

GLOBAL JOURNAL

OF HUMAN SOCIAL SCIENCES: H

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VOLUME 23

ISSUE 3

VERSION 1.0



GLOBAL JOURNAL OF HUMAN-SOCIAL SCIENCE: H
INTERDISCIPLINARY



GLOBAL JOURNAL OF HUMAN-SOCIAL SCIENCE: H
INTERDISCIPLINARY

VOLUME 23 ISSUE 3 (VER. 1.0)

OPEN ASSOCIATION OF RESEARCH SOCIETY

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GLOBAL JOURNAL OF HUMAN-SOCIAL SCIENCE: H
INTERDISCIPLINARY
Volume 23 Issue 3 Version 1.0 Year 2023
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-460X & Print ISSN: 0975-587X

The Challenges to Make Decent Work a Reality for Domestic Workers in Brazil

By Dr. Francilene Soares de Medeiros Costa, Dr. Tiago Barreto de Andrade Costa,
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Abstract- The present paper deals with the problematic of labor and social security rights of domestic workers in Brazil and around the world, highlighting the importance of more inclusive and fair public policies and private actions for this category of workers. The research analyzed official documents and statistics, as well as bibliographic research from authors who discuss the subject. The aim of the article is to contribute to a reflection on the need to advance in guaranteeing rights for domestic workers, as well as to encourage the adoption of effective public policies to protect these workers. Therefore, it is essential that governments, organizations, and society as a whole engage in actions to ensure labor and social security rights for this important, but historically vulnerable, category of workers.

Keywords: *paid domestic work; social protection; decent work.*

GJHSS-H Classification: *DDC Code: 973.931092 LCC Code: E902*



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The Challenges to Make Decent Work a Reality for Domestic Workers in Brazil

Dr. Francilene Soares de Medeiros Costa ^α, Dr. Tiago Barreto de Andrade Costa ^σ, Ana Carolina Soares Cardoso ^ρ, Ana Paula Ramos Gomes ^ω & Cleice Santos Santos [¥]

Abstract- The present paper deals with the problematic of labor and social security rights of domestic workers in Brazil and around the world, highlighting the importance of more inclusive and fair public policies and private actions for this category of workers. The research analyzed official documents and statistics, as well as bibliographic research from authors who discuss the subject. The aim of the article is to contribute to a reflection on the need to advance in guaranteeing rights for domestic workers, as well as to encourage the adoption of effective public policies to protect these workers. Therefore, it is essential that governments, organizations, and society as a whole engage in actions to ensure labor and social security rights for this important, but historically vulnerable, category of workers.

Keywords: *paid domestic work; social protection; decent work.*

I. INTRODUCTION

The social protection of domestic workers is a topic that has gained prominence in discussions about public policies and labor rights in Brazil and around the world. Despite being an important category in the labor market, domestic workers often face precarious conditions, low wages, and lack of social protection. Therefore, this article aims to discuss the advances and challenges for the effective implementation of labor and social security rights for domestic workers in Brazil.

The research investigated documents and reports produced by institutions such as the International Labor Organization and Brazilian research institutes, as well as official labor statistics in Brazil from the Brazilian Institute of Geography and Statistics (IBGE). In addition, it was based on bibliographic research conducted in recent years by researchers who have been discussing the issue in the national scenario.

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Therefore, focusing on the Brazilian reality, topics such as the recognition of labor rights of domestic workers, the importance of formalizing domestic work, the challenges faced in implementing social protection policies, the prospects for the future, and the importance of public debate on this issue and the need for effective policies and actions to protect these workers will be addressed.

In this sense, the following text has been organized into three sections, in addition to this introduction and conclusions. It begins with a broader discussion aimed at contextualizing the Brazilian reality in the international scenario of paid domestic work. The next section focuses on the main points of the issue within the Brazilian context. In the last section before the conclusion, proposals for addressing this issue in Brazil are discussed based on the topics being debated both nationally and internationally.

It is hoped that this article will contribute to a reflection on the need to advance in guaranteeing rights to domestic workers in Brazil and around the world, as well as to encourage the adoption of more inclusive and fair public policies regarding these workers.

II. INTERNATIONAL DEBATE GUIDELINES ON THE WORKING CONDITIONS OF PAID DOMESTIC WORKERS

In recent years, the debate on the relations and conditions under which paid domestic work is carried out has gained relevance and entered the global public debate, especially due to the poor working conditions and the history of prejudice, stigma, and social invisibility that has been its hallmark in various places, assuming the particularities of the socio-historical context of each country. Article 1 of the International Labor Organization's (ILO) Convention No. 189 on Decent Work for Domestic Workers defines domestic work as "work performed for pay by a person in or for one or more households." Regarding the possibilities of occupation, tasks, or activities that can be performed, they include cleaning, taking care of children, elderly or disabled people, being a watchman, cooking, taking care of the garden, among others.

More recently, under the framework of the care economy, it is recognized that domestic workers "[...] provide services and goods that are socially necessary

for the maintenance of households and the well-being of families, most often in the form of direct or indirect care activities" (ILO, 2021, p. 6). The growth in demand, as well as the number of workers, has highlighted the social meaning of this activity, the tensions and contradictions that it entails, and the conditions under which work is performed around the world.

ILO estimates indicate that in 2010, a contingent of approximately 53 million people, including men and women aged 15 or older, were employed as domestic workers worldwide (ILO, 2013). More recent data indicate that in 2019, this number was already close to 75.6 million people (ILO, 2021). It is important to note that these data did not yet consider the impacts caused by the Covid-19 pandemic. In some regions, there was a lot of unemployment in the domestic services sector, which alters these statistics.

However, in 2019, paid domestic work represented 4.5% of global employment. In turn, if the different regions of the globe are considered, the participation of domestic work in the employed workforce varies significantly. In the Arab States, domestic workers represent 14.8% of all employees. In Latin America and the Caribbean, Africa, and Asia and the Pacific, the percentages are 8.4%, 7.3%, and 4.6%. Meanwhile, in Europe and Central Asia, it does not exceed 1%. Latin America and the Caribbean is the region that concentrates the second-largest number of domestic workers worldwide, where more than 14.8 million people are in this occupation, representing a percentage of 19.6% of the world's total domestic workers. This is where domestic work concentrates the largest population of women, 91%. Moreover, in this region, 17.8% of women are employed in this sector, demonstrating its relevance to women's work (ILO, 2021).

Paid domestic work is commonly carried out by workers in conditions of social vulnerability and belonging to ethnic-racial groups victimized by a history of discrimination, oppression, and prejudice. They are generally undervalued professionals with low labor regulation, with a prevalence of social unprotectedness associated with reduced remuneration. There are several records of mistreatment and abuses committed in the workplace. Additionally, in many countries, domestic work is largely carried out by children, still being a significant stronghold for child labor (ILO, 2010).

These aspects impact the conditions and relationships of work, as well as on the organization and representation of domestic workers. In this sense, the agenda of social protection for work becomes a central discussion in addressing the debate about the construction of better living and working conditions for this category of workers.

At the 100th International Labour Conference held in Geneva in 2011, the ILO adopted an international instrument for the protection of domestic work in the

form of Convention No. 189, entitled "Decent Work for Domestic Workers," accompanied by Recommendation No. 201, with the same title. The notion of decent work is anchored in four dimensions or areas according to the decent work manual: labor rights; employment; social protection and security; and the right to voice and representation.

In 2017, Brazil ratified this Convention, two years after approving the most important regulation of domestic work in the country to date, Complementary Law No. 150 of 2015, which has regulated domestic employment contracts since then. At least from a formal point of view, these actions have expanded the recognition of the status of domestic work and, consequently, of its associated rights.

With its approval, for the first time in the country's history, a maximum workday of 8 hours per day and 44 hours per week was established, as well as the right to paid weekly rest for domestic workers. They also gained the right to paid vacation of 30 days for each 12 months of work, and to payment of the 13th salary and overtime, if the regulated daily or weekly working hours are exceeded, among others.

It is important to note that this was not just a concession from the Brazilian government, but represents a social achievement of the struggle of domestic workers, despite suffering from low union representation. A long and slow trajectory was traveled for recognition of their worker status and, consequently, their rights throughout the 20th century.

In the 1940s, Brazil consolidated a set of rights for urban workers through an instrument known as the Consolidation of Labor Laws. However, domestic work, despite being one of the first occupations recorded in the national territory, was not included in the set of workers guaranteed by the rights provided for.

This discrimination lasted for several decades, and the regulations of paid domestic work were occurring in the country partially. The right to collective organization and unionization came late (only with the Federal Constitution of 1988), which did not prevent the persistence in the struggle of organized groups of domestic workers for changes in legal statutes, fighting the exclusion and discrimination historically suffered by them, demanding recognition of the social value of domestic work and the importance of labor rights. This movement included awareness campaigns, mobilization of workers, participation in forums and debates, and legal actions, and was supported by other segments of social movements linked to human rights, anti-racism struggles, and movements in favor of women's rights.

The late regulation, as well as prejudice and discrimination against people employed in domestic services, associated with conditions of social vulnerability, intensified the challenges for the realization of rights in Brazil. The next section exposes and problematizes some of the aspects that characterize this

set of challenges, which are updated in contemporary scenarios.

III. PAID DOMESTIC WORK IN BRAZIL: A REFLECTION OF A BROADER REALITY OF VULNERABILITY AND PRECARIOUSNESS

Brazil stands out quantitatively in the context of paid domestic work, both in Latin America and in the world, having one of the most significant populations (ILO, 2021). According to the estimates of the Brazilian Institute of Geography and Statistics (IBGE), in the fourth quarter of 2021, there were 5.7 million people employed in paid domestic services, 93% of whom were women, following the predominant profile in the Latin American region. This massive female predominance has remained over the years, showing little variation around this percentage.

In the context of the reproduction of the super exploitation of the Brazilian workforce (COSTA; SANTOS & RODRIGUES, 2022), this significant contingent experiences their social reproduction in a context of vulnerability, which is aggravated by the fact that this is a predominantly female occupation, historically occupying this socially demarcated place. Thus, it is possible to agree that,

"[...] paid domestic work is a pocket of employment for female labor in Brazil because culturally it constitutes women's place, and performing these

tasks does not require any qualification. This activity is therefore the refuge of workers with low education and no training in society" (MELO, 1998, p. 1, our translation).

Domestic work is one of the oldest occupations known in the history of Brazil, dating back to the slave period. This implies considering that the analysis of this phenomenon presupposes its linkage to the culture of servitude and class, gender, and race subordination, which historically marks it in the national context. Therefore, this reality is directly linked to the socioterritorial and economic development conditions of the country and Latin America in the context of the formation of the modern-colonial world system and its persistent reproduction, with strong incidences on work, the working class, and the social question in countries in this region (COSTA; SANTOS & RODRIGUES, 2022).

Contemporary statistics on working conditions, income, and education reaffirm the social vulnerability and precariousness to which these women are subjected. The estimates made by the National Institute of Applied Economic Research (IPEA), arranged in Table 1, based on data from the first quarter of 2021 of the Continuous PNAD, exemplify this reality (COSTA; RUSSO; HIRATA & BARBOSA, 2021). According to this data, in 2021, there were approximately 4.5 million women working as domestic workers in Brazil.

Table 1: Some Characteristics of Domestic and Non-Domestic Female Workers

	Female domestic workers	Other female workers non-domestic workers
Quantity (thousands)	4,505	15,006
Black or indigenous (%)	65,15	50,65
Average age (years)	45,05	35,45
Have completed high school (%)	34,5	77,3
Working hour value (R\$)	33,23	56,82

Source: Adapted by authors from Costa; Russo; Hirata & Barbosa (2021)

Another striking demographic characteristic of this group of Brazilian workers is their race. About 65% are Black or Indigenous, as can be seen in Table 1. Thus, they are mostly women belonging to historically marginalized and vulnerable groups in the Brazilian population.

The age at which they start working, often driven by early pregnancy, creates a significant barrier to educational progression, as argued by Costa (2017). This is reflected in the low levels of education in the group. That is, they are women with an average age of 45, of whom only 34.5% have completed high school (Table 1). Compared to women in other sectors of the labor market, whose average age is 34 and 77.3% have

already completed high school, it is clear that domestic workers are in a disadvantaged position.

Regarding their income, it is found that domestic workers are paid about half the hourly rate compared to women in other professions (Table 1). Additionally, as women in general already earn less than men, domestic workers face a double disadvantage compared to other women, as they are in an occupation that already has lower social and economic status.

In addition to low wages, since 2012, there has been an increase in the number of workers without formal employment contracts, reaching almost 76% in 2021 (Figure 1). At the same time, the domestic workforce has become more diarized, as evidenced by the curve of women who self-identify as daily workers in

IBGE statistics. In 2012, it was 21.7%, reaching 30% in 2021 (Figure 1).

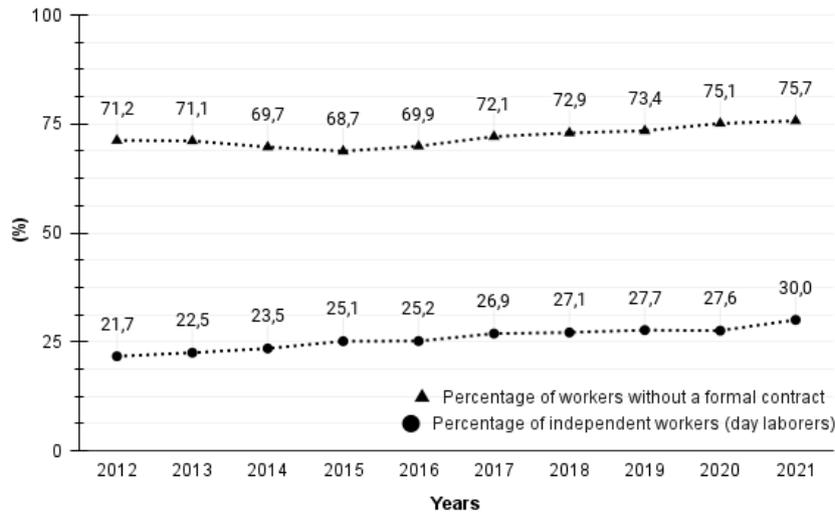


Figure 1: Percentage of Domestic Workers without a Formal Employment Contract and Percentage of Daily/Hourly Domestic Workers among Domestic Female Workers - Selected Years (Source: Developed by the Authors Based on Data from the PNAD)

In addition to these vulnerability factors, the low attachment of domestic workers to the social security protection system is also a concern. On average, half of the day laborers do not contribute to the social security

system. This is demonstrated in the graph in Figure 2, which shows the stability of this data over the selected years.

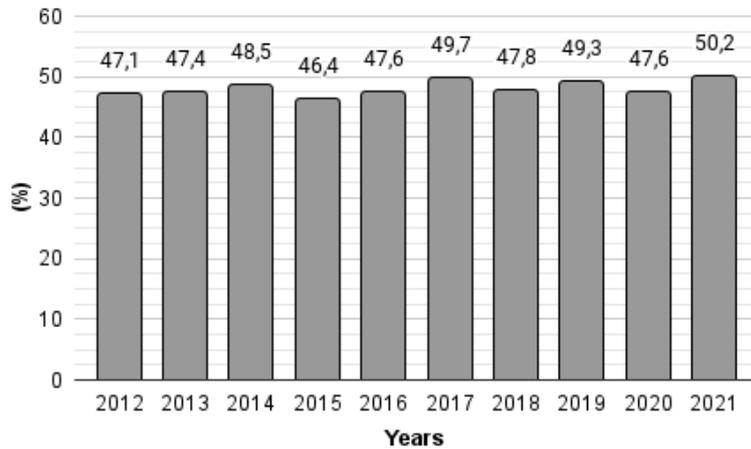


Figure 2: Percentage of Daily/Hourly Domestic Workers Who Contribute to Social Security - Selected Years (Source: Developed by the Authors Based on Data from the PNAD)

The persistence of informality and low access to effective social security and labor rights for domestic workers, even after Brazil's adherence to ILO Convention 189 and the approval of Complementary Law 150/2015, is concerning. Data indicates that, despite legal advancements, there has not been a significant change in the reality of social unprotectedness to which Brazilian domestic workers are subjected. Informality indicators, which were already high before these two events, have continued to grow in recent years.

With the approval of the current regulation of domestic work contracts, Complementary Law 150 in 2015, the Brazilian government began to enable mechanisms to facilitate and encourage the formalization of domestic work contracts. In this sense, it established the unified regime for the payment of taxes, contributions, and other employer's charges, the Domestic Simplified Tax (Simples Doméstico). Taxes refer to social security contributions, both from the domestic employee and the employer; social

contribution for financing the insurance against work accidents; payment to the Guarantee Fund for Length of Service (FGTS), with anticipation of the percentage for the case of rescission fines, and income tax withheld at the source, when applicable.

The Domestic Simplified Tax is an electronic system, where the domestic employer registers the work contract and processes all the movements related to it during its validity, including generating the monthly payroll for the worker, as well as the unified tax payment guide from the contract.

The measures adopted by the government continue to be essential to encourage and facilitate the formalization of domestic labor contracts in the country. This is particularly important for employment relationships, which are regulated by law. According to Article 1, the law applies to domestic employees, defined as someone who provides continuous, subordinate, onerous, and personal services, without a profit-making purpose, to a person or family, within their homes, for more than two days a week. However, this definition limits the potential extension of social labor protection provided for in the new domestic labor regulation in the country.

The registration of the employment contract only becomes mandatory when the weekly frequency of service provision to the same family is more than two days. This means that a portion of domestic workers who do not meet this requirement are not protected by the law. Simply put, the legal provision does not apply to this employment relationship, which is not an employment relationship but rather a self-employed or independent service provision, to use the term employed in the ILO report (ILO, 2021, p. 7). Without labor rights, the daily worker must access the social security system as an individual contributor, assuming the burden of self-employment alone.

In terms of labor regulation, this is the current scenario of domestic work in Brazil, of which we highlight the persistence of informality, through neglect of contract formalization and the growth of daily work. Even with the new law that expanded rights and measures taken by the government to encourage and facilitate formalization, the picture of lack of protection persists. The accumulation of social disadvantages that overlap with domestic workers throughout the country's history, among other factors, causes this resistance, which is historical and social. It also does not move away from the broader movement of determinations involving the development of the capitalist system at the local, regional, and global levels.

It is also impossible to ignore the influence of the pandemic scenario faced since 2020. Its consequences have impacted, and still continue to impact, many lives and economies in the global context, including domestic workers.

Data from the Continuous National Household Sample Survey (Pnad C) by IBGE reveals that between March and June 2020, Brazil lost 1.257 million domestic jobs. While the job loss in the period of the employed population was around 9.6%, in domestic work, it represented 21.1%. Among other factors, the economic crisis installed with the pandemic impacted domestic budgets, so that many families were unable to afford the expenses of maintaining a paid domestic worker. Social isolation, as well as the expansion of the work-from-home model, favored families performing domestic tasks themselves during this period, resulting in layoffs of domestic workers (BRAZIL, 2020).

Despite the intensification of the income transfer policy implemented by the Federal Government through the Brazil Aid Program, the lack of government positioning regarding specific planning facing the needs and particularities of these workers allowed social neglect and vulnerability to worsen in the pandemic context. For the Secretary of Trade Union Formation of the National Federation of Domestic Workers (FENATRAD), Chirlene Brito, the impact caused during this period reflects that domestic workers were a category that,

"[...] had no visibility, and we are still suffering from this impact. Several companions lost their jobs. The support of FENATRAD, unions, and partner organizations was fundamental in allowing us to demand our rights and value our work. We are being enslaved so that we are not included in the law and our rights are not recognized" (NATIONAL FEDERATION OF DOMESTIC WORKERS, 2022, our translation).

In the scenario of the COVID-19 pandemic, there has been a real fight waged by sectors that advocate for the rights and lives of domestic workers, notably the unions, FENATRAD, the Labor Prosecutor's Office, and other organizations that also support the struggle of domestic workers, such as the non-governmental organization Themis. Several campaigns have been carried out to sensitize society and employers about the importance of dismissing domestic workers during quarantine and periods of greater social isolation, while preserving their jobs and incomes, regardless of whether they are salaries or daily wages.

One of these campaigns, developed by the National Federation of Domestic Workers (FENATRAD) in partnership with the Themis NGO, launched in the first semester of 2021, was "Black Lives Matter". The campaign aimed to make Brazilian society reflect on the fact that the lives of domestic workers and their families matter just as much as the lives of the people they serve. Just as their work is essential, their rights as citizens and workers are essential.

Therefore, it is possible to conclude that elevating the levels of social security and labor

protection for domestic workers in Brazil remains a great challenge. It requires recognition and social appreciation of this work and these workers within Brazilian society, as well as more attentive care from the government and other power segments in meeting the specific demands of this category of workers.

Urgent efforts need to be made to reverse the trend of informality, which will require political will, social involvement, and creativity and innovation in the face of the major challenges posed by the intensification of the disputes between capital and labor in the global scenario.

To contribute, even briefly, to this agenda, we will develop a brief dialogue with an executive summary of the ILO report, which draws attention to some points that countries need to consider in formulating agendas to advance the guarantee of decent and dignified work for their domestic workers.

IV. CONTRIBUTIONS TO THE ADVANCEMENT OF THE AGENDA OF STRUGGLES FOR GREATER SOCIAL PROTECTION FOR PAID DOMESTIC WORK

In 2021, the ILO released a report that takes stock of the achievements and challenges for achieving the objectives for decent work for domestic workers, ten years after the approval of Convention No. 189. In 2022, an Executive summary titled "Making the right to social security a reality for domestic workers: a global review of policy trends, statistics and extension strategies" was released. In its introduction, it is considered that,

domestic work is among the oldest of occupations. The human right to social security was enshrined in the Universal Declaration of Human Rights as far back as 1948. It is unacceptable that domestic workers are over-represented among the 53 per cent of the world population that remain deprived of this fundamental right. Considering the ever-growing number of domestic workers on whom households rely for their most personal and human needs, it is high time for societies to recognize their value and contribution to society, the care economy and social protection systems and to enable them to enjoy their human right to social security (ILO, 2022, p. 2).

The considerations above highlight the fact that the human right to social security, enshrined in the Universal Declaration of Human Rights since 1948, and yet domestic workers are overrepresented among those who are deprived of this fundamental right, is a clear indication of the profound inequality that exists in our societies.

It is imperative that societies recognize the value and contribution of domestic workers to the care economy and social protection systems, and allow them to enjoy their human right to social security. This

requires concrete policy changes to ensure that domestic workers are protected and supported. This includes measures such as formalizing their work, ensuring fair wages and working conditions, and providing access to social security and other benefits.

The text goes on to present seven messages that summarize content that can contribute to the design of improved strategies and public policies to address the informality and social insecurity of domestic work, both by governments and by the working class and social movements.

- 1) Domestic workers experience significant social security deficits;
- 2) Domestic workers face multiple barriers to enjoying legal coverage and effective access to social security;
- 3) Social protection has great potential for enabling the transition of domestic workers into formal employment;
- 4) The challenges to the effective social protection coverage of domestic workers are real but not insurmountable;
- 5) Ensuring that domestic workers enjoy treatment at least as favourable as other workers should be the beacon of national policy and legal reforms;
- 6) Legal reforms are an essential stepping stone that will need to be accompanied by adapted administrative procedures and improved governance to ensure tangible results;
- 7) Social protection extension in practice will require solidarity in financing (ILO, 2022, p. 2-3).

The first two messages can be seen as reinforcing the observation of the insecurity and lack of social protection faced by domestic workers around the world, including in Brazil. The third message discusses the potential of social protection to enable domestic workers to transition to formal employment. In this sense, it needs to be seen more broadly, including policies and programs to ensure financial security and access to basic health services, education, and other rights, can help promote the transition of domestic workers to formal jobs, that is, jobs with full labor protections. Social protection can provide financial and service support that helps ensure workers' economic stability and well-being, allowing them to seek better job opportunities.

The document also highlights that the obstacles to implementing effective social protection policies and programs for domestic workers are real, but they can be overcome with appropriate efforts and policies. Although there are challenges to be faced, such as the lack of formal recognition of their work and the difficulty of monitoring and regulating working conditions in private households, it is possible to develop policies and strategies to overcome these obstacles and ensure social protection for domestic workers.

The message "ensuring that domestic workers enjoy treatment at least as favorable as other workers should be the beacon of national policies and legal reforms" emphasizes the importance of ensuring equal

rights and treatment for domestic workers compared to other workers. This goal should be a guiding principle in decision-making, indicating that the main objective is to ensure equal rights and opportunities for domestic workers.

In this sense, in the case of Brazil, an alert is raised for the situation of day laborers, whose labor rights are not guaranteed like other domestic workers, due to the restriction contained in the legislation itself. Although strong efforts from society are absolutely necessary to enforce the Law, by encouraging the formalization of employment contracts, the growth of independent domestic work in the country cannot be ignored.

These issues require the observation contained in the message about administrative procedures and the improvement of governance, in order to obtain more concrete results. The emphasis here is on the importance of simplified, innovative, and digital solutions for registering and paying contributions for domestic workers and their employers, due to the limited contributory and administrative capacities of these workers. The Brazilian government has already made progress in this area, but the data shows that more investment and greater attention are still needed for more effectiveness.

Furthermore, it is necessary to strengthen inspection mechanisms, complaints, and appeals to ensure compliance with labor and social security legal frameworks. It is also necessary to increase awareness and training of domestic workers, employers, and other stakeholders, such as NGOs and civil society, to ensure the effective implementation and application of legal frameworks. The expression "strong institutional capacities" refers to structures and institutions that can facilitate the implementation of these policies and programs, but also the strengthening of popular participation and social control towards the improvement of democratic mechanisms in the country, important indicators of the reduction of social inequality and injustices (BRASIL, 2021).

The last message that emphasizes the need for solidarity in financing for the extension of social protection in practice is in line with the idea of democratic strengthening. We interpret this solidarity from the broad point of view of collective construction of solutions and financing. In Brazil, there is still a public fund that finances social policies, but it has been directly affected by reform attempts, as well as appropriations by private capital (BRASIL, 2017). Anyway, the importance of cooperation and sharing responsibility in guaranteeing social protection for domestic workers is marked.

Beyond the important recommendations of the ILO for addressing vulnerability and social insecurity by promoting decent work for domestic workers, it is necessary to think about this issue from a broader

perspective, which involves the crisis of the current global economic model.

The contradictions between capital and labor intensify and reveal what is really at the heart of this issue: the deepening of social inequality without precedent in human history, structural precariousness of work, and weakening of public social protection systems, as neoliberal discourses advocate for a minimal state in social matters. The COVID-19 pandemic has highlighted this process: "a new billionaire emerges every 26 hours since the beginning of the pandemic. The ten richest men in the world doubled their fortunes, while more than 160 million people were pushed into poverty" (AHMED, 2022).

In particular, understanding these phenomena in the context of peripheral capitalist countries, such as Brazil, requires a nuanced analysis in light of the condition of labor superexploitation experienced by workers, which amplifies degradation and precariousness to very high levels, as it occurs in a social context of complex vulnerability.

Therefore, there will be a compromise in elevating the standards of dignity in work and decent work itself whenever it is not taken into account that at the base of this vulnerability lies an exacerbation of the condition of insufficiency for social and human development, in a broad sense, of workers, mainly due to being deprived of access to socially produced wealth. These insufficiencies are built from a profound social inequality, expressed by precarious living and working conditions, erected by the association of a complex of determinants related to race and ethnicity, gender, and social class.

V. CONCLUSION

The international scenario for paid domestic work in terms of labor and social security rights coverage is still unfavorable for its workers around the world.

In Brazil, the long trajectory of recognizing domestic labor rights throughout the 20th century and early 21st century resulted in their regulation occurring late, which has had a negative impact. Domestic workers still face a social context of prejudice and discrimination, which, combined with complex conditions of social vulnerability, intensifies the challenges for effective social protection. Women workers accumulate social disadvantages, which become even more significant for domestic workers given their educational, age, income, and race indicators.

Informality persists through the non-formalization of employment contracts, as well as an increase in the provision of services on an independent or daily basis, resulting in a low realization of labor and social security rights. The measures taken by the Brazilian government to facilitate and encourage the formalization

of domestic work contracts have not yet demonstrated the ability to reverse this trend.

The social struggle for expanding social protection for domestic workers in Brazil takes place within a context where protection itself is divided by contradictions, threatened in its legitimacy, and facing a severe social condition, which is not only imposed on domestic workers but on the vast majority of the country's population. This demands social commitment and engagement from broad sectors of society, as well as the ability to critically analyze the socio-environmental consequences of the current economic model.

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GLOBAL JOURNAL OF HUMAN-SOCIAL SCIENCE: H
INTERDISCIPLINARY
Volume 23 Issue 3 Version 1.0 Year 2023
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-460X & Print ISSN: 0975-587X

Alternative Physical Activation Program to Improve School Performance

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Abstract- One of the problems affecting children in Mexico is the lack of systematic physical activity, which influences school performance. For this reason, the objective was to determine the effect of an alternative physical activation program to improve school performance. This was a quantitative study, based on a pre-experimental design. The participants were (N=134), made up of (n=64) boys and (n=70) girls, the average age was 9.4 (± 1.01). Normality tests were applied, as well as Student's t-test, to compare the results of Bimesters II and IV, the confidence level was (95%), with a significance value of ($p < 0.05$). The most significant results found were in Mathematics $p = 0.000$, in the second and sixth grades. Better progress was obtained with the alternative physical activation program to improve school performance, the alternative program was used for 40 sessions, with a duration of 45 minutes, in advance of the school day. In conclusion, the alternative physical activation program to improve school performance can have a beneficial effect in the subjects of Mathematics, Civic Education, and History.

Keywords: *program; physical activation; school performance.*

GJHSS-H Classification: FOR: 1302



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Alternative Physical Activation Program to Improve School Performance

Antonio Jesus Perez-Sierra ^α, Manuel Octavio Encinas-Trujillo ^ο, Lucia Placencia-Camacho ^ρ, Alberto Bautista Sanchez-Oms ^ω & Alberto Miguel Morales-Fabregas[¥]

Abstract- One of the problems affecting children in Mexico is the lack of systematic physical activity, which influences school performance. For this reason, the objective was to determine the effect of an alternative physical activation program to improve school performance. This was a quantitative study, based on a pre-experimental design. The participants were (N=134), made up of (n=64) boys and (n=70) girls, the average age was 9.4 (± 1.01). Normality tests were applied, as well as Student's t-test, to compare the results of Bimesters II and IV, the confidence level was (95%), with a significance value of ($p < 0.05$). The most significant results found were in Mathematics $p = 0.000$, in the second and sixth grades. Better progress was obtained with the alternative physical activation program to improve school performance, the alternative program was used for 40 sessions, with a duration of 45 minutes, in advance of the school day. In conclusion, the alternative physical activation program to improve school performance can have a beneficial effect in the subjects of Mathematics, Civic Education, and History.

Keywords: program; physical activation; school performance.

I. INTRODUCTION

The importance of children's movement in their physical and mental development has been of interest to parents and academics alike for over a century. The notion that physical and mental dexterity are linked is part of cultural wisdom and is ingrained as an assumption in Western civilization. The growing burden of disease caused by excessive weight in childhood, associated with increased sedentary lifestyles, can lead to the collapse of many of the world's health systems, as well as cause suffering and expense for those affected (Baird, 2005, cited by Rodriguez et al., 2018, p. 54).

Schools serve as an excellent venue to provide students with the opportunity for daily physical activity, to teach the importance of regular physical activity for health, and to build skills that support active lifestyles.

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Unfortunately, most children get little to no regular physical activity while in school (Troost, 2007). Physical inactivity has increased in the last decades, being one of the riskiest causes of the increase of different non-communicable diseases, and it also affects children's school performance, especially the teaching-learning process. Is an important lifestyle factor associated with a wide range of benefits in children's health and development, including the prevention of overweight, obesity, and cardiovascular diseases as well as supporting academic achievement and mental health (Mooses et al., 2021; Kriemler et al., 2010; Ruiz, et al., 2022).

The promotion of physical activity and health has become a universal challenge. The alternative program was launched to increase and promote the physical activity of schoolchildren in order to achieve an improvement in the teaching-learning process of primary school pupils (Gråstén et al., 2015). It is relevant and necessary to work continuously on the intervention of an alternative physical activity program to improve school performance at the different levels of basic education in the Ministry of Public Education.

Studies have proven the benefits and positive effects of the teaching-learning process, in function with physical activation and academic performance in children, this brings as a consequence structural changes in the brain and cognitive functioning (Best, 2010, Donnelly et al., 2016; Chavez et al., 2018; Gunnell et al., 2019; Lamas, 2015; Obregon, 2019; Tomporowski & Pesce, 2019; Toala et al., 2022), it has been confirmed that physical activation contributes to brain oxygenation; the other organ systems, improve school performance for more efficient development and performance of the teaching-learning process.

It is important to highlight that "within educational contexts, there has been a permanent interest in understanding the cognitive and behavioral factors that favor or hinder student performance in their academic work and how this relates to their overall development" (Ornelas et al., 2012, p. 781). For the welfare of the teaching-learning process of students at different levels of education, especially at the primary level, in order to contribute to effective learning.

Maureira et al. (2014) express that "the improvement of academic performance may be related to the increase of blood flow to various areas that could

be involved in the cognitive processes necessary in learning" (p. 47). Likewise, in recent years there have been many problems closely related to sedentary lifestyles, lack of physical activity, inadequate diet, cardiovascular diseases, obesity, and hypertension, among many others, therefore, obesity and overweight are real public health problems, and their prevalence is increasing in child populations around the world (Pantoja & Montijano, 2012).

The objective of the research is to determine the effect of an alternative physical activation program to improve school performance.

II. MATERIALS AND METHODS

The research is based on a quantitative approach, applying a pre-experimental design with a study group to compare the results of the grades of Bimesters II and IV; also, to determine the effect of an alternative physical activation program to improve school performance "Sor Juana Ines de la Cruz". This pre-experimental, approach of this study, (Hernandez et al., 2014; Almutairi, et al., 2020) was consulted. The

scope of the research is to provide a background of the need to solve physical inactivity, through an alternative program, as a tool, based on physical activation to improve school performance. The SPSS 25 statistical program was used for the normality tests, and a student's t-test was applied to compare the results of Bimesters II and IV, respectively, with the purpose of verifying the most significant effect of the alternative physical activation program. A confidence level of (95%) was used, with significance ($p < 0.05$).

a) Participants

In relation to, the characteristics of the participants are described in table 1, where we can observe that in the pre-experimental, the participants ($n=134$) participated with an average age of 9.4 years, with an average age ($SD \pm 1.01$) of the students of the "Sor Juana Ines de la Cruz" elementary school. Of these ($n=64$), were male, representing 47.76%, while the remaining ($n=70$) corresponded to the female sex with 52.24%.

Table 1: Participants and the Average Age

Participants	n	%
Average Age	9.4 \pm 1.01	-
Male	64	47.76
Female	70	52.24
Total	134	100

b) Procedures

Among the requirements, the student subjects needed to be enrolled in the 2021 school year at the time the research was conducted. In addition to having the consent of the parents to participate in the physical activation program, prior to the school day, one of the requirements was to have 90% attendance at the scheduled sessions of physical activation. The alternative physical activation program consisted of 40 sessions, with a duration of 45 minutes, and was carried out on Mondays, Wednesdays, and Fridays, during a semester divided into three moments, as described below.

In the first part, linked to the initial part, composed by the orientation of the objectives, the articular warm-up; in the second part, in the medullar part, the planned activities were developed, in correspondence with the objectives, according to the weeks of planning of the program, specifically with reaction exercises based on games, short runs of 20 meters, flexibility exercises. The final part was composed of the recovery and analysis of each class.

c) Evaluation Criteria

The student's grades were evaluated according to the guidelines of the Ministry of Public Education (SEP), corresponding to the subjects of Mathematics

and History and Civic Education in Bimesters II and IV, respectively.

d) Selection Criteria

In order to participate in the process of the alternative physical activation program to improve school performance in the primary school "Sor Juana Inés de la Cruz", students with attendance problems were excluded; all students agreed to participate with the informed consent of their parents and the SEP management.

III. RESULTS

Of these participants, 18 students were the age of seven (12.8%), 34 students the age of eight (24.4%), 38 participants the age of nine (31.4%), 30 students the age of (21.4%), and only 14 students in the age of 11 (10%) of the total, as shown in figure 1 below.

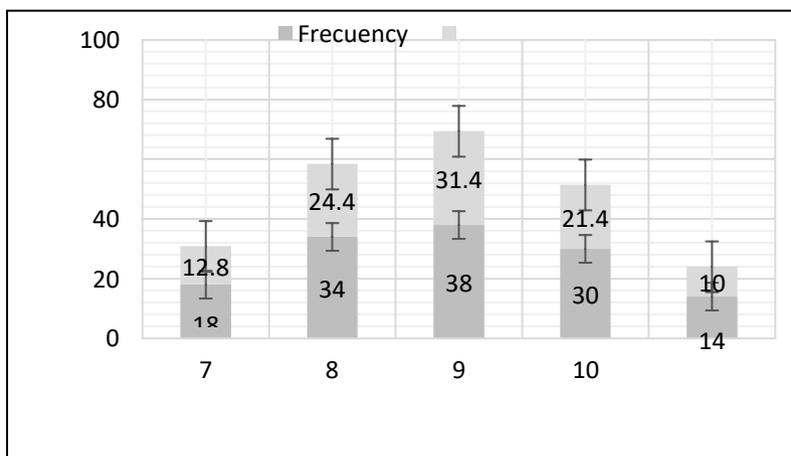


Figure 1: Ages of the Participants

In figure 2, we can observe the school grades of the participants, where 25 students participated in third grade (17.68%), 43 students in fourth grade (30.72%), 39 students in fifth grade (32.14%), and 27 students in sixth grade (19.28%).

