

Responsible Land Administration Teaching Essentials: Structured Knowledge Base on Participatory Land-use Planning and Management

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Keywords: Curricula development; knowledge essentials; land administration; land management; participatory land use planning; surveying education; teaching; teaching essentials; tenure responsive land use planning

SUMMARY

Many national and continental land management initiatives recognise the importance of land as a resource for development; as well as the need for knowledge building and sharing (dissemination) about land, with the hope that it would influence practice to become responsive to the needs of their countries. In recognition of the importance of land management education and capacity development, this paper provides some details on a resource for ensuring knowledge building and teaching in land use planning and management. The paper describes the co-design of a structured knowledge-base that produced learning essentials on responsible land administration which was facilitated by the Global Land Tool Network. It presents the module entitled *participatory land use planning and management* (PLUPM) which is one of the six modules contained in the responsible land administration teaching essentials. The PLUPM part of the structured learning essential aims to equip the students of land administration and land management (and those aspiring for professional practice) with critical theories of application and issues within the field of land-use planning practice. The paper provides a glimpse of the content of the PLUPM module and how it can be applied in classroom teaching. It recommends that users of the PLUPM module understand that there will need to contextualise the content (lessons) of the module to fit into their unique academic goals, teaching modes, as well as to adapt it to the specific needs of their students.

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1. BACKGROUND

Land is a resource that is crucial for development but is not in abundant supply anywhere. The knowledge needed for managing land—including its administration, governance and policy-related subjects—is also not easily accessible to the practitioners in the land sector. Of particular concern is the issue of curricula for land and related programmes in universities in developing countries. Higher education curricula in many developing countries are not adequately responding to the needs of their different countries concerning land-related knowledge and practice. This calls for a (re) conceptualisation of the role curricula play in education and capacity development in the global land sector. Many continental initiatives recognise the importance of land and the need for knowledge building and sharing (dissemination) about land, with the hope that it would influence practice to become responsive to the needs of their countries. In this regard, Mitchell et al. (2017) raised the need for a curriculum on responsible land administration in universities in the Asia Pacific. Griffith-Charles et al. (2015) and Janssens et al. (2016) recommended improvements in capacity development and education in land management and related education and practice in the Caribbean. Chigbu and Kalashyan (2015) and Chigbu et al. (2017) called for improvements in the land-related curricula in university programmes in the African continent. de Vries and Chigbu (2017) viewed the issue from the perspective of responsible land management.

This paper describes the co-design of a structured knowledge-base that produced learning essentials on responsible land administration which was facilitated by the Global Land Tool Network (GLTN)¹. It presents the module entitled *participatory land use planning and management* (PLUPM) which is one of the six modules contained in the responsible land administration teaching essentials (see Mohammed, 2019). The required approaches and tools useful for participatory land use planning would vary in the context. While Mohammed (2019) attempted to find an approach generally appropriate to developing countries, the PLUPM module emphasised the Caribbean context of small, vulnerable developing island States.

The PLUPM part of the structured learning essential aims to equip the students of land administration and land management (and those aspiring for professional practice) with critical theories of application and issues within the field of land-use planning practice. These include the evolution to a more participatory process and tenure responsive practice. The PLUPM

¹ The Global Land Tool Network (GLTN) is a dynamic alliance of more than 80 global land actors and stakeholders who subscribe to a core set of values and principles and a shared work programme to improve tenure security. The GLTN uses inclusive approaches to land tenure supported by land tools: practical, innovative methods to solve problems related to land tenure. The GLTN and its partners develop, test, demonstrate and disseminate these tools through their Network. For further information visit www.glttn.net

module is flexible for use in a range of education, training and research activities at the university level. It is also designed to be nested in ways that allow for single or combined modular use, as well as for use as a support tool for non-land administration classroom teaching by lecturers.

The paper is structured in fivefold. Apart from the background, the next section presents the methodology for developing the responsible land administration teaching essentials from where the module emerged. A content analysis of the PLUPM follows it. This is then followed by the education and instructional policy implications of adapting the PLUPM in classroom teaching in universities and then followed by a conclusion.

