

Participation of municipal stakeholders in climate action planning in Zio 1 (Togo) and Zou (Benin)

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Abstract: Climate change has a local dimension and must be integrated into the development activities of local authorities. In the case of the municipalities of Zio1 (Togo) and Zou (Benin), the approach consisted of responding to climate issues at the local level. This local climate action planning exercise requires the participation of several local stakeholders in the municipality. The aim of this article is to examine the process of developing Sustainable Energy Access and Climate Action Plan (SEACAP) in Zio1 and Zou. The work is based on the hypothesis that the low level of participation of local stakeholders is a limitation in the planning of climate actions at local level. To verify this hypothesis, a survey was conducted among 449 people in the municipalities of Zio1 and Zou. The results show that municipal administrations, community leaders and civil society organizations were more involved in the process of setting up the SEACAP than state structures and economic stakeholders. Participation at grassroots population level remains very low. The SEACAP development process has limitations.

Keywords: Climate actions, Local, Municipalities, Participation, Planning, SEACAP, Zio1, Zou.

1. Introduction

Climate change is a global problem with local impacts [1]. According to the IPCC, limiting global warming to 1.5° Celsius will lead to profound societal changes at local level and will require large participation by local populations at several levels [2].

In order to encourage the participation of a great number of stakeholders, the European Commission has put in place mechanisms to enable adaptation projects to be planned and implemented at local level. These mechanisms are embodied in the Covenant of Mayors, which promotes local action on climate and energy [3]. Based on the results of this Covenant, the Covenant of Mayors for Sub-Saharan Africa (CoM SSA) has been launched. The Covenant of Mayors for Sub-Saharan Africa is an initiative funded by the European Union (EU) to support cities in Sub-Saharan Africa in their fight against climate change and in their efforts to ensure access to clean energy for their populations [4]. CoM SSA has developed a climate action planning tool to help cities in Sub-Saharan Africa move from planning to implementing climate action at local level [4]. To cope with the consequences of climate change, it is important to implement mechanisms based on collective planning, with the creation of networks and decision-making systems to develop effective strategies and measures to make territories resilient regarding climate change [5-7].

With regard to the development of climate action planning tools, the research of Jekabsone et al. shows that the participation of the various stakeholders at the beginning of the development process is a proof of the acceptance and confidence of the population. When the various stakeholders are involved in the process of identifying risks and vulnerabilities, it is easier to justify the need for action [8]. Thus, community-based adaptation to climate change is a community-led process, based on the community's priorities, needs, knowledge and capacities to plan for climate actions and the impacts of climate change. Climate change must therefore be a collective effort [9]. The key element in the development of a

climate action planning tool is the support of the various stakeholders and citizen participation, because if all stakeholders support the process, nothing should stop it [10]. Thus, participatory governance has the merit of improving the decision-making process by taking endogenous knowledge into account and opening up the political field to environmental interests [11].

Suggesting solutions to combat the harmful effects of climate change and taking actions to reduce greenhouse gas emissions, municipalities face a number of challenges, including the refusal or reluctance of citizens to participate in climate action planning. When it comes to climate change, international negotiations set global objectives, but it is up to local and regional authorities to define the resources needed to achieve them. Local governments have therefore been identified as key actors in the efforts to reduce anthropogenic greenhouse gas emissions [12,13]. Local governments have major responsibilities in terms of planning local development and providing services to citizens [14]. In Africa, a number of municipalities have drawn up plans to reduce greenhouse gas emissions and take ambitious climate action. Playing a key role in spatial planning, it is therefore important to integrate climate actions at local level in order to create low-carbon societies [15]. While there is a growing awareness of climate issues in cities, there is a significant gap between this awareness and practices.

For climate action planning, the municipalities of Zio1 (Togo) and Zou (Benin) have drawn up their Sustainable Energy Access and Climate Action Plan (SEACAP) as part of the Covenant of Mayors for Sub-Saharan Africa (CoM SSA). Membership of the Covenant of Mayors for Sub-Saharan Africa (CoM SSA) has enabled the municipalities of Zio1 and Zou to draw up their SEACAP. The SEACAP is a territorial project for sustainable development, the primary aim of which is to combat climate change. Climate action planning at local level requires the participation of all local stakeholders, namely the municipal administration, civil society organisations, decentralised government departments and community leaders, namely traditional chiefs and grassroots development organizations [16]. This approach encompasses a multiplicity of perspectives and interests, both within the municipal administration and in the community as a whole. Public participation is an important element of climate action planning. Given the complexity of the climate change phenomenon, it is important to bring about a structural transformation of society and to establish collaborative efforts at all levels of the municipality, including small-scale actors such as citizens [17,18]. The participation of local stakeholders is therefore required throughout the development and implementation of the climate strategy and action plan [16].

In the municipalities of Zio1 (Togo) and Zou (Benin), it was found that not all local stakeholders were involved in the climate action planning process. At the level of the town halls, the process of drawing up the SEACAP mainly involved the members of the municipal executives and also the technical staff of the town halls, who are members of the steering committee for the SEACAP process. On another level, it was difficult for the municipalities to obtain the collaboration and technical support of state structures. Local economic actors were not involved in the climate action planning process carried out by the local authorities. One of the obstacles to climate action is the long-term social exclusion of certain stakeholders from the decision-making process [19]. On the other hand, participation was relatively high among community leaders and civil society organizations. This observation is shared by a number of studies, which cite the lack of knowledge and awareness among stakeholders as a major challenge in relation to climate change [20, 21]. For example, participation in the climate action planning process was not fully participatory in the municipalities of Zio1 (Togo) and Zou (Benin). State structures had not fully participated in the climate action planning process. As for local economic actors, they were absent from the process because they were not taken into account by the local government in the process of drawing up the SEACAP. The level of knowledge and understanding of climate change phenomenon is generally low among stakeholders in the general public [22]. According to Shi et al (2016), better knowledge of climate issues can influence the willingness of stakeholders to propose actions to combat climate change [21].

The objective of this research is to explain the determinants of participation in climate action in the municipalities of Zio1 and Zou, based on the process of drawing up their SEACAP. In order to better circumscribe the field of investigation, a central question was formulated : in which way does the low level of participation of the various local stakeholders constitute an obstacle to the planning of climate

actions at the local level ? The following heuristic proposal is put forward : the obstacles to climate action planning in the municipalities of Zio1 and Zou can be explained by institutional factors. This research has shown that the low level of participation of local stakeholders is a limitation to climate action planning at the local level. The tools used to conduct the SEACAP development process do not enable all the local stakeholders to have a good grasp of the process and to take ownership of it.

The testing of the hypothesis is in line with the theoretical perspective of the citizen participation paradigm of L. Blondiaux and J.M. Fourniau (2011) [23]. This theory includes the idea of exchange, discussion and decision-making by citizens. This exercise is a democratic practice because it gives everyone a voice. Deliberative and participative models are part of the questioning of representative democracy, and are ideas that are part of radical democracy [24]. The deliberative model of democracy seeks consensus, which is the fruit of reasoned argument. The citizen is at the heart of the deliberative process. United by a common goal, these citizens unite their voices to arrive at a reasoned and collective decision [25]. The deliberative model offers the possibility of democracy as a form of society [26]. Thus deliberation is seen as a pivotal element in the constitution of populations, morally and functionally vital to democratic life [27]. To better appreciate the phenomenon of participation, Sintomer and Talpin speak of a hydric formula of participatory deliberation [25].

