIBA stages and its key features are summarized within the below table.

SUMMARY OF THE FRAMEWORK PHASES			
FRAMEWORK PHASES	RIBA STAGES	Key activities for effective implementation	Prescribed Key documents
P H A S E 1	Stage 0 (Strategic Definition)	Identification of client’s aims and objectives and review of sustainability requirements Identify barriers and project’s Scope Identification of regulations and definition of the strategy for effective implementation	Owner Project Requirements (OPR) Catalogue of Relevant Regulations, Laws and Policies
	Stage 1 (Preparation & Brief)	Project analysis and development plan (Preparation of feasibility studies; funding methods) Identification of procurement method and procedures, identification of required expertise for technical and legal compliance. Identification and description of main construction activities Agreement on Budget and Finances Agreement on Project execution Plan Development of communication & information exchange process and circulation Develop a staff manual Development and publication of Building information pack Identification of needs, planning and delivery of trainings and quality control diary setting Conception and dissemination of IRRB Drafting of design brief Decision on procurement route and selection of contractors	OPR (update) Project execution Plan Commissioning Plan Training Requirement Plan & delivery Staff Manual Building Construction Information Pack Incidents Records & Resolution log book (IRRB) Design brief

P H A S E 2	Stages 2 (Concept Design)	Further Discussion & agreement on design basis concept based on planning laws and regulations	Basis of Design Report (BOD) Systems manual
	Stage 3 (Develop Design)	Implementation of Design Brief and preparation of additional data based on planning and building regulations	Updated commissioning plan Design Brief updated
	Stage 4 (Technical Design)	Development of technical design in compliance with local planning laws, safety laws and national sustainability policies. Identify and plan the delivery of training needs subsequent to the final design adoption Develop information manual of systems adopted within design Drafting of the end of design phase report and design vetting	
P H A S E 3 (planning)		Discussion with relevant experts Publication of applications assessment criteria and processes Completion and submission of the application Checking Compliance with local planning regulations (publication of notices/ responses...) Design validation/ approval Application assessment in compliance with local regulations Transparent appeal process Issue permits or formal motivated refusal	Planning Permission Form Quantitative & Architectural Plans Other Statutory Documents Planning Compliance checklist Building Permit

P H A S E 4	Stage 5 (Construction)	Publication of building control criteria and procedure Agreement on controls diary Finalise the building contracts & appointing contractors. Briefing contractors on design, procedure and timelines Reviewing List of Activities Handing over site to contractors. Statutory and non-statutory inspections/ controls Record of performances/ test data Administration of contracts Coordination of Communication and information exchange Drafting of the preliminary commissioning Report	OPR (updated) BOD (updated) Commissioning Plan (updated) Evaluation & progress Reports Approved Inspectors Register Test Procedure Handbook Test Data Reports Sheet
	P H A S E 5	Stages 6 (Handover)	Review and evaluation of OPR Review and evaluation of BOD Administration of the building contracts after Practical Completion and making final inspections. Brief owner on operation and maintenance Transfer of BOMM to owner Publication of procedure and criteria for Certificate of Conformity
Stage 7 (In use)		Administration of the building contract after Practical Completion and making final inspections. Carry survey on building performance and adherence to building policies	Survey questionnaire Post occupancy inspection report

Table 2

C. Framework Drivers

The framework is underpinned by specific six drivers identified and inserted in the strategy based on the research findings and literature review extracted from the CIT and the Fixsen strategy as highlighted above. Those main drivers have been identified and commented upon above. Within the framework has also been inserted a sixth driver, namely communication which, although can be associated to the collaboration driver is an essential ingredient for success.

VII. RELEVANCE AND ACHIEVED BENEFITS OF THE DEVELOPED FFIBPLR

A review of the FEIBPLR presented above shows that, bearing in mind its full components, its usefulness and relevance are shown in its capacity to: (i) effectively tackle the two main causes (pervasive corruption and ignorance/lack of awareness) identified within the research as basis of non-implementation of building laws, regulations and policies in developing sub-Saharan countries, as well as (ii) its capacity to limit the impact of other identified causes of the failure. It is submitted that the FEIBPLR plays this role by reducing the system complexity, uncertainty and by triggering a timely action and reaction from all stakeholders in adopting constructive strategies. With respect to the biggest factor, it is submitted that once operational, the FEIBPLR will definitely tackle the corruption and malpractice observed in the building construction sector as its prescribed steps and activities (which if undertaken with fidelity) would prevent corruption, facilitate its detection and allow for prompt investigation and punishment of the culprits whether they are instigators or perpetrators. It is also considered that the framework is particularly relevant for the fight against corruption as it prescribes amongst other strategies a publication mechanism for the reporting, naming and shaming of individual successfully prosecuted for corruption activities and malpractice. Prevention mechanism for the corrupt practices is effectively integrated within the framework as through the prescribed activities and documents it facilitates the adoption of rules and procedures that make it hard for the corrupt practices to take place and make way for the processes to be transparent. For instance, publication by the local councils of an ethic code to be adhered to by their staffs and the rules and procedures about reporting and investigating corrupt practices in the building construction field, as well as the development, vulgarization and implementation of an effective whistle blowing policy that allows workers and others to report corrupt practices or suspicions of such practices set the ground for an open and honest culture and encourage good conduct whilst discouraging bad practices. It was however suggested that the whistle blowing policy and the recommended activities will be more productive in practice if steps are taken to protect the identity of the reporter and to effectively investigate the matter and take sanctions where the guilt is established. In addition, to the above strategy, the framework has gone beyond the recommendations of the focus groups by prescribing strong random but structured internal checks by the local council and through the building control activities through periodic audits. In the same register, the framework relies on the fact that training and