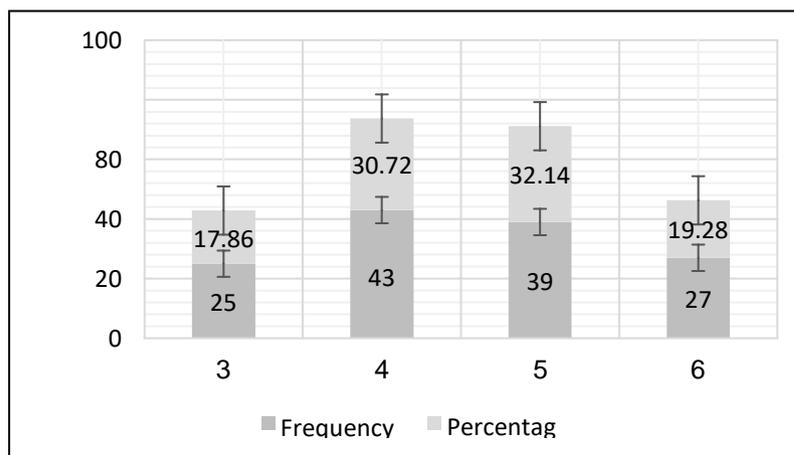


Figure 2: Grade Levels of Students

On the other hand, the most influential variable in this pre-experimental was school performance, in which the results of the grades of the second semester and the grades of the fourth semester were obtained, where it was analyzed whether there were significant changes in the subjects of the basic axis of common formation: History, Mathematics, and Civic Education. These results are shown in figure 1.

While it is true that the most significant subject was Mathematics, which from having a mean of 9.21 with an SD ± 0.83 in the second bimester improved to 9.63, with an SD ± 0.38 , which caused a significant change, with a value of $p=0.000$. On the other hand, in the other subjects, there was no significant change in general, the data will be described below by school grade and by gender of those investigated.

It is necessary to mention that, the results of the grades related to the students of both genders, produced significant change in the grades of the subject of Mathematics from Bimester II to Bimester IV the

students had 9.19 in their average grades in Bimester II and then went to 9.60 of grade in Bimester IV; in the same way, the girls went from 9.32 to 9.77 in their school performance in the subject of Mathematics, with a value of $p=0.000$.

On the other hand, in the other subjects, there were no significant changes in general, but there were some numerical differences from the second to the fourth semester.



Table 2: Results of the Scores before and After the Alternative Physical Activation Program

Materials	Qualifications II Bimester			Qualifications IV Bimester			Significance
	Media	±	SD	Media	±	SD	
Matemáticas	9.21	±	0.83	9.63	±	0.38	0.000*
Historia	9.53	±	0.54	9.42	±	0.66	0.071
Civic Education	9.60	±	0.56	9.60	±	0.61	0.276

SD= Standard Deviation, Sig.=Significance, * =significant (p<0.05)

It is necessary to mention that the results were grouped based on the school grade, obtained in the second grade of primary school in general, and based on the sex of the participants, where it was observed that the subject of History was where significant changes were presented, in relation to the grade with a

mean of 9.32 with an SD±0.68 in the second bimester to 9.60, in relation to the fourth bimester, with a value of p=0.028, which was significant. The other subjects presented very similar values in both Bimesters, there were no significant changes, for a better analysis check table 3.

Table 3: Results of scores before and after the alternative physical activation program, by gender

Materials		Qualifications Bimester			Qualifications IV Bimester			Significance
		Media	±	SD	Media	±	SD	
Mathematics	Female	9.19	±	0.96	9.67	±	0.37	0.000*
	Male	9.22	±	0.77	9.71	±	0.39	0.000*
History	Female	9.32	±	0.68	9.60	±	0.70	0.0208
	Male	9.62	±	0.47	9.49	±	0.62	0.194
Civic Education	Female	9.54	±	0.71	9.53	±	0.66	0.925
	Male	9.77	±	0.40	9.66	±	0.57	0.172

SD= Standard Deviation, Sig.=Significance, * =significant (p<0.05)

Table 4: Mean Scores Before and After the Alternative Physical Activation Program for Third-Year Students

Materials	Qualifications II Bimester			Qualifications IV Bimester			Significance
	Media	±	SD	Media	±	SD	
Mathematics	9.79	±	0.24	9.85	±	0.23	0.352
History	9.32	±	0.68	9.60	±	0.49	0.028*
Civic Education	9.78	±	0.31	9.80	±	0.34	0.739

SD= Standard Deviation, Sig.=Significance, * =significant (p<0.05)

Table 5 shows the results of the fourth-grade students, which showed two significant differences, the first in the subject of History with a significance of (0.042) and the other in the subject of Mathematics with (0.000), in the subject of Civic Education, we can see that we have a numerical difference of 9.53 to 9.71.

Table 5: Results of Scores Before and After the Alternative Physical Activation Program for Fourth-Grade Students

Materials	Qualifications II Bimester			Qualifications IV Bimester			Significance
	Media	±	SD	Media	±	SD	
Mathematics	9.06	±	0.74	9.75	±	0.32	0.000*
History	9.54	±	0.58	9.32	±	0.69	0.042*
Civic Education	9.53	±	0.46	9.71	±	0.43	0.072

SD= Standard Deviation, Sig.=Significance, * =significant (p<0.05)

The grades in the fifth grade of elementary school did not show significant changes from the second bimester to the fourth bimester. In mathematics, there was a slight numerical change in the mean scores of the grades, going from 9.53 in the second bimester to

9.60, according to the fourth bimester. On the other hand, the subjects of History and Civics presented non-significant numerical decreases, because the grades were lowered, as illustrated in table 6.

Table 6: Results of Grades Before and After the Alternative Physical Activation Program for Fifth-Grade Students

Materials	Qualifications II Bimester			Qualifications IV Bimester			Significance
	Media	±	SD	Media	±	SD	
Mathematics	9.53	±	0.43	9.60	±	0.41	0.278
History	9.73	±	0.33	9.46	±	0.80	0.356
Civic Education	9.78	±	0.39	9.58	±	0.74	0.071

SD= Standard Deviation, Sig.=Significance, * =significant (p<0.05)

The sixth-grade grades showed three aspects; the first; was a significant improvement in the subject of mathematics, where its mean value of 8.32 with a relatively high standard deviation of ±1.10 improved to a grade of 9.49 in the fourth Bimester and with a decrease in its standard deviation to ±0.40; the second

subject behaved without changes in its grades, the mean values remained the same only with slight changes in their standard deviations, this in the subject of History; Finally, in Civic Formation, there was a numerical decrease, this indicates that it was not significant, for a better understanding see table 7.

Table 7: Results of Grades before and After the Alternative Physical Activation Program for Sixth-Grade Students

Materials	Qualifications II Bimester			Qualifications IV Bimester			Significance
	Media	±	SD	Media	±	SD	
Mathematics	8.32	±	1.10	9.49	±	0.40	0.000*
History	9.38	±	0.53	9.38	±	0.46	1.000
Civic Education	9.59	±	0.92	9.32	±	0.73	0.104

SD= Standard Deviation, Sig.=Significance, * =significant (p<0.05)

IV. DISCUSSION

With respect to the results, it means that these results are still not enough, so we must continue working to improve the problems that affect children in Mexico, due to the lack of systematic physical activity, which influences school performance, as well as electronic media, which limit the school performance of students. According to the main findings, there is a significant relationship in mathematics, but not in History and Civic Education, with respect to the number of days of physical activity per week and the time of practice.

The same was the case in our pre-experimental, where 134 participants, but at the primary level, found that significant changes were also observed in the subject of mathematics from the second bimester, with respect to the fourth bimester in the subject of History, which could be associated with the subject of Civic Education, there were no significant changes. The sample consisted of 847 students (422 girls, 425 boys) from 12 to 14 years of age from 2 school districts. The experimental school (N = 208) and 4 control schools (N = 639) were selected in northeastern and central Finland through direct contact with the school principals (Gråstén et al., 2015, p.127). The pre-experimental that was carried out on physical activation had a duration of 45 minutes prior to the school day, and significant changes were found in some subjects, in that sense, some research has observed a positive relationship between one hour of physical activity with the improvement of school grades and thus an increase in school performance (Dwyer et al., 2001).

In relation to this, the SIM program targets basic schools (grades 1-9, ages 7-16). The group of schools participating in the program is diverse in size and location, ranging from rural schools with 15 students to urban schools with more than 1300 students (Mooses et al., 2021, p.2). Likewise, Kriemler et al. (2010). In their studies, they state that 498 children completed the baseline and follow-up assessments (mean age 6.9 (SD 0.3) years for first grade, 11.1 (0.5) years for fifth grade). After adjustment for the grade, sex, baseline values, and clustering within classes, children in the intervention arm compared with controls showed more negative changes in the z score of the sum of four skin folds (-0.12, 95 % confidence interval -0.21 to -0.03; $p=0.009$). In relation to other studies, from a humanistic approach, academic performance is "the product given by students in educational institutions and usually expressed through school grades" (Martinez, 2007). In other research, no significant differences were located in the gender of the participants, as in the work done by (Oropeza, Avalos & Ferreyra, 2017), where they found significant differences between academic performance and people who performed physical activity, but not so between participants. In accordance with (Avila et al., 2021; Maureira et al., 2014; Ruiz, et al., 2022), sought to

determine the influence of the practice of physical activity on academic performance in the subjects of mathematics, Language History, and Science, where they evaluated 73 high school students.

The effect on primary school students of a physical activity program during school breaks through pre-sports games, these studies were applied to 54 primary school students, aged 9 to 11 years, physical activity programs performed during school breaks with a duration of 45 minutes for three days a week, produces improvements in the values of Body Mass Index and physical condition of those who practice it (Pumar, Navarro, & Basanta, 2015).

V. CONCLUSIONS

By way of conclusion, it was found that during the research process, several approaches were carried out with the directors of the school "Sor Juana Ines de la Cruz", until it was approved by the Secretary of Public Education and parents, for the implementation of an alternative program of physical activation to improve school performance, based on recreational activities and races. With a time of 45 minutes, 40 sessions, before entering class shifts, according to their teaching schedules, this program was carried out on Mondays, Wednesdays, and Fridays, during a semester, fulfilling the objective of the research and the schedule of planned activities.

Besides verifying the impact, it had on the participants and their school performance, which was not entirely sufficient, it made a significant contribution to the subject of Mathematics, specifically, according to the results shown. We can also affirm that the study influenced the learning of the subjects of Civic Education and History in the students of the "Sor Juana Inés de la Cruz" elementary school. The main theoretical and methodological limitations of this study are limited by time and its application for a longer period of time, so we recommend the school administrators continue working with the purpose of encouraging the school community to systematically practice physical activity for the well-being of health and the quality of the teaching-learning process.

ACKNOWLEDGMENTS

We are grateful to all those who unconditionally collaborated with the research. We are grateful to the Departments of Sports Science and Physical Activity of the University of Sonora, Mexico, and to the University "Marta Abreu" of Villa Clara, Cuba.

Declaration of authorship and contributions

We declare that all authors have contributed to the intellectual collaboration of the research process culminating in the submission of this article.

Declarations

The authors declare that they have no conflicts of interest.

Ethical Approval

The present study was approved by the Ethics Committee of the Secretary of Public Education (SEP) and by the Ethics Committee of the Universidad de Sonora (UNISON), in addition to having the informed consent of the parents regarding the participation of the students.

Financing

With support from CONACyT

To access the availability of data and materials, please contact the authors through the following. email: antonio.perez@unison.mx

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GLOBAL JOURNAL OF HUMAN-SOCIAL SCIENCE: H
INTERDISCIPLINARY
Volume 23 Issue 3 Version 1.0 Year 2023
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-460X & Print ISSN: 0975-587X

Green Criminology and Conservation Units: The Falsification of Preventive Parameters for the Control of Environmental Crimes in Protected Spaces in the Amazon

By Luciana Turatti, Ana Christina Konrad, Cíntia Rosina Flores, Odorico Konrad
& Guilherme Weiss Niedermayer

Abstract- Brazil has the world's largest system of protected areas, and its largest concentration of conservation units is found in the Amazon biome. On the other hand, even with a significant amount of protected spaces, this conservation system is not able to contain or suppress the environmental damage that affects the ecosystems of these areas. Hence the need to seek a methodology capable of providing effectiveness to the protected areas through criminal analyzes that cover damage and destruction, legal norms, and environmental regulation—in other words, the green criminology theory. This paper aimed to falsificate the preventive parameters based on green criminology, pointed out by Flores, Konrad and Flores (2017b), in order to refute, corroborate or expand them, applying them to the Amazon Conservation Units located in Rondônia and under state and local administrative competence. For this investigation, the hypothetical-deductive method was used.

Keywords: green criminology; amazon; protected areas; conservation units; preventive parameters.

GJHSS-H Classification: FOR: 0502



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Green Criminology and Conservation Units: The Falsification of Preventive Parameters for the Control of Environmental Crimes in Protected Spaces in the Amazon

Luciana Turatti ^α, Ana Christina Konrad ^σ, Cíntia Rosina Flores ^ρ, Odorico Konrad ^ω
& Guilherme Weiss Niedermayer [¥]

Abstract- Brazil has the world's largest system of protected areas, and its largest concentration of conservation units is found in the Amazon biome. On the other hand, even with a significant amount of protected spaces, this conservation system is not able to contain or suppress the environmental damage that affects the ecosystems of these areas. Hence the need to seek a methodology capable of providing effectiveness to the protected areas through criminal analyzes that cover damage and destruction, legal norms, and environmental regulation—in other words, the green criminology theory. This paper aimed to falsificate the preventive parameters based on green criminology, pointed out by Flores, Konrad and Flores (2017b), in order to refute, corroborate or expand them, applying them to the Amazon Conservation Units located in Rondônia and under state and local administrative competence. For this investigation, the hypothetical-deductive method was used. Results fostered corroboration of the preventive parameters, pointing out the need for their applicability toward effectiveness in the preservation of the analyzed protected spaces. The data we collected serve as a reflective warning regarding concerns for conservation units, as their implementation is not enough to consolidate their main objective: to preserve the natural capital of these areas.

Keywords: green criminology; amazon; protected areas; conservation units; preventive parameters.

I. INTRODUCTION

Protected areas represent approximately 15% of the earth's surface and make up the ordering of public environmental policies within both national and international scopes, aiming at the conservation of ecosystems at a global level. Such spaces create a broad protective instrument that safeguards natural resources, in addition to protecting the way of life of traditional populations residing in these territories (IUCN, 2016¹; FLORES; KONRAD; FLORES, 2017b²; NICOLLE; LEROY, 2017³).

Even though Brazil has the world's largest system of protected areas—approximately 220 million hectares, studies show that the conservation system for biodiversity and ecosystem services is not able to restrict or eliminate environmental crimes, since we see an increase in destruction and damage to natural resources in Conservation Units – CUs (previously called “protected areas”). Thus, the mere existence of conservation units did not prevent criminal conduct from causing damage to these areas (PINHEIRO, 2015⁴; FLORES; KONRAD; FLORES, 2017a⁵; FLORES; KONRAD; FLORES, 2017b⁶; FLORES, 2017⁷).

Also, according to Cadastro Nacional de Unidades de Conservação (National Registry of Conservation Units, CNUC), Brazil has 2,376 Conservation Units, representing an area of 2,549,330 km². From this total, the largest concentration of CUs is found in the Amazon biome: 28.6% or 1,202,272 km². In addition, specifically in the Amazon, the situation is aggravated due to the proximity to economically accessible zones for economic exploitation

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¹ IUCN; UNEP-WCMC. Protected Planet Report 2016. UNEP-WCMC and IUCN: Cambridge UK, and Gland, Switzerland, 2016.

² FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. Ibero-American Journal of Environmental Sciences, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b.

³ NICOLLE, S.; LEROY, M. Advocacy coalitions and protected areas creation process: case study in the Amazon. Journal of Environmental Management, v.198, p.99-109, 2017. DOI: <http://dx.doi.org/10.1016/j.jenvman.2017.04.035>.

⁴ PINHEIRO, V. B. Sistema de responsabilização de crimes ambientais praticados em unidades de conservação no município de Manaus. Dissertação (Mestrado Profissionalizante em Gestão de Áreas Protegidas) – Instituto Nacional de Pesquisas da Amazônia, Manaus, 2015.

⁵ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green criminology: cenário das produções científica. Ibero-American Journal of Environmental Sciences, [S.l.], Aracajú, v. 8, n. 4, aug. 2017a

⁶ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. Ibero-American Journal of Environmental Sciences, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b.

⁷ FLORES, Cíntia Rosina. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. 2017. 138 p. Tese (Doutorado em ciências ambientais) Universidade do Vale do Taquari, Rio Grande do Sul.

(e.g., logging and cattle raising), which exposes CUs to the pressure of illegal activities (PINHEIRO, 2015⁸; FLORES; KONRAD; FLORES, 2017a⁹; FLORES; KONRAD; FLORES, 2017b¹⁰; FLORES, 2017¹¹; MMA, 2021¹²).

Considering the problem of environmental degradation in CUs and the inherent complexity of the theme, the issue needs to be analyzed from multidisciplinary contexts, capable of presenting different scientific perspectives to allow us to understand the phenomena related to environmental damage. In this sense, criminology comes up in the environmental sciences to demonstrate that damage to the environment is an important area of criminological investigation.

From this conjuncture emerges a methodology capable of contributing to the realization of objectives for protected areas, and which proposes the conduction of researches that analyze conducts harmful to the environment, based on their coverage areas, damage and destruction, legal norms, and environmental regulation—i.e., green criminology theory, a concept increasingly propagated as a reference in reflections on environmental crime, damage, law, and justice. This criminological typology interprets environmental crime as a phenomenon with complex dimensions, considering the multiplicity of cultural, economic, and socio-environmental factors (SOUTH, 2014a¹³; COSTA, 2014¹⁴; FLORES, 2017¹⁵; CORTES; FOCHEZATTO; JACINTO, 2018¹⁶; LYNCH, 2020¹⁷).

Based on advances in the understanding of issues involving environmental damage and natural resources, Flores, Konrad and Flores (2017b)¹⁸ have developed preventive parameters, based on Green Criminology (LYNCH, 1990¹⁹), aiming to control the occurrence of environmental infractions in Amazonian conservation units located in the state of Rondônia and under federal jurisdiction. The parameters presented by Flores, Konrad and Flores (2017b)²⁰ were Environmental Education, Inspection, and Land Regularization. In addition to these, the results also indicated the need to expand this research to protected areas at the state and local levels, in order to complete the analysis in all existing conservation units in the State of Rondônia, which gave rise to this proposal.

The preventive methodology developed by Flores, Konrad and Flores (2017b²¹) and applied in the Federal Conservation Units of the State of Rondônia considered the scenario of environmental offenses related to protected areas. This reality became known more emphatically in November 2018, when investigations by the Prosecutor's Office of Rondônia unveiled a landscape of damage to state protected spaces, at which time "Operation Pau Oco" was made public and gained national repercussion (DIÁRIO DA AMAZÔNIA, 2018²²; MINISTÉRIO PÚBLICO RONDÔNIA, 2019²³).

⁸ PINHEIRO, V. B. Sistema de responsabilização de crimes ambientais praticados em unidades de conservação no município de Manaus. Dissertação (Mestrado Profissionalizante em Gestão de Áreas Protegidas) – Instituto Nacional de Pesquisas da Amazônia, Manaus, 2015.

⁹ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green criminology: cenário das produções científica. *Ibero-American Journal of Environmental Sciences*, [S.l.], Aracajú, v. 8, n. 4, aug. 2017a.

¹⁰ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. *Ibero-American Journal of Environmental Sciences*, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b.

¹¹ FLORES, Cíntia Rosina. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. 2017. 138 p. Tese (Doutorado em ciências ambientais) Universidade do Vale do Taquari, Rio Grande do Sul.

¹² MINISTÉRIO DO MEIO AMBIENTE (MMA). Dados consolidados: Unidades de Conservação por Bioma. Available at: <http://www.mma.gov.br/images/arquivo/80112/CNUC_Agosto%20-%20Categorias_copy.pdf>. Accessed on: 6 Apr. 2021.

¹³ SOUTH, N. Green criminology: Reflections, corrections, horizons. *International Journal for Crime, Justice and Social Democracy*, v.3, n.2, p.5-20, 2014

¹⁴ COSTA, Aldo Silva da. Análise criminal e a incidência da criminalidade na Regional de Tangará da Serra. *Revista Científica de Pesquisa em Segurança Pública*. v. 13, n. 2, p. 73-93, 2014. Available at: <http://revistacientifica.pm.mt.gov.br/ojs/index.php/semanal/article/view/247/pdf_145>. Accessed on: 22 Apr. 2020.

¹⁵ FLORES, Cíntia Rosina. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. 2017. 138 p. Tese (Doutorado em ciências ambientais) Universidade do Vale do Taquari, Rio Grande do Sul.

¹⁶ CORTES, Renan Xavier; FOCHEZATTO, Adelar; JACINTO, Paulo de Andrade. Crimes nos municípios do Rio Grande do Sul: análise a partir de um índice de criminalidade. *Estudos Econômicos*. vol.48 no.3 São Paulo Jul./Set. 2018. Available at: <http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0101-41612018000300451&lang=pt#B18>. Accessed on: 22 Apr. 2021.

¹⁷ LYNCH, Michael. J. Green Criminology and Environmental Crime: Criminology that matters in the Age of Global Ecological Collapse. *Journal of White Collar and Corporate Crime*. 2020, 1(1) 50-61. <https://doi.org/10.1177/2631309X19876930> Accessed on: 05 May 2021.

¹⁸ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. *Ibero-American Journal of Environmental Sciences*, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b.

¹⁹ LYNCH, Michael. J. The Greening of Criminology: A perspective for the 1990s. Reprinted in N. South & P. Beirne (Eds.), *Green Criminology*. Hampshire: Aldershot, 1990/2006.

²⁰ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. *Ibero-American Journal of Environmental Sciences*, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b.

²¹ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. *Ibero-American Journal of Environmental Sciences*, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b.

²² DIÁRIO DA AMAZÔNIA. Operação Pau Oco. Available at: <<https://www.diariodaamazonia.com.br/operacao-pau-oco-secretario-da-seda-m-presta-depoimento-no-mpe/>>. Accessed on: 07 Nov. 2019.

²³ MINISTÉRIO PÚBLICO DE RONDÔNIA. Ministério Público do Estado, MP de Contas e Polícia Civil explica alvos da segunda fase da Operação Pau Oco. Available at: <<https://www.mpro.mp.br/noticia/-/ver-noticia/38402#.XNDILtNKjBI>>. Accessed on: 05 Nov. 2019.

This paper aimed to falsificate the preventive parameters based on green criminology, pointed out by Flores, Konrad and Flores (2017b²⁴), in order to refute, corroborate or expand them, applying them to the Amazon Conservation Units located in Rondônia and under state and local administrative competence. This study integrates a doctoral research study that revolves around the following issue: to what extent are the preventive parameters developed by Flores, Konrad and Flores (2017b²⁵), when applying the theory of green criminology to federal protected areas in the State of Rondônia, contribute to the prevention of environmental damage in other protected spaces in the Amazon region?

To reach an answer, a generic profile of these CUs was outlined, at which time failures were found in their administration and management which resulted in the creation of a new preventive parameter related to the management of conservation units, giving rise to the expansion of preventive parameters.

For this investigation, we adopted the hypothetico-deductive method. Initially, a theoretical bibliographical review was conducted to understand the concept of Green Criminology theory. Next, we analyzed the data obtained through documentary research. In the documentary research, we collected data available from cases filed at the State Environmental Development Secretariat of Rondônia (SEDAM) and from the Parameterized Reports issued by the Ministry of the Environment (MMA).

The results of this paper fostered corroboration of the preventive parameters proposed by Flores, Konrad and Flores (2017b²⁶), as falsification pointed to the need of applying such parameters to conservation units under state and local administrative competence, for preservation effectiveness of these protected spaces. Data collected in the study show that preventive measures must be present in the daily management of CUs, as implementation is not enough to consolidate their main objective: the preservation of natural capital.

II. THEORETICAL REFERENCE

a) *Green Criminology: The Phenomenological Understanding*

The green criminology theory (LYNCH, 1990/2006²⁷) has expanded the scope of criminology, emphasizing “green crimes” that have traditionally been omitted from traditional criminological literature. Criminology, from an ecological perspective, is based on observations in scientific literature beyond conventional criminology, adopting empirical foundations in the identification of damage—i.e., “green criminologists” explore environmental damage that is explicitly defined as illegal by criminal law, as well as damage that is technically legal, but certainly harmful. Therefore, green criminology is oriented under a multidisciplinary perspective, with no unification in its concept (BARRETT; LYNCH; STRETESKY, 2016²⁸; LYNCH; 2020²⁹).

Green criminology literature includes theoretical, qualitative, and quantitative studies that explore the causes, consequences, and control of green crimes and damages. Green criminology conducts comprehensive analyzes in the scope of environmental offenses, which range from local problems to global issues (pollution, ecological destruction, illegal hunting, among many others) and complex damages, such as climate change; loss of anthropogenic species; food crimes and the genetic modification of foods; agricultural chemicals and productions; damage to animals; illegal trade and transnational environmental crimes; destruction of ecosystems; global warming; ecological disorganization; excessive production and consumption; issues related to environmental justice; law and social control (LYNCH, 2020³⁰).

Thus, green criminology theory represents a generic expression for criminology concerned with the general neglect of ecological issues within criminal science and proposes the incorporation of environmental perspectives within conventional criminology. Its authors report feeling “disturbed by the fact that, as a discipline, criminology is

²⁴ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. *Ibero-American Journal of Environmental Sciences*, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b.

²⁵ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. *Ibero-American Journal of Environmental Sciences*, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b.

²⁶ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. *Ibero-American Journal of Environmental Sciences*, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b.

²⁷ LYNCH, Michael. J. The Greening of Criminology: A perspective for the 1990s. Reprinted in N. South & P. Beirne (Eds.), *Green Criminology*. Hampshire: Aldershot, 1990/2006.

²⁸ BARRETT, Kimberly; LYNCH, Michael; STRETESKY, Paul B. Green Criminology and the Reconceptualization of School Violence: Comparing Green School Violence and Traditional Forms of School Violence for School Children. *Critical Criminology*. v. 24, pp 19-37, March 2016. Available at: <<https://link.springer.com.ez316.periodi-cos.capes.gov.br/article/10.1007/s10612-015-9280-9>>. Accessed on: 30 Apr. 2020.

²⁹ LYNCH, Michael. J. Green Criminology and Environmental Crime: Criminology that matters in the Age of Global Ecological Collapse. *Journal of White Collar and Corporate Crime*. 2020, 1(1) 50-61. <https://doi.org/10.1177/2631309X19876930> Accessed on: 05 May 2021.

³⁰ LYNCH, Michael. J. Green Criminology and Environmental Crime: Criminology that matters in the Age of Global Ecological Collapse. *Journal of White Collar and Corporate Crime*. 2020, 1(1) 50-61. <https://doi.org/10.1177/2631309X19876930> Accessed on: 05 May 2021.

unable to perceive the wisdom of taking green damage more seriously, associated with the need to reorient itself.” (LYNCH; STRETESKY; 2014 p. 2³¹)

Green criminology encompasses the many living victims of these diverse crimes, including all species, not just humans. In the words of Lynch (2020 p. 57³²), “green crimes, unlike street crimes, threaten the very stability of the world we live in,” since environmental damage poses a major threat to human survival, and green crimes are often ignored by the main justice systems. Consequently, ecologically focused criminology extends beyond the focus on street and interpersonal offenses to encompass the “destructive effects of human activities on local and global ecosystems.” (LYNCH; STRETESKY, 2014 p.1³³)

It analyzes behaviors harmful to nature, theoretically and empirically, pointing out actions with primary impact—a list of crimes that contribute directly to the degradation of natural resources—, and with secondary impact—in a degree of mediation, linked to conditions following the environmental damage, such as illegal markets for food, medicine, and drinking water (SOUTH; BRISMAN; MCCLANAHAN, 2014³⁴; SOUTH; WHITE, 2014³⁵).

From an environmental perspective, criminology not only considers the issues of crime as defined by a strict idea of criminal law, but it also examines matters relating to rights, justice, morals, victimization, criminality and the use of administrative resources, and civil and regulatory justice systems. And within the scope of classifications and specifics of damage to nature, it aims to thoroughly understand crime, thus achieving preservation of ecosystems. Thusly, the analysis of green crimes enables the proper application of legislation, providing an integrated and reasoned management of ecological criminological issues and encouraging a preventive view regarding the protection of natural resources (SOUTH, WHITE, 2014³⁶; LYNCH; STRETESKY, 2014³⁷; NURSE, 2017³⁸).

Green criminology also looks at mechanisms to stop and prevent environmental crimes, to reduce harm to animals and to the environment. In cases of environmental damage, traditional models of policing, arrest and punishment run the risk of being inadequate, as irreparable environmental impact or loss of animal life may already have occurred. Likewise, traditional justice systems are also often inadequate to correct the impact from damage to nature. Therefore, the need arises for approaches grounded in restorative justice and mediation, as these are means of providing alternative mechanisms for human and non-human victims who suffer the consequences of environmental crimes. Such alternatives are part of the critical approach of green criminology, with regard to the promotion of preventive inspections—an activity aimed at preventing damage from taking place (HALL, 2017³⁹).

In this way, green criminology presents itself as an alternative criminology, focused on the treatment of environmental damages and injustices, as it requires a new academic form of seeing the world, as well as new global policies (SOUTH, 2010⁴⁰). Therefore, green criminology positions itself as a discipline which considers criminal issues not only as defined by a strictly legalistic conception of criminal law, but also which ponders issues related to rights, justice, morals, victimization, criminality, and the use of administrative, civil and regulatory justice systems (NURSE, 2017⁴¹).

III. METHOD

Our research is qualitative in nature, being descriptive in terms of its objective and documentary in relation to its methodological procedures, considering that the data come from primary sources. We adopted the

³¹LYNCH, Michael. J. STRETESKY P. B. Exploring green criminology: Toward a green criminological revolution. Ashgate, Farnham, 2014.

³² LYNCH, Michael. J. Green Criminology and Environmental Crime: Criminology that matters in the Age of Global Ecological Collapse. Journal of White Collar and Corporate Crime. 2020, 1(1) 50-61. <https://doi.org/10.1177/2631309X19876930> Accessed on: 05 May 2021.

³³ LYNCH, Michael. J. STRETESKY P. B. Exploring green criminology: Toward a green criminological revolution. Ashgate, Farnham, 2014

³⁴ SOUTH, N. BRISMAN, Avi; MCCLANAHAN, Bill. Green Criminology. Oxford Bibliographies in Criminology. 2014.

Available at: < [http://www.oxfordbibliographies.com/view/document/ obo-9780195396607/obo-9780195396607-0161.xml](http://www.oxfordbibliographies.com/view/document/obo-9780195396607/obo-9780195396607-0161.xml)>. Accessed on: 20 Apr. 2020.

³⁵ SOUTH N.;WHITE, Rob. The antecedents and emergence of a 'Green' criminology. In: Selected Papers from the Presidential Panels: 2013 ASC Annual Meeting (Atlanta): Expanding the Core: Neglected Crimes, Groups, Causes and Policy Approaches. 2014. Available at: <<http://repository.essex.ac.uk/11798/1/South%2C%20Nigel-White%2C%20Rob.pdf>>. Accessed on: 20 Apr. 2020.

³⁶ SOUTH N.;WHITE, Rob. The antecedents and emergence of a 'Green' criminology. In: Selected Papers from the Presidential Panels: 2013 ASC Annual Meeting (Atlanta): Expanding the Core: Neglected Crimes, Groups, Causes and Policy Approaches. 2014. Available at: <<http://repository.essex.ac.uk/11798/1/South%2C%20Nigel-White%2C%20Rob.pdf>>. Accessed on: 20 Apr. 2020.

³⁷ LYNCH, Michael. J. STRETESKY P. B. Exploring green criminology: Toward a green criminological revolution. Ashgate, Farnham, 2014

³⁸ NURSE, Angus. Green criminology: shining a critical lens on environmental harm. Nature. Article number: 10, 2017. Available at: <<https://www.nature.com/articles/s41599-017-0007-2>>. Accessed on: 04 Apr. 2020.

³⁹ HALL, Matthew. Exploring the cultural dimensions of environmental victimization. Nature. Article number: 17076, 2017. Available at: <<https://doi.org/10.1057/palcomms.2017.76>> Accessed on: 30 Mar. 2020.

⁴⁰ SOUTH N. The ecocidal tendencies of Late Modernity: Transnational crime, social exclusions, victims and rights. In: WHITE, Rob. (org.) Global environmental harm: Criminological perspective. Willan, Devon, p. 228–247, 2010.

⁴¹ NURSE, Angus. Green criminology: shining a critical lens on environmental harm. Nature. Article number: 10, 2017. Available at: <<https://www.nature.com/articles/s41599-017-0007-2>>. Accessed on: 04 Apr. 2020.

hypothetical-deductive method (Figure 1), which consists of choosing a set of viable hypothetical propositions as a strategy to approach the object under analysis (CHEMIN, 2015⁴²; MEZZAROBA; MONTEIRO, 2017⁴³).

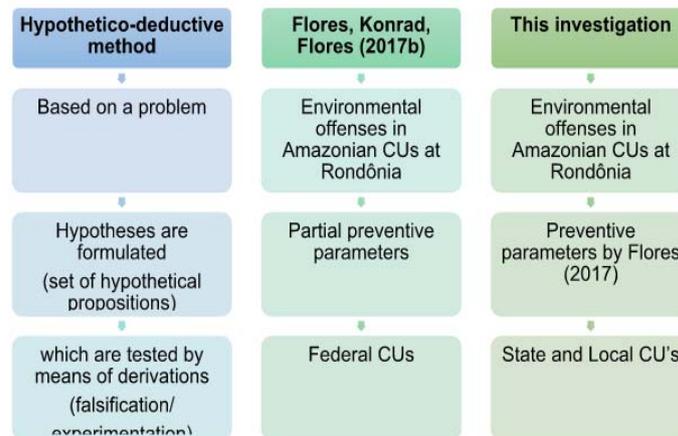


Figure 1: Flowchart with the Application of the Hypothetical-Deductive Method

During the research, these assumptions can be proven, refuted or expanded through experimentation—that is, hypotheses are elaborated (a priori solution conjectures) and, from established principles, we deduct consequences that will be tested through derivations (syllogisms) (CHEMIN, 2015⁴⁴). In this investigation, the preventive parameters (Figure 1) constituted by Flores, Konrad and Flores (2017b⁴⁵) were falsificated by applying the hypothetico-deductive method in the state and local Amazonian conservation units in Rondônia, in order to refute, corroborate or expand them, thus enabling the validation or invalidation of green criminology as a preventive instrument for environmental damage in protected areas of Amazonia.

To identify the same patterns established by Flores, Konrad and Flores (2017b⁴⁶), we investigated the specificities which make up the generic profile of conservation units and the characterization of environmental offenses practiced in them. Data collection took place in two public administration agencies: a) to survey the profile of state and local conservation units, we used data from the National Registry of Conservation Units (CNUC) of the Ministry of the Environment, available in digital media; b) to characterize the environmental crimes that occurred in the study area, we researched the processes filed with the Rondônia State Secretariat for Environmental Development (SEDAM), upon sending a request to the agency.

The profile of the CUs was built based on information “obtained from the issuance of the ‘Parameterized Report of Conservation Unit(s),’ selecting options:”

- (i) Administrative sphere – state and local; (ii) Federation Unit (UF) – Rondônia; (iii) Municipality; (iv) Report Format – Formatted HTML; (v) General information; (vi) Legal acts; (vii) Characterization – social factors; (viii) Management/infrastructure – communication; (ix) Management – land aspects; (x) Management – human resources; (xi) Management – visitation; and (xii) Management – environmental education (FLORES; KONRAD; FLORES, 2017b p. 283⁴⁷).

To survey environmental crimes, their spatial and temporal distribution, frequency of occurrences and profile of the environmental offender (in terms of personification and gender), a criminal analysis procedure was used as a basis, by means of filings and records of legal documents, using as research technique the consultation of legal documents—i.e., cases filed at SEDAM (CORTES; FOCHEZATTO; JACINTO, 2018⁴⁸).

⁴² CHEMIN, Beatris Francisca. Manual da Univates para trabalhos acadêmicos: planejamento, elaboração e apresentação. 3^o ed. Lajeado, RS: Ed. Univates, 2015.

⁴³ MEZZAROBA, Orides; MONTEIRO, Cláudia S. Manual de metodologia da pesquisa no Direito. 7. ed. São Paulo: Saraiva, 2017.

⁴⁴ CHEMIN, Beatris Francisca. Manual da Univates para trabalhos acadêmicos: planejamento, elaboração e apresentação. 3^o ed. Lajeado, RS: Ed. Univates, 2015.

⁴⁵ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. Ibero-American Journal of Environmental Sciences, [S.I.], Aracajú, v. 8, n. 4, aug. 2017b.

⁴⁶ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. Ibero-American Journal of Environmental Sciences, [S.I.], Aracajú, v. 8, n. 4, aug. 2017b.

⁴⁷ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. Ibero-American Journal of Environmental Sciences, [S.I.], Aracajú, v. 8, n. 4, aug. 2017b.

⁴⁸ CORTES, Renan Xavier; FOCHEZATTO, Adelar; JACINTO, Paulo de Andrade. Crimes nos municípios do Rio Grande do Sul: análise a partir de um índice de criminalidade. Estudos Econômicos. vol.48 no.3 São Paulo Jul./Set. 2018. Available at: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0101-41612018000300451&lang=pt#B18. Accessed on: 22 Apr. 2021.

a) *Characterization of the Study Area*

The universe of this study is geographically limited to environmental infractions occurring in state and local Amazonian Conservation Units under the jurisdiction of the State of Rondônia, managed by the following agencies: Rondônia State Secretariat for Environmental Development and Porto Velho Local Secretariat for the Environment, totaling 38 units in the state administrative sphere and 1 unit in the local administrative sphere. The choice for these areas considered the analysis of data revealed in the research by Flores, Konrad and Flores (2017b⁴⁹), and, in particular, the scenario of illegal activities in federal Amazonian conservation units located in Rondônia, as presented by those authors.