The European Union's Joint Research Centre (JRC) has therefore defined a reference framework for the development of SEACAP [16]. The four (4) phases of the SEACAP development process are :

- The first phase, known as the initiation phase, consists of describing the overall principles of the SEACAP and addresses the strategic concerns of political support, the involvement of all the municipal departments concerned and the commitment of the various parties in the process ;
- The second phase consists of the planning, pre-assessment and development. The pre-assessment phase consists of assessing local administrations by integrating :
- The inventory of greenhouse gas emissions, known as the « Baseline Emission Inventory » (BEI) and the specification of mitigation objectives and targets ;
- The risk and vulnerability assessment (RVA), taking into account the adaptation component
- The access to energy assessment (AEA) and the determination of targets for the energy access component.

The development phase defines the technical measures and policies that can be implemented locally by municipal authorities in each of the three sectors of activity : mitigation, adaptation and access to energy.

- The implementation phase, which points out the actions identified in the SEACAP ;
- The monitoring phase, which reveals the progress made in implementing the SEACAP, taking into account the objectives which have been set.

2. Materials and Methods

2.1. Study Area

Togo, 56 600 km², is a state on the gulf of Guinea between Ghana to the west, Benin to the east, Burkina Faso to the west and the Atlantic Ocean to the south. Since September 1965, it has been subdivided into five administrative regions : maritime, plateaux, central, savanna and Kara. Each of these regions is subdivided into prefectures. There are a total of 39 prefectures, each made up of municipalities. In total, Togo has 117 municipalities. The municipality of Zio1 (figure1) is one of four in the Zio prefecture. It is located in the maritime region. The municipality of Zio1 borders Greater Lomé and is therefore less than 20 kilometres from the Atlantic Ocean. Tsévié is the county town of the municipality of Zio 1. It is 35 km far from Lomé, the capital of Togo. Tsévié is also the capital of the maritime region and the Zio prefecture. The municipality of Zio1 lies between 6°23 and 6°27 degrees north latitude and 1°11 and 1°14 degrees east longitude. It covers around 889 km² and stretches from south to north, straddling national road no. 1. It is made up of 8 cantons (Tsévié, capital of the municipality, Abobo, Dalavé, Davié, Djagblé, Gbatopé, Gblainvié and Kpomé). Figure 1 below shows the municipality of Zio1 where the research was conducted.

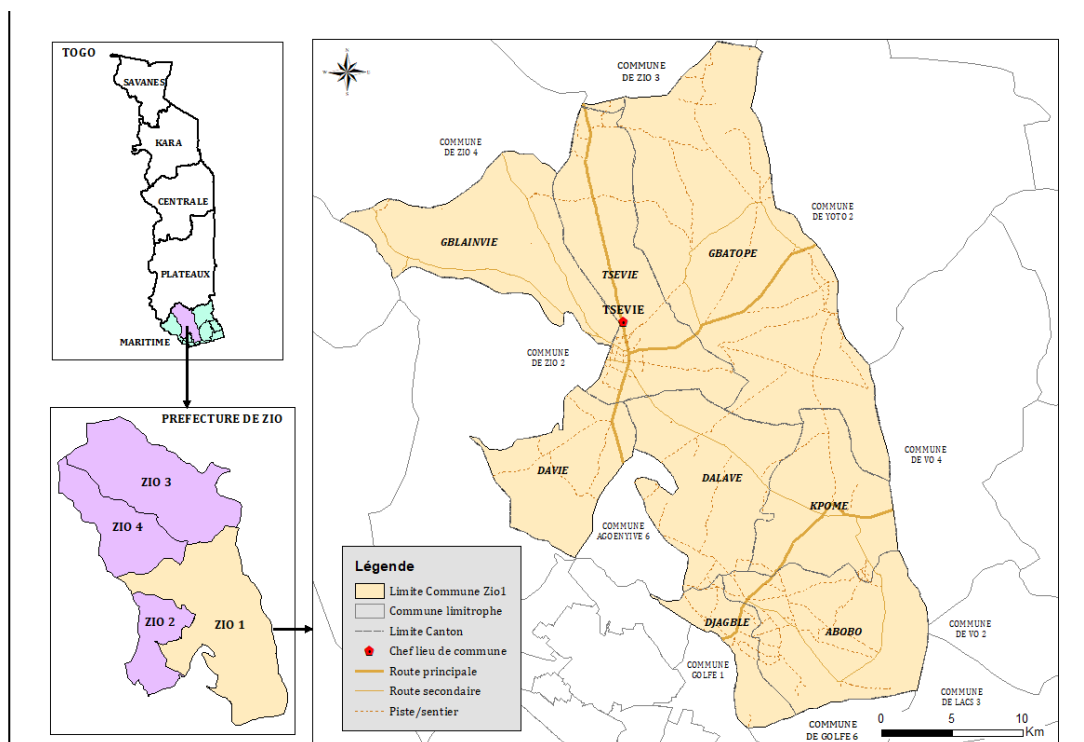


Figure 1.
Location of the municipality of Zio1.

The municipality of Zio 1 is bordered to the north by the municipalities of Zio 3 and Zio 4 ; to the south by the municipalities of Golfe 1 and Golfe 6 ; to the south-east by the municipality of Lacs 3 ; to the south-west by the municipalities of Agoé-Nyivé 4 and Agoé-Nyivé 6 ; to the west by the municipalities of Avé1 and Zio2 ; and to the east by the municipalities of Yoto 2 and Vo 4. In 2022, the population of the eight (8) cantons of Zio 1 was 307 292 inhabitants (fifth general population and housing census, RGPH-5, 2022).

Like Togo, Benin is located in West Africa between latitudes $6^{\circ}30'$ and $12^{\circ}30'$ North and longitudes 1° and $3^{\circ}40'$ East. According to the results of the fourth general population and housing census (RGPH4) of 2013, Benin has a population of 10 008 749 inhabitants with a surface area of 114 763 km². Administratively, Benin currently has twelve (12) departments subdivided into 77 municipalities. The scope of our study in Benin is the department of Zou (figure 2). Located in the centre of Benin, Zou has an area of 5 243 km² with a population of 851 623 inhabitants (RGPH4, 2013). The department of Zou is made up of nine municipalities, namely the municipalities of Abomey, Agbangnizoun, Bohicon, Covè, Djidja, Ouinhi, Za-kpota, Zagnanado and Zogbodomey.

