



IMSIS
International Master
Security, Intelligence
& Strategic Studies



**Erasmus
Mundus**

Title: The Environmental Aspect of Peacekeeping Missions

Subtitle: The Cases of MONUSCO and UNMISS

July 2022

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Presented in partial fulfillment of the requirements for the Degree

of

***International Master in Security, Intelligence and Strategic
Studies***

Word Count: 21,372

Supervisor: Prof. Anna Casaglia

Date of Submission: 25 July, 2022



**University
of Glasgow**



**UNIVERSITÀ
DI TRENTO**



CHARLES UNIVERSITY

Acknowledgements

To Professor Anna Casaglia for constantly challenging me in an inspiring way,
this dissertation would not be here without your help

To my family, to those who just arrived, to those who have always been here
and to those who left too soon

To all the cities that accompanied me throughout this journey:
Glasgow, Trento, Praga, Barcelona and my beloved Rome

Most importantly, to all the friends that made these cities alive

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Abbreviations

ADFLC	Alliance of Democratic Forces for the Liberation of Congo
CPA	Comprehensive Peace Agreement
DDR	Disarmament, Demobilization and Reintegration
DFS	United Nations Department of Field Support
DOS	Department of Operational Support
DPO	Department of Peace Operations
DRR	Disaster Risk Reduction
EEAS	European External Action Service
EMG	Environment Management Group
EMS	Environmental Management System
FBA	Folke Bernadotte Academy
FOI	Swedish Defence Research Agency
IISD	International Institute for Sustainable Development
MEA	Multilateral Environmental Agreement
MINUSCA	United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic
MONUSCO	United Nations Organization Mission in Democratic Republic of the Congo
MONUC	United Nations Organization Mission in Democratic Republic of the Congo
MOOC	Massive Open Online Course
NAPA	National Adaption Programme of Action
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
RCD	Congolese Rally for Democracy
SG	Secretary-General

SPLM	Sudan People's Liberation Movement
UN	United Nations
UNAMID	United Nations–African Union Mission in Darfur
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNICEF	United Nations Children's Fund
UNITAR	United Nations Institute for Training and Research
UNSCEB	United Nations System Chief Executives Board for Coordination
UNSOS	United Nations Support Office for AMISOM
WMP	Waste Management Plan
WHO	World Health Organization

Chapter 1: Introduction

UN peacekeeping activities aim to manage or prevent conflict while safeguarding civilians and their human rights with the ultimate goal of creating conditions for lasting peace. Since 1948, UN peacekeeping activities have worked to foster reconciliation, to reduce battlefield deaths and to prevent renewed warfare in multiple countries. While these missions have been arguably successful from a political point of view, they have been less effective from an environmental standpoint. Hence, military activities are currently among the top polluters on Earth and account for more than half of all United Nation's emissions. In particular, issues such as overexploitation of resources or excessive wasteful practices, even if unintended, have inevitably fueled environmental damage in the location of the operations. Especially because UN peacekeepers are deployed in fragile contexts — where environmental grievances are already largely present, act as a multiplier of economical, social, political and health issues and are, at times, the direct causes of tensions themselves — an increase in environmental awareness and action is necessary to maintain UN credibility and to enhance the effectiveness of the mission.

This paper investigates the environmental aspect of UN peacekeeping missions by taking into consideration MONUSCO and UNMISS, as relevant ongoing operations started, respectively, in July 2010 and July 2011. These case studies are examined with the goal of establishing which are the environmental policies implemented by UN peacekeeping in MONUSCO and in UNMISS, how do they relate with the academic conversation on the topic and how can they be improved. In order to fulfill these aims, Chapter 2 gives an overview of the academic discussions dealing with peacekeeping studies, environmental security theories, environmental peace-building theories and

conflict studies. Furthermore, it underlines the relevance of this research, sheds light on the existing academic gaps, provides a definition of the main terms connected to this study, acknowledges the potential limitations and ethical constraints and clarifies the research strategy. While Chapter 2 delineates the literature review, terminology and methodology, Chapter 3 sets the base for the analysis of the case studies because it gives a timeline of the environmental efforts in peacekeeping missions in general, starting from the foundation of the first UN group for environmental management in 2001 until the most recent policies for field-based operations drafted in 2022.

Chapter 4 and 5 focus on the historical background, environmental problems and green plans of MONUSCO and UNMISS, respectively, and their environmental impact in the mission locations. Following the existing division in UN documents, the analysis of the environmental plans of the two case studies is split among ‘pre-deployment’ efforts (including training), ‘intra-deployment’ management of resources (including water, energy, solid waste and wildlife) and ‘post-deployment’ plans (including camp closure). The discussion of the findings coming from these last two sections is carried out in Chapter 6, where UNMISS and MONUSCO are briefly compared and assessed in line with the literary framework. As a result of this document analysis and discussion, this dissertation contends that there is a large number of environmental policies implemented by UN peacekeeping in MONUSCO and in UNMISS, mostly, in the fields of water, waste, energy and wildlife. Following the main academic arguments advanced by prominent scholars, this study also claims that the existence of these UN green initiatives hints that I. MONUSCO and UNMISS conduct environmental peace-building II. Environmental peace-building fits the criteria for defining a mission successful and III. MONUSCO and UNMISS green plans contribute to the

success of the mission, all arguments that are tested against opposing views at the end of the chapter.

Chapter 7 builds upon the previous findings to emphasize current gaps in the literature and in UN environmental peacekeeping plans. Thus, this section advances recommendations on how to improve pre, intra and post deployment green projects, but also the general workings of UN DPO. Lastly, Chapter 8 gives an overview of the main challenges that are an obstacle to the achievement of environmental sustainability in UN missions, encompassing the lack of resources, the weak cooperation between entities and the difficulty to take into account different cultural contexts. Ultimately, this dissertation highlights the main environmental aspects of UN peacekeeping by examining the present green plans in MONUSCO and UNMISS, by linking them to the academic discussion and by offering recommendations on how to enhance them, also taking into account the existing challenges. Overall, analyzing the environmental aspect of UN peacekeeping missions sheds light on the fact that environmental degradation is inextricably linked to the majority of UN work. However, only in the past decade, initiatives targeting not only the local drivers of environmental degradation, but also the individual behavior of troops, have been included within the workings of peace operations. Given that environmental disruption is at the top of global threats, enhancing the sustainability of peacekeeping operations does not only contribute to improving the quality of UN work, but also safeguards the life of civilians in the areas of conflict and facilitates the creation of a greener world.

Chapter 2: Literature Review, Terminology and Methodology

Literature Review

This study focuses on the possible improvements of the environmental policies implemented in the MONUSCO and in the UNMISS missions. Hence, background literature dealing with this area of research includes a wide range of academic conversations, including peacekeeping studies, environmental security theories, environmental peace-building theories and conflict studies. This review aims to raise awareness on the limitations of the works existing in these scholarly arenas. Moreover, it seeks to shed light on the existing academic gap that this study will fill. The entirety of the literature that will be reviewed in this chapter has been selected based on the expertise of its authors, its academic relevance and its significant reviews. Ultimately, this section will show how this exploration relates to the main argument of these academic discussions and how it will contribute to them.

Since this work will assess current environmental policies implemented by UN peacekeeping, it is relevant to mention the main scholars evaluating peacekeeping operations, offering critiques and highlighting the lessons learned from past practices. *The Brahimi Report and the Future of UN Peace Operations* constitutes the most prominent document providing recommendations and underlining the weaknesses of the United Nation's operations. The matters discussed in the research of Brahimi range from issues of doctrine and strategy, to failures in strategic planning and effective deployment (Durch *et al.*, 2003). More recent works contribute to the evaluation of peace operations and even offer different guidelines to assess their workings. While Diehl and Druckman (2010: 9) consider factors such as stakeholders, time perspectives, "lumping" and mission types when qualifying UN efforts, Pushkina (2006) takes into account four goals to be met. These are

limiting violence, reducing human suffering, containing the conflict and fulfilling the mission's mandate (Pushkina, 2006: 133). Similarly to Pushkina, Druckman and Stern (1999: 79-80) also identify the fulfillment of the mandate as one of the three criterion used to qualify missions, the other two being the impact on the local population and the number of ceasefires achieved, people fed and disasters avoided.

These are merely some examples of the authors advancing arguments to evaluate and improve the results of UN missions, as many more works on the topic can be identified (De Soto and Del Castillo, 1994; Eide *et al.*, 2005). The examination of this wide array of scholarly works underlines the relevance for this current research to be carried out. Hence, while multiple are the authors assessing UN peacekeeping operations, few are the scholars offering practical suggestions to implement them, such as the ones this research will present. Ultimately, this examination will fill the gap present in peacekeeping literature by including environmental sustainability as a component to be analyzed when assessing and offering recommendations to improve UN missions.

Promoting environmental sustainability in peacekeeping missions is potentially important as a matter of environmental security, referred as the inclusion of environmental concerns in the political sphere (Barnett, 2001). According to this claim, climate change becomes part of the list of threats to national and global security and is therefore addressed in public policies, security agendas, conventions, declarations and so forth. Indeed, this dynamic fosters the elevation of “environmental problems from the level of ‘low politics’ to ‘high politics’ so that states would commit as much energy and resources to address environmental problems as they do to other security problems” (Barnett, 2003: 14). This securitization of climate is viewed positively by many because it emphasizes the gravity of the issue, it sparks

strong policy responses and it strengthens adaptation plans (Allenby, 2000; Barnett, 2003; Floyd and Matthew, 2013). Ultimately, environmental security underlines the urgency to fight climate change and attributes to it a higher role in national and international agendas.

The claim that climate change threatens security is motivated by various assumptions, one of them being that the problem may act as a booster of violent conflict. This argument is one of the main drivers of the politicization of the environmental concerns, together with the overarching will of improving quality of life on Earth (Barnett and Adger, 2007; Barnett, Matthew and O'Brien, 2008). Multiple researchers defend the position that climatological grievances are among the various problems connected to conflict (Burke, Hsiang and Miguel, 2015; Nel and Righarts, 2008; Nordås and Gleditsch, 2015; Theisen, Gleditsch and Buhaug, 2013). Because politicizing sustainability is believed by many to mitigate violence, it may also be linked to UN peace operations, a notion defined as 'environmental peace-building' (Bakaki and Bohmelt, 2021; Borla, Liljedahl and Waleij, 2007; Conca and Dabelko, 2002; Dihel, 2018; Fortna and Howard, 2008; Hampson, Batay-an and Bacudo, 2007; Ide and Detges, 2018; Ide, 2019; Ide and Tubi, 2020; Ide, 2020; Ide *et al.*, 2021; International Peace Institute, 2018; Maertens and Shoshan, 2018; Maertens, 2019; Stockdale *et al.*, 2018). This concept, according to Dresse *et al.*:

Represents a paradigm shift from a nexus of environmental scarcity to one of environmental peace. It rests on the assumption that the biophysical environment's inherent characteristics can act as incentives for cooperation and peace, rather than violence and competition. Based on this, environmental peace-building presents cooperation as a win-win solution and escape from the zero-sum logic of conflict. (2019: 99)

In other words, different literary works support that environmental peace-building represents a viable solution to better facilitate the creation of peace, since an improved climatological situation potentially mitigates violence and is beneficial for all the parties of a conflict.