2. METHODOLOGY

The PLUPM module² is a product of the knowledge-based essentials which emerged from co-design curricula development.³ The process of its development involved the writing of land-use planning contents which was subjected to expert reviews. The reviews were done by experts from around the world (mainly drawn from the partners of the GLTN). The target audience of the PLUPM module is teachers/lecturers and trainers. They are encouraged to adapt the learning materials to local use in their knowledge building environments (universities or research institutions or classroom). They can do this by adding more materials (including case studies, class discussion and/or class exercises) to complement the PLUPM, depending on their needs and contexts. The module is well suited for adaptation using an ‘active learning’ approach. The intention is for it to be flexibly utilised for a range of education, training and research activities at all levels. For specific use in academic teaching, the module is structured to support approximately 50 hours of study load (2 ECTS)⁴ at the 3rd-year university level, divided into 4 or 5 lessons, with each comprising approximately 3 hours of classroom teaching and approximately 7 hours of teacher-directed self-study. Although the module is structured as a 3rd-year university subject of 2 ECTS, it can be used for a whole range of education, training

² PLUPM Module is available on the e-learning platform of the GLTN, <https://elearning.glt.n.net/>. The platform provides open-source access to GLTN courses and learning resources designed to help you understand and use a selection of our land tools. Apart from the PLUPM course, the platform hosts a collection of dynamic learning instruments using simple and captivating visuals, combined with audio narrations in some courses, to improve your learning experience. The platform is device friendly, meaning you can access the courses anytime and on any tablet or smartphone device, while your progress is synced using the course tracking features. The learning resources include instructive videos, lectures, structured knowledge instruments and other reference materials.

³ The PLUPM modules (together with the other modules that form the “Responsible Land Administration Teaching Essentials” of the GLTN) have been peer reviewed and are made available here in Beta version for use by interested academics, teachers, and trainers in the design and teaching of Responsible Land Administration programmes, courses, mini-courses, lectures, or for training. The module is in PDF version for easy downloading. It can be freely used for teaching, training or learning purposes provided due credit is given to UN-Habitat, GLTN and the module authors, in accordance with the Creative Commons Licence indicated at <https://creativecommons.org/licenses/by-nc-sa/3.0/>

⁴ The ECTS credit system is applied to make degree programmes and student performance more transparent and comparable across European Union countries. It is a continental EU standard used to replace (or complement) the different local (national) standards within Europe. With the ECTS credit system, it is possible for all students from EU-countries to go abroad and study a degree programme that will be universally accepted in all other parts of the European Union. The adaptation of PLUPM Module to curricula contents of land related degree programmes in EU institution is possible because PLUPM Module is designed to use the ECTS system. Furthermore, it is possible to adapt it to a different (or non-standardised) curricula systems elsewhere around the world because it is delivered as a learning resource, rather than a strict curricula – this makes it highly flexible to adapt under any teaching conditions.

and research activities at all levels. For details about the PLUPM module, refer to Mohammed (2019).

Furthermore, to provide an insight into the thematic focus (in a qualitative way) of the PLUPM module, a word cloud⁵ was built using the keywords contained in the instructional (lessons) elements of the module. The word cloud helped to provide a visual and qualitative impression of the thematic focus of the module. As this paper is meant to present the instructional features of the PLUPM module, the following section presents the characteristics of the module and its uniqueness as teaching essential in land use planning and management. Focus is put on the rationale, aim, objective, structure, contents features and learning questions of the PLUPM module.

3. CONTENT ANALYSIS OF THE PLUPM MODULE

3.1 Rationale, Aim, Objective and Structure of PLUPM Module

The PLUPM modules were designed based on the rationale that planning is a fundamental aspect of both Land Administration and Management. It includes critical elements of the nature and process of land use planning as it relates to the broader course objectives of responsible land administration. It is designed to provide an understanding of the issues surrounding land use planning and management and its role in land administration, by examining the role, function and leading theories of planning in control and management and other dynamic social/societal, economic and environmental issues at national and local (community) level, which affect land use and tenure security. Tools for land use management are discussed using geospatial tools and concepts of integrated land use management and sustainable development and is illustrated by case studies from the region and other relevant societies.

The PLUPM Module is grounded in the 11 principles for implementation of Responsible Land Administration. These principles include secure land rights for all, non-discriminatory, equitable, gender-sensitive, inclusive and participatory, the rule of law, transparent, accountable, affordable, scalable, and sustainable. These principles have been individually discussed in the context of land by many scholars (see Masum et al., 2016; Chigbu, 2015-2016; Tutu et al., 2016; Handayani et al., 2017; Chigbu, 2019a-b). The module aims to equip the students of land administration and practitioners with critical theories of application and issues within the field of land use planning, including the evolution to a more participatory process and its information requirements. It is designed to be 2 European Credit Transfer System (ECTS) and includes teaching resources that support approximately 15 hours of teacher-directed tuition within the classroom or training session.