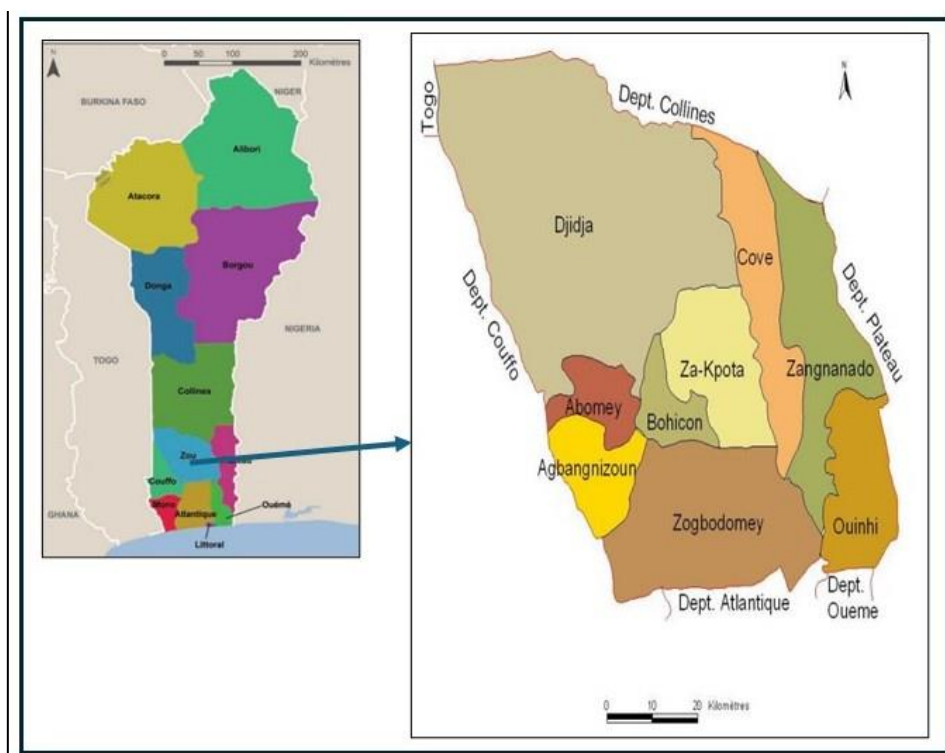


Figure 2.
Location of the Zou department

2.2. Data Collection and Processing

The methodological approach adopted combines documentary research, a structured questionnaire and semi-structured interview guides. To measure the indicators and identify the motivations of local and institutional stakeholders for participating in climate action planning, a quantitative survey, using a structured questionnaire, was conducted from September to November 2023. The actors in the field from whom the information was gathered were the municipal administrations, community leaders (members of neighbourhood development committees and village development committees, traditional chiefs), leaders of civil society organisations, decentralised state services and economic actors on the one hand, and the general population of Zio1 and Zou on the other. The municipalities of Zio1 and Zou are the first in Togo and Benin to carry out the SEACAP development process.

2.2.1. Sampling and Questionnaire Administration

Togo carried out its fifth general population and housing census in November 2022. According to the results of this census, the population of the municipality of Zio1 is 307 292 inhabitants. Benin conducted its fourth general population and housing census in May 2013. The field survey took place in the three most populous municipalities in Zou (Bohicon, Djidja and Za-Kpota) and the capital of Zou (Abomey). According to the results of the census, the municipalities of Abomey, Bohicon, Djidja and Za-Kpota have a population of 92 266 ; 171 781 ; 123 542 and 132 818 inhabitants respectively. Taking into account the number of inhabitants in each municipality mentioned above, a sub-sample of respondents was determined.

It is difficult to conduct research exhaustively by involving the entire target population. For this research, the option focused on purposive sampling. The constitution of the proportion of people to be surveyed in each municipality is examined through quota sampling. For Camille Javeau and Cathérine Vigneron [28], this complexity of the operations of constructing sampling rates explains the fact that it is not surprising to see rates of 0.1%, 1.21%, or 10% considered significant when the contexts allow it. For Henri Mendras [29], quota sampling aims to constitute a reduced model of the population to be

studied. Given the comparative dimension of the study which requires the use of the same measuring instrument in each of the municipalities, we applied a sampling rate of 1/3,000 as for all municipalities. In clear terms, to determine the subsample of people interviewed in each municipality, we start from the following formula :

$$n = N \times T$$

N = Base population

T = sampling rate

n = sample size to be surveyed

The field survey was carried out with 279 people from municipal administrations, traditional chiefs, civil society organizations, economic stakeholders on the one hand, and people involved in the development of the targeted municipalities on the other.

The diversity of respondents in the sample made it possible to obtain varied information and measure the degree of participation of the various local and institutional stakeholders in local climate action planning.

2.2.2. Focus Groups with local stakeholders

Two (2) focus groups were held in each municipality, the first with traditional chiefs, members of grassroots community organizations, civil society organizations and economic stakeholders, and the second with other categories of citizens. A total of 10 people took part in each session. The focus group sessions reached 20 people in each municipality, for a total of 100 people in the 5 municipalities selected for the study.

2.2.3. Individual interviews with target stakeholders

The interview guides were administered to target stakeholders such as mayors, municipal technical executives and technical civil servants from decentralized government services, including members of the steering committee responsible for setting up the Zio1 and Zou SEACAP [16]. The formal one-to-one interviews involved 14 people in each municipality, including 10 people from the municipal administration and 4 people from decentralized state services based at local level, making a total of 70 people in the 5 municipalities.

2.2.4. Field observation

Simple observations were made during information and awareness-raising campaigns on the subject of climate change and other activities in the field in order to ascertain the participation of the population in the planning of climate actions. A specific documentary analysis of reports, articles, dissertations and theses on climate change was carried out in order to assess the scientific value of the statements made by the respondents.

A summary table of all types of survey and the number of respondents is provided.

Table 1.
Sample size by survey type.

Type of survey	Municipalities					Total
	Zio1	Abomey	Bohicon	Djidja	Za-Kpota	
Formal individual interview	14	14	14	14	14	70
Focus group	20	20	20	20	20	100
Quantitative questionnaire	103	31	58	42	45	279
Total	137	65	92	76	79	449

2.2.5. Data Processing and Analysis

To evaluate the indicators and understand the motivations of local stakeholders to participate in climate action planning, the data collected via KoboCollect was cleaned and processed using R software

version 4.4.0. The analyses involved cross-referencing the variables of interest and carrying out statistical tests. Potential relationships between variables were examined using the chi-square test, supplemented in some cases by analyses of the associated residuals. The results were visualised using various packages to represent the relationships between the variables and the modalities.