These theories are not the only line of thought existing in the academic conversation about environmental security. Hence, there is a large amount of scholarship questioning the direct causal relationship seen between environmental problems and conflict in general, rather than the validity of environmental peace-building. Primarily, the link between climate change and violence is claimed to be relying on “causal assumptions” (Selby, 2014: 829) and based on little factual evidence (Klomp and Bulte, 2013). Other than denying the connection between environmental degradation and conflict, authors also underline the existence of multiple negative implications possibly caused by the ‘climatization’ of security (Oels, 2012).

First of all, ‘climatization’ of security may focus too much on the consequences witnessed in the global south, rather than tackling the proven causes of climate change, such as emissions and resource overexploitation, from its roots in the global north (Hassan, 2021). Moreover, such climate security discourses may serve to reproduce inequalities, justify military interventions (Buxton, 2021; Elliott, 1996; Hartmann, 2010) and only “suggest an orientation towards the preservation of some version of the status quo” (McDonald, 2013: 49). Thus, they seem to be good at grabbing attention but practically ineffective in improving environmental conditions (Brzoska, 2009). Lastly, some works particularly criticize environmental peace-building as counterproductive, since it may bring up “the ‘six Ds’: depoliticization, displacement, discrimination, deterioration into conflict, delegitimization of the state, and degradation of the environment” (Ide, 2020: 1).

Even if counterarguments exist, this study will still consider the securitization of climate change as positive, since there is a great number of proponents defending this position. In particular, relevant studies combining arguments advanced by established and emerging scholars on the topic support this claim and define that, while the skeptics of the climate change–security direct connection “raise some valid concerns, their historical data may not provide much insight into the future” (Floyd and Matthew, 2013: 17). Thus, while environmental security may encompass some negative implications or may be at times inefficient in mitigating conflict and furthering peacekeeping missions, it may still be in some ways beneficial to peacekeeping processes. Mainly, because implementing green policies helps both sides of a conflict to face a shared challenge and ease the climatological burden. Emphasizing the credibility of environmental security and environmental peacekeeping is essential to justify the relevance of this research. Indeed, this examination will analyze UN green efforts and will offer recommendations that will be useful for improving the outcomes of the missions. By considering both the benefits and the dangers of environmental security, it will ultimately contribute to this quite contested scholarly debate.

The notion of environmental security is also part of the wider concept of human security, a theory that expands the traditional military concept of security and encompasses a broader range of issues, such as economic security, food security, health security, environmental security and political security (King and Murray, 2001). Likewise environmental security, also human security “has direct implications for the strategies devised for peacekeeping and peace-building” (Imboden, 2012: 177). Moreover, this field of studies is questioned as much as the one regarding environmental security, if not more. On one hand, human security has brought unprecedented changes, such as an active collaboration of governmental and non-governmental

organizations, which works towards the elimination of transnational issues affecting individuals rather than states. Furthermore, it has been supported for its enhanced focus on the protection of people (Liotta and Owen, 2006; MacFarlane and Khong, 2006). On the other hand, the notion has been criticized for its definitional expansiveness and ambiguity (Paris, 2001). This study will take into account this debate since environmental security is part of it. Hence, this exploration will join the scholarly discussion on human security because it will focus on environmental protection as a way to enhance the wellbeing of the individuals in the locations of the peacekeeping operations.

Overall, this analysis of the environmental aspect of UN peacekeeping missions does not only fit in multiple academic areas — namely, environmental peace-building studies, environmental security studies, human security studies and conflict studies — but also offers a new angle on these matters. This is primarily because, by building on the arguments advanced by green peacekeeping theorists, it explores two case studies never compared before, especially on an environmental level. This research is also relevant because it aims to give recommendations and highlight the best green practices implemented in MONUSCO and UNMISS. Thus, it has a practical scope that serves the goal of fostering peacekeeping and enhancing global sustainability, being military operations among the top polluters on Earth. Mostly because the field of environmental peace-building is a fairly new and expanding one, and also because the two missions taken into consideration are still ongoing, this exploration is exceptionally significant. Possible further research may include the comparison of other ongoing operations or the evaluation of UN green efforts in already concluded missions.

Defining the Terms

This section sets the ground for this research, as it offers key definitions of the terms guiding it. Research regarding peacekeeping

represents the base of this work and comprehends various taxonomies. The United Nations was the primary actor who outlined provisions regarding peaceful resolution of disputes, the use of force to end conflicts and the role of regional organizations in maintaining international peace and security (UN Charter, 1945: Chapter VI-VIII). Even if the body promoted peace for many years, it never related these efforts to the term ‘peacekeeping’ until 1992 with Boutros-Ghali’s *Agenda for Peace*. The document identified it as:

The deployment of a United Nations presence in the field, hitherto with the consent of all the parties concerned, normally involving United Nations military and/or police personnel and frequently civilians as well.

Peacekeeping is a technique that expands the possibilities for both the prevention of conflict and the making of peace. (Boutros-Ghali, 1992: 21)

At the time, Boutros-Ghali’s *Agenda for Peace* was regarded as the most relevant but also as the most criticized attempt to define the notion. Different scholars later tried to categorize peacekeeping by taking into account mission function, timing and level of coercion (Diehl, 1993; Diehl, Druckman and Wall, 1998), while others distinguished between Westphalian, post-Westphalian and stabilization operations (Williams and Bellamy, 2021). Despite the great number of scholars who have been reflecting on the matter, a universally agreed definition of peacekeeping has not been found yet. Studies reveal that most of the available conceptualizations are hard to integrate, “idiosyncratic and atheoretical” (Bures, 2007: 407). Thus, scholars like Bures call for a “mid-range theory that can more firmly place international relations, conflict resolution, and peace studies scholarship into the study of peacekeeping” (Bures, 2007: 407). Even if the classification of peacekeeping is evidently problematic, there are some literary pillars that can still be taken into account for this examination.

The main foundations of peacekeeping can be found in the work of the United Nations. While what could be considered the first UN peacekeeping operation took place in 1948, the Department of Peace Operations was officially created only in 1992 with the aforementioned work of Boutros-Ghali. The UN DPO presents its “holy trinity” of principles (Levine, 2013: 14) in multiple of its publications. These three are the principle of consent of the parties, impartiality and non-use of force except in self-defense and defense of the mandate, serving as the basis of each mission (United Nations, 2008: 31). This department follows these guidelines with the goal of fostering international peace and security, offering political and executive direction to UNPKO around the world and maintaining contact with the Security Council, troop and financial contributors, and parties to the conflict in the implementation of Security Council mandates (United Nations, 2021 a). Overall, the work of the UN is one of the main sources trusted throughout this examination to refer to peacekeeping notions. This is because of its direct link with field operations, but also because other literature has been criticized as limited and hard to apply universally.

Because environmental sustainability is at the center of this research, it is essential to also give an overview of the main works referring to it and in relation to military operations. Even if a lot of scholars attempt to define this term (Goodland, 1995; Goodland and Daily, 1996; Morelli, 2011; Pelt, Kuyvenhoven and Nijkamp, 1995) the study of Morelli is the main one considered for this analysis. This is because the author drafts its definition by examining all past works to find a common ground between them. The scholar defines environmental sustainability as:

Meeting the resource and services needs of current and future generations without compromising the health of the ecosystems that provide them, (...) and more specifically, as a condition of balance, resilience, and

interconnectedness that allows human society to satisfy its needs while neither exceeding the capacity of its supporting ecosystems to continue to regenerate the services necessary to meet those needs nor by our actions diminishing biological diversity. (Morelli, 2011: 6)

This notion constitutes the base of this analysis, since it is essential to understand how the UN meets the needs of the ecosystem and attempts to achieve resilience during its missions throughout the analysis of policies implementation. While it is difficult to assess whether the UN efforts actually achieved environmental sustainability — since the majority of the plans are very recent and isolating the connection between the two is extremely difficult — it is still possible to determine the extent to which UN environmental strategies currently work towards it and how they can be expanded further.

Relating environmental sustainability to peacekeeping forces will be quite challenging, given that the military is considered to be primarily detrimental to the environment. Multiple studies suggest that armed forces are “among the biggest polluters on the planet (...) estimated to create 6% of all global emissions” (Ambrose, 2021). These works also claim that this factor is often overlooked, since countries usually do not include military emissions in their reports (Buxton, 2021; Cottrell and Darbyshire, 2021; Kehrt, 2022 a; Kehrt, 2022 b; Webb, 2017; Weir, Neimark and Belcher, 2021). Exactly because the environmental consequences of armed forces are significant but repeatedly neglected, this research is relevant to shed light on them. In particular, examining the case of the Blue Helmets — being responsible for over half of the total UN’s greenhouse gas emissions, producing over 180 tonnes of solid waste daily and consuming 10 million litres of water every day (Morton, 2022) — serves as a wake up call to act on it. Thus, this paper contributes to the academic conversation providing recommendations on how better manage natural resource within the armed forces (Kreizenbeck, 2004;

Theorin, 1992). By providing new ideas to expand environmental sustainability in UN missions, this exploration qualifies as exceptionally relevant.

Methodology

This analysis first explores the history, structure and functioning of UN peacekeeping and then devotes attention to the organization's environmental efforts implemented during the pre, intra and post conflict phases. Later, this study gives an overview of MONUSCO and UNMISS, focusing on their history, environmental conditions and existing green programs. Lastly, it compares the two and emphasize what could be improved. Even if preliminary assessments of the results of UN green policies are potentially possible, this dissertation mainly focuses on recommendations based on existing practices, since the missions are still ongoing. This section outlines the research strategy, the data collection techniques and the approach to data analysis chosen to carry out these objectives. Furthermore, it acknowledges the potential limitations and ethical constraints of this work.

Research strategy refers to the overarching approach applied to any research, which encompasses case study, survey, ethnographic, experimental, historical, action research or grounded theory (Biggam, 2018). Among them, the strategy picked as best suited for this exploration is case study, defined as observing “the characteristics of an individual unit – a child, a class, a school or a community – (...) to probe deeply and to analyze intensely the multifarious phenomena that constitute the life cycle of the unit” (Cohen and Manion, 1995: 106). In particular, the comparison of two case studies is a popular approach in the field of social sciences and policy making, since it facilitates the understanding of a matter in its real-life context (Crowe *et al.*, 2011). It does not only allow for a profound analysis of their features, but also helps emphasizing their similarities and differences. In addition, this method

has been defined as appropriate for examining issues of securitization (Balzacq, 2010), such as the one present in this study. For all these reasons, case study qualifies as the best research strategy for this dissertation.

The selection of the case studies is based on mission size, location and date of establishment. For the scope of this analysis, it is more relevant to take into consideration missions with a large personnel contribution because they are more likely to have visible results and a larger environmental impact. Furthermore, it is necessary to take case studies based in the same geographical area and established within the same time frame in order to have the most similar starting base possible. Specifically, because geographical proximity means similar environmental grievances and can allow for an easier reciprocal application of best practices. The United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO) and the United Nations Mission in South Sudan (UNMISS) are fit for these purposes because they are in the top three UN missions for number of personnel, they were established only one year apart (July 2010 and July 2011, respectively) and they are located in neighboring African countries. Overall, case study analysis allows for a deep understanding and comparison of both contexts that facilitates the individuation of the weaknesses in UN green plans.

