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The technical capacity of local governments in Zio1 (Togo) and Zou (Benin) to propose solutions to climate risks

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Abstract: Solutions to climate risks in municipalities require the development and implementation of specific policies and measures aimed at providing solutions to climate risks, promoting better management of environmental and energy resources, and strengthening the resilience of poor and marginalized populations to climate change. However, municipalities in West Africa, and in particular the municipality of Zio1 (Togo) and those of Zou (Benin), have little technical capacity to conduct climate policies autonomously at local level. This article aims to examine the technical capacity of the municipalities of Zio1 and Zou to propose solutions to climate risks. The work is based on the hypothesis that the technical capacity of municipalities limits their search for solutions to the risks caused by climate change. To verify this, a survey was carried out from September to November 2023 with 449 people aged 18 and over, altogether in Zio1 and Zou municipalities. The results show that municipalities have little technical capacity to take action on climate change at local level. This weakness is manifested by the lack of qualified human resources related to climate risks.

Keywords: *Capacity building, Local policy, Municipalities, SEACAP, Solutions to climate risks, Sustainable city networks, Technical capacity, Zio1, Zou.*

1. Introduction

Climate change poses a serious threat to poor and vulnerable populations. West Africa is a region that is highly vulnerable to climate change, due in part to its low adaptive capacity [1]. This is evidenced by the fact that vulnerable groups often lose their lives due to the high frequency of extreme weather events caused by climate change [2]. This situation affects many other sectors. Considering that the vast majority of greenhouse gases released into the atmosphere come from municipalities, and that human settlements are already suffering from the effects of this global phenomenon, it is clear that the solution must also come from municipalities, as local governments are closer to the people [3]. However, it's not enough to know about the phenomenon; it's important to act on the basis of skills that reflect action plans for sustainability [4]. Municipalities in West African countries do not have all the technical, institutional, financial and human skills required to meet the environmental and societal challenges of climate change. However, it is clear that municipalities have a key role to play in proposing new solutions in line with the political, environmental, economic and social dimensions of climate action at local level. This is because climate change has a negative impact on municipalities in general, and on poor and marginalized populations in particular, in a context of climatic vulnerability and extreme weather events with unprecedented environmental, societal and economic disruptions [5]. Vulnerable populations are thus unable to avoid the losses and damage caused by the effects of climate change [6]. This has implications for the sustainability of municipalities. Sustainability is defined as meeting the needs of the present generation without compromising the ability of future generations to meet their own needs [7].

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The development of climate policies, especially at local level, requires the availability of climate data. However, it is often difficult to obtain documented data on the implementation of climate change policies. A case in point is the implementation of national climate change adaptation plans [8]. As a result, current solutions are not sufficient to achieve the objectives of the Paris Agreement. At present, the global temperature rise already exceeds 1.1°C compared with the pre-industrial period. Current solutions put us on course for a temperature of 2.4 - 2.6°C by the end of the century [9]. Since the Paris Agreement signed in 2015 at the Conference of the Parties (COP21), greenhouse gas emissions have continued to rise annually except exceptionally for the sharp reduction in emissions in 2020 due to the COVID-19 pandemic crisis [10]. In the first three IPCC reports, reducing global warming was not a priority issue [11]. In the sixth report of IPCC Working Group II, it is noted that man-made climate change is causing major disruptions to nature and is disrupting the lives of billions of people worldwide, despite the efforts made [12]. One example is the vulnerability of the agricultural sector in developing countries [13]. Many municipalities do not have the technical expertise needed to better understand these climate issues and propose solutions to the remaining challenges associated with climate change.

Faced with climate and environmental risks, the success of climate change adaptation solutions depends on the ability of stakeholders to reinvent adaptation techniques for their socio-ecological systems [14]. However, local actors in general, and municipalities in particular, have limited technical capacity to fully understand the various issues and challenges associated with climate change and to propose solutions adapted to the climatic and environmental risks in their community. A number of research studies show that one of the limits to take climate data into account is the lack of involvement of local, regional and national leaders in the governance of climate action [15, 16]. Consequently, the issue of capacity building must be a major concern for municipalities in West African countries in general, and in Zio1 (Togo) and Zou (Benin) in particular.

Nationally Determined Contributions (NDC) enable developing countries to highlight their capacity-building needs in order to effectively combat the impacts of climate change [17]. At local level, the technical capacity of municipal actors in relation to climate change is very weak. Mayors, municipal councillors and municipal administration executives are not well equipped to deal with the issues and challenges of climate action in West Africa, especially in Togo and Benin. Worse still, they are unable to clearly express their capacity-building needs on climate change issues. Local actors, and even those at national level, are unable to align their capacity-building needs with the financial mechanisms stemming from the Paris Agreement [18]. Municipalities must have the technical capacity to propose appropriate measures to improve the climate resilience of poor and vulnerable populations. At local level, actors have very limited knowledge of how to formulate local climate change policies that integrate environmental, economic and social dimensions in a coherent way. Capacity-building for both local and national actors must take into account several aspects, including individual, organizational and institutional aspects [19]. It is important to stress that the issue of capacity building must go beyond the individual aspect to bring about changes at organizational and institutional levels. The organizational capacity of structures is based on individual technical capabilities [20]. Institutional capacity, on the other hand, is defined as the ability of urban governance to improve the living environment of citizens [21]. Consequently, the technical capacity of mayors and municipal managers is a determining factor in proposing solutions to climate risks at local level. In short, capacity building must bring about a significant improvement from the local to the global level [22, 23]. Some limits to capacity-building actions on climate change issues are difficulties in accessing information and financial resources [24]. Local governments invest very little in the search for information and financial resources on climate change issues, as they have limited technical competence on these subjects. Consequently, the climate risk adaptation solutions proposed depend on the ability of social groups to unite efforts to adapt their socio-ecological systems [25]. The ability of local governments to propose solutions to climate risks in their community depends basically on their institutional capacity [26, 27].