The reality uncovered by the authors gained greater reach when investigations by the Prosecution Office of Rondônia, released in November 2018, signaled a landscape of damage to these state protected spaces, at which time “Operação Pau Oco” [Hollow Wood Operation] was established—an event of national repercussion (DIÁRIO DA AMAZÔNIA, 2018⁵⁰; MINISTÉRIO PÚBLICO RONDÔNIA, 2019⁵¹). Within this context arose our interest in falsifying the preventive parameters established by Flores, Konrad and Flores (2017b⁵²) in Amazonian conservation units of the state and local administrative spheres located in Rondônia, in order to, in addition to corroborating, develop a new parameter and validate Green Criminology theory as an effective tool in preventing environmental damage.

According to data from the Institute of Geography and Statistics (IBGE), Rondônia has 1,562,409 inhabitants, with a territorial unit area of 237,765.233 km², divided into 52 municipalities, the capital being Porto Velho (IBGE, 2010⁵³). The municipalities which cover the CUs under analysis are: Porto Velho; Machadinho D’Oeste; Vale do Anari, Cujubim; Candeias do Jamari; Guajará-Mirim; Costa Marques; Nova Mamoré; Alta Floresta D’Oeste; Buritizal; Alto Alegre do Parecis; Cerejeiras; Corumbiara; and Pimenteiras do Oeste. Furthermore, all conservation units under study are part of the Amazon Biome (MINISTÉRIO DO MEIO AMBIENTE, 2021⁵⁴).

b) *Data Collection Procedure*

The collection of data during document research was conducted with an exploratory survey using data available in cases under the competence of the Rondônia State Secretariat for Environmental Development and information generated in the issuance of parameterized reports from the Ministry of the Environment. For research effectiveness, we filed on December 5, 2018, under number 0028.452893/2018-02, in the Paperless System (SEI) of the State Government of Rondônia, a request for authorization to conduct the aforementioned research in order to characterize the environmental crimes that occurred in state and local conservation units.

All the information collected at this stage allowed us to understand and establish a situational diagnosis of the state and local Amazonian conservation units in Rondônia. These analyzes culminated in the raw material used during the falsification of parameters established by Flores, Konrad and Flores (2017b⁵⁵), providing a database with which, from the identified patterns, we conducted the experimentation of preventive parameters, thus enabling their corroboration, refutation and expansion.

IV. RESULTS AND DISCUSSIONS

a) *Overview of Protected Areas: Situational Reflections of Amazonian Conservation Units in Roraima*

In order to draw a situational overview of the Amazonian Conservation Units, located in the Rondônia region, under state and local administrative competence, data was collected from cases filed with the Rondônia State Secretariat for Environmental Development via direct contact with its servants, considering the existing limitations as a result of the Covid-19 Pandemic, with all information being obtained digitally.

Data received correspond to cases initiated from 2014 until mid-January 2020. All information was inserted in Excel spreadsheets, observing the characterization of criminal analysis—that is, the set of criminal data that make

⁴⁹ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. Ibero-American Journal of Environmental Sciences, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b.

⁵⁰ DIÁRIO DA AMAZÔNIA. Operação Pau Oco. Available at: <<https://www.diariodaamazonia.com.br/operacao-pau-oco-secretario-da-sedam-presta-depoimento-no-mpe/>>. Accessed on: 07 Nov. 2019.

⁵¹ MINISTÉRIO PÚBLICO DE RONDÔNIA. Ministério Público do Estado, MP de Contas e Polícia Civil explica alvos da segunda fase da Operação Pau Oco. Available at: <<https://www.mpro.mp.br/noticia/-/ver-noticia/38402#.XNDILtNKjBI>>. Accessed on: 05 Nov. 2019.

⁵² FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. Ibero-American Journal of Environmental Sciences, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b.

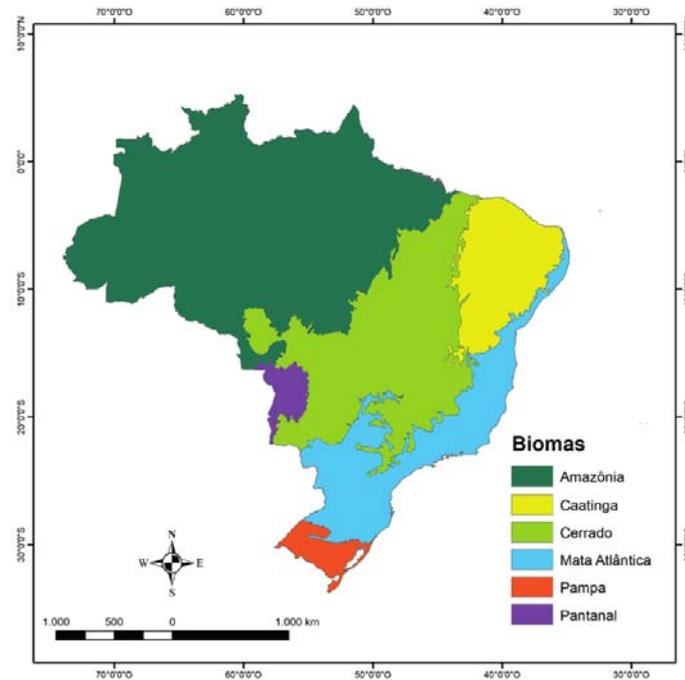
⁵³ INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA (IBGE). Produção da extração vegetal e silvicultura. v. 29. Rio de Janeiro: IBGE, 2010.

⁵⁴ MINISTÉRIO DO MEIO AMBIENTE (MMA). Consultas por Unidades de Conservação. Available at: <<http://www.mma.gov.br/areas-protegidas/cadastro-nacional-de-ucs/consulta-por-uc>>. Accessed on: 05 May 2021.

⁵⁵ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. Ibero-American Journal of Environmental Sciences, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b.

up the crimes, identification of the criminals (who committed it), which activity was committed, in which place and at what time (COSTA, 2014⁵⁶; BERNARDES, 2015⁵⁷; SENASP, 2017⁵⁸; CORTES; FOCHEZATTO; JACINTO, 2018⁵⁹).

Aiming to understand the dimension of the analyzed conservation units, we first investigated the total size of protected areas existing in Brazil: 2,546,796.89 km², considering the overlapping of strict protection areas and sustainable use areas. Of this total, around 28% belongs to the Amazon Biome, comprising an area of 1,179,072.81 km² of conservation units. This biome has the largest area in relation to the others existing in Brazil (Figure 2).



Source: IBGE (2004⁶⁰)

Figure 2: Map of Brazilian Biomes

Specifically in relation to Rondônia, primary data show that, quantitatively, the state has a total of 63 Conservation Units distributed in 52 municipalities, of which 38 units belong to the state administrative sphere and 1 unit belongs to the local administrative sphere, totaling a coverage area of approximately 21,662.93 km² of environmental preservation areas, at the state and municipal levels alone (MMA, 2021⁶¹). This area makes up 66.1% of the total Amazonian CUs in Rondônia, which demonstrates the conservationist role for the State of state and local areas (Figure 3).

⁵⁶ COSTA, Aldo Silva da. Análise criminal e a incidência da criminalidade na Regional de Tangará da Serra. Revista Científica de Pesquisa em Segurança Pública. v. 13, n. 2, p. 73-93, 2014. Available at: <http://revistacientifica.pm.mt.gov.br/ojs/index.php/semanal/article/view/247/pdf_145>. Accessed on: 22 Apr. 2020.

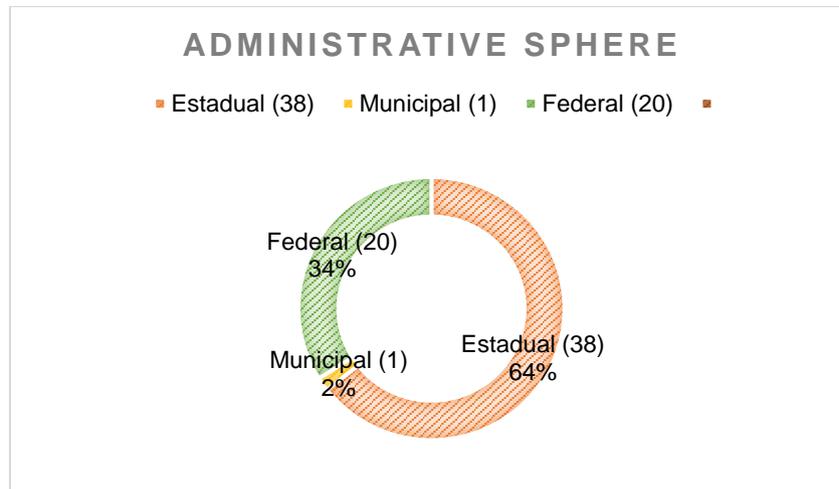
⁵⁷ BERNARDES, Paulo Ventura Silva. Análise criminal como instrumento de produção de conhecimento. Análise Criminal com Ênfase em Docência no Ensino Superior Instituto de Pós-Graduação – IPOG. Goiânia, 2015.

⁵⁸ SECRETARIA NACIONAL DE SEGURANÇA PÚBLICA (SENASP). Análise criminal 1 versão atualizada. Ministério da Justiça e Segurança Pública, Brasília, 2017.

⁵⁹ CORTES, Renan Xavier; FOCHEZATTO, Adelar; JACINTO, Paulo de Andrade. Crimes nos municípios do Rio Grande do Sul: análise a partir de um índice de criminalidade. Estudos Econômicos. vol.48 no.3 São Paulo Jul./Set. 2018. Available at: <http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0101-41612018000300451&lng=pt#B18>. Accessed on: 22 Apr. 2021

⁶⁰ INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA (IBGE). Mapa de Biomas e de Vegetação. 2004. Available at: <<http://ibge.gov.br/home/presidencia/noticias/21052004biomashtml.shtm>>. Accessed on 06 Nov. 2019.

⁶¹ MINISTÉRIO DO MEIO AMBIENTE (MMA). Cadastro Nacional de Unidades de Conservação: consulta por UC. Available at: <<http://www.mma.gov.br/areas-protegidas/cadastro-nacional-de-ucs/consulta-por-uc>>. Accessed on 06 Apr. 2021.



Source: Adapted from Ministério do Meio Ambiente (2021)

Figure 3: Amazonian conservation units in Rondônia: percentage of areas occupied by administrative level

Next, in the study that preceded this research, it was identified that, of the 39 CUs analyzed, only 5 had a management plan, and these were drafted late, that is, after the legal deadline, which according to the law is 5 years (MMA, 2021⁶²). The study showed that such irregularity provides a scenario that corroborates the concerns raised both by Flores, Konrad and Flores (2017b⁶³) and by the operation coordinated by the Prosecution Office of Rondônia (2019⁶⁴).

A management plan is the technical document that proposes to meet the objectives of the conservation unit, therefore establishing its zoning and the rules that will govern the use of the area and the management of natural resources, in order to guide the management of the CU, promote management driven by available or generated knowledge, and orchestrate the implementation of the physical structures necessary for managing the unit. It is authentically an administration plan, which directs the conservation unit towards the effective achievement of the objectives that justified its creation (BRASIL, 2000⁶⁵; BARROS; LEUZINGER, 2018⁶⁶). Therefore, conservation units that do not have this requirement are hindered (BRASIL, 2000⁶⁷).

In this sense, Barros and Leuzinger (2018⁶⁸) state that creating conservation units is not enough to guarantee their effectiveness—it is also necessary to plan and execute their management, so that they are not just units on paper. The identification of this gap was what led to the inclusion of the preventive parameter related to management, the prior analysis of the generic profile of conservation units where the preventive, legal examination of environmental crimes that affect such spaces and the consequent lack of management plans in most CUs denoted that the lack of management is seen as a facilitator for criminal practice.

We reached this finding by reading the information in the parameterized reports, in comparison with what is recommended by the SNUC law, and the consequent crossing of these data with the fundamentals that guide the Green Criminology theory. Thus, our journey began to corroborate and expand the studies by Flores; Konrad and Flores (2017b), envisioning a new preventive parameter (Figure 4).

⁶² MINISTÉRIO DO MEIO AMBIENTE (MMA). Consultas por Unidades de Conservação. Available at: <<http://www.mma.gov.br/areas-protegidas/cadastro-nacional-de-ucs/consulta-por-uc>>. Accessed on: 05 May 2021.

⁶³ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. Ibero-American Journal of Environmental Sciences, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b.

⁶⁴ MINISTÉRIO PÚBLICO DE RONDÔNIA. Ministério Público do Estado, MP de Contas e Polícia Civil explica alvos da segunda fase da Operação Pau Oco. Available at: <<https://www.mpro.mp.br/noticia/-/ver-noticia/38402#.XNDILtNKjBI>>. Accessed on: 05 Nov. 2019

⁶⁵ BRASIL. Lei nº 9.985, de 18 de julho de 2000. Regulamenta o art. 225, § 1º, incisos I, II, III e VII da Constituição Federal, institui o Sistema Nacional de Unidades de Conservação da Natureza e dá outras providências. Available at: <http://www.planalto.gov.br/ccivil_03/Leis/L9985.htm>. Accessed on: 18 Nov. 2020.

⁶⁶ BARROS, L. S. C.; LEUZINGER, M. D. Planos de Manejo: panorama, desafios e perspectivas. Cadernos do Programa de Pós-graduação Direito/UFRGS, volume 13, n. 2, 2018.

⁶⁷ BRASIL. Lei nº 9.985, de 18 de julho de 2000. Regulamenta o art. 225, § 1º, incisos I, II, III e VII da Constituição Federal, institui o Sistema Nacional de Unidades de Conservação da Natureza e dá outras providências. Available at: <http://www.planalto.gov.br/ccivil_03/Leis/L9985.htm>. Accessed on: 18 Nov. 2020.

⁶⁸ BARROS, L. S. C.; LEUZINGER, M. D. Planos de Manejo: panorama, desafios e perspectivas. Cadernos do Programa de Pós-graduação Direito/UFRGS, volume 13, n. 2, 2018.

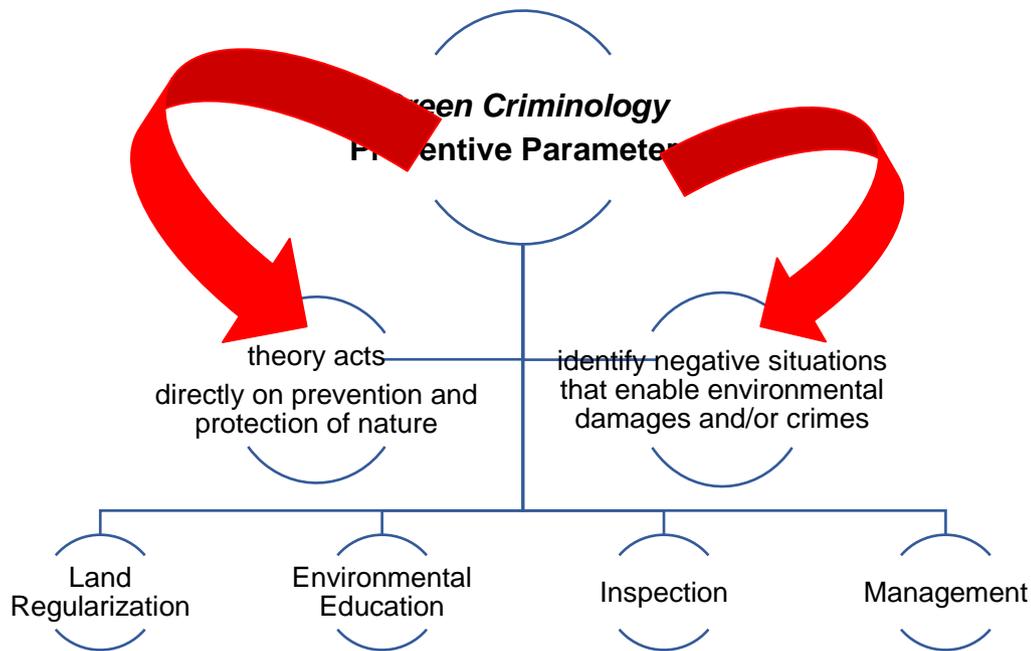


Figure 4: Flowchart of Preventive Parameters Based on Green Criminology

The creation of the management parameter was based on revelations from the parameterized reports originating from the conservation units, that is, the information on the place where the environmental offenses occur, since these data related to the generic profile are part of the characterization of green crimes, thus enabling the identification of effective preventive parameters that contribute to the eradication of new behaviors harmful to the environment, namely: (i) crime data; (ii) criminal data; and (iii) crime location data (analysis conducted to prepare the management parameter). From this set of criminalistic results, it was possible to qualify the work of the State in all its investigative, inspection and patrol aspects, in order to provide information on criminal origin factors, which underlie preventive actions, in the repression and control of criminality (COSTA, 2014⁶⁹; BERNARDES, 2015⁷⁰; SENASP, 2017⁷¹; CORTES; FOCHEZATTO; JACINTO, 2018⁷²).

b) Experimentation of Preventive Parameters: Falsification

Continuing the research, after including the management parameter, we conducted a criminal analysis of the Amazonian CUs in the sample, based on the collection of document data from the Parameterized Reports (MMA, 2021⁷³) and from information obtained in the processes filed with the Rondônia State Secretariat of Environmental Development so, based on these analyses, we could falsificate the preventive parameters in these protected areas. Access to case data took place through direct contact with SEDAM servants, who provided us with the digitalization of information pertaining to infractions. This measure was adopted due to the pandemic caused by Covid-19, an exception which was kindly welcomed by the servant who provided full support for this research.

All data were inserted in Excel spreadsheets, separated by year, starting in 2014 and ending on January 10, 2020. We chose this timeframe because the documents we received corresponded to that period, totaling 10,934 cases. The typology of environmental infractions was classified according to the legal norm, i.e., Decree No. 6,514/2008, which establishes six illicit types: against flora, against fauna, related to pollution, against urban planning and cultural heritage, against environmental administration and committed exclusively in conservation units.

⁶⁹ COSTA, Aldo Silva da. Análise criminal e a incidência da criminalidade na Regional de Tangará da Serra. Revista Científica de Pesquisa em Segurança Pública. v. 13, n. 2, p. 73-93, 2014. Available at: <http://revistacientifica.pm.mt.gov.br/ojs/index.php/semanal/arti_cle/view/247/pdf_145>. Accessed on: 22 Apr. 2020.

⁷⁰ BERNARDES, Paulo Ventura Silva. Análise criminal como instrumento de produção de conhecimento. Análise Criminal com Ênfase em Docência no Ensino Superior Instituto de Pós-Graduação – IPOG. Goiânia, 2015.

⁷¹ SECRETARIA NACIONAL DE SEGURANÇA PÚBLICA (SENASP). Análise criminal 1 versão atualizada. Ministério da Justiça e Segurança Pública, Brasília, 2017..

⁷² CORTES, Renan Xavier; FOCHEZATTO, Adelar; JACINTO, Paulo de Andrade. Crimes nos municípios do Rio Grande do Sul: análise a partir de um índice de criminalidade. Estudos Econômicos. vol.48 no.3 São Paulo Jul./Set. 2018. Available at: <http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0101-41612018000300451&lang=pt#B18>. Accessed on: 22 Apr. 2021.

⁷³ MINISTÉRIO DO MEIO AMBIENTE (MMA). Consulta relatórios de UC: gerar relatório parametrizado de unidades de conservação. Available at: <<http://www.ministeriodomeioambiente.gov.br/areas-protegidas/cadastro-nacional-de-ucs/consulta-gerar-relatorio-de-uc>>. Accessed on: 10 Apr. 2021.

The falsification of the preventive parameters for environmental infractions in conservation units (inspection actions, land tenure regularization and environmental education), proposed by Flores, Konrad and Flores were tested by comparing the generic profile patterns of Amazonian protected areas in the state and local administrative spheres, identified through the same models referred to by the authors: general information, legal acts, biotic factors, social factors, land tenure aspects, human resources, visitation, and environmental education (FLORES; KONRAD; FLORES, 2017b⁷⁴). After identifying these factors and characterizing the crimes, falsification commenced.

i. *Preventive Parameter: Inspections*

Initiating the experimentation of preventive parameters, the first test we conducted was falsifying inspection actions. For that purpose, we analyzed the characterization of crimes that occurred in conservation units, based on the environmental infraction notices. During the timeframe, 10,934 infraction notices were recorded, which were part of the cases filed with SEDAM, relating to the sample's state and local conservation units. In the case of protected spaces, the number of notices draws our attention.

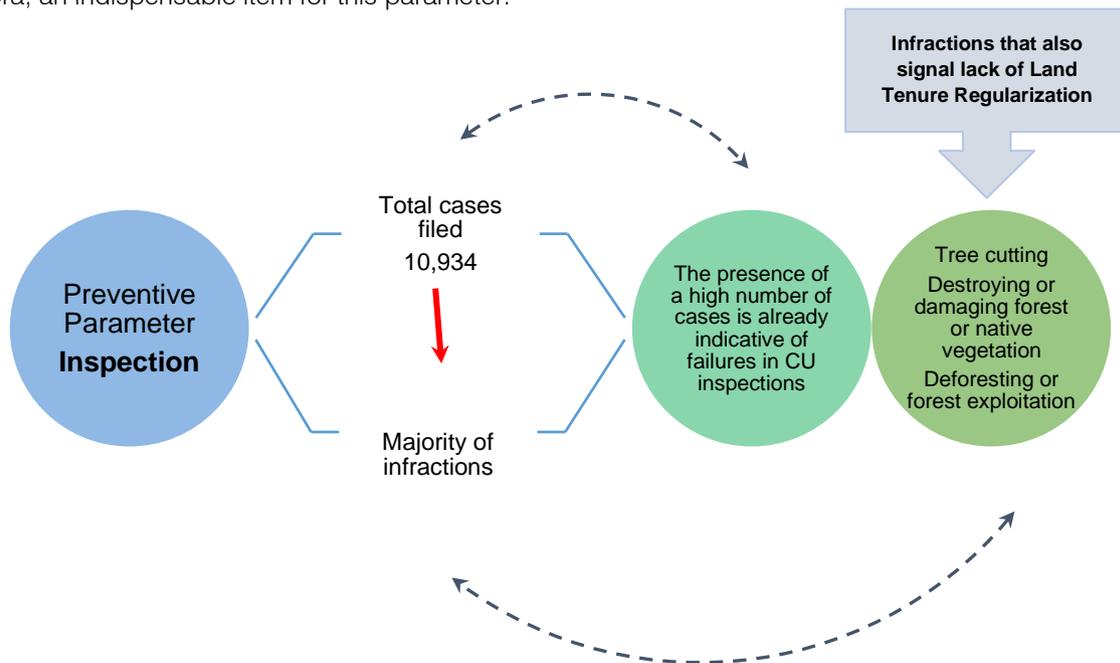
With regard to the types of crime committed, unfortunately, the case information we received did not fully clarify all of them. Most infractions in the data we analyzed correspond to different forms of damage to the forest or deforestation, and are connected to the following articles from Decree No. 6514/2008:

Article 44. Cutting trees in an area considered to be of permanent preservation or whose species is specially protected, without permission from the competent authority;

Article 50. Destroying or damaging forests or any type of native vegetation or planted native species, object of special preservation, without authorization or license from the competent environmental authority;

Article 51. Destroying, deforesting, damaging or exploiting forest or any type of native vegetation or planted native species, in a legal reserve or forest easement area, in the public or private domain, without prior authorization from the competent environmental agency or in disagreement with the concession (BRASIL, 2008).

In our first reading, we noted that the massive incidence of environmental infraction notices was already indicative of failures in inspection (Figure 5). The presence of the aforementioned infractions also indicates the possibility of lack of land tenure regularization, since the occurrence of deforestation indicates the irregular situation of the flora, an indispensable item for this parameter.



Source: The authors

Figure 5: Previous Reading of the Experimentation of the Inspection Parameter

As for the gender of those who committed the crime, males are highly prevalent, with recurrence in some cases. This information reveals a classification called “crime of masculinity,” which manifests behaviors and situations that trigger environmental offenses. For this gender, power over nature is linked to tenacious male actions,

⁷⁴ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. Ibero-American Journal of Environmental Sciences, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b

expressing intelligence and excitement, combinations that represent cultural aspects of maleness (MESSERSCHMIDT; TOMSEN, 2016⁷⁵).

Gender issues fit into a sociological conception strengthened by socially constructed concepts. Epistemological discussions involving humankind and nature must start from existing paradigms throughout history, which, incidentally, were strongly deterministic in philosophers René Descartes and Francis Bacon, since both constituted the “dualism existing between ‘man-culture’ and ‘wild-nature,’ being that which is wild, opposed to culture.” Based on this idea, “man-nature subordination relationships” are still cultivated, which explains the high incidence of environmental crimes committed by men (LAMIM-GUEDES; INOCÊNCIO, 2018⁷⁶).

According to data collected in the parameterized reports generated by the Ministry of the Environment, this high volume of illegal acts may have a direct link with another relevant fact: the exceptionally low index of human resources allocated in inspection—of the 39 conservation units in the sample, only 9 have effective or commissioned servants. Still, considering the territorial extension of these protected spaces, the deficit becomes more significant, making up a total of 35 employees at the local level and 49 at the state level, of which 13 are commission positions. Let us remember that the area of our sample amounts to around 21,662.93 km² (MMA, 2021⁷⁷).

This state of affairs was revealed by Oliveira (2020⁷⁸) when reporting the scenario of the low number of public servants and the lacking investments in conservation units claimed by the National Association of Servants in the Career of Environment Specialist (ASCEMA). This reference precisely highlights the inadequacy of human resources in CUs, which results in the series of questions raised in this research.

As for the matter of communication, it was found that the conservation unit of the local administrative sphere has means of communication such as internet and telephone, and, of the other CUs under state management, only 5 have some way to communicate (internet or telephone). In addition, regarding the inspections themselves, there is a lack of origin data to inform what triggered the cases filed at SEDAM. Certainly, there may be information that shows in more detail the starting point of the infractions (complaints, planned actions or an established inspection plans), that is, the data we accessed do not clarify this relationship. The lack of knowledge of these actions also demonstrates flaws in the inspection process (MMA, 2021¹). The result of the falsification is as follows (Figure 6):

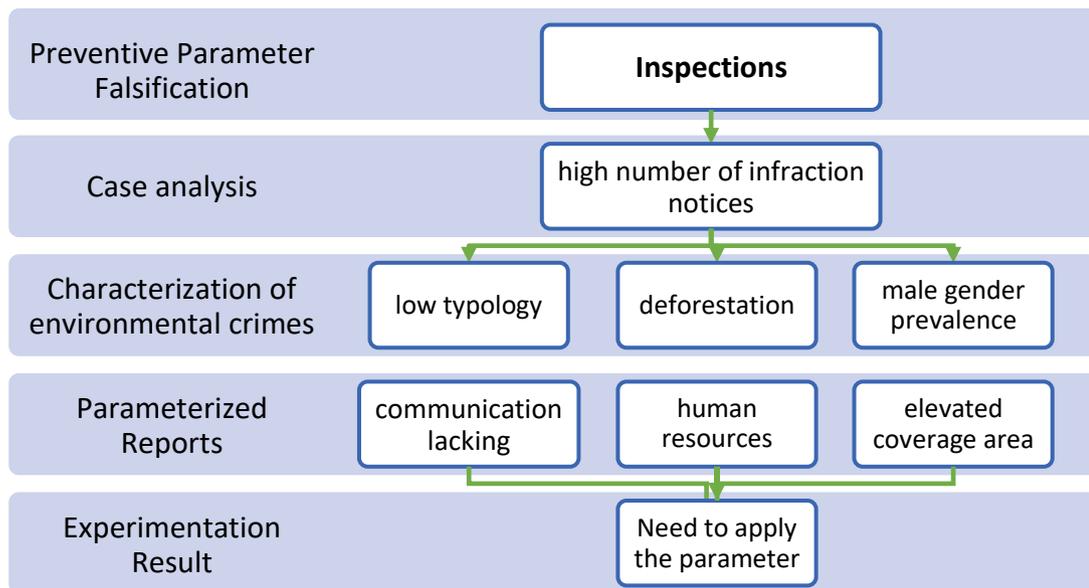


Figure 6: Result of the Falsification of the Inspections Preventive Parameter

⁷⁵ MESSERSCHMIDT, J. W.; TOMSEN, S. Masculinities, Crime, and Criminal Justice. Oxford Handbooks Online. 2016. Available at: <<http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199935383.001.0001/oxfordhb-9780199935383-e-129>>. Accessed on: 16 Apr. 2021.

⁷⁶ LAMIM-GUEDES, V.; INOCÊNCIO, A. F. Mulheres e sustentabilidade: uma aproximação entre movimento feminista e a educação ambiental. Educação Ambiental em Ação. n. 45, 2018. Available at: <<https://www.revistaea.org/artigo.php?idartigo=1559>>. Accessed on: 05 May 2021.

⁷⁷ MINISTÉRIO DO MEIO AMBIENTE (MMA). Consulta relatórios de UC: gerar relatório parametrizado de unidades de conservação. Available at: <<http://www.ministeriodomeioambiente.gov.br/areas-protegidas/cadastro-nacional-de-ucs/consulta-gerar-relatorio-de-uc>>. Accessed on: 10 Apr. 2021.

⁷⁸ OLIVEIRA, J. C. Lei das Unidades de Conservação da Natureza completa 20 anos. Meio Ambiente e Energia. Câmara dos Deputados, 2020. Available at: <<https://www.camara.leg.br/noticias/676930-lei-das-unidades-de-conservacao-da-natureza-completa-20-anos/>>. Accessed on: 05 May 2021.

⁷⁹ MINISTÉRIO DO MEIO AMBIENTE (MMA). Categorias. Available at: <<http://www.mma.gov.br/areas-protegidas/unidades-de-conservacao/categorias.html>>. Accessed on: 12 May 2021.

Given the above, it is understood that the preventive parameter should be applied in state and local conservation units, as the need for inspections to prevent damage to these protected spaces was proven. It is worth to note that, in 2007, IBAMA and WWF-Brasil jointly conducted a survey to investigate issues related to the management of federal CUs and, on that occasion, they diagnosed that human resources, financial resources, and issues related to research development, evaluation and monitoring were critical to the system of federal conservation units in the country, pointing out systemic problems in those areas. This situation was still present in the protected spaces administered by the state and municipality within our sample, perpetuating itself over these years (IBAMA; WWF-BRASIL, 2007⁸⁰).

Further, green criminology theory corroborates the applicability of the inspection preventive parameter, as it seeks mechanisms to reduce damage to nature and to disrupt and prevent environmental crimes as well. In this sense, one of the ways to achieve these goals is through the promotion of preventive inspection, an activity aimed at preventing damage before it happens (HALL, 2017⁸¹).

ii. *Preventive Parameter: Environmental Education*

In the falsification of the environmental education preventive parameter, it was found that there was no representative sample data, because of the total of 39 conservation units, only the protected area under local responsibility had environmental education plans. The lack of positive results at the state administrative level also signals the vulnerability of these protected spaces, reflecting the high rate of environmental violations that have occurred in these areas.

Although the local conservation unit had environmental education plans, it was not possible to identify activities involving research and monitoring (Figure 7), offering environmental education activities linked to formal education at the CU, interpretive/educational activities offered to visitors, or guided trail visitations (MMM, 2021⁸²). Despite there being educational initiatives, the preventive parameter is weakened as an instrument to recognize the damage caused to protected areas by illegal conduct.

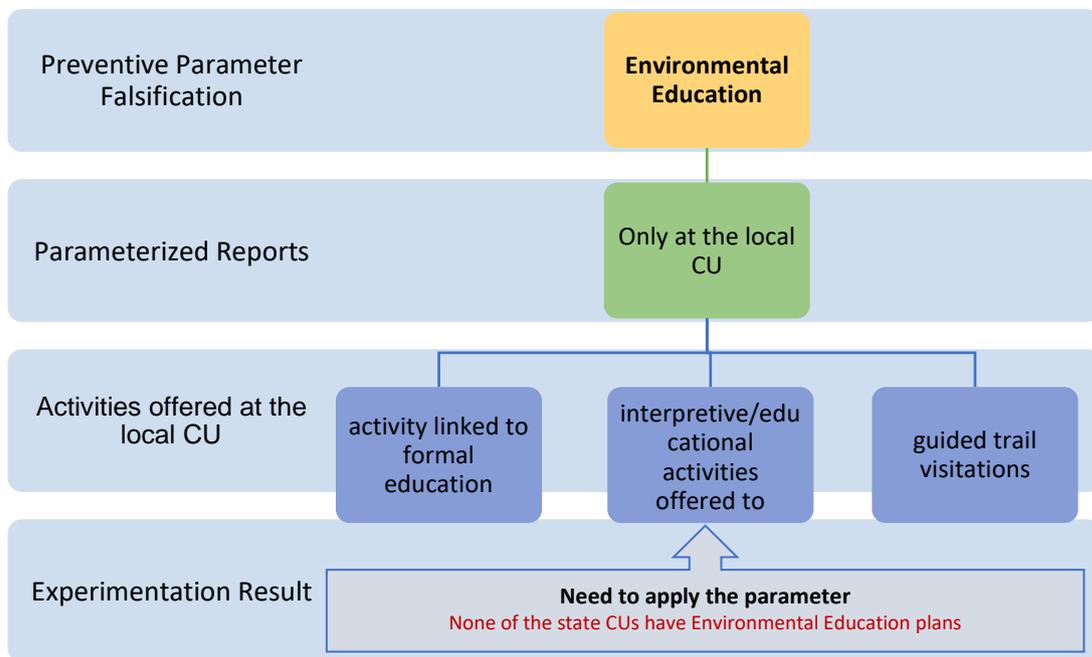


Figure 7: Falsification of the Environmental Education Preventive Parameter

Experimentation with the environmental education preventive parameter suggests a corroboration of the studies by Flores, Konrad and Flores (2017b⁸³), since results highlight the need for its application in the prevention

⁸⁰ Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis - IBAMA; WWF-BRASIL. Efetividade de gestão de unidade de conservação federais do Brasil. Brasília, 2007

⁸¹ HALL, Matthew. Exploring the cultural dimensions of environmental victimization. Nature. Article number: 17076, 2017. Available at: <https://doi.org/10.1057/palcomms.2017.76> Accessed on: 30 Mar. 2020.

⁸² MINISTÉRIO DO MEIO AMBIENTE (MMA). Consultas por Unidades de Conservação. Available at: <http://www.mma.gov.br/areas-protegidas/cadastro-nacional-de-ucs/consulta-por-uc>. Accessed on: 05 May 2021.

⁸³ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. Ibero-American Journal of Environmental Sciences, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b.

of illicit activities to natural capital, thus inferring the non-replication of such harmful conducts and, consequently, achieving the conservation of Amazonian protected areas (FLORES; KONRAD; FLORES, 2017a⁸⁴).

According to Flores, Konrad and Flores (2017b p. 291⁸⁵), analysis of the generic profile of conservation units “described the panorama of these areas, enabling perception of the reality experienced in such spaces.” The inexistence of environmental education plans in 38 conservation units reveals an environment of latent pressures and threats, conducive to the occurrence of environmental violations and, consequently, of damage to nature.

As a result of this panorama, we find for the applicability of the environmental education preventive parameter in Amazonian conservation units in the state administrative sphere, to design activities involving environmental education, and, in the local conservation unit, to improve existing plans.

The intention to apply the environmental education preventive parameter in corroborating the control of environmental infractions in protected areas is consistent with green criminology theory, giving rise to understand environmental offenses (crimes or infractions) in a scope of environmental prevention, since these spaces make up the cornerstone of national and international public policies for the conservation of *in situ* ecosystems at the global level (FLORES;KONRAD; FLORES, 2017b⁸⁶; NICOLLE; LEROY, 2017⁸⁷; LYNCH, 2020⁸⁸).

iii. Preventive Parameter: Land Tenure Regularization

Results from the falsification of the inspections preventive parameter signaled disputes regarding the land tenure situation of the conservation units in the sample. The high number of environmental infraction notices drew a negative picture regarding the situational aspect of the flora, drawing attention to the records of deforestation occurrences and demonstrating the predominance of this conduct.

According to the data analyzed in the parameterized reports (MMA, 2021⁸⁹), the land tenure situation presented in the experimentation with the preventive parameter revealed a low number of regularizations. The module pointed out 1 state conservation unit and the local conservation unit with partial regularization, and 9 state CUs fully regularized (Figure 8).

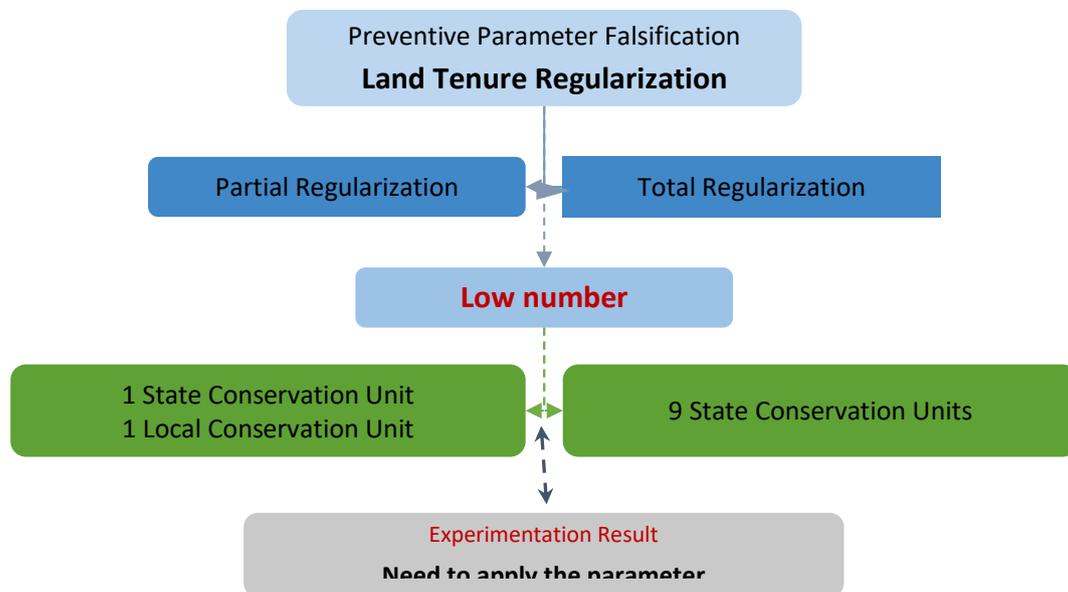


Figure 8: Falsification of the Land Tenure Regularization Preventive Parameter

⁸⁴ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green criminology: cenário das produções científica. Ibero-American Journal of Environmental Sciences, [S.I.], Aracajú, v. 8, n. 4, aug. 2017a.