This thesis also adopts a qualitative approach, as it is “linked to in-depth exploratory studies” (Biggam, 2018: 86) and not “concerned with quantities and measurements quantifiable data” (Biggam, 2018: 86) like a quantitative study. This choice comes not only from a consideration of the means of data examination or data collection techniques, but also from the selection of research strategy, since case study approach suggests a qualitative type of research (Biggam, 2018: 87). Hence, the primary tool used to collect data for this exploration is document analysis, “a form of qualitative research that uses a systematic procedure to analyze documentary evidence and answer

specific research questions” (Frey, 2018: 2). This strategy takes into account a wide range of sources, varying from articles to policy papers, and aims to conduct their review, examination and interpretation with the goal of constructing an argument or elaborating recommendations. For the sake of this investigation, interviews and questionnaires are not considered an appropriate instrument to implement, as recommendations are only drafted by looking at the gaps in UN official documents, which may vary from lack of targeted problems or people.

Each document is selected if it deals with environmental efforts promoted by the organization and if it is aimed, even partially, at field operations. The primary information that is researched concerns the environmental issues that the UN attempts to tackle, since, by the end of this work, it is tested whether they match the needs of the location where they are implemented. In particular, categories based on the already existing UN policies are created and paired with the UN-related actions. By the end of this exploration, looking at the single green initiatives within the UN documents and at the single environmental grievances of the two case studies answers to the research question because it emphasizes where these efforts can be improved and how.

Document analysis is carried out strategically, considering a specific selection of databases and key words. The main platform trusted to gather information is the UN archive. The key terms that are input are ‘environmental’, ‘peace-building’, ‘peacekeeping’, ‘policy’, ‘green’, ‘plans’, ‘efforts’, ‘sustainability’, ‘Blue Helmets’, ‘MONUSCO’, ‘UNMISS’, ‘UN’ or a combination of them. Given that the UN environmental policies in peace operations are all quite recent and limited in number (United Nations, 2008; United Nations, 2019 a; United Nations, 2019 b; United Nations, 2020; United Nations Environment Programme, 2012 a; United Nations Environment

Programme, 2012 b), there are no filter in terms of years, geographical locations and quantity of documents selected. In addition to UN documents, this work also relies on secondary sources such as book chapters, journal articles and webpages for the theoretical framework, chosen because of their academic relevance to the topic and credibility (Day *et al.*, 2019; Lasagna *et al.*, 2020). Such a comprehensive collection of sources guards against biases and unreliability. Indeed, the validity of this dissertation is reflected in the suitability of the fair and objective choices made in this methodology, while its reliability is found in the trustworthiness of the sources selected.

Once the group of documents is gathered, their analysis is conducted through a categorization of information based on a four-part division which has been identified during preliminary research, as illustrated in Appendix A. The categories ‘pre-deployment’ efforts (including training), ‘intra-deployment’ management of resources (including water, energy, solid waste and wildlife) and ‘post-deployment’ plans (including camp closure) have been picked because they match the same pillars of the UN environmental strategy plans — specifically, the *Greening the Blue Helmets* report (United Nations Environment Programme, 2012 a) — and are essential to assess whether the organization practically committed to its green goals in the two case studies. All these sections include a ‘others’ label, as this framework is open to editing throughout the examination process and may be expanded. Ultimately, the previous search of the aforementioned terms identifies the adequate documents where information about mission characteristics, pre, intra and post-deployment efforts are available.

During this analysis, information is not only divided in these fields, but is also sub-divided based on mission type. Because MONUSCO and UNMISS have been individuated as case studies for this research, they are made explicit in the subdivision. The ‘others’ column is also present, as relevant information

may be found that does not directly deal with the two case studies. For instance, other successful green strategies implemented in other missions or general guidelines that do not aim to influence a specific case, but the UN operations as a whole, may inspire recommendations. Conducting this classification will ultimately emphasize the areas that are lacking strategies, since the table will indicate which ones of the criteria set out by the selected theories are not met. In addition, it will be clear if some issues are missing in the current UN documents because all of the current policies are input in the table and the fields left blank will be the areas that need to be expanded. Suggestions to expand these plans are advanced based on such observation, but issues are prioritized keeping in mind the most pressing local environmental grievances. Overall, this framework for analysis is not only relevant for this study, but could be easily replicated in further explorations.

In sum, UN documents are identified through the search of the aforementioned terms. These documents are, for instance, the *Environmental Policy for UN Field Missions* (United Nations, 2009), the *DFS ENVIRONMENT STRATEGY* (United Nations, 2017 a), the 2017 *ENVIRONMENTAL GOOD PRACTICE* (United Nations, 2017 b), the 2018 *ENVIRONMENTAL GOOD PRACTICE* (United Nations, 2018), the *ENVIRONMENT STRATEGY FOR FIELD MISSIONS* (United Nations, 2019 a), the *DOS ENVIRONMENT STRATEGY FOR PEACE OPERATIONS* (United Nations, 2021 b) and the *ENVIRONMENTAL POLICY FOR PEACEKEEPING OPERATIONS AND FIELD-BASED SPECIAL POLITICAL MISSIONS* (United Nations, 2022), among many more. Once these documents are identified, they are analyzed by looking at the key areas ‘pre-deployment’ efforts (including training), ‘intra-deployment’ management of resources (including water, energy, solid waste and wildlife) and ‘post-deployment’ plans (including camp closure), as mentioned in the *Greening the Blue*

Helmets report (United Nations Environment Programme, 2012 a). Every time that information relating to these categories is found, it is isolated from the rest, summarized and input in the table of Appendix A. This information is also considered in relation to its connection with the document as a whole and the connection with other unrelated UN actions. The final table will give a clear picture of the current situation of UN environmental plans in MONUSCO and UNMISS. Thanks to this outcome, it will be easier to highlight the areas where UN plans could be improved, as the table will emphasize the gaps present in UN document.

There are a number of limitations that may be present during this process. Because this research is focused on fairly new and ongoing peacekeeping missions (established only a decade ago) and deals with an emerging research area (such as the one of environmental security) it may be problematic to find a large number of recent academic studies or recent scientific data that adequately answers the question or that can be considered trustworthy. Moreover, it could be useful to find evidence belonging to the same year when comparing MONUSCO and UNMISS to have the same point of reference, but it may be hard to do so. Lastly, it may be difficult to retrieve internal documents of the UN that are not open to the public and this analysis mainly relies on them. Despite these limitations, preliminary research already established that there are enough sources to carry out this examination and that the essential UN policies have open access. Furthermore, the grouping and selection of documents — carried out in a comprehensive and objective way — deemed them valid and reliable.

On another note, this research does not involve any external participant. Thus, it does not enter in any ethical risk in respect to privacy, consent and the disclosure of personal information. There are also no affiliations and sources of funding to declare. However, it needs to take into

account careful depiction of the sources used to avoid misrepresentation of data and cherry-picking of sources. In general, this study is conducted with honesty and transparency, avoiding plagiarism.

Chapter 3: Outline of Environmental Efforts in Peacekeeping Missions

Starting from the Roots

The origin of UN environmental efforts can be traced back to the 1990s, when the organization started to consider the role of natural resources in fueling conflict. The Security Council — mostly concerned about the exploitation of diamonds, timber and oil in Angola, Cambodia, Liberia and Sierra Leone — implemented the first sanctions regulating the use of natural resources (Brown, 2021). Even if not directly related to peacekeeping operations, these plans were overseen by them and constitute the inception of UN environmental concerns. Since the 1990s, resolutions addressing environmental issues have been on the rise, mainly, due to an increased understanding of the detrimental consequences which peacekeeping operations cause on social, political and economic threats through environmental degradation.

The most pronounced motivation behind these efforts was the growing threat to security that natural exploitation posed. Thus, since the UN started to recognize a positive correlation between sustaining peace and environmental protection, it shaped its approach to conflict management to a more holistic one, including environmental preservation as a mean to enhance security, the so-called ‘environmental peace-building.’ As a reflection of such shift — going from a traditional understanding of security to environmental security — UN plans and operations dealing with natural conservation increased rapidly. This change came hand in hand with a rise in number of operations between the 1990s and the 2000s, which made green goals harder to achieve, given the growth in peace missions’ footprint.

Many were the challenges faced by the UN when attempting to include the environmental aspect in peace operations. First, it was hard to build from zero a strategy regarding an issue which was never considered before in this context. In addition, it was difficult to persuade communities to reduce the use of local natural resources (since multiple economic activities were relying on water, energy and biodiversity exploitation to survive) and to do so while continuing to carry out the mission mandate. Lastly, these actions implied peacekeepers to be the first ones performing their job in a sustainable manner to preserve credibility and further green goals. To address these matters, the first plans of the UN encompassed the monitoring and protection of environmental resources, the enhancement of local capacities, the implementation of preventive diplomacy, the mitigation of peace operation's emissions and the integration of environmental issues into disarmament, demobilization and reintegration (DDR) programs (Brown, 2021).

Outlining the UN Green Peacekeeping Efforts

The establishment of the Environment Management Group (EMG) is one of the first green milestones of the UN. Founded in 2001, it comprehends 51 specialized agencies, programs and organs of the institution, including the secretariats of the Multilateral Environmental Agreements (MEAs) (UN Environment Management Group, 2022). The EMG is relevant to peacekeeping missions because it serves as a tool to identify environmental problems, enhance international cooperation and propose effective management responses to these matters. For instance, in 2008, it calculated that peacekeeping operations alone represent over 56 percent of the UN system's total climate footprint of approximately 1.75 million tons of CO₂ equivalent per year (about the same size as the climate footprint of the city of London) (United Nations Environment Programme, 2012 a: 8).

Following the creation of the EMG, the need for a closer environmental cooperation in peacekeeping missions was truly acknowledged and resulted in the inclusion of these issues in staff training. The first trial education was in Brindisi (Italy) in 2006, where attendees shared best practices, taking from their personal experience, to educate each other on sustainable actions to undertake in the field (Borla, Liljedahl and Waleij, 2007: 1). Only one year later, the UN endorsed its *Climate Neutral Strategy*, which aimed at devoting more funds, agencies and programs to achieve climate neutrality in the organization. In particular, it called member states to “estimate their greenhouse gas emissions, undertake efforts to reduce their greenhouse gas emissions to the greatest extent possible and analyze the cost implications and explore budgetary modalities of purchasing carbon offsets” (United Nations Environment Programme, 2011 a: 9).

The first goal of this initiative was met in 2009, when the UN released its first greenhouse gas inventory, *Moving Towards a Climate Neutral UN*, which has been published yearly since then. Within this work, the EMG was essential to guide a strategic plan, which included an integrated process for producing greenhouse gas inventories, a common approach to reducing greenhouse gas emissions in the UN system, recommendations for how UN organizations can compensate for greenhouse gas emissions and ways of maintaining all these efforts in the long-term (United Nations Environment Programme, 2011 a: 9). Thanks to the data collected to draft these reports, it is evident that the Department of Peacekeeping Operations has always been taking up more than half of all the organization’s emissions.

2009 was a significant year for peacekeeping green efforts also because of the implementation of the first environmental policy for UN field missions, a guideline which has been developed and re-published throughout the following years (United Nations, 2009; United Nations, 2019 a; United

Nations, 2019 b). This document was specifically dedicated to train personnel, such as environmental engineers, and enhance sustainable approaches and technologies to mitigate the impact of peacekeeping missions. It encompassed waste, energy, water, hazardous substances issues, together with cultural sites, flora and fauna preservation. Furthermore, it acknowledged that sustainable practices ultimately facilitate local independency from external aid, are cost-effective and limit security threats. For all of these reasons, it is regarded as the “foundation for more systematized and effective implementation” of environmental initiatives in peacekeeping operations (United Nations Environment Programme, 2012 a: 8). In the same year, the Secretary-General also underlined the need to foster environmental action in a report on peace-building in the immediate aftermath of conflict and called to transform resource allocation to create sustainable livelihoods and economic recovery in post-conflict zones (Secretary-General UN, 2009).