In the municipalities of Zio1 (Togo) and Zou (Benin), local actors are faced with the challenge of capacity building. These local actors are not well-equipped to independently take ambitious measures to combat climate change. As a result, they are limited when it comes to proposing solutions to climate risks on their territory. Although the municipalities of Zio1 and Zou have Sustainable Energy Access

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and Climate Action Plan (SEACAP), local actors in general, and municipal executives and managers in particular, are unable to implement the projects in these plans [28, 29]. Very few people in these municipalities can easily implement the climate actions contained in the SEACAP. The plans themselves were set up by experts from outside the municipalities. The project ideas outlined in these plans have not been translated into concrete action in the various municipalities. This situation is due to the low technical capacity of municipalities to mobilize climate financing.

The aim of this research is to assess the technical capacity of Zio1 and Zou municipal administrations in their search for solutions to the risks posed by climate change. To clearly define the scope of this research, a central question is formulated: why does the municipalities' lack of technical capacity limit their search for solutions to the risks posed by climate change? The following heuristic proposition is put forward: the stumbling blocks in implementing solutions to climate risks can be explained by the weak institutional capacity of municipalities.

Theoretically, the institutional capacity analyzed by Healey et al [30] takes into account three components: knowledge resources, relational resources and mobilization capacity. This concept is based on the collaborative planning paradigm, which, according to Polk, M. [31] and Palm, J. and Lazoroska, D. [32], emphasizes collaboration with all stakeholders and consensus-building. This makes it possible to involve not only internal stakeholders, in this case all the actors in the municipal administration including non-governmental organizations, associations, community leaders and traditional chiefs, but also external stakeholders with an interest in the process such as decentralized state services at local and national level, including other technical experts on climate change issues. Another important aspect of institutional capacity building is membership of climate governance networks. In the literature on climate governance, it is noted that several municipalities continue to join city networks in support of local climate action [33]. Membership of city networks enables municipalities to benefit from information dissemination channels, best practices, project call opportunities and capacity-building activities related to climate change [34]. A case in point is the Covenant of Mayors for Sub-Saharan Africa (CoM SSA), of which several municipalities in Togo and Benin are members. The municipalities of Zio1 and Zou were the first in Togo and Benin to join the Covenant. Referring to the research of Healey et al [26, 30, 35], institutional capacity comprises the three dimensions mentioned above. Lacking sufficient knowledge resources, the municipalities of Zio1(Togo) and Zou (Benin) were unable to develop their relational resources and mobilization capacity. As a result, their institutional capacity to implement solutions to climate risks remains weak.

2. Materials and Methods

2.1. Study Area

With a surface area of 56,600 km2, Togo is located in West Africa. It is a state on the Gulf of Guinea. It lies between Ghana to the west, Benin to the east, Burkina Faso to the west and the Atlantic Ocean to the south. Togo has been subdivided into five administrative regions since September 1965. The five administrative regions are the Maritime region, the Plateaux region, the Central region, the Savanna region and the Kara region. Each region is subdivided into prefectures. The country currently has 39 prefectures. Each prefecture is made up of municipalities. After the June 2019 municipal elections, Togo will have a total of 117 municipalities. The municipality of Zio1 (figure 1) is one of the four municipalities of the Zio prefecture. It is located in the southern part of Togo. The municipality of Zio1 borders Greater Lomé, less than 20 kilometers from the Atlantic Ocean. The municipality of Zio1 is headed by the town of Tsévié, which is also the dual capital of the Zio prefecture and the Maritime region. Tsévié is located 35 km from Lomé, the capital of Togo. The municipality of Zio1 comprises 8 cantons: Tsévié, Abobo, Dalavé, Davié, Djagblé, Gbatopé, Gblainvié and Kpomé. The municipality of Zio1 lies between 1°10' and 1°22' east longitude and between 6°11' and 6°37' north latitude. It covers an area of 889 km². The municipality of Zio1 is in the northern extension of Lomé. Oriented south-north, the municipality's southern flank is a logical gateway to the capital city, less than twenty kilometers from Lomé. Figure 1 below shows the municipality of Zio 1, one of the research sites.