A typical lesson from the module may involve lecture material, examples, interactive exercises and group discussion; and support approximately 50 hours of self-study. At the end of PLUPM Module, students, practitioners or other forms of learners should be able to:

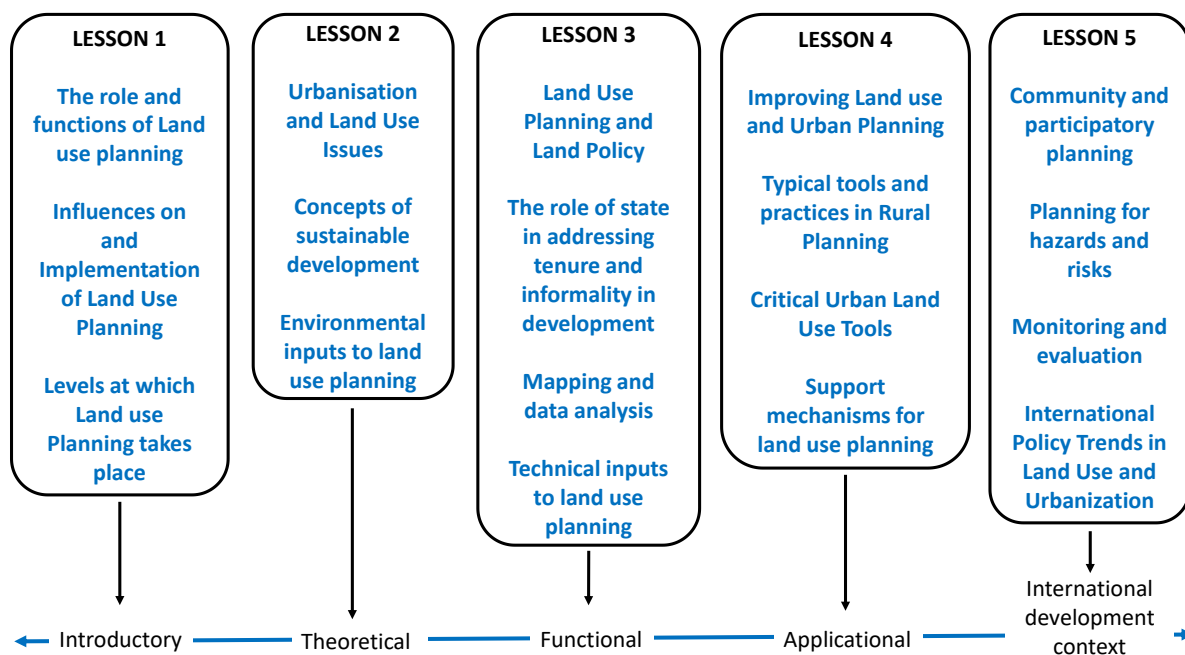
- Understand the nature and elements of the land use and territorial planning process.

⁵ The word cloud was built using the online platform, word clouds, at <https://www.wordclouds.com/>

- Learn about the evolution of the process from a primarily technical exercise to an inclusive, participatory process.
- Understand the relationship between the land use planning and management process to land tenure and land administration issues.

The module comprises five lessons (Figure 1). Every lesson comprises element related to *learning steps* and *learning questions*. These are followed by a *summary of key points* of the lessons taught and provision for *reading materials*. The five lessons are designed to first of all, convey an *introductory* lesson (lesson 1). This is then respectively followed by *theoretical* (lesson 2), *functional* (lesson 3), *applicational* (lesson 4) and *international development context of applications* (lesson 5). Each lesson deals on a different aspect of PLUPM starting with an introductory lesson (lesson 1) to applicability lessons (lessons 3-5) that deal on the different ways PLUPM serve as a tool for achieving land development-oriented objectives.

Figure 1: Structure of Course Material



Combined, lessons 1-5 of the PLUPM module consist of several land-use planning and land management topics. These topics, if adequately taught, would enable students to gather theoretical and practical knowledge applicable in the everyday activities in the land sector in most developing countries. The overall design of the lessons enables an understanding of *tenure responsive land-use planning* — a concept and practice that allow for an integration of land-use planning and tenure security initiatives in development interventions (see Antonio et al., 2016; Chigbu et al., 2016, 2019a-c; Gwalebe and Chigbu, 2020).

In terms of applicability, the PLUPM extends the issue of land-use planning to how it works as an element of land management and provides foundational knowledge for understanding the applicability of land development approaches from the lens of land-use planning. This is also

in line with the arguments on applying land-use planning to various aspects of development, including the consolidation and fragmentation of land (Ntihinyurwa et al., 2019) and conflict resolution mechanisms (Chigbu et al. 2015a). In order to discern what makes the PLUPM module an easily adaptable and content responsive teaching essential, the following section provides some specific content analysis of the module.