The first environmental policy for UN field missions and the report on peace-building in the immediate aftermath of conflict were complemented in 2010 with the *Global Field Support Strategy*, a five year plan which wanted to strengthen operational efficiency (focusing on finance, human resources, supply chain and service centers), but also took into account the reduction of emissions in political operations (Secretary-General UN, 2010). In particular, it provided with parameters for waste, energy and water management, together with developing low carbon technologies for the camps (United Nations Environment Programme, 2012 a: 8). Sustainable efforts in 2010 continued with the *Greening the Blue* campaign, followed by a website and a report, aimed at making the UN the leading example of good environmental management to motivate member states.

From 2010 to 2011 the organization directed its focus on air travel, power generation and road transport, being the main emission sources of field

operations (United Nations Environment Programme, 2011 a). Thus, it provided guidelines to improve vehicles and reduce impact of deployments. In 2011, the UN shared the *Emission Reduction Strategies*, highlighting the best green practices concerning organizational dynamics, targets, finances, facilities, procurement and technology (United Nations Environment Programme, 2011 a: 15). The section of this document dealing with travel is the vastest and also the one primarily dealing with field missions. Some of the actions underlined in this regard are the increase of movement by train, the rise of remote working and the decrease of people flying business class or attending in-person meetings, just to name some.

Two years after the launch of the *Greening the Blue* campaign and one year following the *Emission Reduction Strategies*, an extremely relevant report concerning environmental peacekeeping was published. *Greening the Blue Helmets: Environment, Natural Resources and UN Peacekeeping Efforts* is indeed the most holistic outline exploring the link between peacekeeping operations and sustainability, in terms of how operations affect the environment, but also their role in helping local communities. Its first part emphasizes best green practices in the management of peacekeeping operations, ranging from pre-deployment planning and initial analysis, to design, construction, procurement, camp management and closure (United Nations Environment Programme, 2012 a). For instance, this document introduces sustainable, safe and cost-effective practices in the area of water, energy and waste management.

The second part gives an overview of threats and opportunities of implementing environmental peacekeeping in UN missions, taking into account especially conflicts driven by natural resource competition. Indeed, it encompasses the link between operations and illegal exploitation of resources, the use of peacekeepers in UN research groups and the results of local

programs on the environment and on the outcome of the missions. Lastly, the report advances recommendations targeting policy makers, personnel, support staff of the operation and any other collaborator working within this area, with the goal of driving action on the matter. The validity and significance of this document to this research is invaluable, since it is a technical collaboration of multiple agencies, it has been peer reviewed by experts and it offers multiple local examples.

The release of *Greening the Blue Helmets* results in the creation of an Environmental Management System (EMS), a set of planned processes guiding environmental performance in the UN. What this new initiative did was set up cycles of action with different goals, namely, the 2015-2019 one and the 2020-2024 one. The first one prioritizing energy, waste and water management and the second one gathering attention on travels and staff awareness (United Nations Environment Programme, 2022 a). The start of the first cycle of the EMS also marks a turning point for policies dealing strictly with peacekeeping missions, such as the *Waste Management Policy for UN Field Missions* or the *Environment Strategy for Field Missions*, picking energy, water and wastewater, waste, wider impact and environmental management systems as its five pillars to be monitored and reviewed over the years (United Nations, 2017 a). Thus, environmental management in the field became one of the top priorities, aimed at mitigating threats for civilians and at maximizing efficiency.

In 2017, a stronger position of UN green efforts is observable due to the inclusion of environmental impacts in the mandates of some operations and thanks to the implementation of environmental scorecards to assess green performances in each mission every year. Maertens and Shoshan claim that, “by the end of 2017, each mission had put in place a mission-wide environmental action plan for the 2017-18 budgetary cycle” (2018: 10) and all

missions were “expected to at least have a designated environmental focal point” (2018: 10). In the same year, the “Group of Friends for leading on environmental management in the field” originated as well, with the purpose of fostering discussion and raising awareness on the issue of green peacekeeping. This action is particularly relevant because it was led by Italy (in collaboration with Bangladesh), the first contributor of peacekeepers among Western Countries and the eighth contributor to the peacekeeping budget (The Permanent Mission of Italy to the UN, 2018).

2017 is also the year where the most environmental training programs are produced. For instance, the one supported by the UN Institute for Training and Research (UNITAR) and the International Institute for Sustainable Development (IISD), the one sponsored by the UN DPO and the DFS, the one partnering the UNEP and the OCHA Environment Unit and the one joining UNEP and UNDP (UNOCHA, 2022). New programs arise in the academia too. Hence, five online courses become available on the Environmental Emergencies Centre (EEC) in multiple languages, dealing with environmental emergencies, industrial accidents, disaster waste management, environmental assessment tools and humanitarian action in peacekeeping missions. Furthermore, graduate courses on Eco-DRR at the Cologne University of Applied Sciences (Germany) are developed in collaboration with UNEP and later extended to other 50 universities world-wide, together with a Massive Open Online Course (MOOC) on environmental peace-building and a training on land, natural resources and conflict prevention (United Nations Environment Programme, 2022 b).

All these new initiatives ultimately aim at improving the use of natural resources in conflict prevention and peacekeeping. Some of them want to produce more training materials by collecting best practices of attendees, others are intended to integrate environmental issues in DDR processes and

work to prepare the next generation of experts and practitioners (Folke Bernadotte Academy, 2022). Overall, they wish to achieve an innovative network of people and institutions able to efficiently respond to environmental challenges and learn from past experiences to implement advanced sustainable technologies and approaches in the field of peacekeeping missions.

After the start of these multiple programs, another *Environment Strategy for Field Missions* is published in 2019, following the same pillars of the previous one (energy, water and wastewater, waste, wider impact and environmental management systems) (United Nations, 2019 a). In the same year, a report evaluating the previous *Environment Strategy for Field Missions* was also released, which highlighted the environmental management scorecard as one of the successes of the previous document. This is mainly because country reporting rates have grown from 62% to 74% and a cumulative improvement of the environment is observed, with an average 10% increase between the 2017-18 and 2018-19 (United Nations, 2019 b: 1). Furthermore, the document shows a rise in awareness, environmental site inspections, energy, water and transportation efficiency, due to the development of enhanced infrastructural management plans.

Despite these significant actions, the UN real green milestone of 2019 is the commitment to the *UN Sustainability Strategy*, planned to last from 2020 until 2030 and divided in two phases, one focusing on environmental sustainability in the area of management and one relating to leadership in environmental and social sustainability (CEBUN System Chief Executives Board for Coordination, 2022). Both of them link back to environmental management in peacekeeping missions and contribute to the creation of the 2020 *Greening the Blue Report* (United Nations Environment Programme, 2020). This document includes the areas identified in the first phase of the *UN Sustainability Strategy* (greenhouse gas emissions, waste, air pollution, water

and wastewater, biodiversity) and offers examples of best practices for each one of them with the hope of fostering creativity and innovation. Only one year after the publication of this work, a follow-up report is released, the 2021 *Greening the Blue Report*, one of the most recent document to date dealing with environmental peacekeeping (United Nations Environment Programme, 2021). Even if it is more extensive than the previous one, this work concerns the same areas of interests and, similarly, provides examples of past successful actions which may be reproduced. However, differently from before, it takes into account Covid-19 into the environmental picture as well.

During 2021, the UN DOS shares a shorter document, the *Environment Strategy for Peace Operations*, also outlining the objectives, past achievements and future priorities of the missions and drawing on the path of the previous 2017 and 2019 environmental strategies. Similarly to them, the work of this report aims at obtaining “responsible missions that achieve maximum efficiency in their use of natural resources and operate at minimum risk to people, societies and ecosystems; contributing to a positive impact on these wherever possible” (United Nations, 2021 b: 1). Continuing these efforts and concluding the outline of the UN green actions is the 2022 *Policy for Peacekeeping Operations and Field-based Special Political Missions* (United Nations, 2022). This document gives an overview of the principles, objectives and expectations concerning environmental stewardship, resource efficiency, the improvement of environmental performance, stakeholder engagement and adaptation strategies. Lastly, it outlines the main roles and responsibilities of environmental peacekeeping within the workings of the UN.

Overall, the UN attempts to ‘walk the talk’ of climate neutrality are evident in its increase of mandates and policies linked to natural resources over the years. Hoping to become a positive example for its member states, the organization has passed a growing number of resolutions addressed to tackle

environmental issues, which amounted to 14.4% of the total in 2016 (Brown, 2021: 5). The infographic of Appendix B sums up the milestones explored in this section, related to UN environmental efforts in peacekeeping missions, and illustrates their rapid growth in number and significance. This outline — spanning from the creation of the Environmental Management Group in 2001 and the first *UN Climate Neutral Strategy* in 2007 until the most recent *Environmental Policy for Peacekeeping Operations and Field-based Special Political Missions* — sets the base for the analysis of the two case studies, as it introduces the broad scope of UN environmental efforts which are intended to influence field missions such as MONUSCO and UNMISS. Understanding the general context of policies aimed at promoting sustainability in the UN DPO is relevant to later extract the specific initiatives which are targeting these two missions.

Chapter 4: Case Study 1 - The United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO)

Introduction to MONUSCO

The United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO) was established in the Democratic Republic of the Congo in July 2010 and constitutes a continuation of a previous mission in the country, the United Nations Organization Mission in Democratic Republic of the Congo (MONUC). Its budget amounts to 1,123,346,000 dollars for the current year, its total personnel is estimated to be a little less than 17,800 people (with a little more than 16,300 people for total uniformed personnel) with Pakistan, India and Bangladesh as top contributing countries for the military and Senegal and Egypt as top contributing countries for the police (United Nations Peacekeeping, 2022 a).

The history of the mission goes back to the 1994 genocide in Rwanda¹, when Hutus fled to refugee camps in neighboring countries, particularly in Zaire.² Two years after the start of the genocide, a rebellion began in the area,

¹ Also known as the genocide against the Tutsi, the Rwandan genocide took place from April 7th to July 15th of 1994. Throughout this period, the Tutsi minority ethnic group, together with other groups, were targeted and killed by military forces (mainly Hutu soldiers, police, and militia). Even if death estimates vary, the most commonly agreed numbers vary between 500,000 and 662,000 Tutsi deaths (Guichaoua, 2020).

² The Republic of Zaire is what is now known as the Democratic Republic of the Congo. The region was a Congolese State, inhabited by ethnic Tutsis and others, from 1971 to 1997.

sparked by the will of Laurent Désiré Kabila³ to remove President Mobutu Sese Seko⁴ from power. In 1997, with the support of the Rwandan and Ugandan forces, Kabila eventually forced the exile of Mobutu Sese Seko and occupied Kinshasa, the capital. The country was then officially renamed the Democratic Republic of the Congo (DRC). Only one year later, another rebellion originated, this time against Kabila himself and with the previously allied Rwanda and Uganda on the side of the rebel group (the Congolese Rally for Democracy). In 1999, the Security Council called for a ceasefire and removal of foreign forces. The birth of MONUC in the same year was indeed a way to oversee the ceasefire and, later, to supervise the fulfillment of the agreement. Seven years later, the UN mission helped to carry out the whole electoral process, where Kabila's son was declared winner. The operation remained active even after the elections to assist with political, military and legal matters (MONUSCO, 2022 a).