3. Results

3.1. Involvement of the Local Population in the Climate Action Planning Process at Different Stages

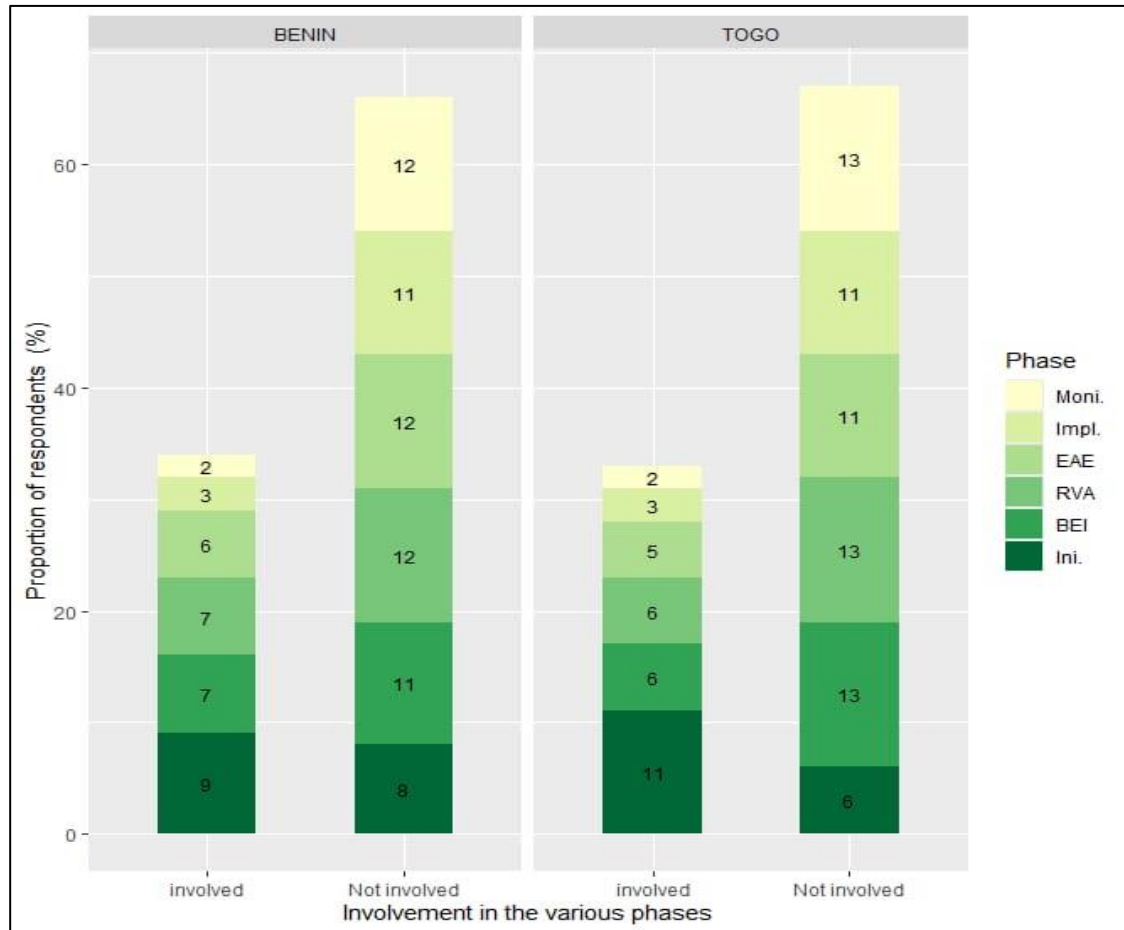


Figure 3.

Involving local people in the various stages of drawing up the SEACAP.

Figure 3 above illustrates the involvement of the population (who are not members of the steering committee) in the various phases of drawing up Sustainable Energy Access and Climate Action Plan (SEACAP) in the municipalities of Zio1 (Togo) and Zou (Benin). This graph shows that respondents who are not members of the steering committee are not very well informed or involved in the climate action planning process whatever the country.

The chi2 test applied shows that participation in the climate action planning process does not depend on the country of residence ($p\text{-value} = 0.9894$). In both Zio1 in Togo and Zou in Benin, the populations indicated low participation in the climate action planning process at the local level. In general, there is little participation by the populations of the municipalities in the various phases of the SEACAP development process. The SEACAP development process comprises four (4) phases [16]:

- The initiation phase, which focuses on describing the general principles of the SEACAP and covers the strategic issues of political commitment, mobilization of all relevant municipal departments and stakeholder engagement ;
- The planning phase includes a pre-assessment phase and an elaboration phase. The pre-assessment phase is linked to local government assessments and includes consideration of :
 - An inventory of greenhouse gas emissions, known as the Baseline Emission Inventory (BEI). It sets mitigation objectives and targets ;
 - Risk and Vulnerability Assessment (RVA), linked to the adaptation pillar;
 - Access to Energy Assessment (EAE) and target setting for the energy access pillar.
- The implementation phase of the planned climate change actions ;
- The phase of monitoring progress towards targets.

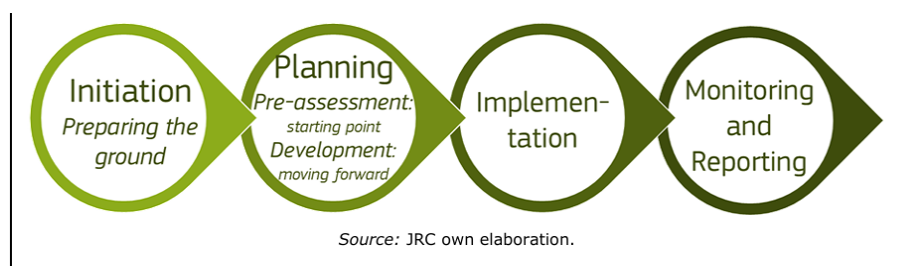


Figure 4.
Phases in the SEACAP development process [16].

In the initiation phase, local elected representatives make a political commitment to draw up a SEACAP. This commitment also involves developing actions to combat climate change in their area. In the initiation phase, the local government mobilizes all the municipal departments involved and other stakeholders operating on the municipal territory to take part in the local climate action planning process.

For the municipalities in Zou, the initiation phase, which launches the climate action planning process at local level, saw low participation from the population as a whole (8%). This was due to the municipalities initial failure to communicate about the process. This low level of local participation at the start of the climate action planning process later had an impact on the implementation phase (3%) and the monitoring of SEACAP implementation (2%). In Zio1 (Togo), the participation in the initiation phase was also low (11%), but relatively higher than in Zou. The municipality of Zio1 also saw low population involvement in the implementation (3%) and monitoring (2%) of the SEACAP.

The Baseline Emissions Inventory study is carried out during the planning phase. The aim of this study is to identify the sources of baseline greenhouse gas (GHG) emissions in the area, and to understand their importance in order to identify reduction potential. The study of the Baseline Emissions Inventory revealed a low level of local participation in the municipalities of Zou and Zio1, with participation rates of 7% and 6% respectively. This low level of participation was due to a lack of familiarity with the tools used to carry out the study. Local stakeholders, including institutional stakeholders, have a poor grasp of the tools used. The approach used to carry out the study does not enable a large number of people to get involved in the process. The approach used is much more elitist and does not allow local ownership of the climate action planning process. This analysis applies equally to Risk and Vulnerability Assessment (RVA) and Access to Energy Assessment (EAE). The Risk and Vulnerability Assessment identifies the effects of climate change on the territory, the vulnerable sectors and the main associated risks. In the municipalities of Zou, the participation in the Risk and Vulnerability Assessment is 7%. For the municipality of Zio1, the participation rate is 6%. As for the Access to Energy Assessment (EAE), Zou and Zio1 have low participation rates, 6% and 5% respectively. As with the Baseline Emissions Inventory (BEI), the tools used to carry out the Risk and Vulnerability Assessment (RVA) and the Access to Energy Assessment (EAE) limit the participation of

local stakeholders in the local climate action planning process. Local stakeholders have very little knowledge of the tools used. Even municipal administrations alone cannot independently conduct the three (3) studies mentioned above.