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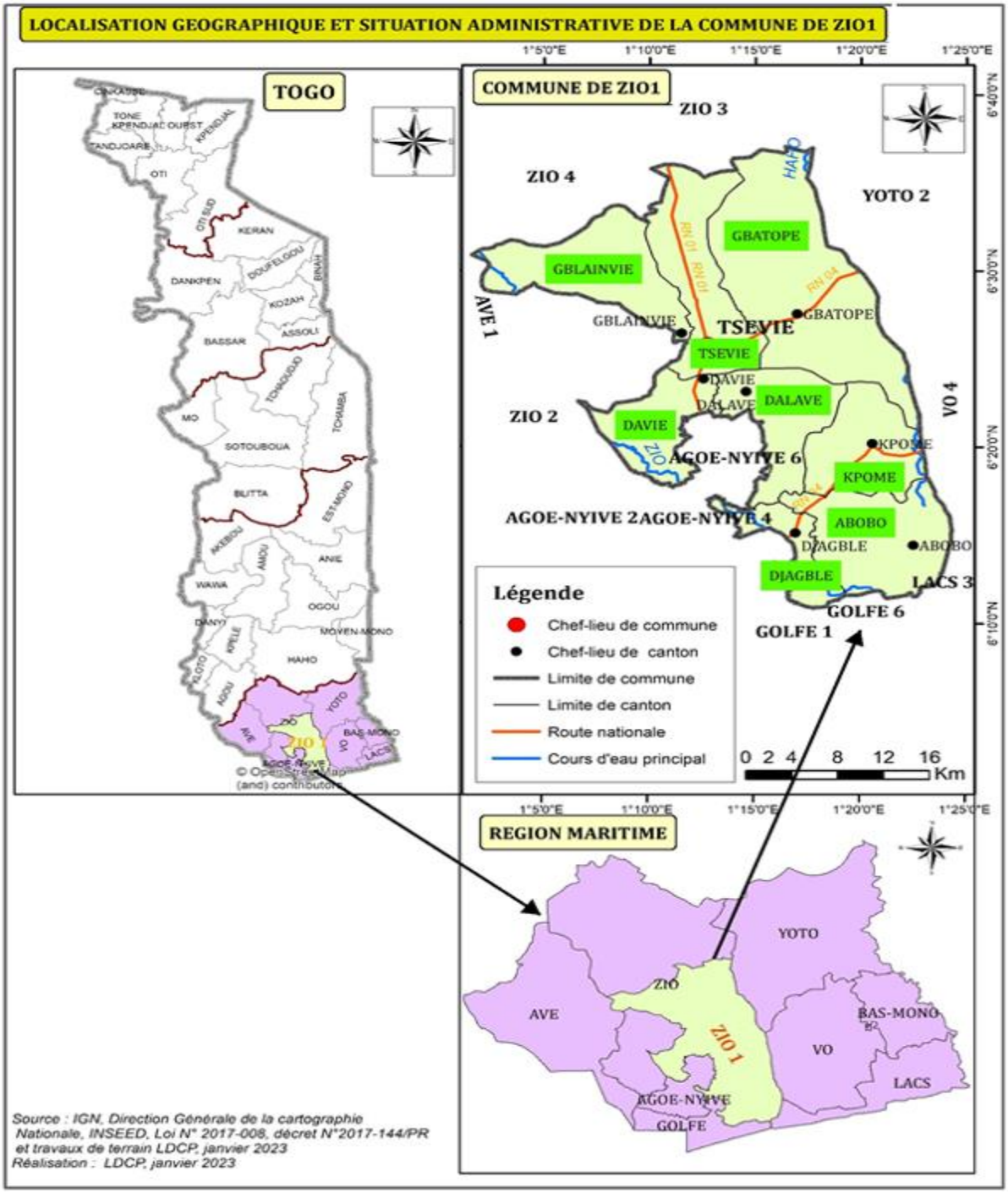

Figure 1.
Location of the municipality of Zio1.

The municipality of Zio1 borders several municipalities in the Maritime region. It is bordered to the south by the municipalities of Golfe 1 and Golfe 6; to the southeast by the municipality of Lacs 3; to the southwest by the municipalities of Agoé-Nyivé 4 and Agoé-Nyivé 6 ; to the north by the municipalities of Zio 3 and Zio 4 ; to the east by the municipalities of Yoto 2 and Vo 4 ; and to the west by the

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municipalities of Avé 1 and Zio 2. According to the latest general population and housing census carried out in November 2022, the population of the municipality of Zio 1 is 307 292 inhabitants (fifth general population and housing census, RGPH-5, 2022).

The second site considered in this research is the Zou department in Benin (Figure 2). Benin is located in West Africa between latitudes 6°30' and 12°30' North and longitudes 1° and 3°40' East. Togo and Benin border each other. According to the results of the general population and housing census carried out in Benin in May 2013 (RGPH-4, 2013), Benin has a population of 10 008 749 inhabitants and a surface area of 114,763 km². Since January 1999, Benin has had a total of twelve (12) departments, namely Atacora, Donga, Bogou, Alibori, Atlantique, Littoral, Mono, Couffo, Ouémé, Plateau, Collines and Zou. The departments are subdivided into 77 municipalities. The Zou department is the focus of our study in Benin. With a surface area of 5243 km² and a population of 851 623 inhabitants (RGPH4, 2013), the Zou department is located in central Benin. The department comprises nine municipalities. These are the following municipalities: Abomey, Agbangnizoun, Bohicon, Covè, Djidja, Ouinhi, Za-kpota, Zagnanado and Zogbodomey.