MONUSCO was born in 2010 to identify a new phase of UN aid in the country. Thus, its scope is more flexible to include the evolving conditions of ongoing military operations, the consolidation of state power and the governmental safe-keeping of citizens. Its mandate focuses mostly on two priorities, the protection of civilians and the support of the stabilization, strengthening of public institutions and the major governance and security reforms (MONUSCO, 2022 b). The first goal — which covers the absence of

³ Laurent-Désiré Kabila was a Congolese political and revolutionary leader (of the Alliance of Democratic Forces for the Liberation of Congo) who served as President of the Democratic Republic of the Congo from 1996 until 2001, when he was assassinated (Fredriksen, 2003).

⁴ Mobutu Sese Seko Kuku Ngbendu Wa Za Banga was a Congolese political and military leader who served as President of the Democratic Republic of the Congo from 1965 to 1971 and Zaire from 1971 to 1997. He was accused of allowing violence on Tutsi groups in Zaire and supporting the perpetrators of the genocide occupying the camps (Byman *et al.*, 2001).

physical violence and the support of internally displaced and refugees — may be achieved through frequent consultation with the government, local communities and the judicial system to identify and mitigate threatening groups and prevent escalation of violence. The second aim ranges from the support of security reforms to technical and strategic assistance, the promotion of reforms in the military, police, judicial and penitentiary sectors, enhanced collaboration with global partners, an acceleration in the DDR process and an encouraged dialogue between all sections of society. Overall, even if this considerably vast mission mandate is not explicitly linked to environmental preservation, safeguarding natural resources may still serve the mission as a mean of preventing violence and protecting the wellbeing of civilians.

Environmental Grievances in the Region

Giving an overview of the multiple environmental concerns affecting the Democratic Republic of the Congo — encompassing waste, water, energy, wildlife and many more — is essential to establish the most pressing issues that should be prioritized when advancing recommendations. Waste mismanagement has always been an issue in the region, which also constitutes a health threat, other than an environmental one. Only in the city of Goma,⁵ residents produce from 600 to 800 tons of garbage every day, out of which only 5% is collected and the rest burned or openly dumped (United Nations Environment Programme, 2018). Similarly, in the capital Kinshasa, 9,000 tons of solid waste are generated as a consequence of the inexistent garbage collection system (Tiassou, 2018). Ultimately, this situation poses severe health environmental risks as it leads to rising unclean water and increasing cases of cholera, malaria and typhus.

Issues related to water are also among the top environmental grievances in the DRC. Even if this area is “Africa’s most ‘water-rich’ country,

⁵ Goma is the capital of North Kivu province.

the Democratic Republic of the Congo is facing an acute drinking water supply crisis. Only an estimated 26% of its population has access to safe drinking water, well below the approximately 60% average for Sub-Saharan Africa” (United Nations Environment Programme, 2011 b: 4). Water problems are the consequence of multiple problems linked to climate change, among them, rising temperatures, droughts, decreasing rainfalls and more frequent floods. What fuels these water-related matters is the inability of the government to monitor its use, gather funds, ask support to experts and generally implement a holistic water management system.

Together with water scarcity, the DRC also suffers from a threatened wildlife. Being at the core of the Equator, the country hosts 50% of the continent’s forest and an important source of water, the Congo River (Fauna&Flora International, 2022). Such extended land and water resources are suitable for agricultural development and are home to a rich biodiversity. Hence, the country owns various UNESCO world heritage sites and presents different rare species, such as mountain gorillas, white rhinos and savannah giraffes. Currently, conflict, resource overexploitation, pollution and deforestation are putting DRC’s wildlife at risk, creating serious environmental troubles which eventually are detrimental to the wellbeing of the civilians and the climatological situation.

Other environmental grievances in the country are connected to energy consumption. Thus, the DRC lacks an interconnected national electric grid, has one of the lowest rates of electrification and energy consumption in the world, and “still relies on diesel generators for roughly two-thirds of its total energy” (Holt and Mozersky, 2019). This matter exacerbates not only economic problems, but also environmental ones, since “Diesel exhaust contains more than 40 toxic air contaminants, including many known or suspected cancer-causing substances, such as benzene, arsenic, and

formaldehyde. It also contains other harmful environmental pollutants, including nitrogen oxide, currently the single most important ozone-depleting emission (Awofeso, 2011: 1437). Indeed, while the energy system in DRC fails in its efficiency, it also relies on sources which are heavily negative for the climate.

Overall, overexploitation or misuse of natural resources — from biodiversity to water and energy — is one of the core problems for the country, together with waste mismanagement. Research on the topic also includes chemical and air pollution, in addition to fire and other major uncontrolled activities in the list of local environmental threats. In particular, scholars identify emissions to air, waste accumulation, chemicals usage and fire as the top dangerous problems — which should be regarded as high priority — while it categorizes energy and mineral resources consumption as medium high priority and water scarcity as low priority (Asiedu, 2010). Mostly, because water consumption can be solved through the resolution of top priority issues. Emphasizing the significance and level of prioritization of each issue will later serve to identify whether UN plans adequately respond to the environmental grievances affecting the DRC.

The Role of UN Peacekeeping Forces

The MONUSCO mission itself contributes to exacerbating environmental issues in the DRC. Hence, as illustrated in one of the most recent UN reports on greenhouse gas emissions, MONUSCO alone accounts for the 11% of total UN secretariat (United Nations Environment Programme, 2021: 13). This number comes from the calculation of emissions generated from waste mismanagement, air pollution, biodiversity degradation, energy and water consumption and land use. In particular, pollution is fueled when the mission carries out any type of transportation, site patrolling, commuting and delivery of goods and equipment. In terms of waste, it is primarily

accumulated during administrative work, camping activities, humanitarian support and disarming, while energy consumption increases due to similar performances, together with transportation activities. Lastly, water and land use rises during peacekeeping operations because of mishandling of chemicals, liquid waste, military tasks, humanitarian support, housing and office work. The identification of the components making MONUSCO one of the most unsustainable UN field missions will be essential when assessing the completeness of UN green efforts in tackling not only local environmental problems, but also the environmental problems of the mission itself.

UN Environmental Efforts in MONUSCO

Aware of its environmental impact and willing to follow the various UN policy guidelines for field mission, MONUSCO started to implement specific plans to address the environmental problem affecting the region. This section will outline them, analyzing first pre-deployment efforts, then intra-deployment efforts and, finally, post-deployment strategies.

MONUSCO pre-deployment steps linked to environmental initiatives mainly involve training. The mission has adopted a series of awareness training on environmental and natural resource management during 2009-2011. DFS, UNEP and FOI carried out this joint initiative with the purpose of preparing military and civilian personnel (about 45 staff people from different units of the mission) to discuss how to tackle different environmental challenges faced by the mission in terms of waste management, water and energy (United Nations Environment Programme, 2012 a: 23). “Participants identified a range of challenges including hazardous waste segregation and disposal, ground pollution from oil spills, external contractors’ compliance with minimum environmental standards, renewable energy technologies and emergency preparedness plans” (United Nations Environment Programme, 2012 a: 23). Ultimately, the training shed light on

the need to expand capacity building and awareness on every level of MONUSCO. For this reason, the operation continued to conduct this training every year since then. This incorporation of environmental concerns in the pre-deployment dynamic of peacekeeping operations was mainly motivated by the need to meet UN's environmental performance goals set in the previously analyzed documents.

In terms of intra-deployment efforts, a lot of waste management programs have been implemented to address the problem of garbage accumulation in the cities and waste mismanagement in MONUSCO activity itself. In 2015, the mission started a waste composting project, where food from damaged ration packs, as well as leftovers, are gifted to a community piggery project carried out by a local NGO. As Tom Sengalama⁶ claims, the initiative “started with 50 piglets in 2015, now has over 250 pigs and has already supplied 100 piglets to individual households, thanks to the damaged ration packs and food waste from MONUSCO” (United Nations Environment Programme, 2018). In the same year, the operation also collaborated with EcoPlastic⁷ to develop a strategy to recycle plastic bottles into paving stones and later use the revenues to train communities and provide them with goods and shelter for vulnerable groups. In addition, paper waste has been converted into briquettes that communities later used for cooking.

Waste projects in MONUSCO continued in 2017, in the Goma area, where a system to compost the biodegradable waste that cannot be used in the piggery project is introduced. Overall, this made a 70% reduction of waste that is sent to the landfill and offers a solution to improve soil quality and agriculture (United Nations, 2017 b). The monetary gain collected from this

⁶ Head of the mission's Environmental Protection Unit.

⁷ EcoPlastic is one of Rwanda's leading companies in plastic recycling and the production of new plastic products (EcoPlastic, 2022).

initiative is also invested in local projects to enhance sustainability and support the businesses of vulnerable communities, such as former combatants, children or women. Two years after the inception of this compost system, MONUSCO continued to sponsor efficient waste collection through the Waste Management Plans (WMPs), a project encouraged by the UN which fosters better environmental performance through waste assessment, recycling and enhanced storage of hazardous materials. In conclusion, MONUSCO successfully started multiple waste initiatives which greatly reduced solid waste of one-third by feeding animals, composting, recycling plastic in alternative objects and made use of the revenues to finance sustainable and economic development of vulnerable communities (United Nations, 2019 b).

Special attention has been given to the treatment of hazardous waste chemical materials. This issue specifically lacked infrastructures, emergency kits and awareness. Hence, 20 MONUSCO personnel from engineering and environmental teams were lectured in English and Swahili by REACT on the adequate methods for the treatment and disposal of expired chemicals (mainly sodium carbonate) (United Nations Environment Programme, 2012 a). In addition, MONUSCO focused on avoiding chemical pollution through the identification of adequate fuel storage areas and generator houses. These projects ultimately strengthened the identification and collection of toxic materials and led to the development of operational guidelines for units of the mission. Overall, these initiatives — aimed at reducing pollution coming from hazardous waste — allowed for the control of 94% of the total material spill in MONUSCO (United Nations, 2018: 4).

Other than solid waste accumulation, water mismanagement also constitutes a problem affecting the DRC that has been addressed through multiple plans. First, water quality increased with the installation of UN-contracted water treatment plants and regular monitoring. In particular

“purified drinking water is obtained from reverse-osmosis treatment plants, installed at the majority of MONUSCO bases in the DRC” (United Nations Environment Programme, 2012 a: 24). This solution not only improved water conditions but also mitigated emissions connected to transportation of drinking water. In terms of sewage waste, MONUSCO — together with all local contractors — was authorized to dispose wastewater only directly into a river, which contaminated local resources. This issue called for a safer wastewater management and led to the development of testing bio-latrines in Kinshasa, a much more advanced solution compared to other missions, which usually rely on soak pits, leach fields and oxidation ponds that contain partially treated wastewater (United Nations Environment Programme, 2012 a).