3.2 Contents Features and Learning Questions of PLUPM Module

The five lessons in the PLUPM module are designed to provide the knowledge base for understanding : (1) Introduction to land-use planning and management. (2) Considerations and context in land use planning. (3) Land use planning for improved land management and tenure security. (4) Managing the use of land. And (5), evolving trends in responsible land-use planning and management. For details on the various elements of the module, please refer to Tables 1-5, which presents a lesson-by-lesson description of the module below.

Table 1: Content of Lesson 1 of the PLUPM Module

LESSON 1: Introduction to Land-Use Planning and Management	
At the end of this lesson, learners should be able to:	
<ul style="list-style-type: none"> List the key components of land use and territorial planning Describe the main elements of the planning process. Describe the different levels of spatial and land use planning takes place and the coverage and extent of the different levels. 	
Learning steps	Learning Questions
<ul style="list-style-type: none"> Role, function and main theories of planning 	What is land use planning? What are the problems that land-use planning must address? What are the main elements in the evolution of the planning process?
<ul style="list-style-type: none"> Influences on Implementation of Land Use Planning 	What are the key influences of the planning process?
<ul style="list-style-type: none"> Levels of Land-use Planning 	What are the levels at which planning takes place? What are some of the parallel planning processes that impact Land use and territorial planning? Describe two main influences on Land Use and Territorial Planning
<ul style="list-style-type: none"> Summary 	Key Points of the lesson
<ul style="list-style-type: none"> Recommended reading 	List of reading materials

Table 2: Content of Lesson 2 of the PLUPM Module

LESSON 2: Considerations and Context in Land Use Planning

<p>Learning objectives</p> <p>At the end of this lesson, learners should be able to:</p> <ul style="list-style-type: none"> • Understand the critical differences in land use planning and territorial planning in the urban periphery in different parts of the world (Global North and South). • Discuss the core forms of planned versus organic development • Identify elements of sustainable developments in land use and territorial planning. 	
Learning steps	Learning Questions
<ul style="list-style-type: none"> • Urbanisation and Land Use Issues 	<p>What would give rise to different land use issues in different areas of the world?</p> <p>What are the typical urban and rural planning issues in the Global North and South?</p> <p>What makes some countries require particular planning approaches?</p> <p>What are urban periphery issues?</p> <p>What are unique about Small Island Developing States?</p>
<ul style="list-style-type: none"> • Concepts of Sustainable Development 	<p>Why is sustainable development central to land use planning?</p> <p>How are the sustainable development goals related to land use planning?</p>
<ul style="list-style-type: none"> • Environmental inputs to land use planning 	<p>Why is carrying capacity of an environment vital?</p> <p>What are the tools for assessing environmental carrying capacity?</p> <p>What is an EIA?</p> <p>Should planning be focused on environmental or social issues in land-use practices?</p>
<ul style="list-style-type: none"> • Summary 	Key points of the lesson
<ul style="list-style-type: none"> • Recommended reading 	List of reading materials

Table 3: Content of Lesson 3 of the PLUPM Module

LESSON 3: Land Use Planning for Improved Land Management and Tenure Security	
<p>At the end of this lesson, learners should be able to:</p> <ul style="list-style-type: none"> • Understand possible ways in which the land use planning process relates to the issues of tenure security and land administration. • Discuss the interrelationship between haphazard development and tenure insecurity. • Discuss traditional forms of tenure and settlement versus market-driven urban development and land markets. • Understand how state programmes for the poor address both land-use planning and tenure issues. The types of state interventions in tenure regularisation and titling in the context and social housing programme should be addressed. • Describe the role and sequence of titling, settlements planning, infrastructural improvements and shelter improvements. • Explain the need for geospatial data in the planning process. Identify the requirements/ inputs for land use plans at various levels. Determine the data acquisition technique to be chosen based on the level of detail and nature of the data needed. • Identify the geospatial tools that are available to support planning analysis. Identify and select tools which can be used throughout different phases of the planning process. 	
Learning steps	Learning Questions

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<ul style="list-style-type: none"> Land Use Planning and Land Policy 	<p>What is the relationship between Land Use Planning and Land Policy?</p> <p>What is the relationship between land use planning and land administration?</p> <p>How does poverty affect land-use planning and tenure?</p>
<ul style="list-style-type: none"> The role of the state in addressing tenure and informality in development 	<p>What is the role of the state in land use planning?</p> <p>What are some examples of land regularisation exercises?</p>
<ul style="list-style-type: none"> Mapping and Data Analysis requirements of planning 	<p>What is the role of land use maps in land use planning at various levels of detail?</p> <p>How is geo-spatial data collected and communicated in the planning process?</p>
<ul style="list-style-type: none"> Technical inputs to land use planning 	<p>What inputs are required to generate adequate land use maps?</p> <p>What are the tools and techniques for spatial and temporal analysis?</p>
<ul style="list-style-type: none"> Summary 	Key points
<ul style="list-style-type: none"> Recommended reading 	List of reading materials