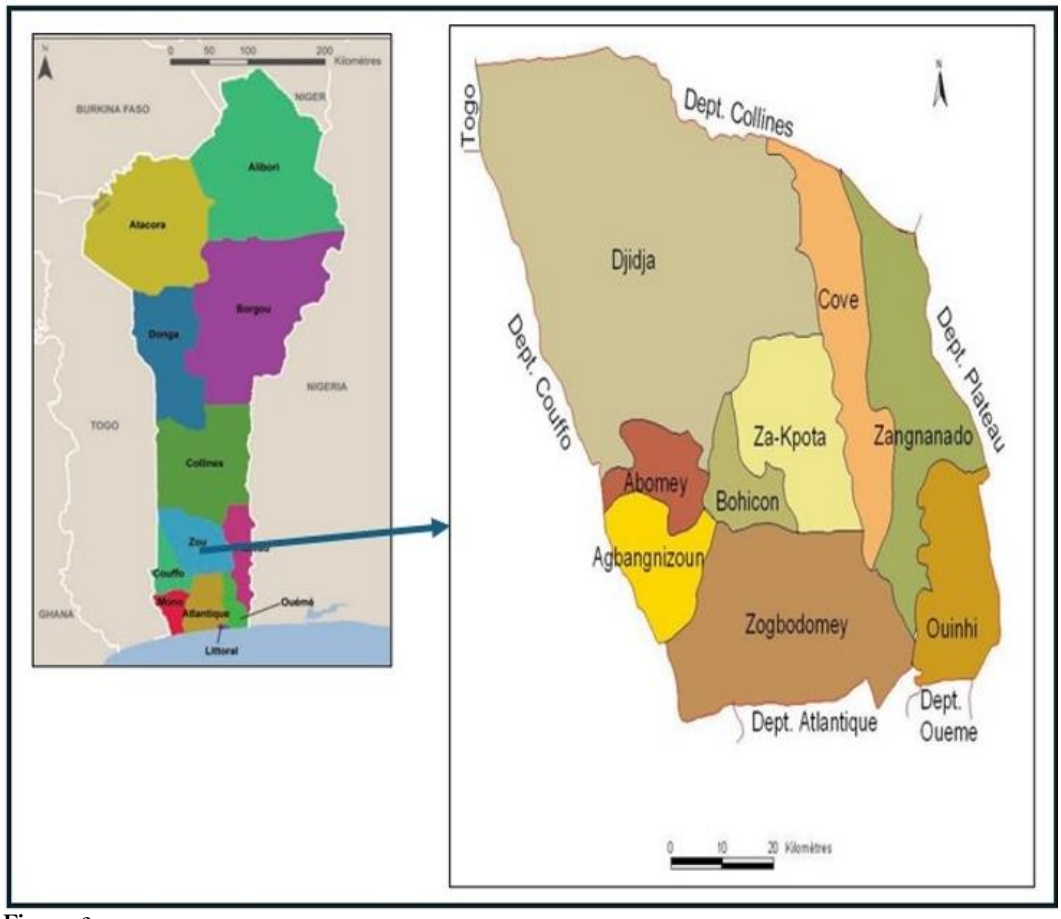

Figure 2.
Location of Zou department.

2.2. Data Collection and Processing

The methodological approach adopted for this study combines structured questionnaires, semi-structured interview guides, an observation grid and documentary research. To measure the indicators and identify the technical capacity of municipal administrations to propose and implement solutions to climate risks at local level, a quantitative survey was carried out in the two study areas from September

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to November 2023, using a structured questionnaire. Information was gathered from traditional chiefs, heads of village development committees, heads of neighborhood development committees, heads of civil society organizations, technical executives from decentralized state services and also from municipal administrations.

2.2.1. Sampling and Questionnaire Administration

Togo carried out its fifth general population and housing census (RGPG-5) in November 2022. According to the results of this census, the population of the municipality of Zio1 is 307,292 inhabitants. Benin carried out its fourth general population and housing census (RGPG-4) in May 2013. According to the census results, the municipalities of Abomey, Bohicon, Djidja and Za-Kpota have a population of 92 266 inhabitants, 171 781 inhabitants, 123 542 inhabitants and 132 818 inhabitants respectively. The municipalities of Bohicon, Djidja and Za-Kpota have the highest populations in Zou. The municipality of Abomey is the capital of the Zou department. Taking into account the number of inhabitants in each of the above-mentioned municipalities, a sub-sample of interviewees was determined.

For this research, we used purposive sampling. The proportion of people to be surveyed in each municipality was screened using quota sampling. For Camille Javeau and Cathérine Vigneron [36], this complexity of survey rate construction operations explains why it's not surprising to see rates of 0.1%, 1.21 ‰, or 10% considered significant when contexts allow. For Henri Mendras [37], quota sampling aims to build up a reduced model of the population to be studied. Bearing in mind the objectives of the study, which require the use of the same measuring instrument in each of the municipalities, we applied a sampling rate of 1/3,000th as for all municipalities. To determine the sub-sample of people surveyed in each municipality, we use 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, including community leaders, leaders of civil society organizations and other citizens. Community leaders included traditional chiefs and representatives of development organizations. The diversity of respondents in the sample made it possible to measure the indicators and identify the technical capacity of the municipal administration to propose and implement solutions to climate risks at local level. The table below shows the number of people surveyed in each municipality.

Table 1.
Sample size for the quantitative survey.

Municipalities	Zio1	Abomey	Bohicon	Djidja	Za-Kpota	Total
Population of municipalities	307 292	92 266	171 781	123 542	132 818	827 699
Sample size	103	31	58	42	45	279
Total	103	31	58	42	45	279

Source: Field survey, November 2023.