⁸⁵ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. Ibero-American Journal of Environmental Sciences, [S.I.], Aracajú, v. 8, n. 4, aug. 2017b

⁸⁶ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia. Ibero-American Journal of Environmental Sciences, [S.I.], Aracajú, v. 8, n. 4, aug. 2017b

⁸⁷ NICOLLE, S.; LEROY, M. Advocacy coalitions and protected areas creation process: case study in the Amazon. Journal of Environmental Management, v.198, p.99-109, 2017. DOI:<http://dx.doi.org/10.1016/j.jenvman.2017.04.035>.

⁸⁸ LYNCH, Michael. J. Green Criminology and Environmental Crime: Criminology that matters in the Age of Global Ecological Collapse. Journal of White Collar and Corporate Crime. 2020, 1(1) 50-61. <https://doi.org/10.1177/2631309X19876930> Accessed on: 05 May 2021.

⁸⁹ MINISTÉRIO DO MEIO AMBIENTE (MMA). Consulta relatórios de UC: gerar relatório parametrizado de unidades de conservação. Available at: <<http://www.ministeriodomeioambiente.gov.br/areas-protegidas/cadastro-nacional-de-ucs/consulta-gerar-relatorio-de-uc>>. Accessed on: 10 Apr. 2021.

The study highlighted that the irregularity of land tenure aspects provides an environment of conflict in protected spaces, directly influencing the constraints and pressures on conservation units, consequently generating deforestation zones, which explains the high rate of notices. This reality also occurs in federal conservation units (FLORES; KONRAD; FLORES, 2017b⁹⁰), thus generating evidence that reveals problems consistent with the Brazilian historical process, since deforestation in the Amazon reflects the absence of environmental governance, from a perspective that involves a formal institutional structure, organized civil society and the private sector acting at different levels of socio-political organization, in a scope that effectively covers protected areas (SEIXAS et al., 2020a⁹¹; SEIXAS et al., 2020b⁹²).

Seixas *et al.* report “setbacks” that reach conservation units, especially with regard to the “dichotomy between conservation and development, and the reduction of spaces for social participation.” The authors reinforce this idea when they mention that the current Brazilian political situation is unfavorable for the governance of CUs, noting that the “country moves backwards” when in views protected areas “as villains of economic growth.” They go on to say that “therefore, the difficulties in promoting land tenure regularization, territorial consolidation and effective inspection in numerous CUs are accentuated” (SEIXAS et al., 2020a p. 14⁹³).

Therefore, the result of falsifying the land tenure regularization preventive parameter fits perfectly into a panorama of conflicts and constraints caused by the prominence of deforestation. There is a need to apply the parameter in the studied conservation units, in order to minimize the hostile aspects revealed by harmful conduct. Hence, “environmental regulation through the resolution of the land issue is an inhibitor of conflicts and, consequently, of environmental damage” (FLORES; KONRAD; FLORES, 2017b p. 290⁹⁴).

Thus, our research revealed that the scenario of protected spaces is consistent with the areas covered by green criminology: “damage and destruction, legal norms, and environmental regulation.” This confirms the consolidation of what the theory upholds regarding concerns identified in the experimentation of the parameter, reflecting the negative points that occur in Rondônia’s conservation units, since land tenure regularization proved to be relevant in view of the harmful patterns observed in the generic profile of these CUs, considering preventive effectiveness against environmental infractions (FLORES; KONRAD; FLORES, 2017b⁹⁵).

c) Preventive Parameters and Green Criminology: A Contribution to the Prevention of Environmental Damage

The falsification of preventive parameters for environmental infractions in state and local conservation units, as well as data on the generic profile of the CUs and the patterns identified in the environmental infraction notices (Figure 9) further cement the scope of green criminology theory (damage and destruction, legal norm, and environmental regulation). Such findings indicate the consolidation of the parameters of inspections, land tenure regularization and environmental education in the prevention of harmful behavior to the natural capital of Amazonian protected areas (FLORES; KONRAD; FLORES, 2017b⁹⁶; MMA, 2021⁹⁷).

⁹⁰ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. *Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia*. Ibero-American Journal of Environmental Sciences, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b

⁹¹ SEIXAS, C.S.; PRADO, D.S.; JOLY, C. A.; MAY, P. H.; NEVES, E. M. S. C.; TEXEIRA, L. R. Governança ambiental no brasil: rumo aos objetivos do desenvolvimento sustentável (ODS)?

Cadernos Gestão Pública e Cidadania. São Paulo. v. 25, n. 81, 2020a.

⁹² SEIXAS, C. S.; VIEIRA, P. F.; MEDEIROS, R.P.; QUEVEDO, P.; ZERAFINI, T.Z. Introdução. In: Seixas & Vieira e Medeiros (Eds). Governança, conservação e desenvolvimento em territórios marinhos-costeiro no Brasil. RIMA Editora. São Carlos, 2020b.

⁹³ SEIXAS, C.S.; PRADO, D.S.; JOLY, C. A.; MAY, P. H.; NEVES, E. M. S. C.; TEXEIRA, L. R. Governança ambiental no brasil: rumo aos objetivos do desenvolvimento sustentável (ODS)?

Cadernos Gestão Pública e Cidadania. São Paulo. v. 25, n. 81, 2020a.

⁹⁴ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. *Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia*. Ibero-American Journal of Environmental Sciences, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b.

⁹⁵ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. *Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia*.

Ibero-American Journal of Environmental Sciences, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b.

⁹⁶ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. *Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia*.

Ibero-American Journal of Environmental Sciences, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b.

⁹⁷ MINISTÉRIO DO MEIO AMBIENTE (MMA). Áreas protegidas. Availableat: <<http://www.mma.gov.br/areas-protegidas.html>>. Access ed on: 05 May 2021.

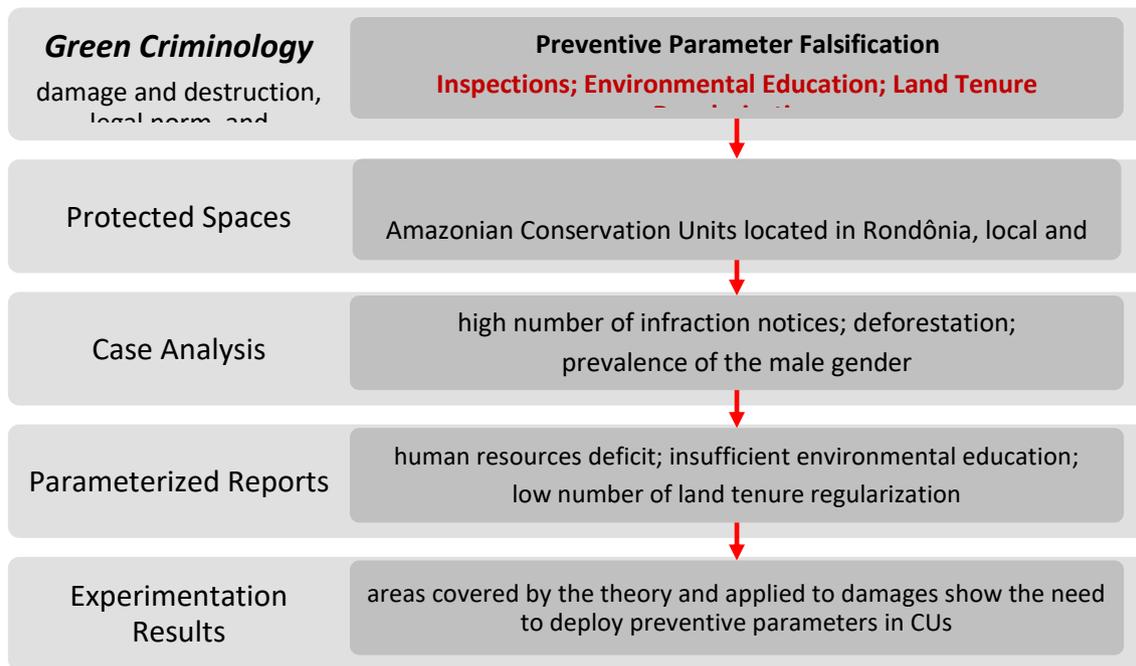


Figure 9: Result of the Falsification of Preventive Parameters

Another latent conclusion concerns the similarity of the profiles of conservation units in the sample of Flores, Konrad and Flores (2017b⁹⁸) to those studied here, denoting that these do not depend on the administrative sphere being different, since the CUs studied by the authors were at the federal level—what also reaffirms the vulnerability of all analyzed spaces, which should be protected. It should be remembered that it is not enough for the unit to be established on paper; it needs to comply with its legal character, protecting both the territory and the traditional communities that inhabit these CUs, as the high damage rate present in the module reflects the destructive scope of the ecosystems regarding these areas—concerns directly linked to Green Criminology (BRASIL, 2000⁹⁹; FLORES; KONRAD; FLORES, 2017b¹⁰⁰; SEIXAS *et al.*, 2020a¹⁰¹; LYNCH, 2020¹⁰²).

The strengthening of preventive parameters in Amazonian conservation units under state and local jurisdiction in Rondônia is based on the need for efficiency. Therefore, land tenure regularization and inspection plans must be sought in order to preserve such environmental magnificence, a demand that calls for human resources. It is worth noting that the area of protection in relation to staff available is disproportionate, demonstrating insufficiency of personnel. Thus, land tenure regularization implies environmental justice, as recurrent problems such as environmental racism, influenced by power relations in society, corroborate the inertia in implementing measures to resolve land issues in conservation units, reaching, in the case of sustainable use areas, a specific cultural group, which are the traditional communities (FLORES; KONRAD; FLORES, 2017b p. 290¹⁰³).

Furthermore, with regard to the environmental education parameter, this proved to be the most critical task, as the study areas had very little personnel available. This result shows how discussions involving environmental education are still controversial, as the study highlighted the lack of scientificity and other activities related to the theme in the protected spaces we analyzed. However, its presentation is relevant to direct perceptions involving environmental crimes, that is, the parameter is essential to understanding the preventive typology of illegal activities,

⁹⁸ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. *Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia*. Ibero-American Journal of Environmental Sciences, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b

⁹⁹ BRASIL. Lei nº 9.985, de 18 de julho de 2000. Regulamenta o art. 225, § 1º, incisos I, II, III e VII da Constituição Federal, institui o Sistema Nacional de Unidades de Conservação da Natureza e dá outras providências. Available at: <http://www.planalto.gov.br/ccivil_03/Leis/L9985.htm>. Accessed on: 18 Nov. 2020.

¹⁰⁰ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. *Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia*. Ibero-American Journal of Environmental Sciences, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b.

¹⁰¹ SEIXAS, C.S.; PRADO, D.S.; JOLY, C. A.; MAY, P. H.; NEVES, E. M. S. C.; TEXEIRA, L. R. Governança ambiental no brasil: rumo aos objetivos do desenvolvimento sustentável (ODS)? *Cadernos Gestão Pública e Cidadania*. São Paulo. v. 25, n. 81, 2020a.

¹⁰² LYNCH, Michael. J. *Green Criminology and Environmental Crime: Criminology that matters in the Age of Global Ecological Collapse*. *Journal of White Collar and Corporate Crime*. 2020, 1(1) 50-61. <https://doi.org/10.1177/2631309X19876930> Accessed on: 05 May 2021.

¹⁰³ FLORES, Cíntia Rosina; KONRAD, Odorico; FLORES, Josmar Almeida. *Green Criminology e prevenção à danos ambientais em áreas protegidas na Amazônia*. Ibero-American Journal of Environmental Sciences, [S.l.], Aracajú, v. 8, n. 4, aug. 2017b.

conducting scientific analyzes to understand the situation of protected spaces, so that there is no reproduction of harmful conduct (SOUTH, WHITE, 2014¹⁰⁴; LYNCH; STRETESKY, 2014¹⁰⁵; NURSE, 2016¹⁰⁶; NURSE, 2017¹⁰⁷).

Furthermore, the results of the sample become more expressive when we confirm the low effectiveness in researches linked to protected areas, as well as few studies related to green criminology theory. This finding contrasts with the reality of developed countries, which even provide grants for research around this theory (SOUTH, 2014¹⁰⁸; FLORES; KONRAD; FLORES, 2017a¹⁰⁹; KONRAD et al., 2020¹¹⁰; LYNCH, 2020¹¹¹).

According to Lynch, there is a need for an abundance of studies that include evaluating the effectiveness of environmental laws and policies and also of environmental law enforcement, "at any level of analysis (local, state, regional, national, global), using traditional pre-post-research methods that criminologists often employ" (LYNCH, 2020 p. 57¹¹²). Thus, we conclude that the analysis of environmental offenses, from the perspective of green criminology, enables the proper application of legislation, providing an integrated and grounded management of ecological issues involving green crimes, in fact encouraging the prevention and protection of natural resources (SOUTH, WHITE, 2014¹¹³; LYNCH; STRETESKY, 2014¹¹⁴; NURSE, 2017¹¹⁵; HALL, 2017¹¹⁶).

d) *Final Considerations*

As a way of closing the cycle around all Amazonian conservation units in the State of Rondônia, testing of preventive parameters highlighted the challenges faced by environmental agencies and entities arising from practical issues, which are mainly related to the shortage of human resources and end up empowering offending conduct, since inspections remain impaired. We also identified the pressures and threats caused by the lack of land tenure regularization, which at times are due to the omission of public authorities in consolidating the territorial ordering of conservation units, what in turn creates obstacles in the protective effectiveness, in addition to promoting conducts inconsistent with such protected spaces in the Amazon.

Finally, we highlight the relevance of environmental education in the sense of analyzing the specificities and typologies that involve crimes against nature, in addition to promoting the scientificity of thematic conservation units and green criminology, essential requirements to understand the situational conditions of protected areas. Therefore, this research serves as a warning to reflect on the concerns that revolve around conservation units, since their implementation is not enough to achieve their main objective: preservation of natural capital.

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GLOBAL JOURNAL OF HUMAN-SOCIAL SCIENCE: H
INTERDISCIPLINARY
Volume 23 Issue 3 Version 1.0 Year 2023
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-460X & Print ISSN: 0975-587X

The Concept of ‘States within a State’ Admist Conflict and Peace Building Ventures in Bafut, Cameroon

By Ngwa Devine

Abstract- This study looks at the perception and manifestation of the concept of ‘states’ in African communities. A state, in African context, is an organisation of human beings connected by a system of relations. Within the states, different groups of people exist and different individuals have different roles to play. Some exercise special powers or authority, capable of giving command, which is obeyed by the people they rule. In the Bamenda Grassfields of Cameroon (present-day North West Region), these individuals are called fons and chiefs and they rule fondoms. In Westernised societies, they would be called kings. Since colonial period, government administrators refer to them as traditional rulers or natural rulers. Amongst these rulers are some who rule over what is commonly referred to as semi-autonomous polities within the fondoms. They are called sub-chiefs on grounds that colonial administrators came out with this appellation to differentiate the authority and position of a ruler from that of his subalterns. In Bafut this classification spark waves of wrangles and conflict between the fon and his subalterns.

Keywords: states, conflict, peace building, bafut, cameroon.

GJHSS-H Classification: DDC Code: 950.072



Strictly as per the compliance and regulations of:



The Concept of 'States within a State' Admist Conflict and Peace Building Ventures in Bafut, Cameroon

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Abstract- This study looks at the perception and manifestation of the concept of 'states' in African communities. A state, in African context, is an organisation of human beings connected by a system of relations. Within the states, different groups of people exist and different individuals have different roles to play. Some exercise special powers or authority, capable of giving command, which is obeyed by the people they rule. In the Bamenda Grassfields of Cameroon (present-day North West Region), these individuals are called *fons* and chiefs and they rule *fondoms*. In Westernised societies, they would be called kings. Since colonial period, government administrators refer to them as traditional rulers or natural rulers. Amongst these rulers are some who rule over what is commonly referred to as semi-autonomous polities within the *fondoms*. They are called sub-chiefs on grounds that colonial administrators came out with this appellation to differentiate the authority and position of a ruler from that of his subalterns. In Bafut this classification spark waves of wrangles and conflict between the fon and his subalterns. The problem revolves around rights over people. The chiefs in Bafut claim to have brought their people into Bafut from various places of origin. Thus, according to them, the Fon's right to exert local control and authority over their people is not legitimate. Such claims threatened the survival of traditional authority in Bafut as the subaltern chiefs on several occasion attempted to declare their independence or autonomy inside Bafut. They also incited ethnic diversity in the *fondom*. The conflict since colonial rule has sharpened and thus endangers social peace and cohesion among the people. All efforts or attempts towards peace seemed to have been futile. This situation generated our interest in the study of the various dimensions and dynamics of the conflict and its impact on the Bafut society. The origin of the conflict, its evolution, magnitude; the role of the colonial authorities and Cameroon Government administrators in the conflict, constitute the research problem of this study. We adopted a chronological approach to the historical narrative here and exploited both primary and secondary sources of information to buttress our discussions. From our sources we concluded that the concept of states (semi-autonomous states) within a state as adopted in African communities today is a serious potential to conflict. Its existence deters cordial relations, integration, unity and peace building in a community. Such tendencies are speed brakes to progress, and development of a people. They must be redressed in time.

Keywords: states, conflict, peace building, bafut, cameroon.

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I. CONCEPTUAL FRAME

A state, in the African context, according to Fortes and Evans-Pritchard, is an organisation of human beings connected by a complex system of relations. In this study, emphasis is on this aspect which says that a state is any organisation of human being connected by a complex system of relations. The complexity of the system of relations is also a serious area of interest to us here given that at one point it is the complexity in the system of relations that generates the conflicts under study. The various dimensions in the relations within the organisation or system equally constitute the sensitive areas of analysis made in this study. Generally, as the definition goes, a state is an organisation of human beings connected by a complex system of relations. Some of the states are centralised societies while others are decentralised entities. The centralised ones are large, composite, and heterogeneous polities made up of people of various ethnic groups and cultural background living together in one location (Fortes and Eans- Pritchard, 1967:15).

Semi-autonomous states in African context are smaller entities or groups of people within the bigger or heterogeneous polities. A number of criteria determine the existence of these states amongst which are conquest, ethnicity and indigenus (autochthone) status. Often, ethnic groups of smaller sizes and population constitute semi-autonomous states within bigger ones. In the Northwest Region of Cameroon, the colonial master attributed the appellation 'chiefdom' to distinguish a semi-autonomous state from the *fondom*. This automatically distinguished the territorial jurisdiction and power of control of a subaltern Leader (sub-chief) from that of his superior, the *fon*. The power legacy and paraphernalia of semi-autonomous states revolved around the following: Their leaders were attributed hereditary dynasties and royal titles over their people and area of control. These titles were those the leaders brought from their places of origin as they led their followers in the process of migration to the new site or settlement. Once settled, the leaders established ruling dynasties over their people and maintained the royal titles of origin. Examples of semi-autonomous

chiefdoms (states) of this character in the Northwest Region are found in Nso and Bafut *fondoms*.

However, some semi-autonomous states (chiefdoms) came to existence through conquest, assimilation, association, alliances or colonial fabrication. Some powerful migrant leaders and groups conquered indigenes (autochthones) and imposed their dictates and supremacy over them. In the position of weakness, the autochthones and leaders were compelled to accept a subaltern position under the foreign invading leader and his people. Some groups in search for security against invaders and predators, decided to either seek refuge under a stronger, reliable group and leader or create a protective alliance (association) with the powerful group so that a stronger front can be created against the invading enemy or aggressor. Alliances were common among groups or states in the Northwest Region especially with the onslaught of Bali chambers invasion and aggressions in the area. The Bali decision to ally with the Germans to bring the other groups or people in the area under their swear increased the spirit of defensive and protective alliances (association) amongst the states and groups in the area. A typical example was the alliance between Bafut and Mankon formed to fight their common enemy- the Bali and Germans.

Some alliances eventually resulted to the assimilation of the weaker groups by the stronger ones (against their will) thus reducing them to a semi-autonomous state or position in the union. Their leaders also become subaltern to the leader of the stronger group. In other instances, some leaders by consensus, decided to hand over their power and authority to a superior leader to legislate on their behalf while they support him from the rear. In this case, such leaders automatically made themselves and their people subordinate to the stronger group and leader. Others by means of coup d'état took control of an area or community and made themselves and leader superior over the rest of the people whose leaders were bound to assume subaltern position under the superior leader and group. All the aforementioned constitute the base of semi-autonomous states in African communities. The Bafut *fondom* went through these processes at different times in its history and evolution.

The introduction of colonial rule came with a different interpretation and application of the concept of semi-autonomous states in Africa. First, the procedure of willfully handing over power or ones autonomy to a superior leader while assuming a lower position under him is what modern state systems refer to as federations (federated states). This modern concept gave a different paradigm to what the Africans initially understood and practiced within the context of semi-autonomous states. In actual fact, federated states are created partly out of the willingness of different groups

of people to come together for a common interest and to leave as one body (entity); while still maintaining some of their identities and cultures peculiar to the different people or groups within the federation. Examples of such federated states in Africa are found in Nigeria, Cameroon, Mali and many others. In local African context, this arrangement will be regarded or described as semi-autonomous states (polities) within a state. In all these, one thing is evident and it is the fact that the form of the state in Africa at any given time was determined by the interest at stake. Some states resulted from self-interest (orchestrated by personal zeal, ambitions and anxiety) or common interest orchestrated by the desire to work for the general good of a multitude. This brings to question the metamorphosing process of state formation in Africa from origin to present.

II. STATE ORGANISATION (FORMATION) IN AFRICA

An understanding of the process of state formation in Africa requires a historical investigation from precolonial to colonial and post-colonial Africa. State organisation in Africa took the form of groupings which ranged from families, quarters, lineages, villages, tribes, clans, kingdoms and empires. Any of these forms could represent a state at any given time in the process of evolution. According to Catherine Coquery, states in Africa were not created or defined through specified lines or margins drawn on a map to differentiate a state from another. African leaders (family heads, lineage and village heads) new the extent and limit of their authority and understood that beyond a certain level, their authority was no more biding on people (Catherine, 1999: 39-54).

Group relations at the level of families, villages, kingdoms and empires were regulated within a complex and diversified mechanism of links and network. Given the complex nature of relations, these structures could not by any means be compared or reduced to the kind of vertical and hierarchical monarchies, dynasties and republics obtained in Europe. In fact European structures (states) were regulated by a system of governance with well-defined territorial jurisdiction and powers. African states were constituted based on relations that assumed one of the following forms: Lineages founded on family links. That is, through blood affiliation or reconstructed social relations such as marriages, religion, culture and traditions (Ibid: 39-40).

The second form was political relations based on the recognition of an authority over a group or state. Such a group was characterized by a hierarchical territorial structure which existed long ago in the continent. Examples include the Ashanti empires of Ghana, Mali, Songhai and other isolated creeks, Islands

and lakeside communities. The third form of relations had to do with personal dependence (interdependence). Such relations were created between people, communities or villages by means of trade network or economic exchanges. Social needs and obligations such as unity and security imposed dependence relations between lineages, villages and between families. Even superior leadership at the helm of the structures (states) needed a kind of personal dependence relations to disseminate their authority to the least commoner or grass root community in the structure. For this to succeed, the authority had to pass through intermediaries such as subaltern leaders (sub-chiefs) whose lineages, villages, tribes, provinces or states were linked to the superior leader by personal dependence relations. This is where an apt definition of the concept of states within a state fitted well in the African political system. Coexistence in the same system or structure also required personal dependence relations (Ibid: 40). All these made state formation in Africa a complex issue. However, this arrangement did not stop the African leaders from clamouring for a certain degree of territorial boundaries or frontiers that will portray their authority and autonomy.

From colonial rule henceforth, a different interpretation of the concept of states in Africa emerged. Here the concept was interpreted within the context of how much power and authority a leader wield or exercised in society. In this, history, tradition, native customs and culture or status were not prerequisites or determining factors in the eyes of the colonial masters. Colonial rule created new chieftaincies in African communities which never existed before and empowered some. They empowered some subaltern leaders and mounted some against their natural bosses and superiors. This situation caused the existence of the phenomenon of warrant chiefs in the African states (Afigbo, 1972: 1-35). Whatever that meant, the fact remains that colonialists created such leaders and power structures for their interest so that they can facilitate their exploitative administration in Africa. Out of this, a new mentality about power and subalternship emerged in African political structures. The concept of states within a state took a different twist. Some leaders exploited their warrant positions under colonial leadership to wield much power and authority in their respective communities or local areas. Some exploited the security accorded them by colonial leaders to challenge the authority of leaders they initially honoured and respected as their superiors. Some used new colonial ideas such as liberty, freedom, human rights, democracy to liberate themselves from any form of oppression that had existed in the past. The sure course was to assert their autonomy and independence. This attitude was encouraged by the fact that under colonial rule, the power and authority of an African leader could

increase or decrease depending on his relation with the colonial master. Thus it became possible for a subaltern leader to woe the support of the colonialist to fight or challenge his superior. This led to wanton power tussles and wrangles amongst the African leaders.

Another aspect was the creation of states in Africa by the colonialist. States were created out of the balkanisation of African Communities and people with no recourse to the family, lineage, and village, ethnic, tribal or cultural relations. The systematic fragmentation of the continent created arbitrary frontiers or boundaries in the African communities (Olufemi, 2003). The consequence of this situation was the disappearance of solidarity and unity amongst the people. Brotherhood made no meaning any more as families became estrange to each other. This turned out to be an indirect ploy that created 'states within state' in African relations and mentality. That became a source of conflict. The situation was aggravated by the nature of the states created by the colonialist in terms of sizes. Some of the states were either too big in size while others were too small. This was done without any conventional formula to determine the sizes and creation of the states. This attitude became imbued in the African mentality who now thought that at any time and in any form a state can be created in the community irrespective of the size. Subaltern leaders thus developed a spirit where once they felt jilted or uncomfortable in their relations with their superiors, the solution was to assert their autonomy and independence. This has remained in the physical and mental psyche of African leaders more as a vector of conflict than peace building. To them being autonomous is the only panacea to their problems. However the failure to consider the context, environment and situation at hand in such bid has rather created more complex situations and conflicts than solutions.

We earlier mentioned, the kind of power system instituted amongst African leaders by the colonialist. All was geared towards serving colonial interest and causing it to succeed. One attitude cultivated by African leaders from this was that while the authority of some leaders grew beyond proportions in their communities, others thought that their opinion on issues of local state politics determined the final decision taken. In other words, higher state authorities cannot decide on an issue without consulting them. Consequently, some communities and leaders became permanent actors and acolytes of state machinery. Their opinion in state decisions and policies could eventually influence the final decision taken by the state on an issue. In fact, where subaltern authorities impact the policies and politics of the state, Africans ironically described such as a state within a state. In north Cameroon for instance, the Lamido of Ray Bouba and his community are considered a strategic power and political bastion in the area. When it comes to issues of state politics such as

elections, the Lamido and his palace decides who occupies what position. Any gallery in the form of democratic elections is mere window dressing. The final choice comes from the Lamido and the state government ratifies. State authorities consulted the Lamido on state policies related to the northern region of Cameroon and on special occasions he was invited to the Unity Palace in Yaounde (see fig 1a). No Cameroon politician of significant importance went

ahead with his political agenda without consulting the Lamido of Rey Bouba for his blessings. Reason why even the son of the President of the Republic, Franck Biya visited the Lamido for blessings (see fig. 1b). Part of the personal security of the Lamido or Rey Bouba is ensured by the elements of the Cameroon military and gendarmes especially during public appearances (see fig 1c and b).



Source: U-Tube Rey- Bouba Production



Source: Rey- Bouba Production

Fig. 1a: Lamido of Rey Bouba at the Presidency

Fig. 1b: Franck Biya on a visit to the Lamido of Rey Bouba



Source: U-Tube Rey- Bouba Production



Source: U-Tube Rey- Bouba Production

Fig. 1c: Cameroon Military Guarding the Lamido of Rey Bouba

Fig. 2a: Women worshipping the Lamido of Rey Bouba

The Lamido of Rey Bouba is worshiped as a demi-god by both men and women of his kingdom (see fig 2a and b). In fact, the aura around the power and authority of the Lamido of Rey Bouba makes him and his kingdom 'a state within a state' without necessarily creating geographical boundaries or frontiers. Many of such psychological states existed in Africa and Cameroon during and after the colonial period. Conspicuous cases in hand include the Sultan of Bamoun in the West Region of Cameroon and the Fon of Bafut in the North West Region.



Source: U-Tube Rey-Bouba Production

Fig. 2b: Man bowing in Honour of Lamido Rey Bouba



Source: Fouban- wikipedia

Fig. 3a: The Bamoum Royal Palace of German Design

In the German colonial period, the influence of Sultan Njoya Ibrahim and his Bamoun Sultanate on German administration made it indispensable for the Germans to take some decisions or policies without consulting the Sultan of Bamoun. His image, power and personality rose to prominence in the West Region as the Germans assisted in projecting Bamoun image and prowess in the area. It was during the German Period that a magnificent edifice of German architecture was built for the royal palace of the Bamoun (see fig. 3a above). Njoya fell in love with German authorities to the

point that he changed his traditional dressing code to embrace that of the German Kaisers (see fig 3b). This was clear evidence of the degree of cordial relations and power romance that Njoya had with the Germans. The Sultan of Bamoun was worshiped as a demi-god by his people (see fig 3c. With a German authority at close watch). In such circumstances, the Bamoun kingdom and leader was seen as 'a state within a state' though no defined geographical boundaries existed anywhere to show the demarcation.



Source: Matateyou, P.200

Fig. 3b: The Bamoum Sultan and Wife in German Administrative Dressing



Source: Matateyou, P.238

Fig. 3c: Bamoum Man Pays Honour to His King

The power and authority of Sultan Njoya grew to prominence as the Germans projected him above all other leaders and communities in the West Region. They awarded him a medal for loyal services to them (see fig 3b above). Fortunately or unfortunately, the Germans were defeated in the First World War and bundled out of Cameroon by the French and British. The Bamoun

Sultanate fell within the zone controlled by the French. Sultan Njoya mounted a stiff resistance against the new French administration that had embarked on curbing and sapping away the excessive power of the Bamoun leader. This brought strains in their relations and the French were compelled to dethrone Sultan Njoya and send him on exile to Yaounde where he died on 30 May

1933 (Matateyou, 2015: 7-8). It was the dethronement of the Sultan that enabled the French to gain authority and local control over the people in the western region of Cameroon. The Power of Sultan Njoya had grown to prominence and made his kingdom to exist as though it was 'a state within a state.' His dethronement also depicts how an African kingdom and leader can wield power to the point of being a threat or rival to the national government authorities or state. This attitude is imbued in the mind and always it provokes the desire to be liberated from any form of alien oppression or subordination. The fight for secession and independence has often occurred within the ambit of conflicts that impact peace ventures negatively.

On the part of Bafut in the North West Region of Cameroon, the German and British colonialists

projected the image of the Fon of Bafut to a point that he was more or less a permanent consultant on matters of native administration in his area of jurisdiction. To begin with the Germans, Abumbi I had resisted German rule for 6 years (Niba, 1986:86-101). This was one of the longest resistance faced by the Germans from an African leader. The long resistance also reflects the power and authority an African leader wielded over his state or community. The German explorer, Eugene Zingtgraff (see fig 4a) on his passage in Bafut had earlier remarked that the Fon of Bafut Abumbi I (see fig 4b) was the greatest African despot he has ever seen nor was he to see again (Ngwa, 2011:10).



Source: Bafut Customs, P. 42

Fig. 4a: Zingtgraff the German Explorer

Zingtgraff was struck by the punctilious protocol and the regal and potent air exuded by the Fon. Thus, it prompted him to describe the Fon, Gwalem (Abumbi I), as an African despot. Zingtgraff had indeed painted the picture of the absolute power of the African leader, and this clearly affirms why it took the Germans such a long time to institute German administration in Bafut. However, Abumbi I was finally captured and dethroned by the Germans. As punishment for his actions and attitude, the Germans exiled him to the coast of Cameroon where he was subjected under hard labour.¹



Source: Bafut Customs, P. 36

Fig. 4b: Abumbi I Fon of Bafut

In the absence of the Fon, the Germans could not succeed in ruling or administering the Bafut people. According to Niba, a report from the military commander of the Bamenda station had strongly urged the restoration of the Fon as "orderly government in Bafut was impossible without him (Niba, 1995:66; Chilver and Kaberry, 1963: 7-8)."

The German authorities accepted the recommendation to bring back the Fon. He was eventually reinstated and recognised as 'a convenient agent of administration' and so long as he danced to

¹ The destination of the Fon on exile is controversial amongst researchers of Bafut origin. While Niba states that Abumbi was exiled to Douala for 1 year, Aletum holds that he was exiled to Bota Island for two

years. The fact remains that the Fon was exiled to the coastal area of Cameroon where the Germans established their headquarters or capital.

their tune, he went unmolested. Bafut internal affairs were on the whole left alone (Chilver and Kaberry, 1963:94). The interpretation given to this arrangement holds that the Germans identified the Fon of Bafut as the only leader of substance and empowered him within the context of colonial rule. Whatever happened between the Fon and his subaltern chiefs inside Bafut that was not part of German business in the area. Thus such favoured *fons* exploited the German presence to grow their power and influence to prominence in the area.

In fact, the favoured *fons* took decisions in state politics when consulted by the colonial administration. But one aspect of German responsibility which they did not border about were the smaller states they coerced and brought into union with bigger chiefdoms to constitute a larger state. The colonialist neglected the smaller states and allowed them on their own to face the wrath, whims and caprices of their superior or paramount leaders. It is important to note here that German actions in the Bamenda area were viewed from the backdrop of the Bali Nyonga paramountcy and the treaty Zintgraff concluded with Galega in 1891. Here Galega formerly surrendered his powers of execution and war-making to the Germans in return for sovereignty right over the surrounding non-Bali who were mostly widikum peoples. Galega was to collect taxes and tolls from those chiefdoms placed under him and was the main labour recruiter for the Germans.

This constituted the principal policy of German administration and state organisation in the Bamenda area namely, to prop up friendly chiefs wherever they could be found and to place as many smaller ones as possible under them as vassals. This was the German dimension of creating 'states within a state' in Africa. The realisation of this policy for the entire Bamenda District was problematic since it required the complete subjugation of the area in order to unite people under leaders other than their own (Niba, 1995:66). In the absence of support, there was no option left than for the small states to indulge in power tussles and wrangles with their superiors in the bid to liberate themselves from oppression. Songs of freedom and independence became common place even within local and 'remote' communities. In such circumstances, peace made no meaning to anybody and peace ventures ended in deadlock given that all moves towards peace were punctured by persistent bitterness, envy and conflicts. Expressions such as 'self-determination' became pivotal in state politics and relations.

By 1916, German colonial administration gave way to British and French administration. The British had their own method of state organisation or better still, creating states within a state. They opted to involve natives in colonial administration following the prescriptions of Indirect Rule policy. Besides, the Resident for Bamenda, E. C Duff advised that for native

administration to succeed it was necessary to enhance the powers of the principal chiefs in the area by appointing them presidents of the native courts while subaltern chiefs and even ward-heads within the 'principal communities' (*fon* doms) were to be recognised and brought in to support the principal chiefs as court members (File Ja/d, 1916). In this arrangement, the disparity in the powers of the Chief (*fon*) and his subaltern (sub-chief) began to surface in the British colonial political system. It was also the beginning of British implantation of states within a state in African communities as viewed by the people.

In July 1917, G. S. Podevin, the District Officer, inaugurated an 'Instructional Court' in Bamenda (The Nigerian Gazette, 1922:331). This was an assembly of chiefs from surrounding communities summoned to be instructed in the new native court. Twenty- seven chiefs made up the court and the Fon of Bafut was appointed president while that of Bali Kumbat was vice president. In the minds of the chiefs, the Fon of Bafut has automatically become the boss and superior in a new political set up (state). They have eventually assumed subaltern positions under him and by extension it was another ploy to create new states within a state.

In August 1932, the Bafut Fon, Abumbi, died and was succeeded by his son, Su Ayieh, who took the royal name of Achirimbi, and ruled for the remaining years of British administration. Almost at the same time, in 1936, Fon Vugar of Babanki also died and was succeeded by his son Vubanghsi. The two *fons*, Achirimbi and Vubanghsi Vugah, belonged to the Bafut Native Authority Area (BNAA) which was later on re-organised into the South Eastern Federation Native Authority Area (SEFNAA). These *fons* had received some elementary western education under the Germans and were expected to boost the new organisation under the British, given their level of education. But the situation turned out to be the opposite. In the BNA area, the element of Bafut 'paramounts' remained with the Bafut Fon who was regarded as the most important dignity and received the highest stipend from colonial administration (Niba, 1995:70).

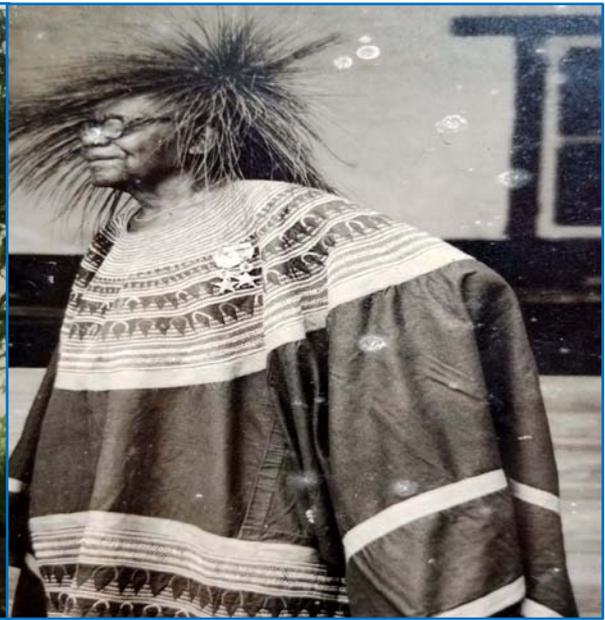
This position was reinforced by the creation of a treasury at the Bafut palace in 1941 to serve the entire native authority area. In 1943, through the assistance of the Bassel Mission architects, a monumental rest house was constructed in the Bafut palace (see fig. 4c).