Renewable energy has also been tested to replace current unsustainable measures. The United Nations Environment Programme supports that “a range of renewable systems can replace or augment diesel generators with long-term fuel savings and environmental benefits” (2012 a: 29). Recently, MONUSCO contracted photovoltaic-diesel hybrid power systems and solar thermal panels for ablution units, a solution that is not only sustainable on an environmental level, but also on an economic level, since it ensures a lengthy duration and a cheap relocation of the panels (possibly, even to other missions) (United Nations Environment Programme, 2012 a). On another note, MONUSCO also encouraged the minimization of energy coming from firewood, since some military contingents used charcoal and wood to cook. This guideline was part of the *Environmental Guidelines for MONUSCO Military Operations*, established in 2011 by the MONUSCO Force Commander,⁸ motivated by the will to mitigate local deforestation and illicit trade (United Nations Environment Programme, 2012 a).

⁸ Lieutenant General Chander Prakash.

The last area of focus in MONUSCO's environmental plans is wildlife preservation. In this regard, the mission partnered with the Environmental Crime Programme at INTERPOL to coordinate the enforcement of national and international treaties to fight flora and fauna related crimes. For instance, the two worked to reduce gorilla smuggling in the greater Congo Basin and airlifted endangered gorillas to a safe sanctuary (United Nations Environment Programme, 2012 a). Furthermore, MONUSCO worked on an awareness campaign to facilitate co-habitation between people and hippopotamus, which were becoming a threat to the population due to their reduced living space (United Nations, 2016 b). Lastly, the operation focused on the preservation of the okapi wildlife reserve. Set in the Ituri forest in Eastern DRC, the reserve hosts quite a diverse number of animals, encompassing "okapi, forest elephants, 17 species of primates, leopards, bongo antelope and a variety of birds and insects [and faces] increasing pressure of deforestation from, among other factors, shifting cultivation agriculture both outside and inside the reserve and a growing human population" (Institute of the Environment & Sustainability, 2021). This area is particularly relevant because it is the home of one-sixth of the global okapi population (United Nations, 2016 a). Overall, these specific programs which target at-risk fauna are also reflected in MONUSCO trainings, where peacekeepers are taught how to behave in surroundings where endangered species, but not exclusively, are present.

Post-deployment environmental efforts include awareness programs, governmental support and the delivery of green guidelines and criteria. Even if MONUSCO is still ongoing, the base for post-deployment environmental initiatives has been partially set. Thus, even after the conclusion of this operation, local communities will still be able to continue teaching the learnings outlined during awareness days and training periods for local institutions. Moreover, national authorities will be able to govern with greater

environmental consideration, following the help that peacekeepers gave to draft a national strategy encompassing illegal exploitation of wildlife, water, unsustainable energy and waste mismanagement. In support of this plan, MONUSCO already established “traceability schemes to provide key information in demonstrating due diligence” (United Nations Environment Programme, 2012 a: 49). These criteria not only set standards on quantity and quality of materials used, but also monitor human rights protection. Ultimately, the implementation of these long-withstanding group of guidelines will enable the preservation of natural resources also after the conclusion of MONUSCO. The achievement of greener conditions in the DRC will inevitably also improve because the operation itself was a factor fueling environmental grievances.

From this analysis, it is already evident that air pollution and uncontrolled fires are not addressed in any of these solutions, and that post-deployment measures are missing plans aimed to reduce the impact of peacekeepers themselves when conducting camp closure. This is relevant because, as outlined before, scholars identify emissions to air and uncontrolled fires as the top dangerous problems — which should be regarded as high priority — in the region, together with waste accumulation and chemical usage, while resource consumption and water scarcity are only regarded as medium and low priority, respectively (Asiedu, 2010). Highlighting the weaknesses of current green initiatives — undertaken in MONUSCO during pre, intra and post-deployment activities — will serve later to draft recommendations which fill the voids that these projects have.

Chapter 5: Case Study 2 - The United Nations Mission in South Sudan (UNMISS)

Introduction to UNMISS

The United Nations Mission in South Sudan (UNMISS) started in July 2011 with the birth of the country itself after the Comprehensive Peace Agreement (CPA), signed in 2005. The budget for this mission amounts to 1,201,887,500 dollars and its total personnel is estimated to be a little less than 18,000 people (with a little more than 19,100 people for total uniformed personnel) with Rwanda, India and Nepal as top contributing countries for the military and Rwanda, Ghana and Nepal as top contributing countries for the police (United Nations Peacekeeping, 2022 b).

South Sudan gained independence in 2011, as a result of a referendum where this option won with 98.83% (UNMISS, 2022 a). The CPA marked the end of a 6 year peace process and concluded the 20 years war between the Government of Sudan and the Sudan People's Liberation Movement (SPLM). The Security Council decided to establish this mission to assist with the development of this new country, which needed a solid base to consolidate peace and security in the region. Despite UN's support, in 2013, the country fell back in crisis as violence sparked from Juba⁹ and expanded in neighboring cities. Such episode created tension between South Sudan's authorities and UNMISS itself, since the operation was unfairly blamed of being not impartial and helping anti-government forces. Thus, an anti-UN sentiment originated and limited the ability of the peacekeepers to conduct activities in multiple locations in South Sudan.

⁹ South Sudan's capital.

This situation also generated various human rights violations and fatalities. In one month, almost 500,000 persons were displaced within the country and around 74,300 people fled outside of the country, numbers which only increased over the months, peaking in 2014 with 900,000 displaced people inside of South Sudan and 167,000 people who fled outside (UNMISS, 2022 a). Such movement of civilians, fueled by the recurring violence, also exacerbated food insecurity. Within this context, UNMISS provided shelter and humanitarian assistance until, in 2018, violence decreased with the Revitalized Peace Agreement and the creation of UN protection sites. These areas were created to safeguard civilians in imminent physical danger during intense conflict or to provide a place to stay for internally displaced people (UNMISS, 2022 a). The process driving the creation of these camps was guided by the UN, in collaboration with the South Sudanese government and local humanitarian, judicial and security services.

The political, social and military efforts supported by UNMISS as a response to the local crisis were in line with the mission mandate. Hence, the operation focused on four points —namely — the protection of civilians, the delivery of humanitarian assistance, the implementation of the Revitalised Agreement and the peace process and the monitoring, investigating and reporting on violations of humanitarian and human rights law (UNMISS, 2022 b). In particular, the protection of civilians encompassed situations of physical violence in the context of elections or displacement, the identification of potential threats, the protection of civilian sites, the enhancement of good offices and peace dialogues, the support of human rights programs and the implementation of technical assistance. In addition, the delivery of humanitarian assistance entailed equal access and freedom of movement, while the implementation of the Revitalised Agreement and the peace process comprehended the inclusion of meaningful groups and civil societies. Lastly,

monitoring, investigating, and reporting on violations of humanitarian and human rights law also meant engaging with international actors. Overall, the mission estimates to continue advancing this mandate every 3 years to prevent the comeback of civil war or violence. Even if this mandate does not explicitly mention environmental grievances, mitigating climate-related issues does contribute to the protection of civilians, the delivery of humanitarian assistance and the protection of human rights.

Environmental Grievances in the Region

Because mitigating environmental problems in South Sudan (encompassing those connected to waste, water, wildlife, energy and many more) may facilitate the fulfillment of the mandate of UNMISS, this section will outline them to prepare the ground to later draft recommendations. Similarly to MONUSCO, one of the most dangerous environmental threats in UNMISS is solid waste. Hence, “one-third to two-thirds of the solid waste generated is not collected” (Milkovich, 2017), a problem which is particularly amplified in many of the most populous cities. In particular, the majority of the material accumulated is plastic and it comes from residences, commercial buildings, agricultural fields, institutions and construction sites where most civilians are unaware of solid waste disposal practices. Indeed, the primary method of collection is open dumping (62.4%) while secondary methods include burning (34.7%), composting (2.1%) and reusing (0.5%) (Milkovich, 2017). Such unsustainable systems not only impact the efficiency of missions and the environmental quality, but also the wellbeing of citizens, as they contribute to water pollution and waterborne diseases, such as malaria, typhoid and watery diarrheal diseases (World Health Organization, 2022).

Water is also connected to multiple environmental issues in the region, such as increased droughts and decreased rainfalls, which lead to a lack of drinking water and a drop in agricultural production. Specifically, 59% of the

population in South Sudan does not have access to safe water (UNICEF, 2022) and relies on dirty water, which also exacerbate diseases and infections, as well as waste accumulation. Thus, water issues are the consequence and the result of a wide network of problems. In South Sudan specifically, they are exacerbated by the location of water sources as well, since the main access to it is the Nile River basin, which is shared with other ten neighboring countries (Frederick, 2020). Because multiple powers control the use of this basin, it is harder for each one of them to manage it in a sustainable way, a dynamic which often irritates already present social, economic and political tensions.

Another issue connected to environmental grievances in the region is the loss of biodiversity and wildlife. Hence, South Sudan hosts the world's second largest land mammal migration (including species at-risk such as giraffes, lions, elephants or hippopotamus), is made for 15 % of national parks and reserves and is home to one of the largest freshwater ecosystems that serve as a source of sustenance for animals and humans (Mimbugbe, 2021; Perry, 2020). The invaluable gains that come with these natural resources benefit economic growth in the country but are threatened by loss of biodiversity caused by local resource competition, poaching, overexploitation and deforestation. Lack of awareness also comes into the picture and obstacles the protection of biodiversity and wildlife in South Sudan.

Lastly, unsustainable energy consumption contributes to exacerbating multiple climatological problems. Likewise the DRC, South Sudan relies on diesel generators that have negative consequences on the wellbeing of the citizens and the environment. The country has the lowest energy consumption rate in Africa and the highest cost of producing energy, since, only in Juba, there are between 5,000 and 10,000 diesel powered generators that are highly inefficient (Tiitmamer and Anai, 2018). Together with waste mismanagement, water scarcity, threatened biodiversity and wildlife, unsustainable energy,

other environmental issues have been identified in the region. These are, for instance, illegal extraction of minerals and exploitation of fisheries (EEAS, 2021). Overall, South Sudan's main environmental problems are not ranked for priority but mostly regarded as equally important and interlinked. This outline of the issues impacting the region will be essential to determine the areas of focus when advancing recommendations in the next section.

The Role of UN Peacekeeping Forces

Similarly to MONUSCO, UNMISS activities are part of the environmental problems in South Sudan. According to the United Nations Environment Programme, this operation accounts for the 16% of greenhouse gas emissions of the total UN emissions (2021: 13). Thus, UNMISS operations act as an irritating factor exacerbated all pre-existing conditions in the region. Waste accumulation is fueled by any type of mission activity, among them, administrative operations and humanitarian support and disarmament. Furthermore, unsustainable energy consumption, water and land use are particularly present due to mishandling of resources during any office work. Most importantly, air and land transportation make up for the majority of the emissions and they are linked to daily activities of UNMISS, from site patrolling to commuting, good delivery and equipment delivery. In general, emphasizing that UNMISS itself contributes to South Sudan's environmental grievances — by fueling waste mismanagement, air pollution, biodiversity degradation, energy and water consumption and land use — is relevant to advance recommendations that address how to mitigate the impact that the mission itself brings about.

UN Environmental Efforts in UNMISS

As a way to limit its environmental impact, UNMISS also fostered plans to enhance sustainability during pre-deployment, intra-deployment and post-deployment activities. Concerning environmental pre-deployment efforts,

UNMISS is a bit weaker, compared to MONUSCO. This is because UN documents lack a reference to any type of UNMISS environmental training including civilians and does not go into detail when discussing training sessions for staff. However, likewise MONUSCO, UNMISS has a lot of intra-deployment programs that tackle the areas of waste, water, energy, wildlife and energy.