2.2.2. Focus Groups with Local Stakeholders

Two (2) focus groups were held in each municipality. The first focus group involved traditional chiefs, civil society organizations, grassroots community organizations and private operators. The second focus group was made up of other categories of municipality citizens. Ten (10) people took part in each focus group session. As a result, the two (2) focus group sessions reached 20 people per municipality. A total of 100 people were reached in the 5 municipalities selected for the study (Zio1 for Togo and Abomey, Bohicon, Djidja, Za-Kpota for Benin).

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2.2.3. Individual Interviews with Target Stakeholders

The interview guides were administered to the municipal administrations, including the members of the steering committee responsible for elaborating the Zio1 and Zou SEACAP and to the technical executives of the deconcentrated state services. The formal individual interviews involved 14 people in each municipality, including 10 people from the municipal administration and 4 people from local government departments.

2.2.4. Field Observation

Simple observations were made during information and awareness-raising campaigns on the theme of climate change and other activities in the field, with the aim of ascertaining people's participation in climate action planning.

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

Table 2.
Sample size by survey type.

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

Source: Field survey, November 2023

In total, the field survey reached 137 people in the municipality of Zio1, 65 people in the municipality of Abomey, 92 people in the municipality of Bohicon, 76 people in the municipality of Djidja, 79 people in the municipality of Za-Kpota, making a total of 449 people.

2.2.5. Data Processing and Analysis

To measure the indicators and identify the technical capacity of the municipal administration to propose and implement solutions to climate risks at local level, the data collected via KoboCollect were cleaned and processed with R software version 4.4.0. Analysis consisted in cross-tabulating the variables of interest and performing statistical tests. Potential relationships between variables were examined using the chi-square (chi2) test, supplemented in some cases by analyses of associated residuals. Results were visualized using various packages to represent relationships between variables and modalities.

3. Results

3.1. Population Satisfaction with Climate Risk Solutions

Figure 3 below shows people's satisfaction with the solutions provided to climate risks by the municipalities of Zio1 and Zou. The graph shows that respondents' satisfaction does not depend on country or socio-professional category. This means that respondents' assessment of whether or not they are satisfied with the solutions provided by municipalities to climate risks is the same, regardless of the respondents' country or socio-professional category. Figure 3 clearly shows that very few local actors are satisfied with climate risk solutions, whatever their country of residence. When questioning local stakeholders, only 14% of respondents said they were satisfied with actions taken in Zio1, versus 22% in Zou. The Chi2 test of independence shows that respondents' answers are neither linked to country of residence (p-value = 0.23) nor to respondents' professional category (p-value = 0.5167). The results reveal that in the municipality of Zio1, 86% of respondents were dissatisfied with the solutions provided by local government. We observe the same trend in the Zou municipalities, with a high rate of dissatisfaction of 78%. These high rates of dissatisfaction show that the population is not satisfied with the solutions proposed by the municipalities of Zio1 and Zou. People feel that municipal executives and technical managers have not sufficiently integrated their priority needs into the proposed actions. This is justified by the fact that the population as a whole was not consulted in the development of local

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policies relating to climate change. Community leaders such as traditional chiefs, heads of non-governmental organizations and associations, and heads of community development organizations were much more involved. Consultation of local stakeholders remained at the level of a small group of municipal actors. Municipalities have not been able to adapt the tools used to draw up local climate change adaptation policies to encourage the involvement of the entire population.

The results in figure 3 below show that 23% and 25% of people from the Zou and Zio1 local government (LG) respectively are not satisfied with the proposed solutions to climate risks. These results are very revealing and explain why the SEACAP projects are not being implemented. There are at least two reasons for this. Firstly, in Zio1 and Zou, municipal councils are due to be renewed in October 2019 (Zio1, Togo) and May 2020 (Zou, Benin). Changes in municipal councils in West African countries often slow down the implementation of climate planning documents and climate change adaptation actions. In Zio1 and Zou, the current municipal councils have very little knowledge of the SEACAP and, above all, of the proposed solutions to climate risks. On the other hand, the low technical capacity of municipal administrations and the strategy for formulating solutions to climate risks do not enable climate actions to be appropriated and sustained at local level. The results also reveal that community leaders (24%), civil society organizations (21%) and decentralized state services (10%) are not satisfied with the solutions proposed to climate risks in Zou. In Zio1, the percentage of people dissatisfied with the proposed solutions to climate risks is also high: 28% for community leaders (CL), 24% for civil society organizations (CSO) and 9% for decentralized government services (DGS). The proportion of people satisfied with the proposed solutions to climate risks remains very low. In Zou, only 10% of people from communal administrations are satisfied, compared with 6% in Zio1. For community leaders and civil society organizations, the satisfaction rates are 3% and 4% respectively in Zou, versus 2% for community leaders and 2% for civil society organizations in Zio1. Low satisfaction rates were also recorded for decentralized government services, 5% in Zou and 4% in Zio1.