Table 4: Content of Lesson 4 of the PLUPM Module

LESSON 4: Managing the Use of Land	
At the end of this lesson, learners should be able to:	
<ul style="list-style-type: none"> Understand the critical Land use tools utilised in land management with examples of their application Understand some significant differences between urban and rural land-use planning Understand the concepts of Land Use Zoning and Land Use Designation Understand and discuss various tools including Land Consolidation and Land Readjustment Understand the financing of land use and other land management functions 	
Suggest capacity and skills development strategies for land use planning	
Learning steps	Learning Questions
<ul style="list-style-type: none"> Improving Land Use and Urban Planning 	<p>What are some of the critical elements in improving land use and urban planning?</p> <p>What are some of the key differences between urban and rural planning?</p>
<ul style="list-style-type: none"> Typical tools and practices in Rural Planning 	<p>What are the important aspects of rural land use planning?</p> <p>What is the purpose of Land Consolidation and Land Readjustment?</p>
<ul style="list-style-type: none"> Critical Urban Land Use Tools 	<p>What is the difference between the Land Use Designation and Land Use Zoning?</p> <p>How does the Zoning function?</p> <p>What should urban land use planning achieve?</p>
<ul style="list-style-type: none"> Support mechanisms for land use planning 	<p>How is land use planning financed?</p> <p>What types of human, technical and instructional capacity is needed for Land use planning</p>
<ul style="list-style-type: none"> Summary 	Critical points in the lesson

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• Recommended reading	List of reading materials
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Table 5: Content of Lesson 5 of the PLUPM Module

LESSON 5: Evolving Trends in Responsible Land-Use Planning and Management	
At the end of this lesson, learners should be able to:	
<ul style="list-style-type: none"> • Understand the justification of the evolution from top-down to participatory processes of planning • Describe key elements of climate and hazard resilient planning • List some methods and techniques of planning evaluation • Describe the evolving international policy agenda for land use and human settlements 	
Learning steps	Learning Questions/Issues
• Community and Participatory Planning	Why is the process of planning as essential and the outcome? What are some of the new tools of participatory land use planning?
• Planning for Hazards and Risks	Why plan for Hazards and Risks? How is vulnerability reduced through integrated approaches? What is the role of land use planning in this process?
• Monitoring and Evaluation	How do we connect Land Use Planning Goals to broader development targets How are Planning Monitoring Systems mainstreamed?
• The evolving International Agenda in Land Use Planning.	How has the evolving international development agenda been included this issue?
• Summary -	Key points of the lesson
• Recommended reading	List of reading materials

4. DISCUSSION — THEMES AND IMPLICATIONS OF OPERATIONALISING PLUPM MODULE

Excellent service delivery in the land and related professional practice and education usually emanates from either an understanding of theory or dependence on proven experience or both. Concerning, classroom teaching in land administration and land management (including land governance and land policy, and all land related subjects), convincing arguments are adopting the theory module, as well as the practical module. Apart from the more specific disciplines of geodesy or surveying where core mathematical theorems and engineering theories heavily apply, many diffused land-related subjects lack a theoretical framework.

Due to their multidisciplinary nature, theories are applied depending on the particular side where a study leans more at any given time. Tackling this situation in classroom teaching can be problematic for students to comprehend. That is why any module to be used in the area of land administration and land management must be designed to allow for ease of comprehension,