This institutional limitation of municipalities is therefore an obstacle to climate action planning at local level.

3.2. Socio-Demographic Factors Linked to the Involvement of Local Populations in the Development of SEACAP

Figure 5 above presents a graph based on the cross-tabulation of social parameters and people's involvement in the climate action planning process at local level. Analysis of this figure shows that the proportion of people not involved in action planning in Zio1 and Zou is higher than the proportion of people who consider themselves to have taken part in drawing up the SEACAP, regardless of their social category. In short, the rate of participation in SEACAP development remains low in Zio1 and Zou.

The chi2 test applied to the crossover between gender and population involvement reveals a p-value above the 5% threshold. This indicates that perceived involvement in local climate action planning is not influenced by gender. The residual test, between -2 and 2, confirms that these results are not affected by sampling bias.

On the other hand, perception of involvement depends significantly on the level of education (p-value < 0.001) and profession (p-value < 0.001). The proportion of people who participated in the climate action planning process in the Zio1 and Zou municipalities was found to have a high level of education. Thus, people with a university education were more involved in the SEACAP process than those with no higher education. The level of education of the people surveyed is directly related to their profession. Those who were involved in the process on a voluntary basis were much more motivated by personal motives, such as scientific curiosity, than by a desire to take part in a joint municipal project.

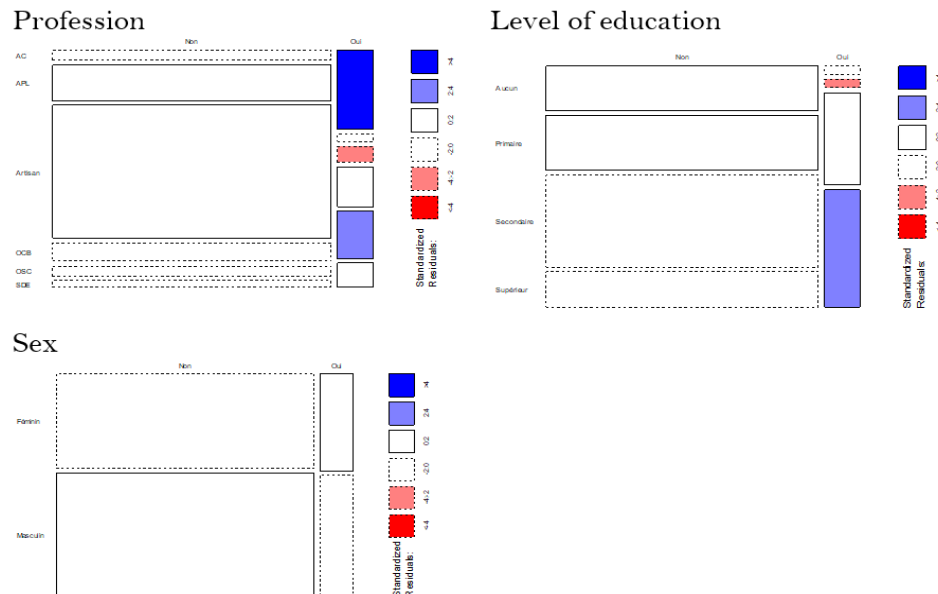


Figure 5.
Factors influencing people's involvement in SEACAP.

3.3. Involvement of Steering Committee Members in the SEACAP Development Process, by Stakeholder Categories

The SEACAP development process is monitored at local level by a steering committee. These local stakeholders are grouped into five (5) categories, namely local government (LG), economic stakeholders (ES), community leaders (traditional chiefs, heads of neighborhood development committees, heads of

village development committees), civil society organizations (CSO) and decentralized government services (DGS) [16]. This local steering committee is guided by external experts, due to a lack of technical expertise in the municipalities.

Figure 6 below illustrates the involvement of different categories of local stakeholders in the SEACAP development process in Zio1 and Zou. It can be seen that local government are more involved in the climate action planning process than, for example, decentralized state services, whose role is to support local authorities. Thus, over 100%, we can see that 58% of local governments took part in drawing up SEACAP, compared with a participation rate of 10% for decentralized government services. Looking at the climate action planning process in Zio1 and Zou, we can see that decentralized government services such as those in charge of planning, energy, transport and the environment were not involved at the start of the process. On the one hand, this institutional shortcoming explains the low level of involvement of decentralized government departments in the SEACAP development process. It is therefore a stumbling block to climate action planning in municipalities. On the other hand, decentralized government departments do not have the necessary expertise to draw up SEACAP. Togo and Benin do not yet have a national guide to set up local climate action planning documents, like the guide to drawing up communal development plans. The absence of a guide to drawing up SEACAP therefore limits the participation of decentralized government departments. There is therefore no regulatory framework for climate action planning, with precise roles and responsibilities at each stage of the process that would oblige them to participate. As a result, they have no control over the various tools used to draw up SEACAP. The stumbling blocks in the development of SEACAP can therefore be explained by institutional factors.

At the same time, there was a relative involvement of community leaders (26.2%) and leaders of civil society organizations (31.3%). These community leaders were relatively present because, in one way or another, they are under the influence of local governments. Their absence from municipal meetings is often resented by the municipal executive. Despite the participation of community leaders, namely traditional chiefs and representatives of grassroots community organizations, the latter were unable to pass on information to the population. This was due to the fact that community leaders found it difficult to pass on the information they had received. Worse still, they did not have a good understanding of the data collection tools used during the studies. The participation of economic stakeholders was almost non-existent (2.72%). The non-involvement of economic stakeholders in the SEACAP development process is a major obstacle to the implementation of planning documents [8]. These stakeholders are an important source of resource mobilization for SEACAP.

Table 2.