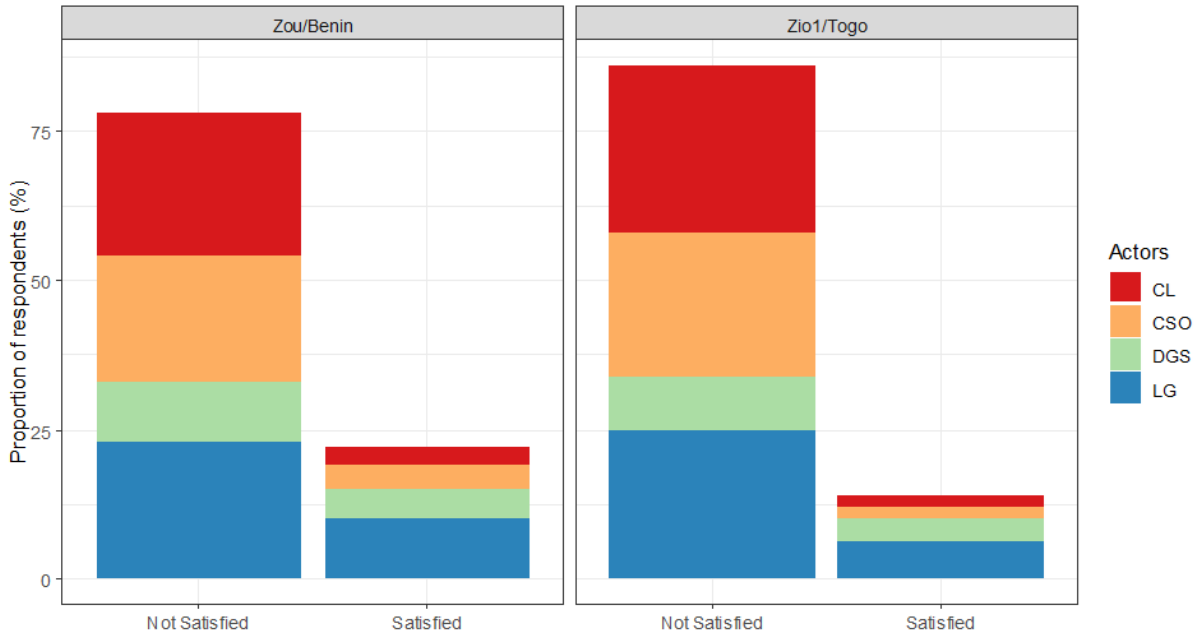

Figure 3.
Public satisfaction with solutions to climate risks.

3.2. Municipalities' Technical Capacity to Implement Climate Risk Solutions

The high rate of dissatisfaction with municipal solutions to climate risks is also linked to people's perception of their technical capacity. Indeed, many people feel that municipalities have little technical

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capacity to formulate and implement climate change adaptation plans at local level. Data analysis actually shows that municipalities have a relatively low capacity to formulate technical solutions to climate risks. This low technical capacity of municipalities is also observed in the implementation of climate change adaptation projects. Indeed, 89% of those surveyed acknowledged the low technical capacity of Zou municipalities to propose and implement solutions to climate risks in their area. This rate is 80.2% in the municipality of Zio1. The chi2 test indicates that local stakeholders' perception of the technical capacity of municipalities to propose and implement solutions to climate risks is not linked to their socio-professional category, nor to their country of residence. The chi2 test gives a p-value of 0.3326. This explains why the finding that municipalities' technical capacities are weak is in no way linked to the respondents' country of residence. The difficulty of carrying out climate actions in municipalities is general in Togo and Benin. Municipalities' technical capacities are limited when it comes to formulating and implementing solutions to climate risks in their communities. This observation of the low technical capacity of municipalities in relation to climate action at local level is also shared by several socio-professional categories. These included municipal administrations, community leaders, civil society organizations and decentralized government departments. The results in figure 4 reveal that 17.6% of municipal government employees, 32.4% of community leaders, 23.5% of civil society organizations and 26.5% of decentralized government services believe that municipalities are not capable of independently leading climate actions at local level, without resorting to external experts.

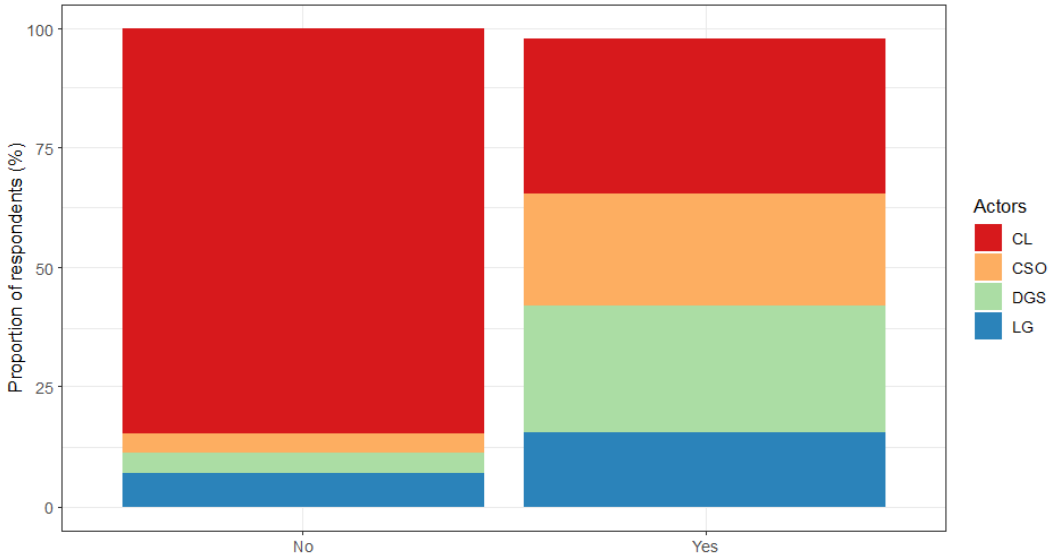

Figure 4.
Assessing the technical capacity of municipalities.