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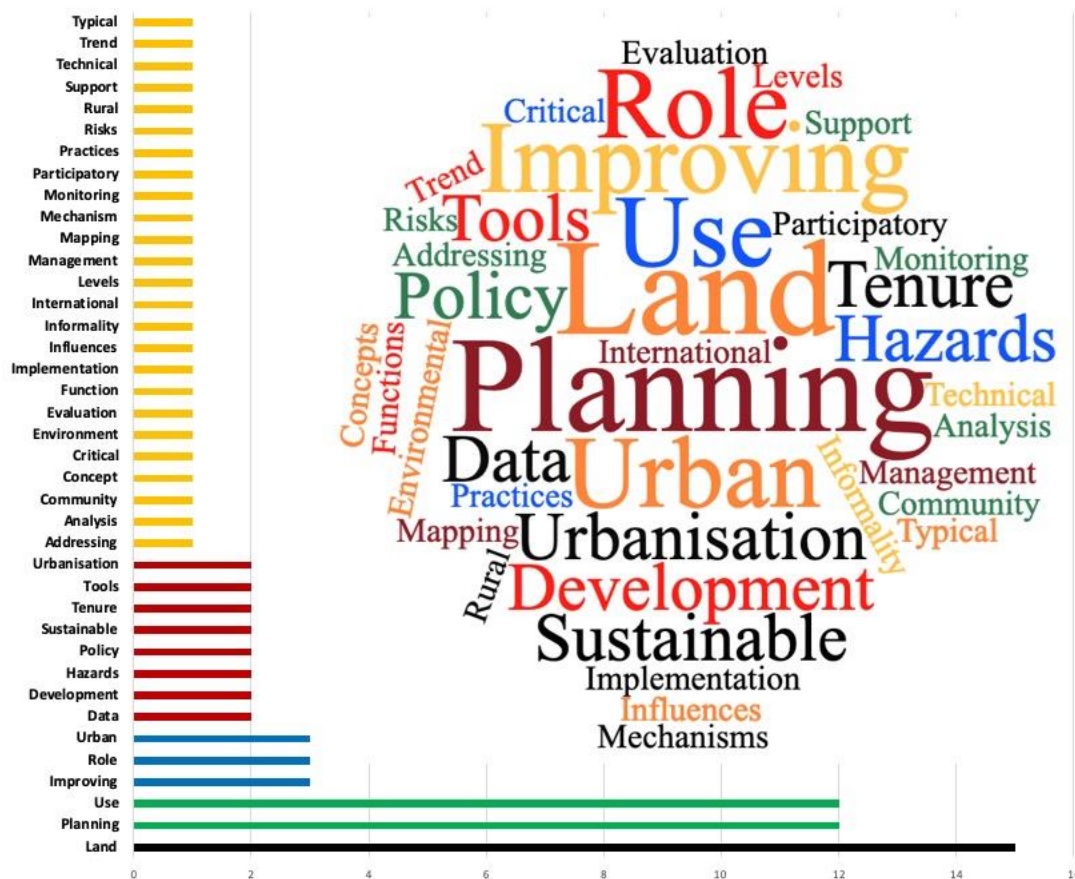
theorisation, application and contextualisation. This is what the PLUPM module sought to achieve. To grasp to what extent this objective reflects in the lessons in the module (as presented in Tables 1-5), the thematic focus of the module must be unpacked.

4.1 Word Cloud Points to a Balance in Literature, Functions, Applications and Contexts of Land Use Planning Lessons

A textual analysis done with word cloud allowed for an understanding of the weight or frequencies of keywords emphasised in the lessons of the module. Word clouds are a method for visually presenting text data. In the context of this paper, it allowed for text analysis done to precisely spot keyword frequencies. The more frequent a word is used, the bigger and bolder it is displayed (Andkhoie et al., 2019; Gao and Wright, 2020).

Figure 2 (combined word cloud and weight-graph) presents the thematic elements of the module as presented by its keywords. In terms of weight, *land* (15 weights), *planning* and *use* (both 12 weights) were most frequently focused upon respectively. These constitute the dominant subjects of the module, followed by the issues related to *improving*, *role* and *urban* (all having 3 weights); and then subjects related to *tools*, *tenure*, *sustainable*, *policy*, *hazards*, *development* and *data* (all having 2 weights) while the rest weighed 1 each (refer to Figure 2). The various weights of the words in the cloud reflect the significance of land related concerns addressed in the PLUPM. These are dominated by *land*, *planning* and *use* literature/theory and their application to issues related to the *role* they play in *improving* the *urban* areas. Then a transition to lessons that focus on methods of application, which are reflected in *tools*, *tenure*, *sustainable*, *policy*, *hazards*, *development* and *data*.

Figure 2: Word Cloud Showing the Weight of Lessons Covered in PLUPM Module



The other keywords in the cloud (which all weigh 1) include *addressing, analysis, community, concept, critical, environment, evaluation, function, implementation, influences, informality, international, levels, management, mapping, mechanism, monitoring, participatory, practices, risks, rural, support, technical, trend* and *typical*. These keywords form a combination of lenses, perspectives and contexts which can apply to either theories, applications and practices (or a combination of any or all of the three). In general, these reflect a balance in literature, functions, applications and contexts of land use planning lessons.