In terms of waste, a number of sustainable garbage disposal options and plastic reduction initiatives have been promoted. With the goal of leading by example, in 2020, UNMISS forces banned the sale of small plastic water and soda bottles (estimated to be around 300,000 sold per year in the shops near the camps) (United Nations, 2020: 3). Other than reducing plastic generation, this plan encouraged the consumption of refillable large water bottles and reusable water mugs at drinking water points. This project came as the result of the 2018 ban of plastic shopping bags, a rule which was unfortunately not strictly enforced until the collaboration with vendors, UN Agencies and NGOs operating within the UN compounds was strengthened (United Nations, 2018: 3).

The reduction of plastic use was complemented with an increase of recycling plans. Thus, UNMISS troops found new ways of transforming plastic and taught them to local communities. “From vertical gardens to bolstering security of UNMISS personnel, Indian peacekeepers from the UNMISS Petroleum Platoon have found multiple, innovative ways to up-cycle used plastic bottles in an effort to protect civilians as well as Planet Earth” (United Nations Peacekeeping, 2022 c). For instance, peacekeepers educated people to transform old t-shirts into shopping bags and created bottle bricks by collecting, sanitizing and filling with dried soil plastic containers. Once ready, these extremely inexpensive and sustainable bricks were used to build walls, benches or play-fields. Such innovating idea was also used to

protect UN personnel itself, as they were fortified with heavy materials to build shields to protect from armed attacks. Lastly, these plastic constructions were used to stimulate plant growing, since they served to construct vertical gardens.

Waste in UNMISS was not only reused, but also systematically collected. Hence, to achieve the goals of UN green policies and enhance sustainability, the operation set a precise framework for waste allocation. Felician Freeman¹⁰ explained the process of this system as the following:

After we collect the garbage into one location we separate it into three different containers. The first container is for plastics and plastic bottles, the second is for grass, leaves and wood. The third container is for the collection of food remnants. (Mou, 2016)

Such successful division was estimated to be a “tremendous improvement” (Mou, 2016), which qualified such location as one of the cleanest camps in UN missions. Indeed, litter was completely absent, garbage bins were fully enclosed and the disposal of used tires, batteries, oil and air filters, electronic waste was efficiently organized. These optimal environmental standards not only benefited environmental conditions in South Sudan, but also motivated local communities to follow the same path.

Overall, waste collection and recycling systems can be deemed as one of the best practices found in UNMISS. This is not only thanks to the specific projects promoted in the location of the mission, but also thanks to the well-framed preliminary environmental assessment of the existing dump sites, the health and safety initiatives that provide protective gears to waste pickers and the awareness-raising campaigns sponsored in the region (United Nations Environment Programme, 2022 c). Water management projects are also part of the best environmental practices of UNMISS. For instance, this mission was

¹⁰ Facilities Management officer of UNMISS.

the first one to pilot the Environment Risk Assessment application (currently for wastewater risk) in the field, used to identify wastewater risk directly on site through live data collection and geospatial information (United Nations Peacekeeping, 2022 d).

Multiple programs also address the issue of wastewater management. Currently, UNMISS “operates 39 wastewater treatments plants, generating 78,000 liters of non-potable water each day for such activities as firefighting, dust control, soil compaction and gardening” (United Nations Environment Programme, 2012 a: 5), an operation which has reduced clean water consumption and saved around 12,000 dollars per year (United Nations, 2017 b: 2). A decrease in water use has also been observed thanks to token operated showers with low-flow shower-heads (which save from 7-9 liters to 15-18 liters during a 10 minutes shower), waterless urinals (which save from 55,000 to 170,000 liters per unit) and rainwater collection tanks to serve non-potable employments (which save from 5,000 to 10,000 liters) (United Nations Environment Programme, 2012 a: 26). Potentially, the water saved during this process can also be transformed into drinking water through attentive filtration.

Another type of water initiatives conducted by UNMISS are flood, water and sanitation facilities that can be implemented through drainage systems and accessible roads. “The purpose of the road is to act as an embankment for flood control. And the creation of drainage helps to channel running water” (Awata, 2017). These types of facilities also support the irrigation of crops and come in the form of boreholes in some locations of UNMISS. Only in the communities near the villages of Ilikore and Gwori, they are estimated to “supply water to a population of over 12,000 people as well as itinerant cattle keepers” (Sokiri, 2018). Thus, they also ease the tensions between people over natural resources, other than preserving the

environment. Future water projects in UNMISS are being developed as well. These encompass low technology options for water use reduction such as single flush urinals, low flush capacity toilet cisterns and aerated shower-heads, solutions which are estimated to be cost-effective, long-lasting, easy to use and “able to reduce water consumption by 46 percent in offices and 37 percent in residential areas” (United Nations Environment Programme, 2012 a: 26).

Efforts to reduce illicit exploitation of wildlife in South Sudan are present as well, but they are not the primary focus of UN policies. Unlike MONUSCO, UNMISS did not implement any project tackling at-risk species. However, peacekeepers did indirectly benefit them by devoting attention to the preservation of biodiversity. In particular, they spent time tree-planting to fight climate change and also improve agricultural production. As Sarwah Qader¹¹ states, “we joined the planting of trees because we believed that environment is very important. As such, we need to work together to protect it” (Kele, 2021). Following this goal, UNMISS also relied on soil blocks to replace bricks that reduce environmental impacts on biodiversity. These alternatives are deemed sustainable as they are made of hydraulically compressed clay, silt and cement, they do not use timber-fired kilns and they require 30% less of water compared to traditional bricks (United Nations Environment Programme, 2012 a: 21). Economic and social goals are also pursued through the implementation of this option because UNMISS employed ex-combatants to construct these soil blocks.

Energy consumption was also switched to more sustainable alternatives in UNMISS. For instance, a wide range of solar-powered projects were founded. The Bangladeshi engineer who led the project, Major Zaman Iftakher Shovan, explained that:

¹¹ UN Volunteer and Gender Affairs Officer in UNMISS.

The system operates on solar energy and is ‘grid independent’ — meaning it can retain or generate its own power within the main electricity system — which is more reliable and cost-effective. (...) Simply put, a photovoltaic system converts renewable energy gained from the sun to power a green, clean and sustainable source of electricity on Earth. This photovoltaic system that we are installing has 26 panels which have the capacity to generate 25 kilowatts of power. This is huge and what’s more, we are leaving provisions for future contingents to be able to increase the project as they see fit. (Department of Operational Support, 2022)

Hence, this solution was life-changing for all of the locations where it was implemented. In Rajaf — a community near Juba — troops handed over an agro-solar plan that benefits potable water and fuels irrigation to cultivate okra, tomatoes, and eggplants (Kele and Andersson, 2016). Similarly, in Munuki,¹² UNMISS installed a solar-powered water system that provides “water to 8000 internally displaced people living in the area and 200 host community households” (UNMISS, 2017). UNMISS did likewise in Magwi, Torit — where this power was used to charge batteries — and many more locations in South Sudan (Kinzli, 2018; UNMISS News, 2015).

A remarkable effort took place in the capital itself, since these solar-powered plans systems were put in a hospital, making light available for night interventions as well. Andersson supports that “the solar-powered lamps at Juba Teaching Hospital are fully automated and thus highly energy-saving. The nifty devices switch on by themselves as darkness sets in, and then spend their days resting, soaking up the reliably robust South Sudanese sun for hours on end” (2018). Overall, these targeted infrastructure projects, also called Quick Impact Projects, are aimed to mitigate environmental grievances but in reality bring about multiple economic, social and political benefits. For these

¹² A community near Juba.

reasons, they can be deemed as best practices that peacekeepers are carrying out in the region. Indeed, they have the potential to be replicated in other operations and on a larger scale.

Other environmental plans in UNMISS relate to awareness programs — such as the ones Ilihum (Eastern Equatoria) (Yakudu, 2019) — or governmental partnerships. In particular, UNMISS authorities helped the government of South Sudan to identify the main environmental priorities and monitor the implementation of these plans, which also included a recovery fund allocated for resource-based conflicts (United Nations Environment Programme, 2012 a: 76). Furthermore, collaborations with national authorities led to the creation of a National Adaption Programme of Action (NAPA) for climate change, fostered by the Ministry of Environment, which listed five priorities in areas of concern — including reforestation and agroforestry sustainability of wetlands and promotion of climate-backed agriculture — with the goal of establishing strong early warning systems and strengthening institutions dealing with climate change (Okoed, 2017).

In regard to post-deployment activities, UNMISS forces established a process for potential handover of assets with a positive environmental impact upon closure, taking into consideration cultural and historical training, local fauna and flora protection measures, community outreach and regular cleaning campaigns. This reporting system will be essential when working again in the location of the operation or when facing similar problems in other working locations. Despite the presence of this handover dynamic, post-deployment efforts could be expanded much further.

This overview of UNMISS's history, mission characteristics, local environmental grievances and green plans implemented by peacekeepers has been essential to paint a picture of the current situation in the region. From this analysis, it is already evident that pre-deployment efforts and plans

safeguarding wildlife are present but weak. Furthermore, it is clear that pre-deployment and post-deployment activities can be enhanced radically. The next section will present and discuss the table of Appendix A compiled with the information gathered in chapter 4 and 5. The table shown in Appendix C will set the base for the discussion on the environmental plans implemented in MONUSCO and UNMISS, which will later serve to advance recommendations to improve them.

Chapter 6: Discussion

UNMISS and MONUSCO

This section will discuss the findings summarized in Appendix C and link them back to the theoretical framework to underline how the presence of UN green plans in peacekeeping operations enhances the successfulness of the mission and what are their weaknesses. Later, it will offer recommendations based on this analysis and it will outline the challenges to overcome in order to implement them.

As shown in Appendix C, both UNMISS and MONUSCO are among the biggest missions in current UN operations in terms of troops deployed and budget. Both of them are pretty recent and can be classified as second-generation peacekeeping missions, following the definition given by Kenkel, as they present “active involvement not only in ‘freezing’ conflicts but in assisting the transition to peace. (...) These operations are characterized by the addition of civilian tasks related to political transition from conflict, without an accompanying increase in permission to use military force” (2013: 128). Hence, their mandate includes the protection of civilians in both cases and also encompasses the support for the stabilization, the strengthening of public institutions, of the major governance and of security reforms (in the case of MONUSCO) and the delivery of humanitarian assistance, the monitoring of the peace process and the protection of human rights law (in the case of UNMISS). Being located in similar geographical contexts, both MONUSCO and UNMISS suffer from similar environmental problems, namely, water scarcity, waste accumulation, loss of biodiversity and unsustainable energy resources.

Relating back the findings of the previous chapters to the overarching question of this research — what are the environmental policies implemented

by UN peacekeeping in MONUSCO and in UNMISS, how do they relate with the academic conversation on the topic and how can they be improved? — it may be claimed that there is a wide range of environmental policies implemented by UN peacekeeping in the MONUSCO and in the UNMISS tackling intra-deployment efforts in the fields of water, waste, wildlife and energy. Despite an observable presence of UN environmental plans that address these specific areas, there are still some gaps in these projects. As highlighted in Appendix C, the regions in red lack plans and the regions in orange have plans but they are weak. For instance, they are not explicitly shared but only briefly named in the documents analyzed. Thus, they are not transparently communicated and reflect some fragilities in UN dynamics. Following this examination of projects implemented, pre-deployment efforts and post-deployment efforts appear to be the areas where sustainability is taken into account the least. For this reason, they will be the main focus of the preliminary recommendation part. In addition, attention will be devoted to wildlife plans in UNMISS, as they are not as strong as the ones taking place in MONUSCO, even if the problem of wildlife extinction exists in both locations.