3.3. Contribution of Sustainable City Networks and the Climate

The Sustainable Cities and Climate Networks help build the capacity of municipalities on environmental and climate issues. They organize face-to-face and distance training sessions to support municipalities in general, and those in West Africa in particular. The first sustainable city networks on environmental issues date back to 1990. For example, the International Council for Local Environmental Initiatives (ICLEI) was created en 1990 at the World Congress of Local Governments for a Sustainable Future. This international network is made up of municipalities and provides input on sustainable development and capacity-building on climate change. En 1990, the Alliance Climat network was set up. This network federates European municipalities and communities around climate change and environmental issues. Cities in the network set themselves targets for reducing greenhouse gas emissions as far back as 1990. The network has also documented best practices on climate change and

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environmental issues. The Climate Chance association is a very active network in West Africa. It supports municipalities in the fight against climate change. It contributes to the creation of a favorable environment for local government capacity building. The Covenant of Mayors for Sub-Saharan Africa (CoM SSA) is a major network for climate action in West Africa in general, and in Togo and Benin in particular. This agreement helps local governments to move from planning to implementation, by helping them to access climate financing at the local level. In 2017, the municipalities of Zio1 and Zou benefited from climate funding from the European Union through the said convention. This enabled them to set up their SEACAP. The municipalities of Zio1 and Zou also benefited from some capacity-building actions thanks to CoM SSA. Several other networks provide a framework for capacity-building for municipalities in local climate action. These include Cities and Local Governments of Africa (CGLU Afrique) and the International Association of Francophone Mayors (AIMF). All these networks support municipalities in planning and implementing climate actions. However, the municipalities of Zio1 and Zou were unable to take advantage of these networks to build their capacity to plan and implement climate and environmental actions at local level. Analysis shows that municipalities do not have a high enough technical level to understand the tools used during capacity-building workshops. Municipalities in developing countries, and especially those in Zio1 and Zou, have technical constraints in mastering the tools and training modules modelled on European models. The capacity-building actions organized by these sustainable cities and climate networks do not enable municipalities to autonomously lead climate actions at local level. This is illustrated by the case of the municipalities of Zio1 and Zou, which, despite taking part in some of the activities of some of these networks, are unable to independently plan and implement climate actions in their communities. The capacity-building strategies and tools proposed to the municipalities are therefore not adapted to their technical capabilities.

When asked about the contribution of sustainable cities and climate networks to municipal capacity building, 46.2% of respondents felt that the actions undertaken by the International Association of Francophone Mayors (AIMF) had a positive impact on capacity building in Zio1 and Zou municipalities. This is due to the fact that Zio1 and Zou municipalities have been AIMF members for over 15 years now. With regard to CoM SSA, 29.4% of respondents felt that this network had helped build the capacity of Zio1 and Zou municipalities, especially in setting up SEACAP. The municipalities of Zio1 and Zou have been members of CoM SSA since 2016. The proportion of respondents who recognize the contribution of UCLG Africa and ICLEI is much lower. Indeed, 15.2% of respondents state that UCLG Africa has contributed to capacity building in the municipalities of Zio1 and Zou, compared with 9.2% of respondents for the ICLEI network. The low contribution of the UCLG Africa and ICLEI networks to capacity building in the municipalities of Zio1 and Zou can be explained by the fact that these municipalities are not members of these networks, and consequently have little collaboration with them. Of the four networks present in Zio1 and Zou municipalities, AIMF and CoM SSA are identified as the main networks. The differences observed in the proportions of respondents are statistically significant, with a p-value of less than 0.001.

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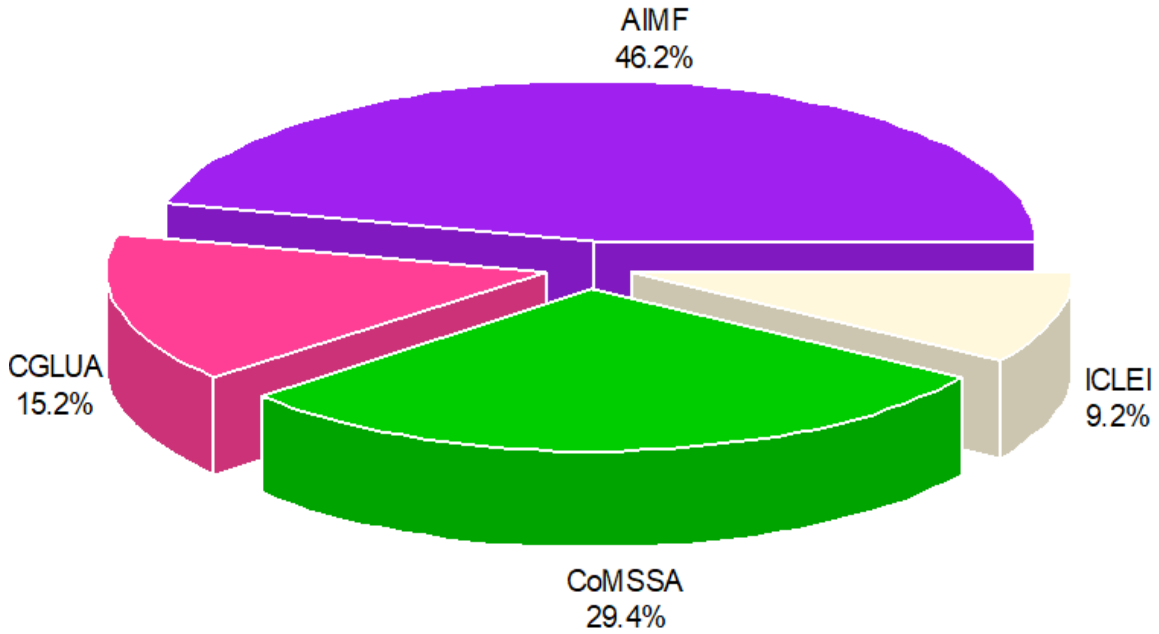