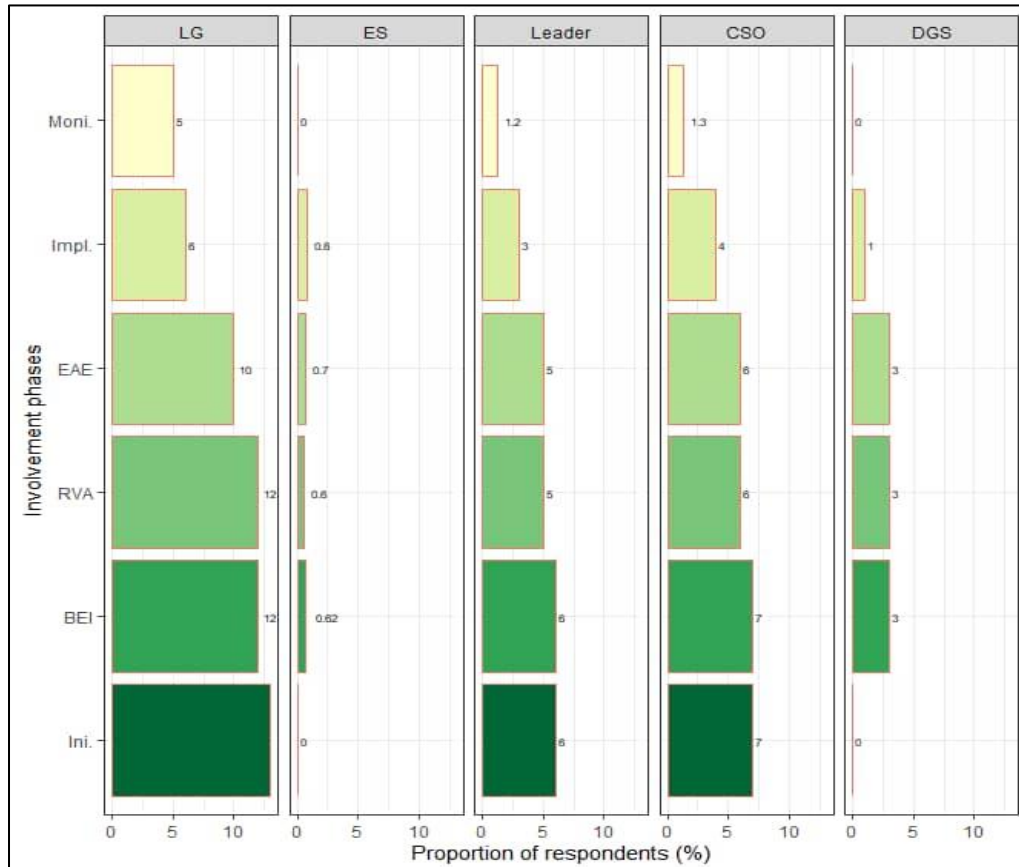
Participation of steering committee members in the SEACAP development process.

Different stakeholders	Stakeholders participation in the development of SEACAP in Zio1	Stakeholders participation in the development of SEACAP in Zou
Local government	These stakeholders were involved at the start of the process. They were involved in the project that led to the development of the SEACAP. The process is led by the mayor's planning and development department, with strong involvement from the mayor and the general secretary	The mayor of the municipality of Bohicon led the process, with the support of the Zou community of municipalities. The technical managers of the Zou municipalities took part in the SEACAP development process, but at the time of implementation, many of them were no longer working in the town halls
Decentralized government services	Executives in decentralized government departments are not equipped to draw up	Executives in decentralized government departments are not equipped to draw up

	SEACAP. The absence of a national development guide limits their ability to support the municipality of Zio1 in climate action planning	SEACAP. The absence of a national development guide limits their ability to support Zou's municipalities in climate action planning
Civil society organization	The municipality involved civil society organizations in drawing up the Zio1 SEACAP. However, these organizations, which took part in the process, were unable to give feedback to the communal or prefectural network of civil society organizations on the process	Civil society organizations in Zou faced the same difficulties as those in Zio1. Despite their participation in the process, they had not mastered the tools used to provide feedback to a larger number of civil society organizations
Community leaders	Although they were involved in the SEACAP development process, the community leaders of Zio1 did not have a good understanding or ownership of the process. As a result, they were unable to provide feedback to the population. This limits local participation in the process	Community leaders were involved in the Zou SEACAP development process. However, they had very limited ownership of the process. They had no mastery of the tools used. As a result, they were unable to give feedback to the population to encourage their participation in climate action planning
Local economic stakeholders	The municipality of Zio1 did not involve local economic stakeholders in the SEACAP development process. As a result, they were virtually absent from all stages of the development process, including implementation and monitoring.	Local economic stakeholders in Zou are not involved in the SEACAP development process. Consequently, they are not willing to support the implementation of SEACAP in Zou

The involvement of the various stakeholders in the development phases of the SEACAP shows different results depending on the category of stakeholder. In the initiation phase, there was real involvement of local authorities. The same degree of involvement can be observed in the planning phase, with the completion of the Baseline Emissions Inventory (BEI), the Risk and Vulnerability Assessment (RVA) and the Access to Energy Assessment (AEA). Municipal managers are well aware of the impacts of climate change on their territory, and have identified areas vulnerable to climatic hazards. In the eyes of these stakeholders, drought, flood, reduced agricultural productivity and high or low rainfall are real impacts of climate change. The implementation and monitoring phases have seen a low level of involvement by local governments, as SEACAP [28, 29] have not really been implemented in Zio1 and Zou. Looking at the different phases in the SEACAP development process, we can see that the involvement of decentralized government departments remains very low in the planning phase (BEI, RVA, AEA). Involvement of decentralized government departments is non-existent in the initiation, implementation and monitoring phases. It should also be noted that local economic stakeholders are not involved in the process of drawing up SEACAP by the Zio1 and Zou municipal administrations. In Zio1, the local government did not even include local economic stakeholders in the steering committee for

SEACAP development. Moreover, these economic stakeholders were not involved in the process, as they did not necessarily share the objectives defined by the SEACAP territorial development project [8]. The process of drawing up a climate plan must have a clearly defined participation plan in order to take into account the opinions of the various stakeholders and avoid conflicts of interest [30]. This inclusive planning includes defining the objective of the participation process, identifying the target audience and setting an agenda at the start of the process [31]. Instead of proceeding with inclusive planning of local stakeholders, stakeholders at national level, for example, formulate climate action planning policies out of step with local realities [17].



(Ini : Initiation ; BEI : Baseline Emission Inventory ; RVA : Risk and Vulnerability Assessment ; EAE : Access to Energy Assessment ; Impl. : Implementation ; Moni. : Monitoring)

Figure 6.

Participation of steering committee members in the various SEACAP development phases.

Figure 6 above shows that the participation of SEACAP steering committee members varies according to stakeholder category. The independence test applied shows a p_value of less than 0.001, indicating that respondents' answers depend significantly on the category of stakeholders targeted. What's more, the follow-up phase is identified as the one in which stakeholder involvement is lowest, whatever their category.

4. Discussion

This research looked at the participation of local stakeholders in climate action planning in the municipalities of Zio 1 (Togo) and Zou (Benin). Despite the participation of traditional chiefs, representatives of grassroots development organizations, notably neighborhood development

committees and village development committees, and representatives of civil society organizations, the SEACAP preparation process is not known to the local population in Zio1 and Zou. In these municipalities, there has been very little involvement of decentralized government departments in the SEACAP development process. This low level of participation is due to the fact that the SEACAP development project did not emanate from the territories, and was not inclusive from the outset. Many stakeholders do not fully understand this new project to draw up a local climate action planning document. They feel that the new project to draw up climate action planning documents is being imposed on them by external stakeholders who may be profiting from the project to the detriment of local stakeholders. According to Sintomer, J. and Talpin, J., citizens must first unite their voices to reach a collective decision before participating in municipal actions [25]. The low level of participation therefore weakens the ownership of this new project by the actors in the municipalities. While the participation and involvement of stakeholders is a determining factor [32], it is also a factor in the success of the project. Clearly, many local stakeholders have no immediate interest in participating in the process. The low level of participation by the local population and, above all, by decentralized government departments, is due to an institutional shortcoming. This is the non-involvement of decentralized government departments at the start of the SEACAP development process. Another institutional factor that explains the low level of participation by state structures is the lack of a national guide for drawing up SEACAP, as is the case, for example, for the guide for drawing up communal development plans, which clearly specifies the actors involved and their roles throughout the process of drawing up a communal development plan [33, 34]. The absence of a national guide to the SEACAP limits the involvement of decentralised government departments in the process of drawing up PAAEDC at local level. It should also be noted that local economic actors were not taken into account in the process by the municipal administration. The SEACAP preparation guide would oblige municipal administrations to involve all stakeholders in the process, as this would constitute one of the elements of control for the validation of the documents prepared.