Source: Author's Collection

Fig. 4c: The Bafut Palace Rest House



Source: Photo Ambition

Fig. 4d: Achirimbi II Awarded a Medal and Certificate by the British Government

In 1946, Achirimbi was awarded a medal and certificate of honour: "as a record of valuable services rendered by him to his own country and people and to the British government... and loyal services given to the administration in the maintenance of good order (Niba, 1995:7; also see fig 4d)."

The other chiefs did not take this kindly and thus under the leadership of the Fon of Babanki, the rest of the chiefs of the BNA contested the coveted position of the Fon of Bafut and requested the British to accept their demand for autonomy and separation from the BNA area. Fon Vubanghsi Vugah is quoted to have written:

The Bafut chief has no authority over us... his authority is only limited to his own village.... We have been independent villages before the advent of European administration on the West Coast of Africa, and are still independent and still wish to keep to our hereditary ways to remain like that. We the seven chiefs who make the Bafut Area should be called fons or village Heads in place of giving the title to the Bafut chief alone which is not correct (File N. A 1949/43, 1944).

From this situation a number of things were made clear. First, in the Bafut Native Authority Area, respective chiefs guarded their autonomy so jealously that any mention of cooperation with another chief was viewed as a surrender of sovereignty. By 1949 it was clear that the delicate balance of power in the Bafut political system had been upset by the loss of sovereignty. The colonial masters made things worse following the way they handled issues related to the powers of chiefs. Here, when colonial authorities picked

out the chief they wanted, he was supported to the exclusion of other organs of indigenous or traditional administration. Such was the case with subaltern leaders (chiefs) and *Kwifor* who now became tools in the hands of the all-powerful *fon* to carry out his obligations to the white man (colonialist). The independent position which the sub-chiefs, *kwifor* and *takumbeng* structures enjoyed in the past was therefore compromised.

The British reinforced this feeling by the differential treatment they accorded the Fon. He was given a gilded state umbrella, a Union Jack to fly over the palace and a portrait of His Majesty the King of England (the sovereign) to display in the audience hall of his palace. These were new symbols of power introduced by the colonial master that were completely different from those that the African leaders in the Bamenda Division were accustomed to (Ngwa, 2022: 141-168). This in the long run constituted an arena of conflict amongst the Bafut leaders. Here the chiefs insisted to have their own power symbols (regalia) not so much out of love for the British flag and majesty but rather to boost their egos and power especially in the face of treats from the big chief to usurp and sap away their powers.

For instance big chiefs sought to compensate for loss of sovereignty (to colonialist) by arrogating to themselves residual powers that sub-chiefs (*batangchuo*) had retain over land matters. Again, the *batangchuo* collected taxes on behalf of the Fon but he received the collectors' rebate. Failure to share the rebate with the sub-chiefs led to conflict where each chief in Bafut wanted to become autonomous or independent so as to enjoy the tax rebate (Ngwa, 2021:

263). The Bafut Fon was worshiped as a demi-god by his people. The British assisted in projecting this image and power of the Bafut Fon in the entire British Southern Cameroons. For instance in 1956, Fon Achirimbi II of

Bafut was chosen to present a gift of an elephant tusk to Queen Elizabeth II of Britain on behalf of the Southern Cameroons Chiefs on the occasion of the queen's historical visit to Nigeria (see fig 4e).



Source: *Customs and Traditions of Bafut*, P. 44

Fig. 4e: Achirimbi II and Queen Elizebeth in Nigeria, 1956

The images presented a great sovereign African leader meeting another great leader of European breed. This opportunity was rare and uncommon amongst African leaders at the time. Many died without setting eyes on the Queen of England, in whose name they were colonised and ruled by the British. Achirimbi II, Fon of Bafut had the single opportunity to meet the British sovereign (Her Majesty the Queen), face to face. Generally at the end of colonial rule a number of secession conflicts amongst the Bafut subaltern leaders were recorded. Each leader wanted to create his own autonomous state. At independence therefore, African states inherited political structures and people that were atone to conflict related to issues of states. They also inherited a faulty form of state whose foundation was laid by the colonialists.

However, it can be said that from the Lamido of Rey Bouba in North Cameroon to the Sultan of Bamoun in the West an to the Fon of Bafut in the North West, the grandeur and honours attributed to these leaders leaves no one indifferent to the fact that even in the midst of alien rule they were 'states within a state.' In the minds of these leaders, it was clear that they rule independent states. In Bafut, the people called the *fondom* in mother tongue: *alah Befeu*, meaning Bafut state. This state alongside others mentioned earlier were typical African states par excellence, far from any resemblance with the European fabricated states in the continent. The colonialist recognised this greatness and that is why they adopted a collaborative approach with the leaders of these great states for the success of colonial rule. Within

this context the powers of the African leaders were sandwiched and embellished in colonial administration thus portraying them more as states within a state.

Besides, the nature of diplomacy and relations amongst the states depicted their autonomy and independence from each other. For instance, shortly before the reunification of Cameroon, the Sultan of Bamoun from French Cameroon paid a diplomatic state visit to the Fon of Bafut in Southern Cameroons. This visit marked the peak of state relations in typical African style. The Fon of Bafut, Abumbi II, paints a picture of the visit of Sultan Njoya to Bafut as follows:

We were hunting... in the palace forest when... suddenly we heard Fulani music and trumpets blaring in the central court yard of the palace. We took to the darker part of the forest where we hid ourselves thinking the palace was attacked by Fulani people. We came out of our hiding when we saw Bafut people pouring out to defend the palace and were told by palace guards ... (ndongaries) that the Sultan of Fumban was on a friendly visit to the palace. The visit took place one month before 1st October 1961. The Fulani at the time were feared and considered as a hostile people. The war in the Bamileke area was raging and women and children war refugees were in the palace. My mother was given nine by the Fon to house and feed them (Abumbi II, Personal Communication, 30 January 2023).

From the above it is evident that the sultan of the Bamoun came to Bafut to thank a colleague brother

who had opened the doors of his state to receive war victims coming from his own state or area. The Fon and Bafut people had cordially welcomed the refugees with whom they were cohabiting peacefully as the Bafut took care of their welfare. This was typical of African state solidarity and relations in times of need. Secondly, the Sultan did not bring war per se; the Fulani music and trumpets described by Abumbi II were part of the aura that went with the entourage of a great Fulani leader (Head of State), on a friendly diplomatic visit to a colleague of another far-off state as Bafut. Our U-Tube sources on the Lamido of Rey Bouba demonstrate this atmosphere of great power and aura that accompanied the great African leaders in their public outings (see fig1cabove). Such outings were indeed moments of great demonstration of African power and the sovereignty of its states.

Achirimbi II demonstrated this when he represented Southern Cameroons on the occasion of the visit of Queen Elizabeth to Nigeria (see fig 4e above). The visit of Sultan Njoya to Bafut in 1961 partly explains the holding of the Constitutional (Reunification) Conference in Fumban to ratify the existence of the two federated states of Cameroon. It was another way of bringing together African states that had established wonderful state diplomacy and relations amongst them without necessarily copying any lesson from Europeans on matters of state. When Achirimbi and Njoya met in Fumban, they understood that two old-aged brothers have come to cement their old state relations and to live cordially in peace while respecting their state integrity, values and traditions. It was also an opportunity for them to cooperate closely and develop their sovereign states in a new arrangement. That was the meaning Achirimbi and Njoya gave to the word federalism. For the fact that cordial relations, peaceful coexistence and unity (even in diversity) are virtues of power and strength, Njoya and Abumbi gave their blessings to the creation of the two federated states of East and West Cameroon embodied in the Federal State of 1961 (Fusi Martin, Personal Communication, 1996). This was a visa that legalised another dimension of 'states within a state' in Africa and Cameroon in particular. How the African leaders battled it out (in this new system) at independence, is another bonne of contention.

The nationalist politicians who fought for independence in a way respected the structures or organisation which the colonialist left behind. Hence, the big *fons*(acolytes of colonial administrators), continued to enjoy the power and affluence accorded them by the colonialist. In the first decade of independence, they lavish in affluence of power and enjoyed government support while the subaltern leaders groan in anguish and agony. However by 1977, the Cameroon government put a smile on the faces of the subaltern leaders following the enactment of a chieftaincy decree.

III. THE CHIEFTAINCY DECREE OF 1977

In July 1977, the President of the Republic promulgated a decree concerning the organisation of traditional chieftaincies in Cameroon (Decree No. 77/245, 1977). The aim of Government was to resolve many litigations that had plagued the chieftaincy institution by reorganising it so that order, good governance and administration would be ensured at the grassroots. According to the Decree, traditional chiefdoms were organised territorially into first, second and third class chiefdoms. Every chiefdom was placed under the authority of a chief assisted by Traditional Council formed according to the traditions of the area. The chief could appoint from within the council, a notable who would represent him in cases of absence or unavailability. First class chiefdoms were to be created and the chiefs appointed by Prime Ministerial decree, the second class chiefdom by the Minister of Territorial administration and third class by the respective Prefects.

In connection with the duties of traditional rulers, they were to act as auxiliaries of administration transmitting the directives of the administration to their people, ensuring that such directives were implemented. Under the direct supervision of the administration, chiefs were to maintain law and order and help in the economic, social and cultural development of the areas under their control. They were also charged with the duty of collecting taxes and other public funds according to regulations and conditions fixed by law.

In terms of remunerations, the first and second class chiefs were to receive a monthly salary and other financial benefits such as rebates on poll tax collection, and special duties. They also received efficiency bonuses from the Ministry of Territorial Administration (MINAT). These extra bonuses depended on the chiefs' dynamism, output and recommendations from the Prefects or Sub-Prefects. Chiefs of the first grade received as salary the sum of 100, 000 Frs. CFA while 75,000 Francs were allocated to chiefs of the second category. Chiefs of the third category received 50,000 Francs.

On discipline, administrative authorities were to evaluate the activities of the chiefs in their administrative areas taking into consideration their efficiency, output and the economic and social development of the areas under their jurisdiction. In the event of any shortcoming, inertia or extortion from citizens, chiefs were to be sanctioned accordingly. Sanctions included call to order, warning, ordinary reprimand, reprimand with suspension of all allowances for a period of time and finally, deposition. All disputes arising from the appointment of Traditional Rulers were to be brought before the authority vested with the powers of appointment and his decision should be final. Matters were to be resolved in conformity with the dispositions

of another law (Law No. 79-17, 1979). With this arrangement, all other previous regulations related to chieftaincy institution were henceforth repealed.

By extension therefore, on 30 June 1979, the President of the Republic, further enacted a law related to disputes arising from the appointment of traditional rulers (Ibid.). It stated that all such disputes should be brought before the authority vested with the power of appointment and his decision should be final. However, the decision taken might be revoked by the competent authority if such authority felt that he was misled. On 27 November 1980, another law was further enacted defining the competent jurisdiction in charge of affairs related to opposition raised on the occasion of the appointment or designation of traditional chiefs (Loi No.80-31, 1980). According to the law, all law courts and practitioners of common law and administrative status were barred from intervening or having jurisdiction over all matters brought before it in relation to protest against the designation of a chief. The matters were to be resolved in conformity with disposition or prescriptions of law No. 79-17 of June 1979.

With all these chieftaincy arrangements made, on 7 February 1981, the Prime Minister issued an *arrête* determining First Class Chiefdoms and appointing first class chiefs in the United Republic (Arrête No. 019/CAB/PM, 1981). By this *arrête*, the Bafut *fondom* and its leader, Abumbi II were recognised as first class chiefdom and chief respectively. On 19 January 1982, the Minister in charge of Territorial Administration issued an order determining second class chiefdoms and chiefs in the national territory. According to the order, the Chiefdoms of Mambu, Bawum, Banji, Mankwi, Obang, Mbekong, Mankanikong and Nsem were made second class chiefdoms in Bafut (Order No. 36, 1982). This arrangement brought in a new traditional chieftaincy organisation in Bafut in the post-colonial era. It was to an extent different from arrangements that had existed under the Colonial and West Cameroon governments. By this act, Government seem to have official and formally ratified the existence of states within a state in Bafut in modern times. These new arrangements came with their own problems which generated conflict and aggravated other problems of relations within the Bafut community.

IV. THE SYSTEM OF RELATIONS AND THE ISSUE OF AUTONOMOUS STATES WITHIN BAFUT

The system of relations established in Bafut and even till date is so complex that political wrangles, tussles, are common place amongst its leaders. The present deadlock keeps many wanting as to what is the way forward and when peace and harmonious cohabitation will return in this great *fondom*. However, the cultural environment and the traditional setting of the

area in which the *fondom* is situated (North West region of Cameroon) is also a contributory factor.

To begin with, in the Bamenda Grassfields, the natural rulers were people who had special duties and roles to play in the social, political and economic life of their people. Their authority over them was legally recognized. They had the capacity and legitimate right to command. They were endowed with privileges and duties of the supreme judge, head of the army, chief priest or supreme ritual head (Robert and Pat Ritzenthaler, 1962:27). In fact, the various duties, activities, rights, prerogatives and privileges of these natural rulers make up a single unified whole. Also, the traditional rulers were the axes of political relations in the societies in this area. The people and the subordinate chiefs saw the *fonsas* the symbols of their unity and exclusiveness, and the embodiment of their essential values. The *fons* (in line with pre-colonial traditional norms) were more than secular rulers and their credentials were believed to be mystical and derived from antiquity (Fortes and Pritchard, 1967:16). A distortion of this arrangement at any given time in history led to conflict. Since German period three great *fons* have ruled Bafut namely, Abumbi I, Achirimbi II and presently Abumbi II (see figs 5a, b and c).



Fig. 5A: FonAbumbi I

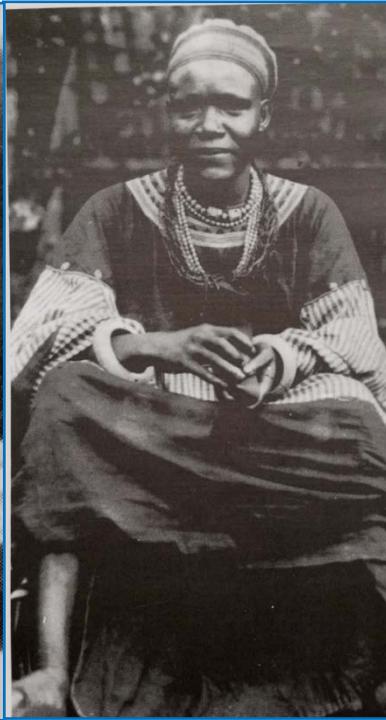


Fig. 5b: FonAchirimbi II

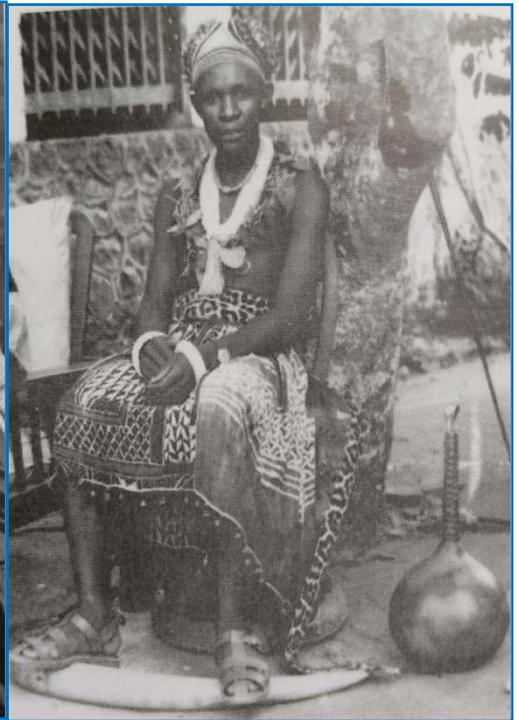


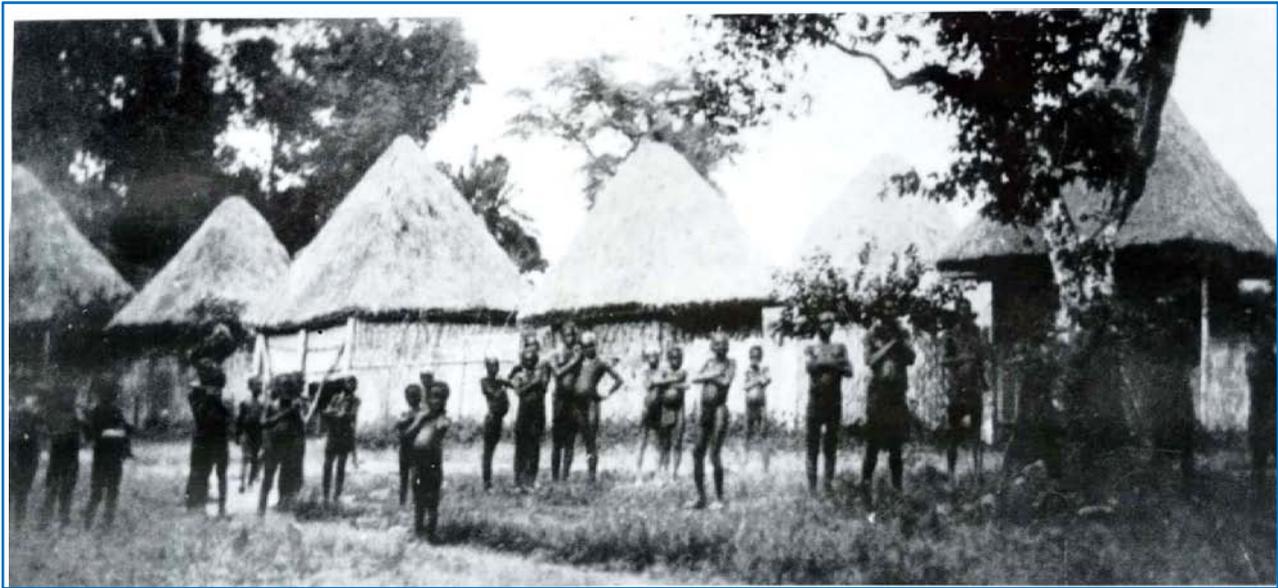
Fig. 5c: FonAbumbi II

Source: *Customs and Traditions of Bafut*, PP. 36, 43 & 52

For the *fons* to fully succeed in their administration of the *fondoms*, there must be a kind of hierarchical cordial relationship between the chief (at the grassroots) and the *fons*. Where such relations were strained or broken, conflicts erupted. The conflicts were often characterised by wrangles within the ranks of the rulers and each struggle ended up assuming a political dimension with subaltern leaders attempting to secede or create independent autonomous states within the state. As mentioned earlier, colonial rule introduced a new system of relations amongst the African leaders in this area. It distorted the traditional system that existed before. Unable to master the complex colonial system or organisation conflict ensued in the relations amongst the leaders. Peace and cordial cohabitation became far fetch. Solutions to the return of peace were only seen in separation and autonomous living apart from each other.

In Bafut these political conflicts involved the Fon (king) and the chiefs of some semi-autonomous chiefdoms in the *fondom*. These chiefdoms were Obang, Benji, Bawum, Manbu, Mankahnikong and Mbebeli. Relations between the chiefs and the Fon of Bafut were not always cordial. The problems started far back before the advent of colonial rule in the Bamenda Grassfields. Long before the German and the British arrival, Bafut had been a composite and heterogeneous kingdom. It was made up of several chiefdoms with the major ones being Bawum, Mambu, Mankahnikong, Obang, Benji and Bukari. At the centre of the kingdom,

clustered around the Fon's palace (see fig. 6) at Mumalaa, were villages such as Bujong, which served as the capital of Bafut, Manji, Mbebali, Njinteh, Niko, Mankaa, Nchum and Njibujang. The Fon directly ruled these villages. The chiefdoms referred to above were made up of people from different cultural and historical backgrounds that constituted semi-autonomous entities in the area (Hawkesworth, 1926).



Source: *Customs and Traditions of Bafut*, p. 37.

Fig. 6: The Bafut Palace in 1889

The Bafut group came to Ndop after leaving Tikari. Following the death of their leader, a succession dispute, arose between two sons, Nkenjoh and Aghanjoh. Aghanjoh left with his group of supporters towards what is today Bafut (Niba, 1981: 12). On arrival, Aghanjoh was received in the village of Mbebeli by Nibachi, the Chief. After staying with him as a guest for some time, Aghanjoh won over Nibachi's subjects by his lavish generosity, because Nibachi was a selfish and crafty ruler. Consequently, the council of elders conspired with Aghanjoh and urged him to depose their chief and seize the throne. The newcomer did so in a cleverly conceived plan of stepping on Nibachi's foot in public, a sign of deposition. The deposed chief subsequently committed suicide. Later on, one of Aghanjoh's successors moved the palace from Mbebeli to its present site at Bujong in Mumalaa. Then the immigrants subdued the Bukari and Buwe people, who, apparently along with the Mbebeli people were the autochthonous inhabitants of Bafut.

The expansion of the Bafut *fondom* from its original nucleus to its present size was due to both internal and external factors. One important external factor was the incursion of the Bali Chamba into the Bamenda area at the beginning of the nineteenth century. This incursion greatly affected the balance of power in the area. It brought them into conflict with the bigger chiefdoms and drove the smaller chiefdoms to seek refuge under the bigger ones. After initial clash with the Chamba, Bafut became a rallying point for refugees from the south and southwest of the Ngemba area (Tweed, 1926:6). Some of them eventually returned to their areas after the danger was over but others who stayed were the Mambu and Mankanikong who claimed the same area of origin, namely Mberewi (Chilver and

Kaberry, 1967:19). These chiefdoms became tributaries of Bafut through voluntary submission.

The expansion of the Bafut *fondom* northwards into the Mentchum valley after the Chamba incursion, in the middle of the nineteenth century was dictated by land hunger as well as by a desire for tribute (resources). In a series of raids, the Bafut subdued some of the peoples of the area, such as the Otang, Buwi, Bugri and the rest of them (Mbekong, Manta and Butang) had to voluntarily submit. Another area which the Bafut brought under their control was Banji (Njimuya—across the Mezam River) with its rich savannah farming and hunting grounds. They subdued the inhabitants and forced them to pay tribute. The Bafut also began to settle there (File NW/QF/1933/1, 1933).

Thus, on the eve of the German annexation of Cameroon in the last quarter of the nineteenth century, the Bafut *fondom* had expanded to its present size, and assumed her present composition. It was a heterogeneous *fondom*, ruled by an immigrant dynasty and prepared to defend her territory and sovereignty as a conquest state. This is what gives the Bafut Tikars and leader the strong legal argument that none of these subaltern chiefs can succeed in creating an autonomous state within Bafut.

However, Aletum discards this argument by intimating that the problem or conflict began when the Tikar leader usurped the throne from the indigenous chief, Nibachi. From then, the central chiefdom developed the tendency of setting the chiefdoms against each other in order to weaken their regional authority, thereby gaining through a conflict situation the ability to enforce its central authority. Aletum made reference to the fact that it was not easy for some of the chiefdoms such as those of Bawum and Mambu to

retain their hereditary sub-chiefs' privileges and titles. The retaining of these rights by Ntoh of Bawum and Wanki of Mambu was not through peaceful means but through strong political competition and conflict (Aletum, 1974:31). In fact the usurpation spirit of the Tikar leader was at extreme and as time went on, the conflict multiplied and increased in magnitude. The conflicts were openly manifested during colonial rule.

Aletum further state that the seizure of the throne of Nibachi, the chief of the autochthones in Mbebeli, by the Tikar leader on his arrival, to him was "a palace coup d'Etat" that effaced the political influence of the chiefdom of Mbebeli, whose leader, Nibachi, lost his throne to the Tikar leader called Aghanjo (Ibid.). As time went on, the Tikar leader in Bafut consolidated his authority in a new palace that was constructed in a valley referred to today as Mumelaa. From Mumelaa, the Tikar leader began to wield a lot of power and control over the rest of the chiefdoms in the area. For the fact that the political institution of the Mumelaa chiefdom were far superior to those of the other chiefdoms in the area, the authority of the Bafut leader of Tikar origin grew stronger. Open confrontation and political conflicts became common. On the one hand, Aletum noted, in some of the semi-autonomous chiefdoms, the political institution were subdued but not to the point of rendering them entirely ineffective. These institutions in the chiefdoms, though weak, still exist, but always as a point of conflict. The conflicts are manifested in many different ways, cutting across the Bafut society and the core of traditional politics in the *fondom*. The intension of the chiefs of the semi-autonomous chiefdom had been to break away from the main society to establish or gain full autonomy over their chiefdoms in the area (Ibid.). However, colonial rule aggravated the situation beginning with the Germans.

German colonial intrusion into Bafut was felt for the first time around 1889, with the arrival of the first white man, Dr. Eugen Zintgraff (a German explorer) in the Bamenda Grassfields. The presence of Zintgraff in the area terrified the Bafut people and their Fon, Abumbi I, and caused much anxiety and uneasiness among them. Abumbi I was unwilling to accept German colonial rule and it was after a series of wars the Germans from 1900 to 1906 that he was compelled to succumb to German rule (Niba, 1986: 86-101). As time went on, traditional authority in Bafut suffered some mutations, difficult for the ordinary Bafut person to understand. German rule in Bafut saw the emergence of conflict within the traditional political system caused by ignorance and the desire to protect interests.

Internal cleavages between the groups of people in Bafut were conspicuous. They remained competitive with each other, giving rise to political competition among the natural rulers. With the establishment of German rule in Bafut, the traditional

political institutions appeared to be dormant. But, even with the dormant nature, the institution remained the core of political competition and political conflict, prepared for action when the opportunity presented itself (Aletum, 1974: 31). The situation was aggravated when Bafut came under British rule. British colonial rule served as a catalyst that activated tension among the Bafut leaders. British rule brought stress in relations between the Bafut Fon and his chiefs. Effervescence was added to old personality conflict and skirmishes that existed between the Fon and his chiefs in the past.

First, before the arrival of the British, the status of the traditional rulers in Bafut was well defined. The different people addressed their leaders as *nfor* (king). The status of the most influential of them, who was at the head of the kingdom, was distinguished from those of the subordinates by praise names such as *ati-njong-njong* (thorny tree), *munah-ngwe* (the leopard cub), *nongubu* (a python), *mooh-kwifor* (son of kwifor), *tsa-bufor* or *atsah-te-yeyah* (he who passes and his footpath cannot be traced) (Suh and Mbungwa, 1995:7). When the British established their rule in the area, they started differentiating the traditional rulers by using titles like "paramount chief" and "sub-chief". In Bafut, Abumbi I and later on Achirimbi II were recognised as paramount chiefs. No other leader within the *fondom* was recognised as such. When the title '*fon*' was later adopted and popularised in the Bamenda Grassfields, the title received official recognition in the circles of colonial administration. Thus, the colonial masters recognised only one traditional ruler of great importance in Bafut in official circles as "*fon*". This title thus became a source of conflict among the traditional leaders in Bafut. As time went on, the conflict became tense and has continued unabated in recent times.

However, the problem was not with the title per se. It was with the colonial privileges and duties that went with it. The Fon's duty to collect taxes, rates and dues in his jurisdiction caused the closer relationship between the chiefs and the Fon to dwindle and the authority of the Fon over the semi-autonomous chiefdoms began to be weakened. The chiefs refused to pay tributes to the Fon of Bafut and the controversy was that they viewed the tax rebates retained by the Fon as a substitute for tributes from the people in the various chiefdoms (Chilver and Kaberry, 1960:1-9).

In 1948, Nanoh, the chief of Obang village or chiefdom took a bold step and gave the spark of the struggle for sovereignty when, for 2 years, he refused to pay his tributes of 2 tins of oil and 2 baskets of dry fish (per annum) to the Fon, Achirimbi II (FileAb(1926)3, 1926; File No. 213). Achirimbi on his part decided to sue Nanoh to court. Yet, before Achirimbi could have time to settle the dispute with Nanoh, news reached him that Talah, the chief of Banji, had confiscated a leopard meant for him as tribute, and made use of the meat, skin

and whiskers (Criminal Case no.85/1949, 1951; File No 2408).

In 1951, Achirimbi sued Talah. In 1961 (the year of Southern Cameroons release from colonial rule), the ruler of the Bawum chiefdom, Ntoh, sued Achirimbi for appropriating Bawum land (Abumbi II, 1995). At the time Achirimbi died in 1968, the conflict with Bawum chiefdom over land in Bafut has not yet been resolved. The conflict was further aggravated by petty skirmishes and personality conflict between the Fon and the chief of Bawum. A local market problem was the last straw that kept Ntoh and Achirimbi at reasonable distance apart in their relations.

Besides, when the British authorities carved out their first inter-tribal boundaries in the Southern Cameroons, these groups were recognised as entities within the Bafut *fondom*. We refer to in this work as 'states within a state'. These states within Bafut, were placed under the authority of the Fon. The Bawum, Banji, Obang, Mambu and Mankahnkong leaders were eventually made subaltern leaders under the Fon of Bafut. They also retained their original royal titles called Ntoh, Talah, Nanoh, Wanki and Muwah respectively. The ancestors of most of these chiefs migrated into the area today called Bafut with the aforementioned royal titles brought from their different places of origin. They installed their ruling houses in the various sites they occupied in the area and have maintained their hereditary titles up till date. Recently, some of these chiefs (as explained in the chieftaincy decree earlier) have been classified as "second-class chiefs" ruling "second-class chiefdoms" within the Bafut *fondom* (Aletum, 1974: 55-7).

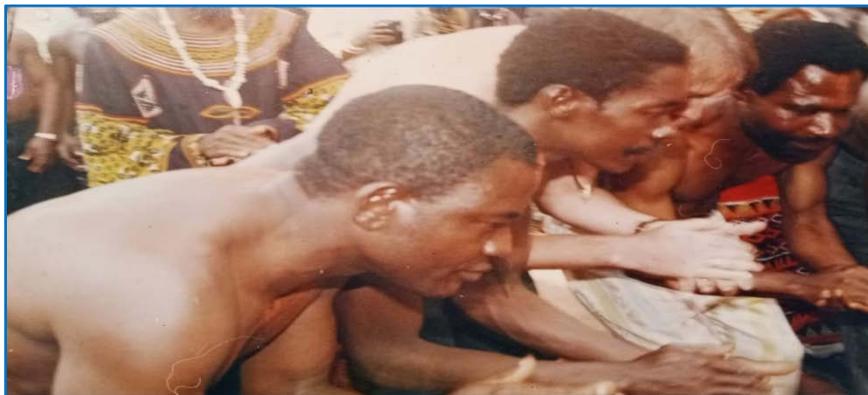
Fortunately or unfortunately, the generations of chiefs from these chiefdoms have been in conflict with the Fon and the central authorities in the Bafut palace. Sporadic tensions flare up each time the opportunity occurs. The time and nature of the conflict is not determined but what is evident is that it imposes the need for peace, in this way state and non-state institutions are bound to engage peace ventures and

efforts to calm down the situation. The dynamics of the conflict and its impact on the community are examined below.

V. DYNAMICS OF THE CONFLICT IN PRESENT DAY

We asked the question as to why this conflict has continued in Bafut to recent times. What are the factors that sustain this conflict till present? The dynamics of the political conflict among the Bafut traditional rulers, which this paper examines, has been analysed by many scholars over the years. However the issue is not limited to the Bafut *fondom*. It touches a good number of the great *fondoms* of the Bamenda Grassfields. It also concerns a wide range of African traditional societies especially in states where British and French colonialism was established. The conflict deals mainly with history, traditions and practices that acted as sources or causes of secession tendencies among traditional rulers in Bafut and the Bamenda Grassfields' *fondoms* as a whole. In this article and alongside other researchers on Bafut, we discovered an entangled and complex web of relations and issues amongst the rulers and people. A number of concepts and practices imbued in the Bafut political system are not working well as to shelve conflict in favour of peace in the *fondom* in present day.

To begin with, the name 'Bafut' was first mentioned in any historical document in modern times by Dr. Eugen Zintgraff in one of his works which recorded his passage through Bafut in 1889. Here, Zintgraff's view about the Fon of Bafut on his first encounter with Abumbi I is highlighted. Zintgraff described the Fon of Bafut, Abumbi I, as an African despot such as he had not seen before or was he ever to see again (Zintgraff, 1895:16). In fact the Bafut worshiped their *fon* as a demi-god and even whites who came to Bafut joined the people to perform traditional rites that honoured the Fon(see fig. 7).



Source: Author's Collection

Fig. 7: Bafut Men and a whiteman performing Honours to Fon

From Zintgraff's description, it is evident that the authority of the Bafut Fon over his people was so strong that his decisions at one point could cause a conflict situation of great magnitude. There is no clear evidence as to whether his successors changed from this despotic attitude as Bafut evolved into modernism and democratic practices. In the Northwest region and in Mezam Division in particular, the Bafut people were the last to receive modern administration put in place by the Cameroon government. This is indicative of the fact that Bafut remained rooted in its old traditional practices and absolutism till 1994. Even then, the state administrators in the exercise of their administrative duties met stiff resistance from the traditional system in Bafut.

Chilver and Kaberry on their part highlighted the type of relationship that existed between the Bafut Fon and the sub-chiefs since the inception of the Bafut dynasty. For generations, there has been tension between the Fon and some of his chiefs. Such tension led to the killing in the Bafut palace of one of the chiefs of Bawum shortly before the arrival of the Germans in 1888 (Chilver and Kaberry, 1967:19). This assertion became an issue of sharp controversy and disagreement among scholars studying the history of Bafut. While some, like M.T. Aletum and Mathias Livinus Niba, hold the view that there is evidence that the said Ntoh was murdered through mysterious means and buried under a tree near a river below the Fon's palace called *Nkinsare*, other scholars argue that Abumbi I was not responsible for the killing. According to them, the said Ntoh was eliminated within the core of *kwifor* in conformity with the will of the greater faction of the Bawum traditional authorities and princes who declared their intention to get rid of the chief and install their own favourite candidate in his place (Tumensang, 2000:6). Whatever the case, the fact is that the fifth Ntoh of Bawum was killed and the Bawum people up till date have been using the point as a reference to justify their struggle to break away from the Bafut *fondom*.

In this conflict among the Bafut rulers, ethnicity plays an important role in precipitating tension. Jean-Pierre Warnier described this phenomenon as "ethnic processes." He pointed out that various societies constantly change with modified institutions falling in line with changing fortunes. Thus, no matter the degree of integration and change, ethnicity will sometimes lead to ethnic tension and conflict (Warnier, 1975:78). Mathias Livinus Niba added that such tension and conflicts increased in Bafut due to the misinterpretation or reinterpretations of the three topographically demarcated geographical zones in the *fondom* (Ntare, Mumelaa and Mbunti). The inequality in the distribution of resources in these three main zones is a serious problem among the Bafut ethnic groups. Also, the integration of conquered peoples, slaves and captives in the Bafut society was received and interpreted in various

ways by the different peoples in the various chiefdoms. Hence, discrimination and open manifestation of ethnic differences and strife for superiority in the *fondom* were not uncommon (Niba, 1999: 22-33).

Crawford Young further buttress the significant role of ethnicity in traditional societies when he said: "Even the least separatist sentiments among a group of people suffices to illuminate conflict in a state. Cultural cleavages accompanied by different histories of people's origins are widely believed to cause tension within a society. They broaden and deepen cultural identities, which ultimately strengthen secessionist spirit even in traditional societies. The struggle has often taken the form of demands for sovereignty expressed by cultural or ethnic community within an existing territorial entity (Young, 1976:33)." In fact, there is no palpable evidence to show that vices linked to ethnicity were eliminated in the Bafut community as it evolved into modernity.

Apart from ethnicity, the question of land remains cardinal in Bafut society. Miriam Goheen, in a study of similar conflicts between the Fon of Nso and his sub-chief, the Fon of Nse, revealed that land and stewardship constituted major symbols of political leadership. Thus, the least conflict over land and its resources could inflict negative consequences on the entire society. Strained relations among traditional rulers could result to secession. As society evolved, the conflicts multiplied and traditional authority gradually withered away (Goheen, 1996: 399-424).

In this, the character of man and his attitude towards landed property aggravates the magnitude of conflict related to land and power (authority). Robert Ardrey, pointed out that man's quest for territory and property undoubtedly raised greater storms in traditional societies. To him, man is a predator and, from time to time, he goes out looting, "raping" and raising general havoc in the surrounding countryside or neighbouring villages. Ardrey described traditional rulers as people who will like to reap where they have not sown. The final outcome is an unavoidable reprisal from the offended. A conflict thus erupts among the leaders involved. Ardrey draws a number of conclusions. First, the common cause for any form of conflict revolves around man's ignorance. Second, group of family loyalty to traditional rulers in local societies depends on joint attachment to private territory or land. When the land is tempered with, conflicts with greater magnitudes occur (Ardrey, 1966:46). Land matters between the leaders of Bafut are seemingly going to balkanise the great *fondom* in modern times.

The conflict in Bafut today equally revolves around authority. The rulers here are so attached and full of authority in such a way that none is willing to relinquish any iota of it. They all claim to be powerful and equal. None accepts to be regarded as the subordinate

of the other or to be treated as such. This is an attitude which Paul Nchoji Nkwi had earlier highlighted and warned against when he examined the concept of traditional authority within the political institutions of the Kom people. Nkwi pointed out that traditional authority is the centre of all relations. First, the authority is built on consent and consensus rather than on coercion. To Nkwi, Bafut, Bali, kom and Nso in the nineteenth century emerged as centralised states with centralised authority. The Fon was at the head of a hierarchical political structure, which permitted him to delegate powers and authority to regional representatives. In this political system, therefore, the king or *fon*, according to Nkwi, is a sovereign leader with a hierarchical authority. In the nineteenth century, most of these rulers were also ruling over confederacies, which were often a mixture of pyramidal and hierarchical authority (Nkwi, 1987:56). Nkwi's view is that the groups of people in the Grassfields' *fondoms* did not live in complete isolation. Friendly contacts dominated their history but many of them too had hostile conflicts and contacts with one another. These hostilities could have been wars, boundary problems and various forms of conflict that strained relations among the groups. Hostilities or strained relationships among the traditional rulers themselves became a common feature too (Ibid.). Thus, in a situation where subordinate authority discards history and rise to claim equal rights, privileges power, and position with his superior in recent times, such a community can hardly be peaceful. It is the case with Bafut.