4.2 PLUPM — From Online Open-Source Learning Essential to Classroom Module

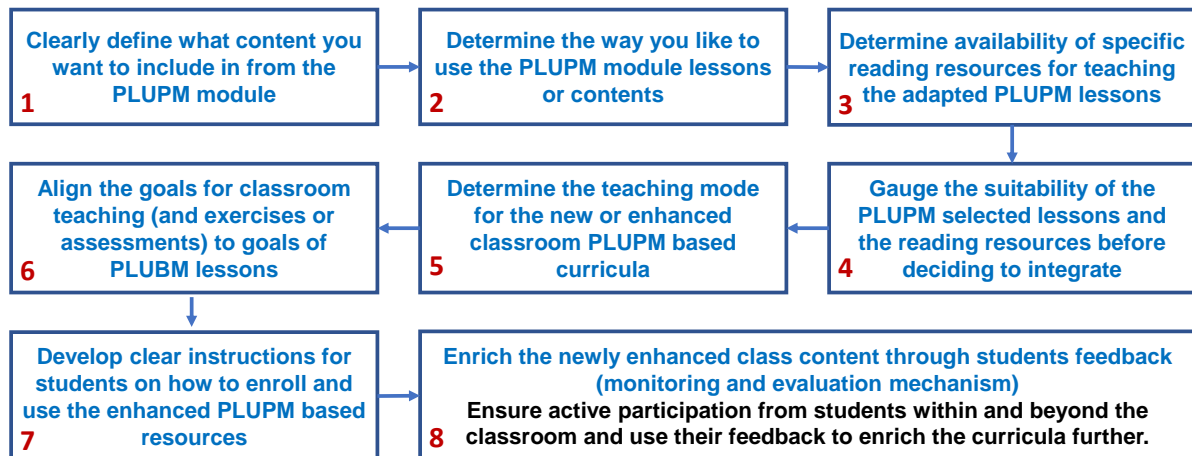
In its current form, the PLUPM module is an online learning essential which can be used directly as an online learning resource or adapted to an in-the-classroom learning resource (or curricula). Therefore, the PLUPM module offers the advantages of online learning and provides content for classroom learning. The questions that arise are twofold: how does a trainer or teacher adapt the PLUPM module to a classroom resource? How does one teach the PLUPM lessons in the classroom? This sub-section answers the former while the following section answers the later. Answering these questions is crucial because the module would have less effect on education and capacity development unless if integrated into classroom teaching. More so, it would not have its expected impact on students in land-related academic programmes unless it is taught adequately. This is not to say that online learning and classroom

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learning are not compatible. Both (when adequately combined) can form the best teaching approach for participatory learning (Chigbu et al., 2015b). However, the focus here is to grasp how to integrate PLUPM into classroom learning resources.

In this regard, this paper proposes that one way to integrate the PLUPM module into classroom teaching can be through adapting specific steps that starts from clearly defining the module in the classroom setting to using and monitoring the use of the module. This is an 8-step approach supported by de Jong et al. (2019).

Figure 3: Steps for integrating PLUPM module into classroom teaching



In order to integrate the PLUPM module into the regular university curriculum to create blended learning programs. These eight steps action plans provide guidelines for teachers or trainers to integrate the PLUPM lesson contents into their regular classroom teaching (Figure 3). The steps are discussed below:

1. **Clearly define what content you want to include in your course:** This means comparing the PLUPM module with existing modules being used in the classroom to grasp what topics that are lacking in the teaching and which can be supplemented by contents from the PLUPM module. Teachers can use this comparison to create a detailed description of what they want to integrate into their classroom teaching from the PLUPM module contents.
2. **Determine how the PLUPM content can be used:** Next is to determine how PLUPM content is going to fit into the existing classroom curriculum. The fundamental ways of doing this could be to adapt specific lessons so that students learn specific lessons rather than an intensive volume of content. The fast way will be to replace one teaching sessions in the classroom with a bundle of PLUPM lessons. Put more directly, and the PLUPM module contents can be adapted in full or partially.
3. **Determine availability of specific reading resources for teaching the adapted PLUPM lessons:** Search for reading resources which should be recommended to students to help them understand the selected lessons adapted into the classroom teaching from the PLUPM

module. The PLUPM module is itself a reading resource, together with the other five modules of the GLTN's *Responsible Land Administration Teaching Essentials*. The GLTN also has a resource on *tenure responsive land use planning*. All of these resources are freely downloadable from the GLTN website.