Figure 5.
Contribution of sustainable cities and climate networks to municipal capacity building.

4. Discussion

4.1. The Need to Strengthen the Capacities of Local Stakeholders

Capacity building on climate change-related actions is a major need for municipalities in West Africa in general, and in Togo and Benin in particular. Thus, it is important for municipalities to identify their priority needs in terms of climate action in order to propose appropriate strategies that also take into account the particularities of the area [38]. The results of this research have shown that the general population is not satisfied with the solutions proposed to climate risks by the municipalities of Zio1 and Zou. The setting up of climate policies and action plans did not integrate capacity-building actions for local actors, namely municipal administration stakeholders, community leaders, civil society organizations and economic stakeholders. Plans and policies set up at local level have not taken into account the capacity-building needs of local stakeholders with regard to environmental and climate issues and challenges [28, 29]. As a result, local communities and other local stakeholders, including decentralized government departments, are not really involved in setting up and implementing climate actions. Failure to take into account the capacity-building needs of local stakeholders means that the real needs of communities to cope with climate risks in municipalities cannot be met [39, 40]. Other research, including this one, points to criticisms of policy setting up methodology in developing countries [41, 42]. Policy setting up in developing countries, especially at the local level, is done in a way that does not take into account the priority needs for capacity building of stakeholders, especially on environmental and climate issues. The approaches used to formulate policy do not clearly identify capacity-building needs in relation to climate and environmental issues and challenges. The setting-up process is often led by experts from outside the municipality, who have no real grasp of the capacity-building needs of municipal stakeholders. The approach to setting up local policies therefore very often favors an elitist approach that does not allow the sharing of information and results in the marginalization of municipal stakeholders [43]. This approach further limits the technical capacity of local stakeholders to implement locally-set-up policies [44]. Given the limited technical capacity of local stakeholders to provide solutions to climatic and environmental risks, especially vulnerable populations continue to suffer the negative consequences of climate change. This analysis is echoed by other studies [45, 46], which emphasize that climate change adaptation options require the ability of municipalities to

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continue and expand the capacity-building process. As for M. Long [47], he questions the technical capacity of municipalities to define a real energy policy at local level. It is therefore important for municipalities to engage in a continuous process of capacity building, with a view to change policy approaches to climate change issues and challenges [48, 49].

4.2. Capacity-Building Through Membership of City Networks

Given their limited technical capacity to propose and implement local solutions to climate risks, the Sustainable Cities and Climate Network represents an opportunity for municipalities. Sustainable cities and climate networks are training and experience-sharing frameworks for municipalities. Through these networks, municipalities can bridge their gaps and weaknesses in climate policy setting up by prioritizing capacity-building actions. Vaché [50] emphasizes the importance of city networks for exchanging experiences and sharing best practices. This provides a framework for capacity-building for municipalities on a number of themes in general, and on environmental and climate issues in particular. For Vaché, the role of city networks has become paramount [50]. In the same vein, E. Josserand and F. Grima assert that city networks are part of a cooperative and structural logic that provides opportunities for both collective and individual capacity-building [51]. Sustainable city networks are therefore an appropriate framework for both individual and collective capacity-building for elected representatives and municipal technicians. For this reason, G. Bouvier [52] describes sustainable city networks as a real intellectual laboratory for municipalities.

5. Conclusions and Recommendations

This research has provided information on the technical capacity of the municipalities of Zio1 (Togo) and Zou (Benin) to propose and carry out appropriate actions at local level to deal with climatic and environmental risks. The aim of this research is to analyze the technical capacity of municipal stakeholders to propose solutions to climate risks. Investigations, based on quantitative and qualitative methods, reveal that municipalities have a weak capacity to formulate solutions adapted to the needs of especially vulnerable populations to combat the harmful consequences of climate change. Municipal administrations and managers lack the technical skills needed to analyze the solutions and tools proposed for climate action at local level. Municipalities are limited in their ability to implement environmental and climate projects independently.

To conclude this research, we recommend that municipalities in developing countries join sustainable cities and climate networks to strengthen their skills in planning and implementing climate action at local level. It is therefore important for municipalities to make environmental and climate actions a priority at local level, and also to develop partnerships with research structures.

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Conceptualization, K.H.; methodology, K.H. and K.K: software, K.H; validation, K.K; formal analysis, K.H. and K.K; investigation, K.H; data curation, K.H; writing—original draft preparation, K.H; writing—review & editing, K.H. and K.K; visualization, K.H; supervision, K.K. All authors have read and agreed to the published version of the manuscript.

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