continued development programs made available to practitioners by the local and central government would have important modules on professional integrity in order to raise awareness and limit the extent of corruption.

The second most salient cause of non-implementation identified following the data analysis is the systemic issue of ignorance and lack of awareness as shown in the preceding chapters. The framework proves to be relevant and adequate as it has confronted and addressed that issue by simply putting in place practical ways in implementing the suggestions made by participants of the investigation. Accordingly, the framework prescribes activities which the local and central authorities must put in place to promote awareness and popularize existing laws, regulations and norms applicable in the building construction field. For example, a prescribed typical step is the production and distribution of reliable communication channels informing the general community on steps and requirements to follow in the construction of a compliant building as well as the opening of a local office run at the expenses of central or local authorities with the aim of placing architects and engineers at the disposition of the local community for quick advice and assistance in the drawing or checking of plans as to their conformity. It is anticipated that this action will contribute in dealing with the headaches of self-building and reported high costs identified within the studies as well as in dealing with the awareness issue.

In the same manner, stakeholders are empowered through educational and training programs. To achieve that aim the framework prescribes to the Local Authorities and the professional Orders to work collaboratively in the conception and delivery of compulsory continued Professional Development courses to practitioners. I believe that the tool will be much efficient if as recommended appropriate steps are taken in amount to introduce and train an independent body of building controllers. This task is dedicated to the Local authorities and central government.

Also, the Framework has been beneficial in that it addresses the pervasive lack of awareness/ ignorance issue by prescribing that Project Managers act in only recruiting workers who hold valid certifications where required and or they train them to the standards expected whilst on the building site.

Beyond tackling the two main causes identified above, the framework also includes other strategies such as compulsory technical compliance, establishment of a collaborative system of work and practical communication channels on the sites for better implementation of existing laws and regulations in practice. Overall, for the full potential to be realized, it is suggested that the developed instrument could initially be introduced as practice framework which with the government and other institutions' support could lead to a passing of legislation transforming the best practice into a legal framework.

VIII. CONCLUSION

The focus of this article was on the developed framework for effective implementation building policies in developing countries. It described the strategy adopted in the research to develop the framework. Overall, it highlights that the model is leaned on the existing RIBA Plan of work as it recognizes this model as the best process for effectively delivering building construction projects. It adopts the prescribed tasks of the RIBA Plan of work in its entirety and simply add documents and prescribes additional activities which will reinforce and institutionalize good practices on building construction sites. The article also indicates that the model was built based on the CIT and including the implementation drivers identified by the research work of Fixsen et Al (2013) and also taking reference from other implementation strategies such as the ISO4400. The developed implementation framework draws from the published implementation theories and provides a pragmatic structure for effectively deploying building policies with greater adherence. The innovation as compared to the RIBA Frame of work resides in the prescription of specific documents which aim at driving the building policy delivery with fidelity by keeping stakeholders and tasks and by prompting them at all time to reflect upon the drivers and strategy behind the prescription. The use of those documents contributes in guiding professionals and officials in achieving greater target in their day to day work and objectives. It can also be used as assessment measure and to build a professional and responsible reflex to cooperative working with the view of achieving a greater implementation rate and above all it can be used to pursue the international green agenda through the construction of sustainable buildings that can contribute both in the fight against global warming and energy consumption management.

The Framework developed pursuant to the analysis of the data gathered on the field and of the best theories underpinning the implementation science was validated by a panel of selected stakeholders made of experienced building practitioners, policymakers of the ministry of housing and urban development of Cameroon, building owners and high ranked executives of the local authorities. The overall view was that the framework developed constitutes an innovation in the challenging field of building construction, particularly with the adverse environment in developing countries where buildings continue to be constructed haphazardly. The panel unanimously agreed that the tool so developed would certainly lead to the control of the urban development in an era where sustainability is a priority and where rapid urbanization comes with a challenge of building compliantly. It is thoroughly recommended that the framework developed be implemented in practice in order to fully evaluate its efficiency and draw better

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