In fact, to deal with authority in Bafut today is to deal with a sensitive and precarious situation. Traditional authority is in the blood of the rulers more as a vector of controversy, bitterness and deadlock. It provokes senseless conflicts in a great *fondom* that by dint of its status is expected to be dynamic and evolving rapidly in present day. One is quick to conclude that even in the midst of modern education nowadays many traditional authorities have failed to learn from their history and construct better peaceful communities for their people. Little wonder then that Fortes and Evans-Pritchard remarked that in dealing with traditional authorities, one is dealing with law on the one hand, with conflict on the other, and with peace and order where necessary (Fortes and Eans-Pritchard, 1967: 27). Within a locally defined community, an authority may commit some acts or adapts some modes of behavior, which may spur up conflict in the society. Traditional leaders who generate tension in the society claim to be great men. Subordinate chiefs play the role of representatives of the people within central authority (hierarchy). But, without cooperation among the people who hold these offices, it becomes very difficult, if not impossible, for the administration of the society to succeed. The king himself confronts difficulties in obtaining his revenue,

assert his judicial and legislative supremacy, or retain his secular and ritual prestige. Sabotage becomes a salient feature of conflict among traditional leaders (Ibid.). The circumstances prevailing in the society at the time thus determine the magnitude of the conflict.

In Bafut the traces of colonial administration continue to reign havoc up till date. The bone of contention is on issues emanating from acculturation which the people have been unable to manage several decades after the departure of the colonial master. The relics of colonial administration had remained indelible in the traditional political system of Bafut more as a source of conflict in modern time. Walters Che Fombong lamented on this when he remarked that the Bafut society, which was purely traditional, gradually evolved into the colonial era where foreigners and external influence infiltrated the "traditional society." Chieftaincy matters for instance, were intricately linked to British local administration. The colonial classification of chiefs into grades (first, second and third class) in the Bamenda Division was not necessary given that it became a source of conflict and disagreements over titles among the traditional rulers of powerful states or *fondoms*.

Till date, the disagreement has not stopped. The word "paramount" used to clearly distinguish the authority of few first class chiefs is still in conflict. While the paramount chiefs were placed on a monthly salary and held in high esteem by the British colonial masters, the second-class and the third-class chiefs were less important and thus ignored. Today, in spite the 1977 chieftaincy decree many paramount or first class chiefs still think that the second and third class chiefs should be permanently ignored and deprived of any privileges. The envy and jealousy aroused among the traditional rulers during colonial rule had seldom disappeared. The secession tendencies among the traditional rulers in Bafut multiplied in recent times (Fombong, 1980:79). The post-colonial government inherited and continued with the system of classifying traditional rulers into grades and this has never resolved the separatist tendencies among the rulers in Bafut.

Apart from the classification of chiefs, colonial masters created artificial or warrant chieftaincies. The consequences of this act in Africa and Bafut in particular today are vividly described by Thomas Bierschenk who pointed out that, some chieftaincies in African societies today are not traditional institutions originating from pre-colonial times and extending into colonial era. The colonial authorities created chieftaincies where such had not existed before. As time went on, traditional rulers became involved in modern politics. It became difficult to distinguish chiefs from the modern elite for they did not constitute two distinct social groups. On the one hand, some politicians took the chiefs as potential allies or opponents. The concept of "tradition" and

"modernity" was not antithetical to the politicians. Thus, in the face of this confusion, internal conflicts over the social status of chiefs became prominent among traditional rulers. With the advent of colonial rule, chiefs with pre-colonial titles and history could not survive the democratisation of the chieftaincy structures and institutions by the colonial administration. It became difficult to differentiate a traditional chief from a modern politician (Bierschenk, 1993:217-43). Up till date, it is indeed difficult to distinguish a traditional ruler from a modern politician or elite.

Carola Lentz cues up to emphasis that the disagreement over titles among traditional rulers often resulted in feuds, warfare and shifting political alignment. Sometimes, they weakened the powerful chiefdoms and made them to lose control over their peripheral territories. Villages also ceased the opportunity of the conflict situations to declare their independence (Lentz, 1993:176-212). To Lentz, the impact of colonial rule on African traditional stewardship was great. Chieftaincy matters were intricately linked to British local administration. At independence, most African government and later regimes arrogated to themselves the right to have the final say in the recognition of new chiefs. By so doing they were perpetuating the colonial policy of appointing chiefs who had no traditional backing. This appointment syndrome today is breaking down many African kingdoms or states which are bound to cope with the stigma of artificial states created within their states. Bafut had its own bitter pill and the Fon, Abumbi II, has never been in accord with the government for recognising eight second class chiefdoms in his *fondom*. To him, that was synonymous to creating states within a state in modern dispensation.

The emergence of party politics in later years intensified the conflict and brought in new dynamics in chieftaincy matters. These political parties offered themselves as national political counterparts to opposing factions in local conflicts. Chiefs and would-be chiefs now needed to secure political support by siding with the national power groups. Governments now used the chiefs to enhance their rural constituencies. As for the "earth priests" (the kingmakers responsible for the enthronement of the chiefs) who were basically cut off from the sort of official recognition, it now appeared that the only way open for them to increase their local influence was to ally with various factions of chiefs (Ibid.). It is within this wider political context that many of the puzzling alignments of chiefs in conflict can best be understood in Bafut and many other *fondoms*, which came under British rule and thereafter. With the advent of multipartism in Cameroon in the 1990s, two prominent political parties existed namely, the Cameroon People's Democratic Movement (CPDM) and the Social Democratic Front (SDF).

The impact of these two parties on local politics and traditional authority in Bafut was enormous. It suffices to mention here the consequences of political alignments created by these parties on the Bafut rulers and their people. These parties carefully and cynically set up their political agendas and strategies to further balkanise the Bafut people and leaders under the guise of supporters or followers. While each party struggled to make Bafut its bastion, the syndrome of 'states' existing within the Bafut *fondom* was gradually fortified and consolidated given the political strife that emanated amongst the political elite and traditional rulers, especially at the level of the central palace. Many political elite accused the central palace for either withdrawing support from them or supporting their opponent because they were not from the same chiefdom or origin. Of course the political elite who had impressed on the government to create the second class chiefdoms within Bafut had a bone to contend with during political campaigns and elections in Bafut (Niba, Personal Communication, 2012).

We noted that the paramountcy and status of the Bafut Fon also became a source of bitter conflict among the chiefs of the ethnic groups inhabiting the *fondom*. The problem has remained unresolved up till date as each chief wants to be recognised as paramount *fon*, advancing various arguments to back up his claims (Ngwebufor, 2000:3-4). During colonial rule, the powerful position of the Fon of Bafut permitted him to impose his will on the other chiefs in his realm who were not fortunate to have their status recognised by the colonial masters. He was made the paramount chief in the Bafut Native Authority Area (which also included Bambui, Nkwen, Mendankwe, Bambili and the two Banankis). The colonial authorities paid him all the respect, "closed their eyes to his wrong-doing," and gave him a higher allowance. They increased the Fon's power without considering the traditional context or implications and this inevitably caused tension among the traditional rulers especially the chiefs of the semi-autonomous chiefdoms in the *fondom*. Although this tension has not resulted in any organised armed conflict, it has resulted in violence (Niba, 1981). Traditional politics became more complicated because of the envy and jealousy that surrounded the position of the Fon. The Fon felt threatened in his position and thus adopted various strategies to deal with the situation and consolidate his position. In the course of doing this, more tension arose in present day.

However, John Neba Chungong thinks that this tension should have subsided by now but for the fact that independent governments and regimes continuously arrogate to themselves the right to have the final say in chieftaincy matters or the recognition of chiefs. Consequently, government authorities permanently intrude in chieftaincy matters such as

succession to the thrones of traditional rulers, especially in the North West Region of Cameroon. The involvement of government authorities in issues considered to be purely traditional affairs to an extent increased tension in areas where succession conflicts occurred. In Bafut, political conflicts among the traditional rulers in the *fondom* were aggravated by succession conflict where government authorities and state functionaries were involved. (Chugong, 1977: 43).

Divine F. Ngwa aligns with Chugong by illustrating the 1968 succession conflict in the Bafut palace. Here, the involvement of some of the chiefs of the semi-autonomous chiefdom in the affair gave a wider dimension to it. Their role in the issue created more tension and increased the magnitude of the conflict. The chiefs especially those from Bafut, threw their support behind princes whose mothers' origins were from their chiefdoms. They mounted a strong opposition against the prince who was apparently designated to succeed. Politicians and government ministers from these chiefdoms in Bafut did all in their power to ensure that the throne was succeeded by the prince they and their chiefs supported. Ngwa, in his conclusion, pointed out that succession conflicts were avenues or sporadic opportunities where the chiefs used to revenge or manifest old grudges and grievances that they bore against the Fon of Bafut and the central authorities in the palace (Ngwa, 1999). Such grudges and grievances are not unconnected to the political conflict, rivalry and secessionist tendencies that have existed among the traditional rulers till date.

For instance, when Achirimbi died in 1968, it was expected that the conflicts and wrangling among the rulers in Bafut would subside following the occupation of the throne by a new *fon*, Abumbi II. But on his accession to the Bafut throne, Abumbi found himself entangled in a web of bitter and estranged relationship with the chiefs of the semi-autonomous chiefdoms in Bafut. These differences have continued up till date. Again, in 1995, Abumbi II appointed some new "third-class" chiefs in the *fondom*. The appointment sparked new waves of resentment amongst the chiefs of the semi-autonomous chiefdoms. This time around, the chiefs of Mambu, Mankahnkong and of the recently revived Mbebeli chiefdom joined the old clique of chiefs in opposition to the Fon's authority. The Chief of Mambu, Wanki Nibanchang II, spearheaded the strife. He wrote several petitions to government administrators contesting the legitimacy of the "third-class" chiefs appointed by the Fon in the Mambu chiefdom.

The respond of government eventually embolden the chiefs to continue in their actions against the Fon. The plea of the revolting Bafut chiefs gained sympathy within the ranks of government authorities in the area. At one point in time, the Senior Divisional Officer for Mezam wrote a letter related to Chieftaincy

disputes in Bafut Sub-Division. The letter pointed out that the Fon had illegally created some chieftaincies in Bafut, which were contrary to the decree of 1977. The Senior Divisional Officer in his letter informed the Fon that the list of chiefs he forwarded to the administration was not the right one. Consequently, the Fon was requested to withdraw any traditional authority and insignia conferred on any individual as a chief (Ref. No. 472/L/E29/SP, 1998). Such ultimatum were nothing short of empowering the subaltern chiefs in Bafut and reinforcing the existence of states within a state.

In fact, the decision of government authorities seemed to have added more insult to injury in the chiefs' revolt against the Fon. In April 2000, under the canopy of the "Ntare chiefs," the traditional rulers of Bawum, Mambu, Mankahnkong and Mbebeli addressed a letter to the Divisional Officer for Bafut Sub-Division concerning the traditional titles of "chief" and "*fon*" in Bafut. They challenged the Bafut Fon's claim that he is the only *fon* in the *fondom*. The chiefs argued that they too were *fons* and their titles must be recognised and respected (Note of Information, 3 April 2000). It is this conflict among the traditional rulers in Bafut that is seemingly going to tear the *fondom* apart in modern times. In this, the 1977 chieftaincy decree quoted severally by Divisional Officers and government officials in Bafut is the bone of contention and source of all other conflicts among the Bafut rulers in modern times. The impact on the community is enormous.

VI. IMPACT OF CONFLICT

The traditional political system in Bafut is endangered. The conflict has diminished the mystical element of the institution of kingship in Bafut. The authority of the Fon is gradually withering among the people in the various chiefdoms. The development of the *fondom* is endangered. Also, the conflict discourages outsiders from settling in Bafut. A stranger would not like to settle in an area where the first condition for the acquisition of land forcefully compels him to pay allegiance only to a particular traditional authority and not to the other. The Nsoh quarter in Bafut is a victim of this feat.

Furthermore, the conflict among traditional authorities (since its inception) scares potential well-wishers who would have liked to help Bafut in one way or the other. The conflict today represents an impending doom for Bafut development, which all Bafut people should aspire to. Disunity has entered the fabric of the society. The saying that "united we stand divided we fall" means nothing to the traditional rulers in Bafut. Political, ideological, personal and social differences have permeated the society. Social relation and inter chiefdom marriages have been reduced drastically. Each person is suspicious of his fellow brother or sister coming from a different chiefdom. All these are clear

indications of the ultimate disintegration that looms large over the Bafut *fondom*.

More fears are directed towards the future generation of rulers in Bafut. It has been noticed that each generation of rulers inherits the conflict. The magnitude increase with the passage of time. The future of the *fondom* as a political unit is seriously threatened. From the conflicts and wrangling that characterise relations among the traditional rulers here, one can hastily draw the conclusion that, if efforts are not made to arrest the situation, future generations shall inherit "arms" of genocide, massacre, hatred and jealousy.

Furthermore, the role of the Bafut people, scholars, elite and Cameroon Government administrators in the conflict among the traditional rulers in Bafut is significant. They are also points of controversy, which need critical examination. As far as the people are concerned, those in the various chiefdoms relentlessly support their individual chiefs.

On the part of the elite, they manipulate the rulers for their own ends. In the main towns and cities of Cameroon, the elite from the rebellious chiefdoms boycott the central Bafut *manjong* in obedience to the express desires of their chiefs (The Bafut Observer, 2000: 6-7). Yet, most of these elite are traditional title holders in the *fondom*. Their role in traditional politics in the face of conflict are equally damaging to the Bafut people. The people are even more confused and misled by some writers of newspaper article who fall short of having a mastery of the historical facts, political developments and traditional politics in the *fondom*. Some writers or scholars writing on Bafut have contributed in sparking a controversy over the status of the Bafut *fondom*. Some call Bafut a federation; others feel that it is a confederation while some are categorical on the fact that it is a monarchy.

Beside, traditional authority is gradually decaying and great African states like the Bafut *fondom* are threatened. The respect due traditional rulers in their societies had withered away. Their role as peacemakers is virtually defeated. The moral values bestowed on the African tradition are seemingly being destroyed by conflicts among the rulers who are considered as custodians of these customs, norms, and moral values. Our greatest hope is that this article should arouse the interest of other scholars or researchers in the study thus enhancing intellectual scholarship that will restore peace in this great *fondom*.

Today the North West Region has been affected by this 'state' syndrome that dealt a big blow to the local communities in the past. With the advent of multiparty politics in the 1990s, the political elite from Ndonga-Mantung Division, led by Honourable Tamfu (of late) campaigned for the split of the North West Region to create a far-north west region with capital in Nkambe (Mbah Ndam Joseph, personal communication, March

2015). The benefits of this act could best be explained by its orchestrators or perpetrators. But one thing is clear that it was an attempt to create a state within a state. This divisive attitude had remained in the brain of the political elite from this division who think that whatever happens in the North West Region as a whole, is not part of their business. To them they are by inference autonomous or independent of the North West Region.

For instance, with the insurrection of the *amba* revolution in 2016, ghost towns and school boycotts were respected all over the North West Region but for Nkambe. With the creation of the Concept of Junior Senators in Cameroon in 2022, the junior Senator from Ndonga-Mantung, Nseka Ndi Anatole insisted that there is no way the North West can present a general project for the Region (Nseka Ndi, personal Communication, November 2022). Each division and its senators should concentrate in the development of projects in their divisions and forward the reports directly to the Assembly in Yaounde. This attitude in a sense, sustained the vices of states within a state.

In a follow up of the elections of the bureau of the Junior Regional Council for the North West on 3 February 2023, Nseka Ndi Anatol declared:

Donga Mantung won the presidency... the person who won... is the person the whole Donga Mantung will pay respect to... any other arranged candidate is a farce. We worked for that, we are not going to leave our efforts go in vain. Arrangements can be done on any other position, not the position of the person who won the presidency. Youths... paid their transport from very far distance like Ako, Misaje, Nkambe... to come for this event... if any other person should replace our president, it should be someone from Donga Mantung and nothing else... stripping us from our position of responsibility is something we cannot condone (personal Communication, 3 February 2023).

To emphasis that if the president is not from Donga Matung, people from that Division will not accept or respect was in essence reiterating the fact that Donga Mantung wants to be a state within a state.

Today, the union between English speaking and French speaking Cameroonians created in 1961 is suffering from socio-political crises that continue to threaten the foundation and existence of that union as the bid for the creation of an independent English speaking Cameroon state animates the political scene. In fact, leaders of the *amba* revolution of 2016 hold swear that the two English speaking regions in Cameroon must have an independent or autonomous state of their own. The future and way forward in this crisis remains the million dollar question to answer. Yet, all these had its origin in the colonial concept of states vis-à-vis the African concept as explained in this article.

The consequences in the communities till date are enormous.

VII. CONCLUSION

This study focused on the perception and manifestation of the concept of states in African communities and most especially where groups of diverse people exist as one body in a state. It is what we also referred to here as 'states within a state.' Here, the problem is not about the physical and geographical form of the state(s); it is about the welfare and well-being of the people concern. Where oppression exist and the state instrument cannot satisfy the needs of the citizens nor provide avenues for them to fetch for livelihood, separatist tendencies will occur. No human by nature is ready to sustain torture and misery for long. One state system in the world which is a succinct example of unity in diversity is the American federal structure. In fact the American federated states show how people from diverse background and origin can cohabit peacefully under the same canopy called a state.

The Canadian state model also portrays vividly how people with different cultural and linguistic background can live together in the same house (state). In the minds of Canadians, it is clear that before they were made French and English speakers, they were first and foremost Canadians. The desire to live harmoniously and peacefully is compelling. It is even a fundamental right and priority to them. America (USA) and Canada translate to the world how 'states within a state' can exist and move on with life. They can serve as inspiration to Cameroon in the bid to solve the secession or separatist revolution imbued in the English speaking regions for decades now.

In fact, the issue is about self-determination and how a people are treated within the context of states. In the Union of two cultures since 1961, the English speakers claim to be passing through life challenges sandwiched with torture, discrimination, misery and marginalisation (Ngwa, 2022: 846-853). The subaltern chiefs (leaders) and people in Bafut had accused their Fon for not giving them 'dash.' Meaning, he did not care for their welfare and well-being. Besides, instead of using the much power he had acquired since colonial rule to enable them live a better life, he used it to oppress them. This gave the sub-chiefs and people reason to secede. Attempts in this direction led to conflicts with enormous impact on peace building ventures in that community. Till date, peace is a relative and fragile issue in Bafut. Yet many yearn for peace. The resolution of conflicts and the restoration of lasting peace in Bafut and Cameroon as a whole requires a revisit of the concept of states within a state as perceived and practised in Cameroon.

The concept of states is an issue of people coming together in a political structure or arrangement made in the society. When this happens, the people are bound to cohabit, live and work together in the system. Relations amongst the people are dictated by the perceptions they have towards the structure or arrangement. Always conflict ensue in the relations to jeopardise peace and harmonious living because of the non-respect of the fundamental rights of each other. This brings to light the question as to how some people cohabit, cooperate and develop within the context of 'states within a state.' We earlier mentioned the USA and Canada as glaring examples.

In this article, we defined a state as an organisation of human beings connected by a system of relations. From precolonial to colonial and post-colonial era, we saw the various organisations or structures put in place to regulate relations amongst the Bafut and the people around them. Bafut went through a number of internal arrangements which built a strong centralised but diverse kingdom (*fondom*) under the leadership of an all-time powerful *fon*. We equally saw the organisation made by the colonial masters- Germans and British hoping to create harmonious and peaceful relations amongst the people.

In this bid, the native authority areas and the south eastern federation were created. On a general note, we will say that European structures dealt a big blow to African political arrangements and relations. First, European powers in Africa were more interested in the economic and geographical mapping of states (structures) for exploitation. That is, carving out spheres or areas endowed with resources for personal administration, control and exploitation. They overlooked the socio-political relations that constituted the bases of state formation in Africa. This eventually generated conflicts in the African communities including Bafut.

The post independent states came up with reforms and new structures (such as the chieftaincy decree in Cameroon) yet conflicts continued unabated. Peaceful cohabitation continued to suffer strains given that peace efforts were confronted with deadlocks. Generally for peace to reign in Bafut, Cameroon and Africa as a whole, some colonial relics, oppression and influence from ex-colonial masters must however be eliminated in the states and communities. This will permit development and peace to reign. The socio-political crisis in the English speaking regions of Cameroon depict a conflict of states whose form and origin emanated from colonial relics. Since inception in 1961, there is no evidence to show that a proper follow up is made to ensure that the welfare of the people in the union (with *La republique du Cameroun*) as manifested in their aspirations during the reunification is respected.

Besides, in Bafut we saw that the Fon's authority and control over other leaders and people in his state (*fondom*) is justified by some accepted African concepts of state formation such as conquest and alliances. We also saw that by African dictate, assimilation as a vector of state formation caused conflict at the very inception of the state. Such a state is hardly stable for always the political system or structure is subject to fragmentation and strains. The use of assimilation to consolidate power or control over people (especially in a state that is built by federated structures within it), is a potential seed of discord in that community. Reason why the perception of the concept of 'states within a state' has to be revisited in Bafut and Cameroon as a whole.

The conflict in the Bafut *fondom* created confusion and made people to attempt a redefinition of the term states in search for a better and convenient application that can bring peace and cordial relations in that community. While Bafut suffers from this at a local level, Cameroon suffers at the national level given that a proper and acceptable definition of 'states' amongst the people had not been ascertain. The state has moved from a Federal Republic to a United Republic, back to a Republic and now to a Decentralised Republic. In fact the Cameroon state needs to answer some questions as to whether colonies or groups of people conquered by French speaking Cameroonians exist in the state. Second, is assimilation a proper policy to apply in the governance of a state made up of people with diverse culture and linguistic background?

From an African perspective, it is clear that assimilation as a policy has hardly succeeded in consolidating the form of a state nor its existence over time. It is more of a vector to conflict and destruction in state formation. From 1961, the construction of a state or nation for Cameroon has been on the move. Two states with two linguistic cultures (within a state) are involved in the process. History and current happenings have shown that the process of consolidating the foundation and form of the state is still porous and shaky. The numerous and sporadic socio-political crisis emanating from the English speaking part of the country portray a conflict of states within a state. Peace ventures have been futile as deadlock takes an upper hand in the crisis. Separatists' propaganda holds that secession is the ultimate solution to the problem. But the Bafut example also portrays that there is still possibility to hold states or people under one canopy (state).

To succeed in any peace venture here, frank dialogue is necessary for the parties concerned to sit and discuss freely and agree on the form of state that will ensure the general welfare and well-being of the people. It is never too late to redefine the form of a state for the sake of peace and progress of a people. It takes just the will to do it. 'States within a state' are not only

sources of conflict within that community; they can also become good potentials for rapid economic development, industrialisation, progress, unity and peace in the state. The USA and Canadian states are glaring examples for Bafut and Cameroon as a whole to emulate.

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GLOBAL JOURNAL OF HUMAN-SOCIAL SCIENCE: H
INTERDISCIPLINARY
Volume 23 Issue 3 Version 1.0 Year 2023
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-460X & Print ISSN: 0975-587X

Modelos De Tanques De Betão Para A Produção De Peixes Na Faculdade De Medicina Veterinária Do Huambo/Angola

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& Justo Cassinda Victor dos Santos

Abstract- This study is the result of design work on concrete tanks that include built-in grids with aquatic plants that help in the natural feeding of fish species. The model was elaborated from an optimal solution directed by the authors in the orientation of group studies. The realization of a will for the execution and construction of concrete tanks (school tank) for the production of fish at the Faculty of Veterinary Medicine of Huambo. It constitutes a huge challenge for contributing to the development of the local economy, as there is a shortage of fish production in aquaculture in concrete tanks in the province of Huambo-Angola. The Province in particular has potential for the production of different species of fish, but due to the lack of public-private investment initiatives, there is a lack of projects that mitigate this demand. After noticing the absence of teaching tanks in the Faculty, the aim was to elaborate viable preliminary projects for the construction of concrete tanks to also help in practical classes.

Keywords: concrete tanks, fish production, built-in grills and aquaculture.

GJHSS-H Classification: DDC Code: 320.6 LCC Code: H97



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Modelos De Tanques De Betão Para A Produção De Peixes Na Faculdade De Medicina Veterinária Do Huambo/Angola

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& Justo Cassinda Victor dos Santos ^ρ

Resumo- Este estudo é resultado do trabalho de desenho de tanques de betão que incluem grelhas embutidas com plantas aquáticas que ajudam na alimentação natural das espécies de peixes. O modelo foi elaborado a partir de uma solução ótima dirigida pelos autores na orientação de estudos feitos em grupo. A realização de uma vontade de execução e construção de tanques (tanque-escola) de betão para a produção de peixes na Faculdade de Medicina Veterinária do Huambo. Constitui um desafio enorme para a contribuição no desenvolvimento da economia local, pois existe uma escassez de produção de peixes em aquicultura em tanques de betão na província do Huambo-Angola. A Província em particular possui um potencial para a produção de distintas espécies de peixes, mas por falta de iniciativas de investimentos público-privado verifica – se a inexistência de projetos que mitigam esta demanda. Depois de constatar-se a ausência de tanques-escola na Faculdade, objetivou-se elaborar anteprojetos viáveis para a construção de tanques de betão para, igualmente, ajudar em aulas práticas. Focalizou – se num estudo qualitativo, com natureza descritiva-exploratória, que resultou na descrição da elaboração do anteprojecto de construção do tanque com grelhas embutidas que suportam plantas aquáticas para alimentação das espécies.

Palavras-chave: tanques de betão, produção de peixes, grelhas embutidas e aquicultura.

Abstract- This study is the result of design work on concrete tanks that include built-in grids with aquatic plants that help in the natural feeding of fish species. The model was elaborated from an optimal solution directed by the authors in the orientation of group studies. The realization of a will for the execution and construction of concrete tanks (school tank) for the production of fish at the Faculty of Veterinary Medicine of Huambo. It constitutes a huge challenge for contributing to the development of the local economy, as there is a shortage of fish production in aquaculture in concrete tanks in the province of Huambo-Angola. The Province in particular has potential for the production of different species of fish, but due to the lack of public-private investment initiatives, there is a lack of projects that mitigate this demand. After noticing the absence of teaching tanks in the Faculty, the aim was to elaborate viable preliminary projects for the construction of concrete

tanks to also help in practical classes. It focused on a qualitative study, with a descriptive-exploratory nature, which resulted in the description of the elaboration of the preliminary project for the construction of the tank with built-in grids that support aquatic plants for feeding the species.

Keywords: concrete tanks, fish production, built-in grids and aquaculture.

I. INTRODUÇÃO

A criação de peixes no sistema de tanques tem sido um desafio para os diferentes países a nível do mundo e serve como alternativa para alavancar a economia, atendendo a escassez de pescado que se vai verificando nos últimos anos, em particular, pela falta de pescado nos oceanos. A alternativa encontrada para se mitigar tal demanda tem sido a aposta na aquicultura (Lopes, 2012 e de Souza e outros, 2018), que se baseia no cultivo de peixes em condições adequadas, obedecendo todos os pressupostos para a produção em tanques como: a iluminação, a sanidade da água bem como a temperatura da mesma.

Na tentativa da diversificação da economia em Angola, o governo tem apresentado vários desafios, criando alternativas para o efeito, apostando na aquicultura com maior ênfase no norte do país. Porém, a nível do país existe somente na Faculdade de Medicina Veterinária, da Universidade José Eduardo dos Santos, o curso de Aquicultura, onde se aprendem técnicas de produção de peixes. Consequentemente, para realização do cumprimento da teoria-técnica à prática eficaz, não existem locais adequados onde se possa realizar a prática constante e o seu respetivo estágio para o aperfeiçoamento das técnicas de produção de peixe.

Neste sentido, realizou-se um estudo exploratório na Faculdade de Medicina Veterinária e observou – se a existência de espaços com solos adequados que permitem construção de tanques de betão para servir de escola do aperfeiçoamento das técnicas de produção de peixes o que o aquicultor necessita para ter confiança no seu projeto de reprodução ou do seu investimento (Sousa, 2016).

Assim apresenta-se neste estudo uma proposta de construção de tanques, de alvenaria de betão para o

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cultivo de peixes em água doce, com grelhas embutidas que suportam plantas aquáticas que vão proporcionar alimentos naturais para os peixes. A base para a projecção dos modelos de construção dos tanques é o Desenho Técnico como uma Unidade Curricular no Curso de Aquicultura.

II. REVISÃO BIBLIOGRÁFICA

A aquicultura está definida como o cultivo de organismos aquáticos, entre os quais os peixes, moluscos, crustáceos e plantas aquáticas (Sebrae, 2015). Este cultivo pode ser em águas doce ou salgadas mas que seja em condições adequadas e como constatado, pela Food and Agriculture Organization of the United Nations - FAO (Organização das Nações Unidas para Alimentação e Agricultura), entre os anos de 1995 e 2007 houve um aumento significativo na produção.

A produção significativa, em aquicultura, está fundamentada no cultivo massivo de peixes em tanques, e na visão de Farias (2013) para a implementação de tanques é necessário considerar o tipo de tanque a ser implementado, as condições técnicas Institucionais de apoio ao projeto e deve ter-se um acompanhamento técnico adequado para a reprodução das espécies. Este mesmo autor classifica os sistemas de criação de peixes em sistema extensivo, semi-intensivo, intensivo e super-intensivo.

Relativamente ao sistema extensivo, afirma que consiste na criação de peixes juvenis ou alevinos em lagos, bebedouros e animais ou represas, onde estes ficam até atingirem a fase adulta. A produção neste sistema é média, isto é, para a subsistência ou comércio, faz-se o cultivo de várias espécies ao mesmo tempo e a alimentação é natural que resulta nos suplementos que a natureza oferece. Doutra lado, nos sistemas semi-intensivo são usados viveiros e os peixes são alimentados pelo produtor usando ração controlada e alimentos vivos, que é dado desde a fase de juvenis até a fase adulta ou de comercialização. Neste sistema também podem ser criadas mais de uma espécie.

Quanto ao sistema intensivo Farias (2013) realça que a produção é maior e as estruturas para a produção devem ser de alto padrão em todos os aspectos relacionados a criação. A produção é adequada para uma única espécie. Enquanto que o sistema super-intensivo o rigor chega a ser maior com uma densidade da população superior e o cultivo é feito em estruturas adequadas, tanques circulares, tanques-lona ou tanque-rede. O custo de implantação do projeto e a produtividade chega a ser também maior, precisando assim de um técnico especialista.

Destes sistemas o que mais se aproxima ao objecto de estudo deste trabalho é o sistema intensivo pela qualidade e natureza da tipologia de tanques que se propõem em construção para a produção com alto

padrão na criação de peixes. Noutro sentido, os tanques com grelhas embutidas que suportam plantas para alimentação natural de peixes, permite a produção em maior escala e diminuir os custos da ração ao produtor, o que corrobora Sousa (2016) ao salientar que quando em um viveiro existirem mais de uma espécie de peixes, é necessário que se utilizem alimentos naturais presentes no viveiro como os organismos bentônicos, plânctons, vegetais aquáticos e outros.

Relativamente a caracterização dos solos, para a construção de tanques, a análise parte da determinação do local onde se vai implementar o projeto de aquicultura. (Bonéfácio 1997 apud Sousa 2016). Esse mesmo autor destaca que as qualidades físicas e químicas do solo são a consistência, a permeabilidade, a textura, a plasticidade, que permitem uma adequada construção e resistência dos tanques com grelhas embutidas.

De maneira geral os autores convergem no teor de composição do solo em 50% de areia abaixo e 30% de argila acima, como sendo, condições necessárias para um adequado solo para a aquicultura. Dito de outra maneira, o aspecto químico do solo é necessário para fazer análise em laboratórios especializados e que a correção pode ser feita com os diferentes tipos de esterco existentes. Na visão de Passos (2001) uma das técnicas para a correção e melhoramento do solo é a compactação, e Cunha (2019) salienta que os solos projetados para a construção de tanques, quer seja para a produção de ovos, larvas, juvenis e adultos devem ser impermeáveis.

Um outro aspeto a se ter em conta depois da caracterização do solo é a implementação do projeto que para Sebrae (1999) o sucesso da implantação de um projecto de aquicultura está baseado em três aspectos importantes:

1. A topografia do terreno, que determina os custos de implantação e manutenção;
2. O tipo de solo;
3. E a análise qualitativa e quantitativa da água disponível para o abastecimento dos tanques, com maior ênfase nas épocas de estiagem.

Na implementação projeto, a produção de peixes dependerá da qualidade de construção dos tanques.

a) *Produção De Peixes Em Tanques*

A produção de peixes pode ser feita de diversas formas usando distintos tipos de tanques tal como:

1. *Tanques de terra ou escavados*: segundo Farias (2013), estes viveiros devem ser escavados de acordo recomendações de um especialista, tendo em conta a legislação vigente. A zona a ser usada para o cultivo deverá ser compactada para evitar a

infiltração da água e o desabamento das paredes ou taludes.

2. *Tanques-rede*: segundo Embrapa (2009) estes tanques variam na forma e tamanho e são colocados em ambientes aquáticos usando flutuadores com oscilações periódicas do nível da água ou, são colocados neste ambiente usando as estacas fixas onde não há oscilação do nível da água, isto é, para que os peixes estejam concentrados em um mesmo espaço protegendo-os dos predadores e competidores, facilidade na alimentação e um fornecimento de água de boa qualidade, facilitando também a manutenção e a despesca.
3. *Tanques de alvenaria*: estes tanques podem ser de tijolos com paredes duplas por vezes ou de betão. O fundo é normalmente feito de terra. Uma das grandes vantagens é de que estes tanques não precisam de constantes manutenções para além de terem um período de vida longo. São recomendados para sistemas superintensivos (Farias, 2013).

Das investigações feitas constatou-se que para a construção do tanque é necessário que sejam revistas todas as condições técnicas de acordo aos padrões construtivos e a manutenção da água deve ser feita em um curso de até 30 metros e em áreas não sujeitas a alagamento, e a pendente do tanque no sentido da entrada da água deverá ser de 5 a 1% de inclinação e para os tanques escavados é necessário que se coloquem algumas espécies de plantas de gramíneas nos taludes para evitar a erosão.

Conforme escreveu Souza e outros (2018) para minimizar os custos de construção de tanques, devem ser usados materiais que a sua obtenção seja fácil e que sejam locais e amigos do ambiente, ou seja, os materiais devem ser sustentáveis. Por outro lado, Alonso-Rodríguez & Paez-Osuna (2003) debatem-se, para além dos custos de construção, com a qualidade da água necessária para a produção. Assim, afirmam que a qualidade da água quando alterada pode provocar patologias ao longo do crescimento dos peixes produzidos ou mesmo condições desfavoráveis para o bom crescimento da espécie em referência.

Para a proposta que se desenvolve nesta investigação, acautela-se as condições realçadas anteriormente por autores conceituados.

III. METODOLOGIA DO ESTUDO

Este trabalho tem uma abordagem qualitativa, de natureza descritiva do tipo exploratório, pois, tem sua perspectiva centrada no entendimento das ações dos grupos constituídos por estudantes do 4º ano do curso de Aquicultura da Faculdade de Medicina Veterinária do Huambo da Universidade José Eduardo dos Santos, coordenados pelos autores deste trabalho,

focando-se no estudos da localização geográfica e topográfica do terreno a implementar o anteprojecto, (Sampieri 2014).

As principais atividades realizadas garantem maior familiaridade para a implementação do anteprojecto de construção dos tanques, descobrindo assim as soluções de acordo as ideias derivadas do processo, (Selltiz et all, 1974). Estas atividades permitiram investigar ideias que buscaram o significado real resultante das iterações com a área de estudo, características do solo e com o grupo de estudantes. (Coutinho 2018). O grupo de estuantes permitiu utilizar *Focus Group* como metodologia de investigação grupal, dividindo a turma de 24 estudantes em subgrupos para se alcançar os objectivos preconizados. Estes subgrupos foram constituídos por 6 estudantes que permitiu ter um número ideal de participantes, uma composição homogênea, entrevistas ao grupo pelos coordenadores, sessões com horas definidas e com tópicos de interesses para o grupo.

Para dar-se seguimento ao trabalho foram definidas algumas linhas norteadoras definidas nos fundamentos teóricos anteriores, sendo:

1. Um terreno que seja da Faculdade de Medicina Veterinária;
2. A inclinação do terreno tenha pelo menos três curvas de nível (sendo que a diferença de altura entre duas curvas de é de um metro 1 m);
 - a. tipo de solo seja adequado a tanques de betão;
3. Uma fonte alternativa de água que não seja da rede pública;

Neste sentido, tiveram-se em conta duas etapas, sendo:

Primeira etapa: Localizar uma zona no terreno em estudo com inclinação razoável de no máximo três curvas de nível, Ver Imagens 1 a 3.



Fonte: Estudante

Imagem 1: Limpeza grupo 1 e 4

Visita dos estudantes para levantamentos da zona onde se vão implementar o anteprojecto dos tanques. Estes tanques serão de betão e seguirão os desenhos de cada grupo



Fonte: Estudante

Imagem 2: Limpeza grupo 1 e 4

Panorama da zona em estudo. Esta zona pertence a Faculdade de Medicina Veterinária e tem uma lagoa que facilita o abastecimento de água corrente para os tanques sem necessidade da água proveniente da rede pública.



Fonte: Estudante

Imagem 3: Limpeza grupo 1 e 4

Vista panorâmica da zona em estudo. A pendente do terreno facilita o estudo tendo em conta a necessidade de se ter um terreno com pelo menos três curvas de nível.