4. **Gauge the suitability of the PLUPM selected lessons and the reading resources before deciding to integrate:** Before trainers/teachers begin to use the PLUPM enhanced (or replaced) resources in the classroom, it will be essential to know if the newly developed curricula or lessons are suitable. This is necessary to grasp what mode of teaching would be needed to teach it in the classroom.
5. **Determine the teaching mode for the new or enhanced classroom PLUPM based curricula:** Next will be to check to determine what teaching mode to be used for in-classroom teaching. Possible modes can be through reading materials, combining classroom discussions with videos, PowerPoint presentations, audio clips, and links to external websites, etc.
6. **Align the goals for classroom teaching (and exercises or assessments) to goals of PLUPM lessons:** The integration of PLUPM lesson contents in class entails merging PLUPM module with existing curricula contents from the class. So it is crucial to have a strategy for aligning or merging the two into one enhanced usable curriculum. For details on strategies for doing this, see Biggs and Tang (2011). The same applies to exercises and assignments.
7. **Develop clear instructions for students on how to enrol and use the enhanced PLUPM based classroom resources:** Since PLUPM module has been adapted to form part of (or entirely) a classroom course, clear instruction must be provided to students on how to study the course, as well as how to access the reading resources for understanding the course. This can be done using email guides, traditional teaching guides, and class announcements, among many other approaches.
8. **Enrich the newly enhanced class content through students' feedback (monitoring and evaluation mechanism):** During the periods or semesters of teaching, it will be essential to keep enriching and tailoring the newly developed classroom content to stay responsive to the needs of the students, and the goals of the academic department. It is, therefore, important to always provide and offer learning guidance within and beyond the classroom to students to ensure that the classroom lessons are enriched using ideas from students' participation and responses to assignments. This ensures monitoring and evaluation mechanism for developing future curricula using students feedback.

4.3 How to Teach PLUPM Module in the Classroom

There are three possibilities to integrating PLUPM module in the classroom teaching. They can be the interdisciplinary, transdisciplinary and multidisciplinary approaches (Drake and Burns, 2004). The transdisciplinary approach will be necessary for a situation where the class comprise students from various disciplines or inter academic department groups (Chhabra, 2017). Teaching will demand to adapt the PLUPM lessons to subject areas that are found within the peripheries of planning, land governance and policy, human geography, and sociology,

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environmental management (to mention a few). For example, combining PLUPM with a subject such as land consolidation or urban (or rural) planning will help boost understanding to students. The transdisciplinary approach could involve the adaptation of teaching around student by making the class proceedings discursive. This will be best when the PLUPM lessons are driven around the concerns and questions of students. In its design format, the PLUPM module can easily be adapted by focusing on *learning questions and issues* (refer to Tables 1-5). This would mean creating a project-based learning environment that will expose students to directly tackle a PLUPM problem, and getting the students to openly discuss or work in groups in answering structured (but open-ended) questions.

An interdisciplinary approach to adapting the PLUPM module to classroom teaching will involve integrating it into existing curricula (using its instructional lessons) with focus on cross-cutting subject common from across different disciplines. For example, the teacher/trainer could focus on enabling the students to develop skills (such as decision-making in land and natural resource planning). With such skill as an objective for teaching PLUPM, students would likely learn skills (and concepts) that extends beyond their next lesson. For instance, by teaching PLUPM in this way, students can develop knowledge in areas such as urban and rural planning, land governance and land policy, among many other possibilities.

A multidisciplinary approach would entail adapting the PLUPM module to existing land administration or land management subjects from various disciplines around a common topic. This way, various elements of the modular lessons could be taught as part of on-going topics within an academic department.

5. CONCLUSION

Land use planning (in both concept and practice) is undergoing heavy scrutiny because of its perceived “state intervention in the life of the individual” (Egbu et al., 2016: 455; Antonio et al., 2016; Chigbu et al., 2016; Fomete et al., 2018). The issues discussed in this paper are hinged on improving classroom teaching on the subject by using a new resource developed by the GLTN. It is based on the GLTN knowledge essentials or academic modules which provide specific knowledge on “participatory land use planning and management” as well as a general guide for grasping responsible land administration components of land sector practices. The PLUPM module, which was the focus of the entire discussion, allows for a knowledge base through which students can apply the meanings of the curricula content to their geographic context. This paper provides a glimpse of the content of the PLUPM module and how it can be applied in classroom teaching. This is why it is highly essential to disseminate its potential for enriched classroom teaching in this paper. Users of the PLUPM module should understand that there will need to contextualise the content (lessons) of the module to fit into their unique academic goals, teaching modes, as well as to adapt it to the specific needs of their students. It is only through this way that the PLUPM module can contribute to enhancing classroom teachings wherever it is used, especially in developing countries.

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