Despite the low level of participation by the above-mentioned actors, the municipal authorities did take part in the process through the involvement of the mayors and some of the technical managers of the various town halls involved in the project. This result is in line with Loïc Blondiaux's analysis [35]. He divides the success of citizen participation at local level into two non-formal categories. The first refers to what is at stake in the consultation. Citizens must have the impression that their point of view plays a decisive role and that their participation is a real lever on the decisions taken. The second solution proposed by Blondiaux focuses on administrative actions. These should enhance transparency by promoting access to information and a genuine consideration of stakeholders' concerns. These participation mechanisms help to legitimise public services in the eyes of the citizens concerned [35].

The research reveals that not all the stakeholders in the municipalities have been able to build a synergy of action around the climate action planning process at local level. According to Michel Crozier and Erhard Friedberg [36], given that the interplay between stakeholders cannot be considered to be determined by the coherence of the system in which they are involved, we must give priority to understanding how collective actions are constructed on the basis of behaviour and, above all, sometimes contradictory individual interests. In other words, norms, values, laws and roles are merely possibilities offered to the individual, who always retains a margin of freedom in the exercise of these tasks. Above all, people are attached to their particular interests. Consequently, as part of a group, he becomes a social stakeholder, assimilating events according to the interests of the group and, if necessary, modifying norms to his own advantage. Michel Crozier and Erhard Friedberg assert that strategy is the basis inferred *ex post* from the regularities of behaviour observed empirically [36]. However, these strategies do not depend on clear and precise objectives ; on the contrary, they are constructed in situation, and are linked to the assets that stakeholders may have at their disposal and to the relationships in which they are involved. What's more, the behaviour of stakeholders adjusts to the possible behaviour of others, depending on the assets at their disposal. So, depending on their interests and the issues at stake, local people and state structures may or may not agree to take part in collective actions, in this case in the SEACAP process in Zio1 and Zou. The low level of participation by local

stakeholders is a major obstacle to the planning and implementation of climate actions in the municipalities.

5. Conclusion and Recommendations

This research provided information on the participation of local stakeholders in the development of Sustainable Energy Access and Climate Action Plan (SEACAP) in Zio1 (Togo) and Zou (Benin). The aim is to show the participation of stakeholders in the municipalities of Zio1 and Zou, including the participation of decentralized government departments in the process of drawing up SEACAP. Participation in the climate action planning process at the local level varies greatly according to the different categories of stakeholders. Investigations, based on quantitative and qualitative methods, show that the SEACAP development process was not participatory at the level of all municipalities stakeholders, namely grassroots populations, economic stakeholders and decentralized government services. Even communities' leaders, namely traditional chiefs, members of neighbourhood development committees and village development committees, and civil society organisations involved in the process were unable to mobilise grassroots populations. The methodological approach used to produce the SEACAP does not allow the process to be taken on board by the stakeholders in the municipalities. The local stakeholders who are members of the steering committee are not familiar with the process and the tools used to draw up the SEACAP. The lack of a national guide to draw up SEACAP means that the various stages of the process are not properly mastered and that the roles and responsibilities of local stakeholders are not fully understood, as is the case with the guides to draw up communal development plans. Ownership of climate action planning will enable the ambitious projects contained in the SEACAP to be implemented effectively.

To conclude this research, we recommend that state institutions in charge of climate change and territorial planning and development in Togo and Benin produce national guides for drawing up SEACAP. On the basis of these guides, SEACAP should be drawn up for all local authorities. In Togo, the regional level should be considered, and in Benin, the departmental level should be considered. Our recommendations also concern the rewriting of national guides for drawing up communal development plans. Given the urgency of the climate crisis, it is important to include in the guidelines for drawing up communal development plans the implementation of a baseline inventory of greenhouse gas emissions, the risk and vulnerability assessment, and the integration of adaptation and mitigation options at local level.