Fonte: Estudante

Imagem 4: Limpeza grupo 1 e 4



Fonte: Estudante

Imagem 2: Limpeza grupo 2

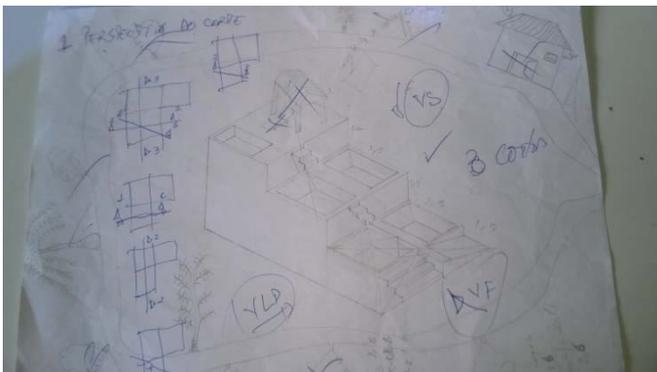


Fonte: Estudante

Figura 3: Limpeza grupo 3

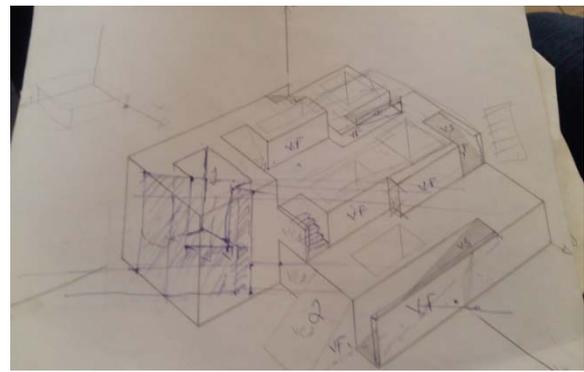
Depois de localizado o terreno, fazer a limpeza do mesmo: os grupos foram livres em escolher os seus locais e, alguns escolheram zonas próximas umas das outras. O importante era escolher aquele local que cumpre com os pressupostos da orientação do trabalho. Ver imagens 4, 5 e 6.

- Segunda etapa (na sala de aulas):
 1. Propor um desenho com pelo menos três tanques para alevinos, juvenis e adultos (Escala 1:100). Ver alguns esboços. Imagens 4 e 5.



Fonte: Estudantes

Imagem 4: Esboço com vistas



Fonte: Estudantes

Imagem 5: Esboço com corte

2. Desenhar as peças (Escala 1:100);
3. Realizar cortes longitudinal e transversal (Escala 1:100);
4. Representação das fachadas (Escala 1:100);
5. Representação da volumetria (Escala 1:100);
6. Determinar as curvas de nível que passam na zona dos tanques fazendo uma sobreposição das imagens (Escala 1:100);
7. Determinar a área, o volume e a capacidade para cada tanque respetivamente:

As fórmulas usadas para se determinar a área dos tanques são as normais usadas para as figuras planas com excepção do triângulo por não ser uma figura usada como base para a projecção de tanques. A capacidade do tanque dependeu do volume do mesmo cuja correspondência é de 1 m³ estar para 1000l (mil litros).

Depois terminado o trabalho, foram feitas avaliações para cada fase tendo terminado com a apresentação de um relatório que descreve as etapas detalhadas até ao projecto final.

Das variantes apresentadas por cada grupo, escolheu-se aquela que respondeu as exigências do trabalho.

Os aspectos que foram considerados para a escolha da variante optima foram.

1. Desenho criativo e escolha do local favorável: foi considerada área com uma inclinação de pelo menos três metros de altura, já que a diferença de altura entre duas curvas de nível é de um metro: Ver imagens 6 e 7.



Fonte: Estudantes

Imagem 6: Medição das ripas



Fonte: Estudantes

Imagem 7: Nivelamento do local

2. Marcação do terreno e adequação do desenho: o terreno apresenta uma inclinação favorável cuja altura corresponde a três curvas de nível. Ver imagens 8 e 9.

Desta proposta ótima, ainda foram feitas algumas retificações para se chegar a uma proposta para a projecção de tanque tanque de betão com um grelhas que suportam plantas que servem de alimento para os peixes. A proposta desta grelha é apresentada logo de seguida com a respetiva solução volumétrica e a distribuição dos tanques que seriam três conforme indicação.

O sistema construtivo para esta proposta é do tipo de sistema intensivo, visto que, neste sistema a produção é de alto padrão e o rigor da projecção do tanque se adequa a este sistema.

O projeto suporta quatro tanques separados por taludes de 40 cm de espessura, com uma profundidade de 1,5 m cada e uma inclinação de 3%.

A alimentação da água não dependerá da rede pública, visto que, o sistema de abastecimento terá uma ligação com a lagoa da Faculdade, o que permitirá a entrada normal e a respetiva saída da água sem problemas. Ainda haverá ligação entre os tanques facilitando a circulação da água, mantendo assim uma qualidade e quantidade da mesma no tanque.

De acordo com a proposta, os tanques serão de alvenaria e que cada tanque vai produzir uma espécie diferente para um sistema intensivo, apesar de estes tanques poderem ser adequados para um sistema superintensivo. No interior de cada tanque

IV. RESULTADOS E SUA DISCUSSÃO

Nesta secção apresentar-se-ão os principais resultados da análise da variante ótima selecionada dos 4 grupos e a sua discussão. A análise está baseada na estrutura do tanque quanto ao sistema construtivo, tipo de tanque bem como a apresentação sistemática da grelha embutida (assim designada pelos autores) que suportará as plantas para a alimentação natural dos tanques.

existirão redes para que a seleção seja natural de acordo ao tamanho, fazendo com que cada cria, a medida em que vai crescendo já não voltará ao local do tamanho anterior.

Apesar de que os tanques de betão tenham custos mais elevados quanto ao processo construtivo, estes são mais seguros porque não dependem do tipo de terreno para a sua implementação, visto que, com a ajuda de um técnico que faz o levantamento (em termos de custo de obra), já propõe condições adequadas para que se implemente do projeto, diferente dos tanques escavados que carecem de um estudo mais aprofundado do tipo de solo para que o mesmo seja implementado.

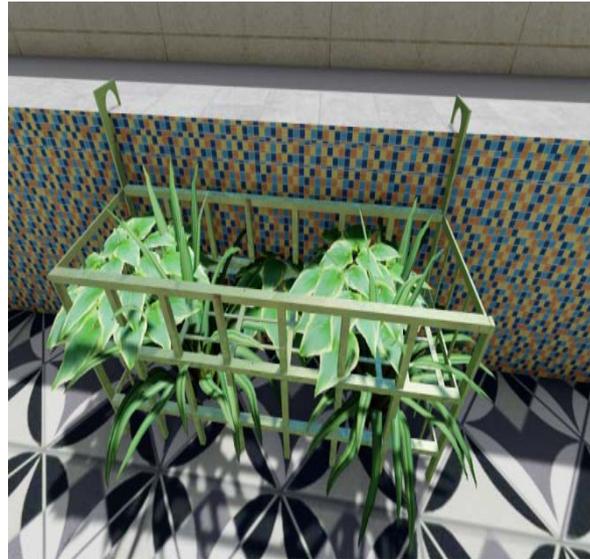
A proposta de grelhas embutidas nos tanques, é uma inovação que ajudará os produtores de peixes em tanques de betão a não se preocuparem bastante com a ração que por vezes chega a ser muito pesado para os produtores.

O tamanho da grelha vai depender da área que o tanque ocupa. Elas podem ter mais de um andar para facilitar as raízes bem como aquelas plantas que podem adaptar-se com facilidade no interior do tanque bem como aquelas que precisam de raios solares para a sua sobrevivência. É a apresentada a seguir o seu formato. Ver imagens 9 e 10.



Fonte: Professores

Imagem 9: Grelha embutida



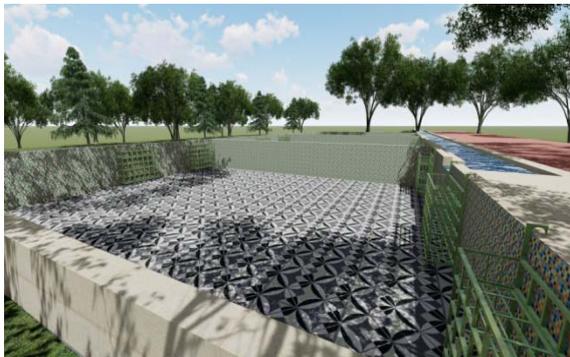
Fonte: Professores

Imagem 10: Grelha embutida com plantas

De seguida serão apresentados algumas imagens dos tanques em diferentes perspetivas conforme a proposta, e que os mesmos apresentam a

ligação entre si por meio de aberturas, a ligação do canal pela lagoa central o que facilitará o escoamento das águas e a entrada de nova.

Esta imagem representa o tanque vazio com as grelhas embutidas nas paredes de betão e que as mesmas podem ser removidas para a manutenção das plantas. Ver imagens 11 e 12.



Fonte: Professores

Imagem 11: Tanque Vazio Com Grelha Embutida



Fonte: Professores

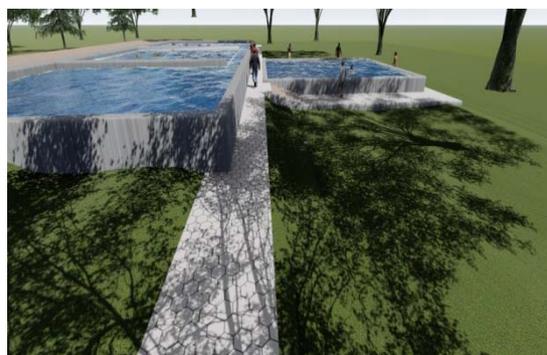
Imagem 12: Tanque Vazio Com Grelha Embutida

Tem de seguida o plano geral do projecto, apresentando o acesso principal e o canal de água que abastece os tanques. Ver imagens 13 e 14.



Fonte: Professores

Imagem 13: Tanque Vazio/ Canal De Água



Fonte: Professores

Imagem 14: tanque / acesso principal

De seguida tem a representação dos tanques com água, o canal de abastecimento, o acesso principal bem como a representação do produtor que está fazendo a manutenção do tanque ou mesmo a pesca. Ver imagens 15 e 16.



Fonte: Professores

Imagem 15: Tanque Com Água



Fonte: Professores

Imagem 16: Detalhe Do Tanque

V. CONSIDERAÇÕES FINAIS

Os principais fundamentos teóricos destacados permitiram constatar que para a construção de tanque, e em particular do modelo que se propõem, é necessário que sejam revistas as condições técnicas em função dos padrões de construção e de manutenção da água, tendo em conta uma área onde não haja alagamento. Para os tanques escavados é necessário que se coloquem algumas espécies de plantas de gramíneas nos taludes para evitar a erosão. Portanto para minimizar os custos de construção de tanques, devem ser usados materiais que a sua obtenção seja fácil e permite uma adequação ao local e sejam sustentáveis.

A metodologia utilizada correspondeu ao desenvolvimento da investigação com foco no resultado das ações, dos grupos constituídos por estudantes do 4º ano do curso de Aquicultura da Faculdade de Medicina Veterinária do Huambo da Universidade José

Eduardo dos Santos, coordenados pelos autores deste trabalho. As atividades previstas, e os procedimentos e técnicas utilizadas, e realizadas garantiram a produção de conhecimento sobre a construção de tanques.

O resultado desta investigação reside no modelo de tanques de betão para a produção de peixe, tendo em consideração a estrutura do tanque, o tipo e sistema de tanque bem como a apresentação sistemática da grelha embutida que suportará as plantas para a alimentação natural dos tanques. O projeto suporta quatro tanques separados por taludes de 40 cm de espessura, com uma profundidade de 1,5 m cada e uma inclinação de 3%.

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GLOBAL JOURNAL OF HUMAN-SOCIAL SCIENCE: H
INTERDISCIPLINARY
Volume 23 Issue 3 Version 1.0 Year 2023
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-460X & Print ISSN: 0975-587X

Evaluating the Factors that Contribute to the Shopping through Social Media, using Exploratory Factor Analysis and Partial Least Square Structural Equation Modeling - Insights from Tanzania

By Martha Gaudance

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Keywords: *online shopping behavior, social media buying behavior and partial least square structural equation.*

GJHSS-H Classification: DDC: 658.84



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statistical analysis and Smart PLS software for partial least square modeling. Exploratory factor analysis was used to evaluate variable factor loadings, and variables with more than or equal to 0.3 loadings were used in structural equation modeling. Nine hypotheses were created with direct and indirect effect; results reveled social-economic factors, technology, and internet adoption and Security and Risk influence social media shopping behavior. This study also finds multiclonality influence between factors as social and economic and security factors influence technology adoption.

Graphical abstract

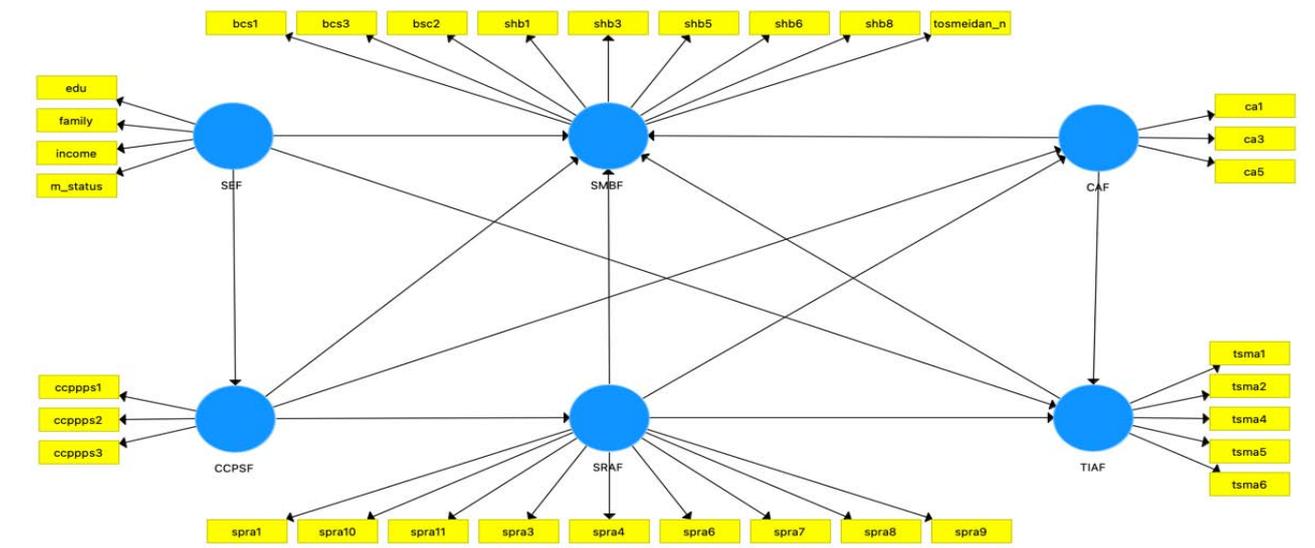


Figure1: Partial Least Square Structural Equation Model-Path Analysis

Keywords: online shopping behavior, social media buying behavior and partial least square structural equation.

I. INTRODUCTION

The investigation of consumer behavior is a topic that has been studied extensively by researchers in order to gain insights into the various factors that affect purchasing decisions. One of the earliest models

of consumer decision-making was proposed by Engel, Kollat, and Blackwell in 1968, which outlined a five-stage process that consumers go through when making a purchase. This process includes problem recognition, information search, evaluation of alternatives, purchase decision, and post-purchase evaluation (Engel et al., 1968). In the 1970s, Joseph and Inchbald expanded upon the Engel-Kollat-Blackwell model by incorporating additional stages that emphasized the impact of social and cultural factors on consumer behavior. Their modified model, known as the EKB model, provided a more comprehensive framework for understanding

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consumer behavior (Joseph and Inchbald, 1979). Since the development of the EKB model, numerous researchers have built upon it and developed their own models and theories of consumer behavior. These models have incorporated a wide range of factors such as social and cultural influences, psychological factors, and environmental factors to provide a more in-depth understanding of consumer behavior. This continuous evolution of consumer behavior models has contributed to the advancement of marketing strategies and has helped businesses gain insights into the complex nature of consumer decision-making. Several factors, such as the environment and essential survival needs, contribute to an individual's inclination to modify their behavior, and such changes have significant implications for both personal lifestyles and businesses. Despite the internet's existence since the 1960s, it was not accessible to the general public until the early 1990s. With the widespread adoption of the internet, the World Wide Web has emerged as a new medium, revolutionizing various aspects of human life, including daily routines and consumer purchasing behavior. Online shopping is a form of e-commerce that enables consumers to purchase goods or services directly from a vendor through the internet using a web browser. Venkatesh et al. (2022) proposed that the concept of online shopping dates back to 1967, although its commercialization and innovation have accelerated due to the widespread use of the internet. This has led to a significant transformation in shopping and purchasing, and has given rise to a new field of research focused on examining consumer behavior in the online context, known as online consumer behavior. Numerous studies have been conducted to explore the various factors that motivate users to engage in online shopping activities. Kuswanto et al. (2020) found that risk, social influence, and joy of shopping are significant factors that influence online shopping. According to Davis et al. (2021), several factors such as variety seeking, advertising, shopping convenience, and trust significantly influence online shopping. Furthermore, researchers have investigated the impact of demographic factors on online shopping behavior, including gender (Kanwal et al., 2022; Sramova and Pavelka, 2019), age (Sorice, Perotti, and Widrick, 2005), and education (Petroman et al., 2015). Despite the various research domains in this field, online buying and selling behavior can be classified into two categories: external and internal factors. Inside factors explain features that exist within the user and influence their behavior due to certain traits. Further research in the field of online consumer behavior has revealed that various attributes such as gender, age, education, and subjective norms significantly influence consumer behavior (Ling and Yazdanifard 2015). The external factors that influence consumer behavior are determined by external stimuli and how they drive consumers to take a specific course of action. This category encompasses

technological and social pressures that can motivate consumers to change their decisions. Studies have also explored other areas of online consumer behavior such as impulse buying behavior, hedonic motivation, personality, and emotions (Chuah and Gan 2013). For instance, impulse buying behavior is a key area of interest in online consumer behavior research, with scholars examining how emotions and other factors influence impulse buying. Similarly, research has also explored how hedonic motivation, which is driven by pleasure-seeking, influences online consumer behavior. Studies have also examined the role of personality traits in online consumer behavior, particularly in relation to impulse buying behavior. Overall, the field of online consumer behavior is continually expanding as new factors and variables are explored to provide a more comprehensive understanding of how consumers behave in the online marketplace. In recent years, the impact of social media platforms on consumer behavior has become a subject of significant interest to researchers. Social media has transformed the way people interact with one another, and this has had a profound impact on how individuals and organizations operate. One of the most significant impacts of social media is the way it has changed the relationship between businesses and their customers. Customers are now able to interact with businesses in real-time, and this has led to a new level of engagement between businesses and their customers. Researchers have studied the ways in which social media platforms are being used to create social constructs and shape the future of certain countries (Trusov, Bodapati, and Bucklin 2010). They have also investigated how the use of popular social media platforms is associated with shopping preferences with respect to specific, familiar retail stores, including online and physical channels (Vithayathil, Dadgar, and Osiri 2020). In addition, researchers have studied the impact of social media advertisements on the dynamics of online shopping (Misra, Goyal, and Maurya 2022).

a) *Study Modeling*

This study aims to investigate the factors that have contributed to the increasing use of social media as a platform for online shopping in Tanzania, where entrepreneurs have turned to social media in the absence of a large ecommerce platform. The study draws on an old academic debate about the variables that influence behavior change in relation to environmental adaptation, with a focus on how environmental adaptation affects business in both positive and negative ways. Seven categories of factors that may contribute to behavior change are identified in the study. While there has been considerable research on social media and online purchasing, little attention has been paid specifically to social media as a platform for online shopping. Tanzania, as a new emerging market

economy in East Africa with an average GDP growth of 5% over the last five years, presents an interesting case for investigating this phenomenon. The number of internet users in Tanzania has been steadily increasing, with 15.15 million users in January 2021 and a 3% growth between 2020 and 2021. Social media users in Tanzania also increased by 20% between 2020 and 2021, with 5.40 million active users in January 2021, accounting for 8.9% of the country's total population. Considering that shopping behavior is influenced by social conventions, cultural viewpoints, and technology adoption, the study seeks to shed light on the behavior transformation occurring in Tanzania as entrepreneurs turn to social media as a shopping platform. The results of this study can inform policy decisions and business strategies in Tanzania and other emerging markets facing similar challenges. While previous research has explored the factors that influence online shopping behavior in general, there is a gap in the literature regarding social media as a platform for online shopping in emerging economies like Tanzania. Therefore, this study aims to fill this gap by investigating the factors that drive the adoption of social media as a shopping platform in Tanzania. The study utilizes a mixed-methods approach, which includes Online surveys with Tanzanian entrepreneurs and consumers who use social media for shopping. The research focuses on seven categories of factors that may influence the adoption of social media as a shopping platform: social norms, trust, convenience, variety, advertising, hedonic motivation, and perceived risk. The results of this study may help Tanzanian entrepreneurs and policymakers to better understand the factors that contribute to the growth of social media as a shopping platform in the country. Additionally, the findings may provide insights into the challenges that need to be addressed to ensure the sustainability of this trend. By understanding the factors that influence consumer behavior, businesses and policymakers can develop strategies to maximize the benefits of social media as a shopping platform and mitigate potential risks.

II. LITERATURE REVIEW

a) *Social Media Behavior Factors (SMBF)*

Previously conducted studies have already established the significance of social media in building personal connections and enabling companies to reach potential customers. In this section, we have grouped together various characteristics that researchers believe signify an interrelationship between online shopping behavior and social media. Social media users actively create, share, and consume content related to products or brands with the intention of educating others about a company's sustainable practices and supply chain (Ngai, Tao, and Moon 2015). The sharing of personal, sustainable product experiences by consumers on

social media leads to an increase in perceived word-of-mouth marketing for these products (Buzetto-More 2013). These features of social media give users the ability to establish trust and security towards a company or brand and create a potential for viral marketing that can inspire many other users (Brown, Broderick, and Lee 2007). Establishing online trust is crucial to understanding the association between social media and behavioral adaptation. Furthermore, promotions and free delivery fees are also seen to encourage online shopping, along with recognition of social media buying behavior (Al Hamli and Sobaih 2023). This category was also designed to investigate online and offline purchasing preferences to determine if there is a relationship between the time spent on social media and shopping through social media.

b) *Social and Economic Factors (SEF)*

There is a substantial economic growth in Tanzania, with a reported rise of per capita income from below 1000\$ to 1024\$ per day (Richter 2019). Relationship between purchasing power and economic growth was explained by (Jonsson et al. 2001) in reference to inflation, supporting this theory, (Tariku Kolcha Balango 2020) express the positive growth in purchasing power with relationship in Gross National Product (GDP) growth. Purchasing power positive growth with economic, have been challenged by various studies where they find, regardless of economic growth, there is no guarantee in increase in individual growth economically. (Tariku Kolcha Balango 2020) explain there is no clear indication to correlate consumer purchasing power and macroeconomic growth, and (Kouton 2019) argue that, notwithstanding economic growth in sub-Saharan Africa still there is poor pace in poverty contraction.

In prospect of consumer behavior (Ansari 2018) explain that consumer Social Factors, Cultural factors and Social Class play significance influence on shopping behavior. (Al-Azzam 2014), finds there is positive correlation between family, price, quality, color, and purchasing decision. Exploring this category, five variables were included, Age (Hervé and Mullet 2009; Pour Mohammad and Drolet 2019), marital status (Velaudham 2019), education (Petroman et al. 2015), family (Ibáñez, Alonso Dos Santos, and Llanos-Contreras 2022), job and Income (Rehman and Jamil 2016).

c) *Technology Internet Acceptance Factors (TIAF)*

This category is adaptation of Technology acceptance model designed by (Davis n.d.) to understand the degree on which users are willing to accept new technology. The TAM was designed to understand the causal relationship between external variables of user acceptance and actual use of technology, seeking to understand the behavior of these users through knowledge of the usefulness and ease of use perceived by them. TAM explains that there is two



principal factors that might influence an individual to try new technology which is perceived usefulness¹ and perceived easy to use². Adaptability of new technology varies with age and other factors, the older generation tend to be more reluctant to new technology than young age and find using of social media is wasting of time(Li et al. 2022). In context of TAM and Social media, studies discovered that an increase in social media usage develops only when the user learns that social media is informative, implying a good interaction between social media and the user(Rauniar et al. 2014).

d) *Security and Risk Assessment Factors (SRAF)*

The concept of risk in decision-making is defined as having prior knowledge about available options and the potential outcomes of choices made, as explained by risk theorists such as Dowling (1986). This concept was further developed by Bauer (n.d.), who explored the relationship between consumer behavior and perceived risk. Dowling (1986) suggested that uncertainty is a common experience for consumers before and after making purchases. Several studies have investigated the concept of perceived risk in consumer behavior, and how it influences decision-making processes. For instance, (Stone and Grønhaug, 1993) argued that perceived risk is a key factor in the consumer decision-making process, and that different types of perceived risk (such as performance, financial, psychological, and social risks) can significantly affect consumer behavior. In the context of online shopping, (Jarvenpaa and Todd, 1997) found that the perceived risk of privacy invasion, product quality, and delivery reliability were significant concerns for online consumers. Furthermore, (Hofacker et al., 2003) identified that the lack of sensory information and the inability to physically examine products were major sources of perceived risk in online shopping. Regarding social media as a platform for online shopping, (Chen and Barnes, 2007) investigated the impact of word-of-mouth communication on consumer trust in online shopping. The study found that positive word-of-mouth communication significantly increased consumers' trust in the online retailer and decreased their perceived risk.

e) *Customer Care, Pre Purchasing and Post Purchasing Service (CCPSF)*

In his book "The Psychology of Customer Care," James J. Lynch elaborates on the concept of customer care and identifies two types of care: total quality and total care. Both types of care are essential for managing customer expectations, as customers have a constant need for high-quality service and products. To meet these needs, it is crucial to consider human resources

and compliance issues (Sheth and Mittal, 1996). Customer care has become increasingly important in the online business landscape, as it can significantly impact customer satisfaction and loyalty. By providing excellent customer care, businesses can improve their brand reputation, increase customer retention rates, and gain a competitive edge in the market. Therefore, understanding the factors that influence customer care is essential for businesses looking to succeed in the online marketplace. To better understand the importance of customer care in online shopping behavior through social media, this study examines six variables related to customer care: service quality, reliability, responsiveness, empathy, assurance, and tangibility. By evaluating these variables, the study aims to create hypotheses and determine how each variable influences the latent construct of customer care in the context of online shopping through social media.

f) *Cost Factors*

Online commerce entails a multitude of expenses, among which transaction cost and product cost are the most commonly associated. In this study, we aim to explore the significance of cost factors in conducting online business. Specifically, we adopt a transactional perspective to investigate consumers' perceptions of the costs involved in online transactions, including the cost of using the internet and the cost comparison between local and international merchandise. Through a comprehensive analysis of these cost factors, we hope to shed light on the impact of cost considerations on online purchasing behavior and provide insights for businesses looking to improve their online operations.

III. RESEARCH METHODOLOGY

a) *Study Approach*

This study utilized both partial least square and structural equation modeling techniques to analyze the factors that affect online shopping behavior through social media. The research process is depicted in Figure 2, which was designed to address the issues raised in this study. The study also employed several data scaling techniques to maximize the variable loading.

¹ Perceived usefulness: The degree to which a person believes that using a particular system may improve its performance.

² Perceived Ease of Use: It is the degree to which a person believes that using an information system will be free of effort.

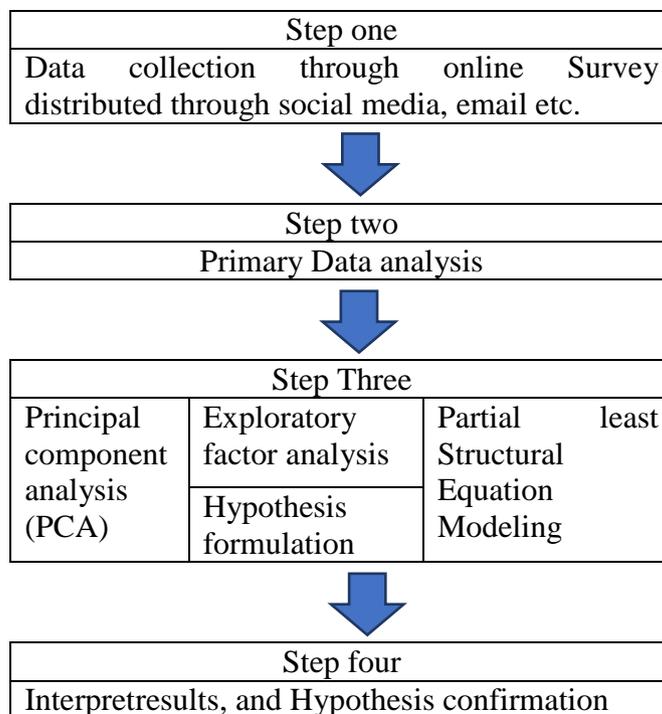


Figure 2: Research Development Workflow

b) *Survey Instrument*

The survey tool used in this study aimed to assess the impact of various factors on online shopping behavior through social media. The questions were designed to cover seven categories, including the participant's social and economic profile, social media behavior, buying and shopping behavior, the influence of technology and technology acceptance, online risk assessment, customer care, and cost analysis

c) *Survey Measurement Scale*

The research used various methodologies to gather responses from the participants. The questions were categorized into different sections, and each section used a different measurement weight that was specifically chosen to measure the relevant variables. The first section collected demographic information about the participants, such as their age, marital status, level of education, whether they have a family and dependents, their job, income range, and the city they reside in. The questions in the second section were designed based on specific categories, and a market survey was conducted to establish the basis for these questions. For sections three to seven, the participants were asked to respond to the questions using a five-point Likert scale. The scale ranged from "strongly disagree/never" to "strongly agree/always." This allowed the researchers to quantify the participants' responses and analyze them using statistical techniques. Overall,

this methodology ensured that the data collected was comprehensive, reliable, and valid for the study's purposes.

d) *Data Collection*

For this study, a Google survey was used as the data collection tool. The online link to the Google survey was distributed through WhatsApp groups, WeChat groups, email, Facebook, and other social media platforms depending on participants' convenience. The Google survey, available as one of the Google Form tools, is one of the most sophisticated tools for data collection and conducting surveys. Its availability on the internet, being free to use, and having enough online space to store data make it an ideal tool for conducting this study. The survey data was automatically stored in Google Drive and can be easily downloaded as a spreadsheet file. Table 1 shows the questions asked during data collection and the variables' definitions that will be used throughout this study.

e) *Hypothesis formulation*

According to the introduction and literature review, as well as interviews with industry owners and social media users, latent indicators can be classified into different categories. Five variables were created by reorganizing latent variables. Incorporating certain observable variables into one domain of latent construct yields the maximum number of variables per latent

variable required to provide a decent outcome. The composition of five hypotheses that cross-check cause and effect between latent variables and observable variables in structural equation modeling was ascribed to the formation of these five latent variables.

H1: Social and economic factors (SEF) have significant effects on online and social media shopping and buying behavior (SMBF)

H1.b: Adaptability of Technology and Internet comes easy with better social economic status, so social and economic construct has significant impact on technology and internet adaptability. (TIAF)

H2: Technology Internet Acceptance factors (TIAF) has significant on online and social media shopping and buying behavior (SMBF).

H3: Security and Risk assessment factors (SRAF) has significant on online and social media shopping and buying behavior (SMBF).

H3.b: Security and Risk assessment factors (SRAF) has significantly influence on how user adopt technology and internet use (TIAF).

H4: Cost Analysis (CAF) has significant on online and social media shopping and buying behavior(SMBF).

H4.b: Cost Analysis (CAF) has significant impact on the Technology Internet Acceptance factors (TIAF)

H5: Customer care, pre purchasing and Post Purchasing services factors (CCPSF) has significant on online and social media shopping and buying behavior(SMBF).

H5. b: Customer care, pre purchasing and Post Purchasing services factors (CCPSF) has significant on cost factors (CAF).

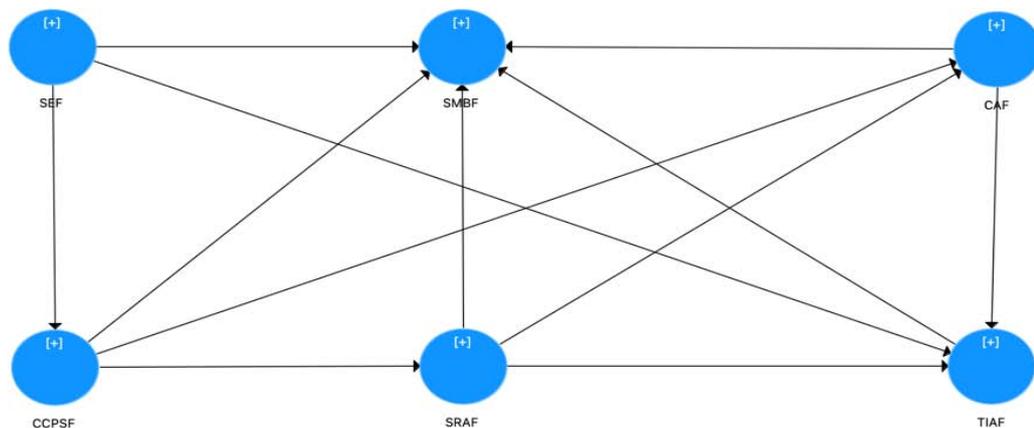


Figure 3: Proposed Theoretical Model to Conceptualize H1:H5

IV. RESULTS DISCUSSION AND FINDINGS

a) Statistical Summary of Data Collected from Participants form

Total of 344 participants partake online survey aim to measure seven categories as summarized in Table 1. Survey was segmented into eight sections with 50 questions in total. the first section aimed to obtained participant basic information such as age, economic status. second section meant to capture participants internet and social media knowledge, in section three question was designed to obtain partaker shopping behavior information. In section four it aimed to measure customer buyer selection, how costomer made a choice about buyer. Section five is about acceptance of Internet and use of social media as shopping platform. Risk assessment and risk acceptance were measured in question designed in section six, section seven

questioner designed to capture Customer care, pre purchasing and Post Purchasing service and last section was cost analysis, cost comparison about online shopping and physical shopping with reference to cost of internet. Participant demographic distribution were explained in Table 1. Participants data collected indicate that, 50.58% are female and 49.41 % are male.16% of female age are in range between 18-25, 41.6% are between 26-30 and the rest are above 30 years old. Male participants age, 17.6% are in range of 18-25 years, 55.5% age range between 26-30, and 26% are above 31years old. Education data distribution signifies that participant were well educated so that they understood questions, 46.6% of participants have bachelor degree and 35.9 % has postgraduate degree. 60.89% of study female participants are single and 33.97% are married while 56.2 of male are single and 43.79% are married.

Table 1: Participants Social and Economic Data Distribution

Variable		N=344	
Gender	Female	174	
	Male	170	
Age	Female	18-25	28
		26-30	72
		31- above	74
	Male	18-25	30
		26-30	94
		31- above	46
Marital Status	Single	194	
	Married	139	
	Divorced	10	
	Widow	1	
Education	Primary Education	2	
	Secondary Education	8	
	Diploma or Certificate or High School	50	
	Bachelor Degree	160	
	Masters and Post graduate	123	
Have or not have family	Have a family	260	
	Not have a family	84	
Job	Self Employed	135	
	Employed In Private Sector	73	
	Employed In government sector	61	
	Not Employed	53	
	Student (dependent)	23	
Monthly Income	0-300,000	84	
	300,001-600,000	54	
	600,001-1,000,000	59	
	1,000,001 - 1,500,000	44	
	1,500,000 and above	73	

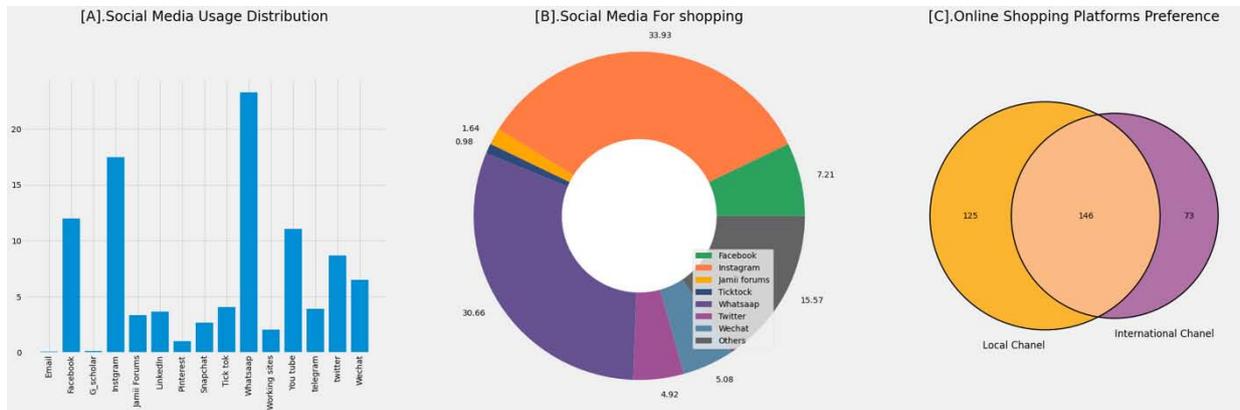


Figure 4: Social Media Usage Distribution

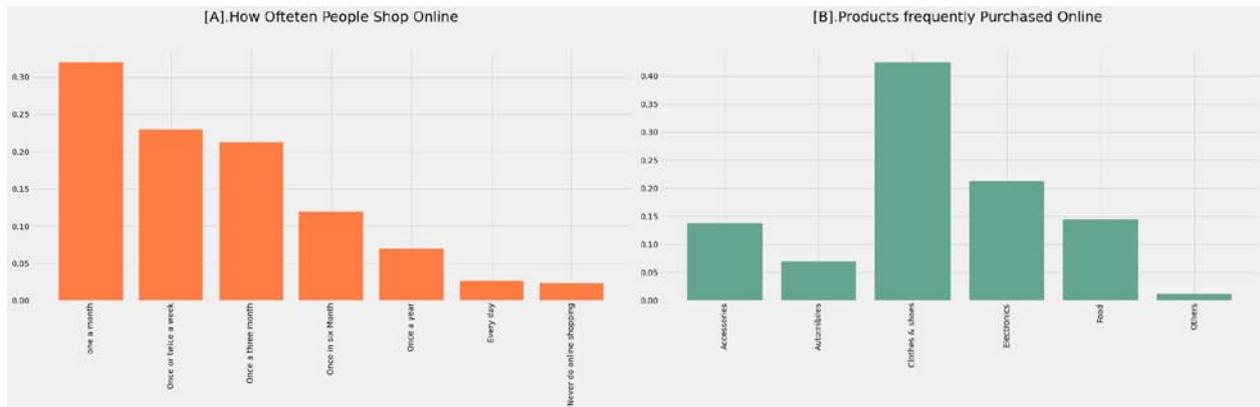


Figure 5: How Often People Shop Online and What Products Often Purchased Online

Figure 3: Figure 4 depicts primary data distribution obtained throughout this investigation. Figure 3(A) shows mostly commonly used social media in Tanzania, with WhatsApp as leading social media, followed by Instagram and Facebook. In usage for social media usage for shopping, Figure 3(B) demonstrates that Instagram had the greatest ratio of social media usage for shopping at 33.93 percent, followed by WhatsApp at 30.66 percent. In comparison to international shopping, data sample expresses that 125 fancy buying online at local platforms, 73 prefers international platforms, and 146 prefers both local and international platforms. Figure 4[A] shows that 31.9 percent like to shop once a month, 22.96 percent shop once or twice a week, 11.91 percent shop once every six months, 2 percent shop every day, and just 2 percent never conduct online shopping. Figure 4[B] shows that the clothing and shoes account for 42.41 percent of all items ordered online, followed by Electronics products (21.2 percent), food, Accessories, and Automobiles (14.29 percent, 13.81 percent, and 7%, respectively).

b) Data Modeling and Results

To construct acceptable Structural equation model, appropriate number of factors were needed to be contrived, and to find meaningful relationship between latent variables observed variables. Sideridis

(Sideridis et al. 2014) founds that 70 sample size is adequate for four latent variable.