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References

- [1] M. Mormont, "Towards concerted river management in Belgium", *Journal of Environmental Planning and Management*, vol. 39, no. 1, pp. 131–142, 1996.
- [2] V. Masson-Delmotte, P. Zhai, H.-O. Pörtner, D.C. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, C. Yang, X. Zhou, & L. Steg, IPCC: Summary for Policymakers, in: *Global Warming of 1.5 °C. An IPCC Special Report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*, Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 3–24, 2018. <https://doi.org/10.1017/9781009157940.001>
- [3] Covenant of Mayors Website. Available online : <https://www.covenantofmayors.eu/en/> (accessed on 23 January 2024).
- [4] Covenant of Mayors in Sub-Saharan Africa Website. Available online : <https://comssa.org/fr/about> (accessed on 23 January 2024).
- [5] L. Karrasch, M. Maier, M. Kleyer, T. Klenke, "Collaborative Landscape Planning: Co-Design of Ecosystem-Based Land Management Scenarios", *Sustainability*, vol. 9, no. 9, p. 1668, 2017. <https://doi.org/10.3390/su9091668>
- [6] [F.J. Abarca-Alvarez, M.L. Navarro-Ligero, L.M. Valenzuela-Montes, F.S. Campos-Sánchez, "European Strategies for Adaptation to Climate Change with the Mayors Adapt Initiative by Self-Organizing Maps", *Applied. Sciences*, vol. 9, no. 18, p. 3859, 2019. <https://doi.org/10.3390/app9183859>
- [7] C. Flyen, Å. Lappegaard Hauge, A. Almås, Å.L. Lund Godbolt, "Municipal Collaborative Planning Boosting Climate Resilience in the Built Environment", *International Journal of Disaster Resilience in the Built Environment*, vol. 9, no. 1, 58–69, ISSN 1759-5908, 2018. <https://doi.org/10.1108/IJDRBE-10-2016-0042>
- [8] A. Jekabsone, J. Marín, S. Martins, M. Rosa, A. Kamenders, "Upgrade from SEAP to SECAP: Experience of 6 European Municipalities", *Environmental and Climate Technologies*, vol. 25, no. 1, pp. 254–264, 2021. <https://doi.org/10.2478/rtuct-2021-0018>
- [9] H. Reid, M. Alam, R. Berger, T. Canon, T. Cannon, A. Milligan, "Community-based Adaptation to Climate Change : An Overview". In *Community-based Adaptation to Climate Change ; Participatory Learning and Action (PLA) Series*, 60, 2009. Available at <https://www.iied.org/g02608>
- [10] P. Bertoldi, "Guidebook How to Develop a Sustainable Energy and Climate Action Plan (SECAP)–Part 1-The SECAP Process, Step-by-Step Towards Low Carbon and Climate Resilient Cities by 2030" ; EUR 29412 EN ; Publications Office of the European Union : Luxembourg ; ISBN 978-92-79-96847-1, 2018.
- [11] L. Pellizzoni, "Uncertainty and participatory democracy", *Environmental Values*, vol. 12, no. 2, pp.195–224, 2003. <https://www.environmentandsociety.org/node/5883>
- [12] H. Busch, L. Bendlin, P. Fenton, "Shaping Local Response – The Influence of Transnational Municipal Climate Networks on Urban Climate Governance", *Urban Climate*, vol. 24, pp. 221–230, 2018. <https://doi.org/10.1016/j.uclim.2018.03.004>
- [13] Z. Tang, S.D. Brody, C. Quinn, L. Chang, T. Wei, "Moving from Agenda to Action : Evaluating Local Climate Change Action Plans", *Journal of Environmental Planning and Management*, vol. 53, no. 1, 2010. <https://doi.org/10.1080/09640560903399772>
- [14] M.M. Betsill, H. Bulkeley, "Cities and the Multilevel Governance of Global Climate Change", *Global Governance*, vol. 12, no. 2, pp. 141–159, 2006. <http://www.jstor.org/stable/27800607>
- [15] G. Stoeglehner, "Integrated spatial and energy planning : a means to reach sustainable development goals", *Evolust Inst Econ Rev.*, vol. 17, pp. 473–486, 2020. <https://doi.org/10.1007/s40844-020-00160-7>
- [16] V. Palermo, A. Kona, I. Pinedo Pascua, S. Rivas Calvete, Y. Hernandez Gonzalez, P. Marinho Ferreira Barbosa, P. Bertoldi, N. Vettors, J.F. Dallemand, N. Scarlat, and N. Taylor, "Summary of the Guidebook: How to develop a Sustainable Energy Access and Climate Action Plan (SEACAP) in Sub Saharan Africa", EUR 29761 EN, Publications Office of the European Union, Luxembourg, ISBN 978-92-76-09554-5, JRC113788, 2019. <https://doi.org/10.2760/519463>
- [17] S. Clayton, P. Devine-Wright, P.C. Stern, L. Whitmarsh, A. Carrico, L. Steg, J. Swim, M. Bonnes, "Psychological research and global climate change", *Nature Climate Change*, vol. 5, pp. 640–646, 2015. <https://doi.org/10.1038/nclimate2622>
- [18] S. Batel, P. Castro, P. Devine-Wright, C. Howarth, "Developing a critical agenda to understand pro-environmental actions: Contributions from social representations and social practices theories", *Wiley Interdisciplinary Reviews: Climate Change*, vol. 7, no. 5, pp. 727–745, 2016. <https://doi.org/10.1002/wcc.417>
- [19] D. Mfitumukiza, G.Y. Mwesigwa, E.J. Kayendeke, V.B. Muwanika, "Local Context Capacity Building Needs for Climate Change Adaptation among Smallholder Farmers in Uganda: Policy and Practice Implications", *Climate*, vol. 12, no. 1, p.10, 2024. <https://doi.org/10.3390/cli12010010>
- [20] E.-L. Sundblad, A. Biel, T. Gärling, "Knowledge and confidence in knowledge about climate change among experts, journalists, politicians, and laypersons", *Environment and Behavior*, vol. 41, no. 2, pp. 281–302, 2009. <https://doi.org/10.1177/0013916508314998>
- [21] J. Shi, V.H.M. Visschers, M. Siegrist, J. Arvai, "Knowledge as a driver of public perceptions about climate change reassessed", *Nature Climate Change*, vol. 6, no. 8, pp. 759–762, 2016. <https://doi.org/10.1038/nclimate2997>

- [22] T.M. Lee, E.M. Markowitz, P.D. Howe, C.-Y.Y. Ko, A.A. "Leiserowitz, Predictors of public climate change awareness and risk perception around the world", *Nature Climate Change*, vol. 5, pp. 1014 - 1020, 2015. <https://doi.org/10.1038/nclimate2728>
- [23] L. Blondiaux, J.M. Fourniau, "Un bilan des recherches sur la participation du public en démocratie : beaucoup de bruit pour rien ? ", *Participation*, vol. 1, no. 1, pp. 8-35, 2011.
- [24] J. Cohen, A. Fung, "Radical democracy", *Swiss journal of political science*, vol. 10, no 4, pp. 23-34, 2004.
- [25] Y. Sintomer, J. Talpin, "La démocratie délibérative face au défi du pouvoir", *Raisons politiques*, vol. 2 no. 42, pp.1-10, 2011.
- [26] P. Rosanvallon, "Écrire une histoire générale de la démocratie", *Participations*, vol. 1, no. 1, pp.335-347, 2011.
- [27] P. Dahlgren, "À la recherche d'un public parlant. Les médias et la démocratie délibérative", *Les sens de public : Publics politiques, publics médiatiques*, Presse universitaire de France, pp. 290-310, 2003.
- [28] C. Javeau, C. Vigneron, "Les secrets des sondages enfin révélés", *Paris : Labor*, 1989.
- [29] H. Mendras, "Eléments de sociologie", *Paris : Dalloz, 7^e édition*, 1967.
- [30] Municipality of Zio1, "Sustainable Energy Access and Climate Action Plan (SEACAP) ", p. 27, 2019.
- [31] Zou municipalities community, "Sustainable Energy Access and Climate Action Plan (SEACAP) ", p. 18, 2019.
- [32] L. De Stefano, "Facing the water framework directive challenges : A baseline of stakeholder participation in the European Union", *Journal Environmental Management*, vol. 91, no. 6, pp.1332-1340, 2010. <https://doi.org/10.1016/j.jenvman.2010.02.014>
- [33] M.S. Reed, "Stakeholder participation for environmental management : A literature review", *Biological Conservation*, vol. 141, no. 10, pp. 2417-2431, 2008. <https://doi.org/10.1016/j.biocon.2008.07.014>
- [34] T.I. Gunton, J.C. Day, "The Theory and Practice of Collaborative Planning in Resource and Environmental Management", *Environments*, vol. 31, no. 2, pp. 5-20, 2003.
- [35] Ministry of Territorial Development, Togo, "Guide to setting up a communal development plan", p. 27, 2021.
- [36] Ministry of decentralization, local governance, administration and territory planning, Benin, "Guide to setting up a communal development plan", p. 25, 2008.
- [37] L. Blondiaux, "Le nouvel esprit de la démocratie. Actualité de la démocratie participative", *Seuil, séries : La république des idées*, p. 109, 2008.
- [38] M. Crozier, E. Friedberg, "L'acteur et le système". *Paris : Éditions du Seuil*, p. 445, 1977.