With seven constructs, a minimum required sample size is 150, as sample size of 344 prove to be adequate.

In this section, we use factor analysis to locate acceptable factors for building measurement models. We performed KMO testing to retain variables with KMOs of 0.75 or higher and reject those with KMOs less than 0.75, leaving a total of 46 variables in the dataset. Bartlett's test of sphericity was used to determine whether two variables were orthogonal. The Pearson correlation test was employed to assess the concurrent validity between variables. According to the findings ($\text{Chisq}(990) = 4328.15, p.001$), there is sufficient significant correlation in the data to carry out a factor analysis. Principal component analysis (PCA) was used before developing structure equation modeling in order to minimize data dimensionality and to extract variance explained by the least number components. Following that, factor analysis was used to identify variable loadings that would be used in confirmatory factor analysis. Our data set contained 45 variables, our guidance of principal components to use is to accept all principal components that explain more than one variable.

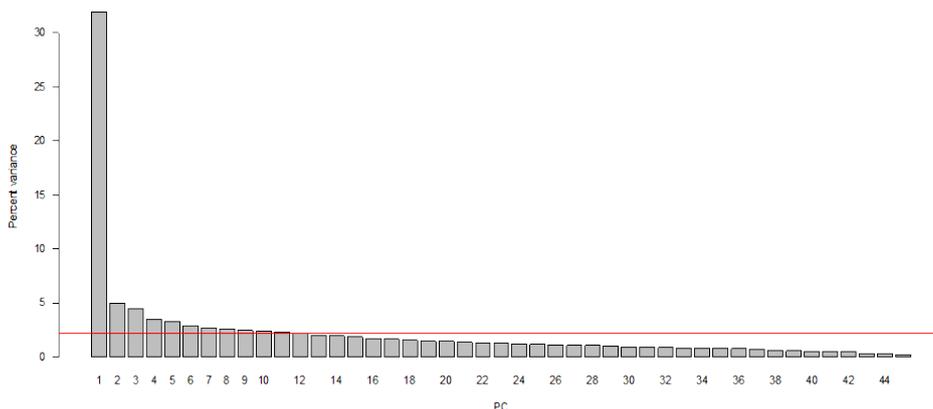


Figure 6: Principal Component Variance Explained, Percent in Variance is Obtained by Squaring Standard Deviation of PCA With A Ratio to Total of Variance



Figure 5: express variance explained by principal component analysis, for our dataset that has been reduced to 45 variables, the first components explained only 31.97% of variance. To account for more than 50% of variance we need more than 10 components, than will provide 52.32% of variance.

c) *Exploratory Factor Analysis (EFA) Model Selection*

To select correct number of factors for exploratory factor analysis has been contested by many researchers. (Preacher, Kim, and Mels 2013) explains that selection of number of factors should adequate

enough to perfectly describe the population factor structure. (Jamieson, Rick H. Hoyle and R 2016) suggest that there is no single approach in calculating the needed number of factors for EFA models. Many aspects are addressed in these arguments, including model complexity and what the true purpose of researchers. To examine the preceding arguments, we ran 12 EFA models and performed metrics assessment to pick the most suitable model, criteria and theoretical background of these models has been presented in Table 2

Table 2: Exploratory factor analysis Models, Factor Analysis using Minimum Residuals with Varimax Rotation

Number of factors	Chi square (X^2)	Degree of freedom (df)	<i>p_value</i>
m=1	2792.29	945	1.46e-181
m=2	2319.44	901	1.17e-125
m=3	1875.39	858	9.46e-78
m=4	1575.93	816	8.57e-51
m=5	1336.19	775	1.79e-32
m=6	1200.11	735	5.87e-25
m=7	1074.29	696	1.11e-18
m=8	922.56	658	3.68e-11
m=9	817.57	621	1.73e-07
m=10	716.68	585	0.000151
m=11	637.43	550	0.00574
m = 12	570.87	516	0.0473

Selection of good model requires one to make a choice between a good fit and parsimony. Presented with for indicators, with each indicators fits different conditions. Table 2 data can show that, with increase of model trend, number there in increase of TLA, decrease in X^2 . (Johnson and Stevens 2001) argued that best fit factor model should have RMSE < 0.05, TLI > 0.6, with low Number of factors (m) and with minimum number of RMSR. Chi square X^2 is considered as model discrepancy measure, it is calculated as difference between expected model and actual model, with a low chi-square value relative to the degrees of freedom (and higher p-value) indicating better model fit. Model m=10 was selected, with the harmonic number of observations is 344 with the empirical chi square

637. with prob < 0.0001, RMSEA index = 0.046 and the 90 % confidence intervals are 0.044 and 0.048.

d) *Exploratory Factor Analysis Models Results*

The final results of exploratory analysis using varimax rotation, showed the test of the hypothesis that six (6) factors are sufficient. The chi square statistic is 1559.97 on 696 degrees of freedom while the p-value is 4.01e-68. Table 2 specifies exploratory factor model loadings, with cut point significant than 0.3 or less than -0.3, 45 variables were loaded, with seven latent constructs categorized. The construction of latent constructs was extracted from literature explained in Section two. Latent variables intended to cover seven factors that in collective reflect factors that influence online shopping.

Table 3: Factor Loadings for Exploratory Factor Analysis between Variables, Promax Rotation Used as Rotation Methodology

Number of factors	Chi square (X^2)	Degree of freedom (df)	<i>p_value</i>
m=1	2792.29	945	1.46e-181
m=2	2319.44	901	1.17e-125
m=3	1875.39	858	9.46e-78
m=4	1575.93	816	8.57e-51
m=5	1336.19	775	1.79e-32
m=6	1200.11	735	5.87e-25
m=7	1074.29	696	1.11e-18
m=8	922.56	658	3.68e-11
m=9	817.57	621	1.73e-07
m=10	716.68	585	0.000151
m=11	637.43	550	0.00574
m = 12	570.87	516	0.0473

The variables that pass Exploratory Factor analysis (EFA) cut off point was used to develop theoretical model to assess the online consumer behavior through social media. Hypothesis established in section 3.4, was put into test using Smart PLS statical software. To put H1 to H5 to test, theoretical model of five latent variables were developed. With five latent variables, reliable results depend on maximum number of observed indicators. However, Structural equation modeling allows only three number of indicators per latent variable as required minimum. In this study, five latent variables with total of five indicators, a least number of indicators per latent variable is 6 while maximum number of indicators per latent parameter is 11. Foundation of SEM model consist two parts, measurement model and structural model. Smart Pls perform these tasks simultaneous.

e) Measurement Model Assessment

Six latent variables were created using the results of exploratory factor analysis. (1) SHBB stands for shopping and purchasing factors, and it was created by combining two theoretical constructs, social media behavior factors (SMBF) and Buy and Shopping Behavior (BSB). (2): SEF as social and economic aspects, (3): TIAF as technology and internet acceptance elements, (4): SRAF as security and privacy factors, (5): Customer care, pre-purchase and post-purchase service (CCPSF), and (6): CA and cost analysis. The outer model has 39 variables in total, with a minimum of three and a maximum of seven for each latent construct. Evaluation of measurement model was done using several statistical methodologies to analyze the indicator loadings validity. We tabulate each latent variable with respective indicators in Table 4 to show out model consistency and convergent. Outer model loadings represent contribution of each indicator to their respectively latent construct.

Various studies have been conducted to determine the needed minimum loading value for the outer model, with the required value ranging from 0.4 to 0.7 as a satisfactory required loading. (F. Hair Jr et al. 2014) argued that 0.70% loadings required to explain more than 50% variance, and (Hair, Sarstedt, and Ringle 2019) stated that even loading just over 0.5 loadings can be sufficient to support that model's suitability for explaining the relationship between indicators and latent variables. In this study, all loading has been represented, regardless of low loadings below suggestions from previous research, we defend this decision as we use exploratory factor analysis to extract out variables with low loadings.

In the course of testing theoretical model internal consistency, Cronbach's alpha, composite Reliability and Rho factor were used. Cronbach's alpha can be written as a function of the number of test items and the average inter-correlation among the items, and

we use it to measure how close group of indicators related to a single variable (Bruin 2006). The difference between Cronbach's alpha and composite Reliability is explained by Guzman, and argued that Cronbach's alpha considered for more for loading quality and composite Reliability does not express for model validity, both these three factors need to pass threshold value of 0.6. (Guzman et al. 2022),

Table 4 represents reliability and convergent Validity for Partial Least Squares, with 33 variables loaded in the model, all 33 variables loadings are above 0.5 which indicates 100% of all indicators, and 27 variables which is 61.54% of all variables registered loadings above 0.699. In contrary, only four variables' records loading with less than 0.5 was $sh\ b2 = 0.47$, and $ca3$ which register lowest values of -0.28.

Data from Table 4 can confirm that, out of six latent constructs, five latent variables Cronbach Alpha and Composite Reliability pass threshold value of 0.7, and only one latent factor (CAF) registered value of 0.637. furthermore we incorporate Rho factor as suggested by (Chin n.d.), and argued by (Demo et al. 2012), that it postulate better reliability measure than Cronbach's alpha in Structural Equation Modeling. Rho (ρ) model results was very satisfactory ranging from 0.67 to 0.88. In addition as in table 4, Average variance Explained (AVE) was incorporated as another test for convergent validity, and the average variance extracted in each specific latent variable was determined. Inclusion of AVE validate quality of variance extracted in each latent variable. Range of variance extracted is 0.7398 to 0.44. SMBF recorded an AVE value of 0.4; different research suggests that the needed AVE should be 0.5, Liao explains that 0.4 is sufficient for models to be effective (Liao and Hsieh 2017). Furthermore, Hensel explains that if the AVE for the construct variable is less than 0.5 and the Composite reliability is greater than 0.6, the construct's convergent validity can be appropriate (Henseler, Ringle, and Sarstedt 2015).

Average explained variance square root was used to construct discriminant validity, this test is regarded as one important factor in analyzing structural equation model measurement part. The test validity will ensure that each latent variable epitomize unique concept with regard to others and capture idea that is not represented by other latent variable (Hair, Sarstedt, et al. 2019). Results from Table 6 suggests that validity score for each latent variables is below 0.90 as suggested by (Hair, Sarstedt, et al. 2019; Henseler et al. 2015)

To support path coefficient analysis, discriminant validity test was used, by comparing of average variance explained (AVE) with correlation coefficient for each latent construct. Table 6 confirmed discriminant of six latent variables. Results shows that, all variable met discriminant condition, as diagonal are higher.

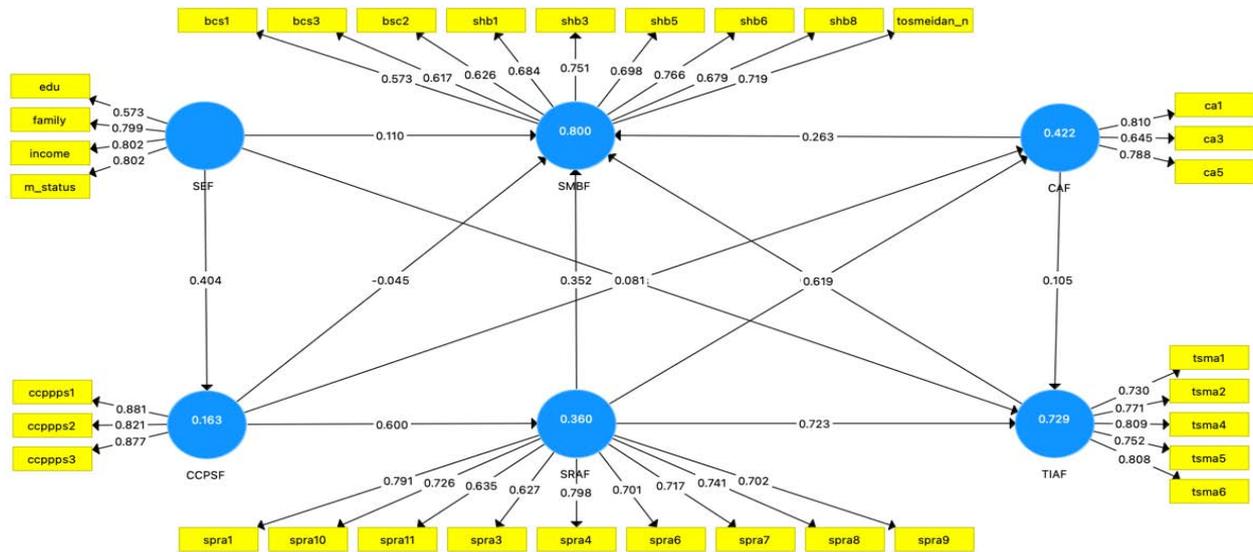


Figure 7: Measurement Model Loadings

Table 4: Outer Model Loadings, Reliability and Convergent Validity for Each Latent Construct

Latent Variable	Observable variables (indicators)	Model Out Loading	Cronbach Alpha	Rho factor	Composite Reliability	Average Variance Extracted
SMBF	bcs1	0.572	0.8553	0.8660	0.8858	0.4648
	bcs3	0.617				
	bcs2	0.625				
	shb1	0.684				
	shb3	0.751				
	shb5	0.698				
	shb6	0.766				
	shb8	0.679				
SEF	edu	0.575	0.7391	0.7692	0.8352	0.5630
	family	0.802				
	income	0.799				
	m_status	0.800				
TIAF	tsma1	0.72	0.8325	0.8332	0.8820	0.5995
	tsma2	0.77				
	tsma3	0.67				
	tsma4	0.81				
	tsma5	0.75				
	tsma5	0.79				
SPRF	spra1	0.791	0.8810	0.8851	0.9047	0.5148
	spra3	0.627				
	spra4	0.798				
	spra6	0.701				
	spra7	0.717				
	spra8	0.741				
	spra9	0.703				
	spra10	0.791				
	spra11	0.726				
	CCPSF	ccppps1				
ccppps2		0.822				
ccppps3		0.875				
CAF	ca1	0.821	0.6376	0.6853	0.7919	0.5619
	ca3	0.637				
	Ca5	0.779				

Table 5: Construct Discriminate and Validity Structure Model Assessment

	CAF	CCPSF	SEF	SMBF	SRAF	TIAF
CAF	0.7496					
CCPSF	0.4201	0.8602				
SEF	0.7305	0.4034	0.7503			
SMBF	0.7537	0.4825	0.7106	0.6818		
SRAF	0.6511	0.6001	0.6538	0.8292	0.7175	
TIAF	0.6361	0.5201	0.6283	0.8227	0.8462	0.7743

The first part in structure model assessment of structural equation modeling is to construct hypothesis testing. The bootstrapping for each hypothesis was implemented to calculate p_val , t_test and path coefficient

(β). Figure 8 displays the outcomes of the bootstrapping structure model, while Table 6 summarizes the latent variables' Sample Mean, Standard Deviation, Statistics, and P Values.

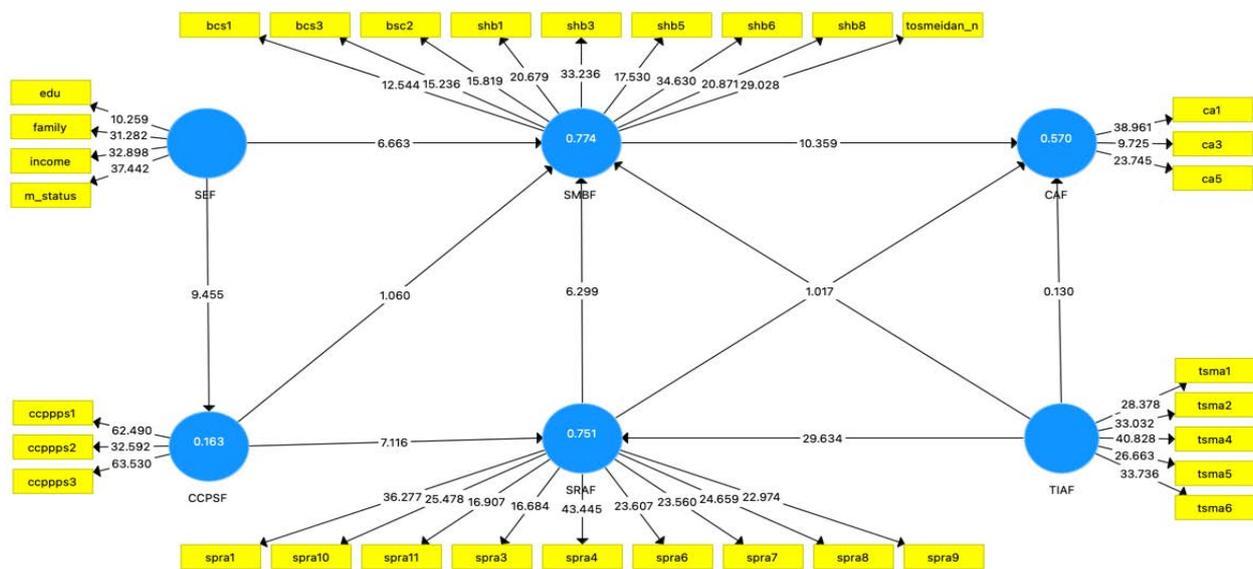


Figure 8: Model Bootstrapping with Path Coefficient and t value

Table 2: Bootstrapping: latent Variables Multicollinearity, the Significant Value was Considered at $p_value < 0.05$

Latent construct Path Relationship	Original Sample (O)	Sample Mean (M)	Standard Deviation	T Statistics	P Values
CAF -> SMBF	0.263	0.2633	0.0356	7.3959	0
CAF -> TIAF	0.1052	0.1045	0.0451	2.3304	0.0198
CCPSF -> CAF	0.0483	0.0485	0.0517	0.9349	0.3499
CCPSF -> SMBF	-0.0454	-0.0447	0.0311	1.4601	0.1443
CCPSF -> SRAF	0.6003	0.6018	0.0336	17.85	0
SEF -> CCPSF	0.4037	0.4062	0.0421	9.5848	0
SEF -> SMBF	0.1097	0.1097	0.0403	2.7229	0.0065
SEF -> TIAF	0.0812	0.0825	0.0466	1.7418	0.0816
SRAF -> CAF	0.6193	0.6225	0.0418	14.8003	0
SRAF -> SMBF	0.3522	0.3519	0.0592	5.9516	0
SRAF -> TIAF	0.7233	0.7234	0.0347	20.8364	0
TIAF -> SMBF	0.3103	0.3102	0.0546	5.6876	0

Path coefficient is described by Genet as a partial link between two constructs or between a dependent variable and a dependent variable (Genet 1994). It denotes the direct impact of one variable on another that is thought to be its cause. We use t-

statistics to find the magnitude of difference in our sample data, and we apply *p_value* to accept or reject the hypothesis. The results of analysis indicates that, our study reject three hypothesis and accept six hypotheses as displayed in Table 7.

Table 7: Model- Hypothesis Testing Evaluation Results

Hypothesis	Path Relationship	Path Coefficient β	t-value	p-value	F-squared	Hypothesis results
H1	SEF -> SMBF	0.1097	2.723	0.0065	1.272	Supported
H1. b	SEF -> TIAF	0.081	1.742	0.0816	0.77	Rejected
H2	TIAF -> SMBF	0.3103	5.682	0.000	2.605	Supported
H3	SRAF -> SMBF	0.3522	7.630	0.000	2.796	Supported
H3. b	SRAF -> TIAF	0.352	5.952	0.000	6.592	Supported
H4	CAF -> SMBF	0.263	7.394	0.00	3.267	Supported
H4. b	CAF -> TIAF	0.105	2.230	0.00	1.118	Supported
H5	CCPSF -> SMBF	-0.045	1.449	0.000	0.144	Rejected
H5. b	CCPSF -> CAF	0.048	2.215	0.349	0.350	Rejected

Another way to evaluate the alteration in the dependent variable is through determining the effect size and presenting the p-value (Durlak, 2009). (F. Hair Jr et al. 2014) have established guidelines for interpreting the effect size values. If the value is less than or equal to 0.02, it suggests a weak small association. If the value is greater than 0.15 but less than 0.35, it indicates a moderate or medium level of relationship. Finally, a

strong impact of the independent variable on the dependent variable is indicated if the value is greater than 0.35. As demonstrated in Table 8 of our investigation, we found that of the six acknowledged hypotheses, two exhibit a strong association, three demonstrate a medium relationship, and one displays a weak correlation.

Table 8: Effect size of Accepted Hypotheses

Latent Construct Relationship	Effect Size	Evaluations	Hypothesis
SEF -> SMBF	0.3065	Medium	H1
TIAF -> SMBF	0.3103	Medium	H2
SRAF -> SMBF	0.7597	Strong	H3
SRAF -> TIAF	0.7885	Strong	H3.b
CAF -> SMBF	0.2956	Medium	H4
CAF -> TIAF	0.1052	Weak	H4.b

V. DISCUSSION

The aim of this study was to investigate the factors that influence buying behavior through social media. To achieve this, several hypotheses were developed and tested. Hypotheses H1 to H5 were created to evaluate the impact of latent constructs on purchasing and shopping behavior, while H1.B, H3.B, H4.B, and H5.B were developed to assess the influence of other constructs. The study found that Social and Economic Factors (SEF), Security and Risk Assessment Factors (SRAF), and Cost Analysis Factors (CAF) have a significant influence on buying behavior through social media. The first hypothesis (H1) that suggests social economic factors influence social media and buying behavior were supported by data collected in this study. This study found that Social and Economic Factors (SEF) play a significant role in shaping buying behavior through social media. SEF encompasses various aspects of a consumer's social and economic status,

such as income, education level, and occupation, among others. These factors have been found to directly impact buying behavior through social media platforms.

The findings of the study regarding the medium effect of cost analysis on social media buying behavior and the weak effect on technology and internet factors are consistent with economic theory, which suggests that consumers make purchasing decisions based on their perceived value of the product or service relative to its cost. As a result, the affordability of products and services is a crucial factor in consumer decision-making, especially in online shopping where consumers have access to a wide range of products and prices. Several studies have supported the idea that cost is an important factor in online shopping behavior. For example, a study by Kim and Park (2013) found that price and shipping cost were the most important factors influencing consumers' online purchase decisions. Similarly, a study by Wang and Chen (2018) found that

perceived value, which includes price and quality, was a significant predictor of consumers' intention to purchase online. In terms of the preference for international websites over local websites, this finding could be explained by the concept of comparative advantage in international trade. International websites may offer products at lower prices due to differences in production costs, taxation, and other factors, making them more attractive to consumers. This is supported by a study by Liang and Huang (2016), which found that consumers were more likely to purchase from overseas websites if the prices were lower than those offered by domestic websites.

The study also found that Technology Internet Acceptance Factors (TIAF) have a significant influence on social media buying behavior. This was associated with factors such as the accessibility of the internet, ease of use of social media, and the easiness of shopping through social media. Security and Risk Assessment Factors (SRAF) were also found to have a significant influence on buying behavior through social media, as they impact technology and internet factors. This suggests that security and privacy should be pivotal in designing shopping platforms. For example, a study by Hsiao and Chen (2018) found that perceived ease of use and perceived usefulness of technology are positively related to online purchase intention. Another study by Jindal and Jain (2018) found that perceived risk and trust in technology have a significant impact on online purchase intention. The study's finding that security and privacy should be pivotal in designing shopping platforms is crucial. This is because consumers are more likely to engage in online shopping activities if they trust the platform and feel secure in their transactions. As such, online merchants should prioritize the implementation of security measures and clearly communicate these measures to their customers to build trust and increase online sales. Moreover, the study's finding that Technology Internet Acceptance Factors (TIAF) have a significant influence on social media buying behavior underscores the importance of designing user-friendly platforms that are easy to navigate and use. This can help to increase customer satisfaction and loyalty, as well as drive sales.

In recent years, customer care has become a critical aspect of businesses, especially in the e-commerce industry, as it affects customer satisfaction and loyalty. However, the impact of customer care on online shopping behavior is still a subject of debate among researchers. Contrary to the findings of the study mentioned, some studies have found that customer care plays a significant role in shaping online shopping behavior. For example, a study by Wu et al. (2019) found that customer service quality significantly affects online purchase intention, while another study by Yeh and Li (2009) found that perceived customer service quality has a positive impact on customer satisfaction

and loyalty. Moreover, pre-purchasing and post-purchasing service also play a crucial role in shaping online shopping behavior. For instance, a study by Wang et al. (2018) found that post-purchase service quality has a significant impact on customer satisfaction and loyalty. Another study by Shi et al. (2020) found that pre-purchase service quality positively influences customer satisfaction and trust, which, in turn, positively affects online purchase intention.

VI. CONCLUSION AND RECOMMENDATION

The purpose of this study is to explore various factors that influence buying behavior through social media. Application of three methodologies: PCA, exploratory factor analysis and Partial least square structural equation modeling enable to find most necessary relationship between factors. PCA was used to find required maximum number of components necessary to construct factor analysis. Application of exploratory factor analysis indicates that, within framework of 45 variable only 39 were able to pass the threshold value of 0.3. theorized structure suggested that five variables loaded for social and economic factors, nine variables were found to contribute to buying and shopping behavior, eleven for security and risk, six for customer care and only 4 variables for cost analysis. Other variables that contribute to social and economic factors include education, family, and marital status. Each of these factors is supported by various literature as having an impact on buying behavior. Education has been found to provide a significant relationship in influencing online shopping. In this study, 96% of the respondents had high education or higher. Those with higher levels of education tend to have a higher social status. It is also crucial, as highlighted by Wiśniewska and Paginowska (2006), that such relationships are important and aid in online shopping, which can also be further observed in the future (Gauri et al. 2021).

This study construct five latent variables that was categorized to exogenous latent variables and endogenous latent variable. Partial least square Structural equation modeling was applied to explore the field Social and Economic, Social media behavior, Buy and Shopping Behavior, Technology Internet Acceptance, Security and Risk, Customer care, pre purchasing and Post Purchasing service and Cost factors and their effect to influence online shopping through social medias. Hypothesized model was tested using bootstrapping method, outcome raveled there are six significancy relationship. Preeminent results with a reference to core end goal of this study denote buying behavior through social media is influenced by three latent constructs, Social economic factors, Technology acceptance and security and privacy. Surplus observation were included to disport interrelationship between

variables, and results show that social factors are important for technology acceptance and adaptation, security and risk factors are important for technology adaptation. This finding suggests that, interrelationship between created variable was meaningful and hypothesis formulated was valid. In the business and economic context of Tanzania, understanding the impact of social and economic factors on buying behavior through social media is essential for businesses to develop effective marketing strategies. The income level of Tanzanian consumers has a direct impact on their purchasing power and the products they can afford to buy. For example, consumers with higher income levels are likely to buy more expensive products, while those with lower income levels may prioritize affordability over quality. Moreover, the education level of Tanzanian consumers also plays a significant role in their purchasing behavior. Consumers with higher education levels may have different purchasing patterns compared to those with lower education levels. For instance, educated consumers may be more likely to purchase products based on quality, while less educated consumers may prioritize affordability. In addition to income and education levels, occupation is another important social and economic factor that influences buying behavior through social media. Tanzanian consumers working in different industries may have different preferences and priorities in terms of what they buy, where they buy it, and how they purchase it.

This can be explained through window of viewing that the culture of online shopping still new and vendors and consumers need to under.

This study presents results that open the door for following categories,:

social media developers can use the finding in this study to improve users' security and privacy .In the absence of major shopping platforms , with better connectivity between users, social media play importance part as eCommerce sites and security and privacy should be a priority

Social media Users: Online businessmen can use the finding of this study to better understand their consumers.

Despite promised findings, during analysis, we observed that a huge number of variables are required to concept more meaningful causation effects. This suggests that, large number of datasets needed for such kind of model to converge, which in return it will provide good reliability and increase validity measures:

Funding statement

This work was supported by Shanghai Municipal government Scholarship

Declaration of interest statement

The authors declare no conflict of interest

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Table 9: Variable Definition and Questions used for Data Collection

Index A: Survey Question and Variables Construction

Variable	Definition
Age	Age (in years)
M status	Marital Status
Education	Please Select level of your Education
Family	Do you have Family ?
Job	Job /Employment
Income	Monthly Income range in Tanzania shillings
City	Which City/region Do you live
TOSMeida	On a typical day, about how much time do you spend online social network sites, such as WhatsApp, Instagram , Facebook, TikTok etc?
SMedias	Which social media you spent most of your time (You can Select More than one Item)
SHB1	Where do you often do shopping
SHB3	For online Shopping - do you prefer international Websites or local Online Shopping?
SHB3	When do you often do online Shopping
SHB4	Which Product you frequently Buy online (You can Select more than one items)
SHB5	How do you often pay for your product
SHB6	Do you often pay for delivery fee?
SHB7	Which social media You often do online Shopping. (You can select more than one Items)
BCS1	I like to buy Everything Online.
BSC2	Once I find a Buyer or seller of Product I like, I stick with them.
BCS3	Getting very good quality is very important to me.
TSMA1	I find Having Internet makes my life easy.
TSMA2	I find social media easy to use
TSMA3	I find Learning how to use social media is easy for me.
TSMA4	I find shopping online is easy to me
TSMA5	I find Shopping through social media is easy to me
TSMA6	Shopping through international website it easy for me.
SPRA1	have you ever Been scammed?
SPRA2	When I shop online, privacy and security are very important.
SPRA3	Before I do online Purchase, I understand Risks involved
SPRA4	I trust the Online supplier Easily.
SPRA5	I make sure I have all basic information of the supplier before I make Purchase
SPRA6	I like to make personal connection with my supplier
SPRA7	I take my time before make decision to buy thing online.
SPRA8	I prefer Recommendation of supplier form people with Experience with that supplier
SPRA9	I consider myself as a risk taker
SPRA10	I think Buying from Tanzania Online Merchandise is very safe
SPRA11	I think Buying Through International platforms is very safe
CCPPPS1	I find buying online is very satisfying
CCPPPS2	Good Customer service it is very important to me
CCPPPS3	It is very important for the supplier to offer a product searching service to me.
CCPPPS4	I prefer to have More information of the product before i make the decision to buy
CCPPPS5	It is very important for the supplier to offer communication channels to me for product enquiries
CCPPPS6	It is very important for the supplier after-service communication
CA1	I think internet cost is affordable.
CA2	I think shopping online it is affordable.
CA3	I think shopping online and do online transactions is expensive
CA4	I think Buying stuffs from Tanzanians Merchandise is very affordable
CA5	I think Buying from International website is affordable



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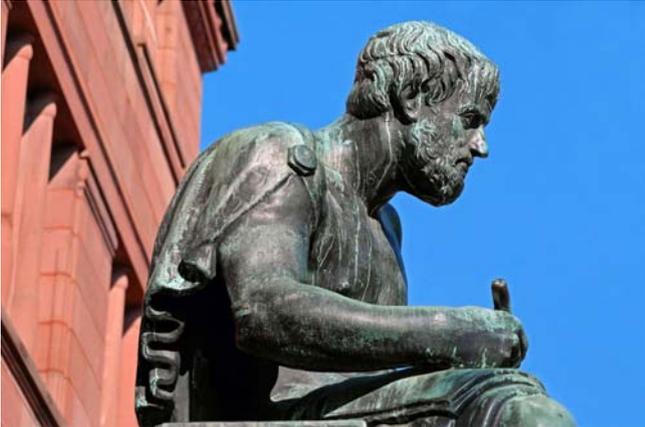
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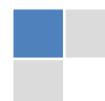
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6. Bookmarks are useful: When you read any book or magazine, you generally use bookmarks, right? It is a good habit which helps to not lose your continuity. You should always use bookmarks while searching on the internet also, which will make your search easier.

7. Revise what you wrote: When you write anything, always read it, summarize it, and then finalize it.

8. Make every effort: Make every effort to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in the introduction—what is the need for a particular research paper. Polish your work with good writing skills and always give an evaluator what he wants. Make backups: When you are going to do any important thing like making a research paper, you should always have backup copies of it either on your computer or on paper. This protects you from losing any portion of your important data.

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12. Know what you know: Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

13. Use good grammar: Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice.

Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

14. Arrangement of information: Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

15. Never start at the last minute: Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

16. Multitasking in research is not good: Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

17. Never copy others' work: Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

18. Go to seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.

Refresh your mind after intervals: Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.

19. Think technically: Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.



20. Adding unnecessary information: Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

21. Report concluded results: Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

22. Upon conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium through which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

INFORMAL GUIDELINES OF RESEARCH PAPER WRITING

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

Final points:

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

The introduction: This will be compiled from reference matter and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

The discussion section:

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear: Adhere to recommended page limits.



Mistakes to avoid:

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.
- Use paragraphs to split each significant point (excluding the abstract).
- Align the primary line of each section.
- Present your points in sound order.
- Use present tense to report well-accepted matters.
- Use past tense to describe specific results.
- Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
- Avoid use of extra pictures—include only those figures essential to presenting results.

Title page:

Choose a revealing title. It should be short and include the name(s) and address(es) of all authors. It should not have acronyms or abbreviations or exceed two printed lines.

Abstract: This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite references at this point.

An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

Reason for writing the article—theory, overall issue, purpose.

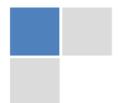
- Fundamental goal.
- To-the-point depiction of the research.
- Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

Approach:

- Single section and succinct.
- An outline of the job done is always written in past tense.
- Concentrate on shortening results—limit background information to a verdict or two.
- Exact spelling, clarity of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else.

Introduction:

The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.



The following approach can create a valuable beginning:

- Explain the value (significance) of the study.
- Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
- Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
- Briefly explain the study's tentative purpose and how it meets the declared objectives.

Approach:

Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

Procedures (methods and materials):

This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

When a technique is used that has been well-described in another section, mention the specific item describing the way, but draw the basic principle while stating the situation. The purpose is to show all particular resources and broad procedures so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step-by-step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

Materials may be reported in part of a section or else they may be recognized along with your measures.

Methods:

- Report the method and not the particulars of each process that engaged the same methodology.
- Describe the method entirely.
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
- Simplify—detail how procedures were completed, not how they were performed on a particular day.
- If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

Approach:

It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

What to keep away from:

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings—save it for the argument.
- Leave out information that is immaterial to a third party.



Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.

Content:

- Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation of an exacting study.
- Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

What to stay away from:

- Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- Do not include raw data or intermediate calculations in a research manuscript.
- Do not present similar data more than once.
- A manuscript should complement any figures or tables, not duplicate information.
- Never confuse figures with tables—there is a difference.

Approach:

As always, use past tense when you submit your results, and put the whole thing in a reasonable order.

Put figures and tables, appropriately numbered, in order at the end of the report.

If you desire, you may place your figures and tables properly within the text of your results section.

Figures and tables:

If you put figures and tables at the end of some details, make certain that they are visibly distinguished from any attached appendix materials, such as raw facts. Whatever the position, each table must be titled, numbered one after the other, and include a heading. All figures and tables must be divided from the text.

Discussion:

The discussion is expected to be the trickiest segment to write. A lot of papers submitted to the journal are discarded based on problems with the discussion. There is no rule for how long an argument should be.

Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implications of the study. The purpose here is to offer an understanding of your results and support all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of results should be fully described.

Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact, you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved the prospect, and let it drop at that. Make a decision as to whether each premise is supported or discarded or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."



Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work.

- You may propose future guidelines, such as how an experiment might be personalized to accomplish a new idea.
- Give details of all of your remarks as much as possible, focusing on mechanisms.
- Make a decision as to whether the tentative design sufficiently addressed the theory and whether or not it was correctly restricted. Try to present substitute explanations if they are sensible alternatives.
- One piece of research will not counter an overall question, so maintain the large picture in mind. Where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

When you refer to information, differentiate data generated by your own studies from other available information. Present work done by specific persons (including you) in past tense.

Describe generally acknowledged facts and main beliefs in present tense.

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	A-B	C-D	E-F
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<i>Introduction</i>	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
<i>Methods and Procedures</i>	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
<i>Result</i>	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
<i>Discussion</i>	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
<i>References</i>	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring



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ISSN 975587

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