Going Back to the Literature

The findings resulted from the previous chapters will be assessed against the arguments advanced by peacekeeping scholars, together with the ones supported by academics working in the areas of security and conflict studies. In general, it may be claimed that the strong presence of intra-deployment environmental projects observed in both MONUSCO and UNMISS is positive, following some of the arguments presented by academics. Even if counterarguments exist, the majority of the literary conversation around the topic of environmental security views the securitization of the environment as an essential step, since environmental

degradation represents a threat to national and international security which should be addressed with urgency. Thus, the inclusion of green intra-deployment efforts — such as the ones implemented in MONUSCO and UNMISS — constitutes a way to further the securitization of the environment and achieve national and international security.

In addition, the presence of environmental intra-deployment projects in peacekeeping serves to limit conflict and violence, according to the main claim going around academic discussions of conflict scholars, because a decrease in natural resources is connected to a rise in conflict. Limiting violence and reducing conflict are also criteria outlined by peacekeeping studies — such as the one presented by Pushkina (2006) — to assess the successfulness of a mission. The author claims that limiting the spread of violence and conflict, together with fulfilling the mandate and reducing human suffering, are necessary to evaluate the work of a peacekeeping mission. Because Pushkina's definition of successfulness partially matches the definition of environmental peace-building — as the inclusion of environmental plans in peacekeeping operations fosters a decrease in conflict and violence — it may be already advanced that MONUSCO and UNMISS green actions contribute to the success of the mission.

Overall, going back to the theoretical background is essential to highlight that — according to the main lines of thought existing around peacekeeping, conflict and security studies — the UN carries out a wide range of green intra-deployment efforts. Therefore, it furthers environmental peace-building in UNMISS and MONUSCO, which paves the road for the securitization of the environment, enables the mitigation of violence and conflict and contributes to the mission's successfulness. This chapter adds to this literature conversation because it expands the aforementioned connection between the findings and the literature background with the aim of

establishing that I. MONUSCO and UNMISS conduct environmental peace-building II. Environmental peace-building fits the criteria for defining a mission successful III. MONUSCO and UNMISS green plans contribute to the success of the mission. Ultimately, relating the presence of UN green plans to the main academic discussions dealing with environmental peace-building is relevant to answer the overarching research question, underline the relevance of this research and highlight the present gaps in peacekeeping operations and in the academia.

I. MONUSCO and UNMISS Conduct Environmental Peace-building

The main piece of literature used to categorize the actions carried out in MONUSCO and UNMISS as environmental peace-building is the work by Dresse *et al.*, which broadly defines the concept as missions which are taking into account the biophysical environment's inherent characteristics when conducting operations (2019). While the presence of UN green plans in the two case studies broadly suggests that the missions are indeed in line with environmental peace-building, this section will strengthen this claim by emphasizing how UNMISS and MONUSCO match the specific conditions advanced in Dresse *et al.*'s study. This work has been picked among the multiple ones theorizing environmental peace-building because of its academic and temporal relevance, which is in line with MONUSCO and UNMISS's recent start.

The first set of criteria underlining the presence of environmental peace-building in a mission, according to Dresse *et al.*, are the “overarching features of the biophysical environment and natural resources that act as cooperative triggers — such as actual or perceived resource scarcity or abundance, environmental interdependence across political borders, and the lack of sustainability” (2019: 105). In other words, the existence of issues

linked to the environment is necessary to define environmental peace-building itself. From the historical and environmental overview of MONUSCO and UNMISS, such components are definitely present. In particular, multiple works highlight the threats that weak sustainable practices and resource scarcity pose in the two locations (Asiedu, 2020; Brown, 2021). In South Sudan specifically, environmental interdependence exists in the areas of water resources, since the Nile River basin is shared with other ten countries.

The second set of criteria incorporates “the socio-political environment in which conflict parties evolve, and consists of their mutual interests, shared values and level of power symmetry” (Dresse *et al.*, 2019: 107). Thus, environmental peace-building depends on certain degrees of power, mutual gains, shared ideologies and involvement of external actors. In the case of both MONUSCO and UNMISS, shared interests and values are present and include political and financial gains which also benefit environmental protection. Moreover, external actors, such as the UN itself, play a seminal role in environmental peace-building in both locations. This is because, as highlighted in the findings, the UN and local NGOs have been implementing environmental projects in both operations. While these characteristics facilitate environmental peace-building in MONUSCO and UNMISS, power asymmetries that exist in the two missions are the only component that may hinder their functioning. Overall, examining the biophysical and socio-political set of criteria presented by Dresse *et al.* helps to define UNMISS and MONUSCO as missions operating environmental peace-building and is useful to underline how their components may affect their outcomes.

II. Environmental Peace-building Fits the Criteria for Defining a Mission Successful

While there is room to argue that MONUSCO and UNMISS carry out environmental peace-building, the base to claim that environmental peace-

building itself contributes to the success of the mission still needs to be addressed. Successfulness of a peacekeeping mission is defined by Pushkina in *A recipe for success? Ingredients of a successful peacekeeping mission* (2006). Even if the examination presented by Pushkina does not directly relate to the environmental aspect of peacekeeping operations, it is the one that more easily can be applied to MONUSCO and UNMISS. Mainly, because — unlike other research evaluating peacekeeping missions — it is quite recent and relatable to second-generation peacekeeping missions, such as the two case studies of this dissertation. Hence, Pushkina provides a set of criteria and hypothesis that can be examined in light of missions that assist the transition to peace and the strengthening of institutions — like MONUSCO and UNMISS — rather than the cessation of conflict. The absence of literature which directly assesses environmental efforts in peacekeeping missions also sheds light on a gap present in the academia. This part of the dissertation will fill this gap by linking the criteria evaluating peacekeeping missions in general — listed by Pushkina — to the direct and indirect results of environmental peace-building — outlined by various scholars — and will look at this connection in light of MONUSCO and UNMISS.

The first implicit criteria, according to Pushkina, is the fulfillment of the mandate, which, in the case of MONUSCO, includes the protection of civilians and the support for the stabilization, the strengthening of public institutions and the major governance and security reforms, while, in the case of UNMISS, encompasses the protection of civilians, the creation of conditions conducive to the delivery of humanitarian assistance, the support of the implementation of the peace process and related agreements and the monitoring, investigating, and reporting on violations of humanitarian and human rights law. While this condition constitutes the obvious outcome of a successful mission, Pushkina also gives importance to limiting violent conflict

in the host state, reducing human suffering, preventing the spread of the conflict beyond the object state's borders and promoting conflict resolution when evaluating a peacekeeping operation (2006: 134). Given that both MONUSCO and UNMISS are still ongoing, it is impossible to assess the final missions' results. However, underlining how the current plans are in line with the conditions set to define their successfulness may hint whether the two case studies are working in the right direction. Emphasizing how the outcomes of environmental peace-building relate to the criteria presented by Pushkina will eventually confirm that the presence of green plans in MONUSCO and UNMISS represents a positive steps towards successful mission results.

Multiple scholars outline the consequences of environmental peace-building. These may be divided in direct and indirect effects. The three main direct effects of environmental cooperation are the protection of natural resources — which limits resource scarcity and environmental degradation and indirectly enhances contact between parties — an increased trust — which indirectly leads to a rise in shared identities — and a reduction of unequal resource distribution — which promotes environmental justice and indirectly sets the base for sustainable development (Dresse *et al.*, 2019: 106). All the direct and indirect consequences of environmental peace-building are inevitably linked to the criteria outlined by Pushkina (dynamics summarized in Appendices D and E). As illustrated in Appendix D, the mandate of both missions benefits from the outcomes of environmental peace-building because the protection of natural resources enhances the wellbeing of civilians who depend on them, limits the security threats — which strengthens public institutions — and facilitates the creation of conducive to the delivery of humanitarian assistance because it mitigates conflict related to environmental problems and makes available a greater number of natural resources that can be used to perform humanitarian aid. Furthermore, an increase in trust

between parties — which strengthens shared identities — smooths the workings of public institutions and the continuation of the peace process as it reduces the time to reach agreements.

In addition, it facilitates the delivery of humanitarian assistance, since parties are more motivated to send it or receive it, and it helps the monitoring, investigating and reporting on violations of humanitarian and human rights law because parties are more lenient to disclose information. Lastly, the mandates of MONUSCO and UNMISS gain from environmental peace-building because a decrease of unequal resource distribution sets a strong base for sustainable development. As scholars support, an increase in environmental justice may further citizens' physical and psychological wellbeing and decrease security threats, since a perceived equality and improved conditions of the population demotivates them to rebel, therefore, it empowers public institutions (Bannon and Collier, 2003; Bartusevičius, 2014; Weintraub, 1994). Overall, as summarized in Appendix D, both MONUSCO and UNMISS's mandates are positively helped by the indirect and direct consequences of environmental peace-building.

While Pushkina identifies the fulfillment of the mission mandate as the basic criteria for evaluation, she also supports other four criteria, which — likewise the mandate — are affected by the direct and indirect consequences of green cooperation in DPO (as illustrated in Appendix E). The first criteria is limiting violent conflict in the host state, which can be evaluated “by analysing whether a mission succeeded in curbing large-scale violence, sustaining ceasefire agreements, reducing the number of conflict related casualties and supervising demobilization, and by assessing the progress of disarmament” (Pushkina, 2006: 134). All three primary outcomes of environmental peace-building, which are identified in Appendix E, contribute to limiting violence, since, according to some literature, the protection of

natural resources reduces the number of conflict and the curbing large-scale violence. Furthermore, an increase in trust and shared identities also lowers violent conflict, since it helps to sustain ceasefire agreements and facilitates the process of disarmament. In addition, a decrease in unequal resource distribution also mitigates the number of conflict and violent acts (Bannon and Collier, 2003; Bartusevičius, 2014).

Much like the first criteria, the second criteria — which is the reduction of human suffering “operationalized by estimating the extent of any reduction in human rights abuses and the mission’s success in resettling refugees” (Pushkina, 2006: 134) — also benefits from environmental peace-building. This is because an increase in trust, shared identities, resource availability and sustainable development limits human rights abuses. The same components also possibly prevent the spread of conflict beyond the object state’s borders (criterion 3) because these factors may indirectly decrease refugee flows caused by resource competition, even if this relationship between these two factors is to be examined more carefully in its complexity. Lastly, the fourth criterion, promoting conflict resolution, which refers to the inhibition of future violence, is positively affected by environmental peace-building because less resource scarcity, increased trust and a rise in environmental justice all prevent the recurrence of future hostilities. In conclusion, Pushkina’s criteria are all linked to the main results of green cooperation in peacekeeping missions, a dynamic which will be further examined in the next section.

III. MONUSCO and UNMISS Green Plans Contribute to the Success of the Mission

From the aforementioned research, it may be advanced that the presence of intra-deployment plans in UNMISS and MONUSCO confirms the existence of environmental peace-building dynamics in the two locations.

Ultimately, this process is in line with Pushkina's definition of mission success because it positively contributes to furthering the missions' mandates and the additional four criteria supported by the author (a connection which is illustrated in Appendix E and Appendix D). Relating UN green plans to the literature background is essential to answer the research question, contribute to the academic discussion, shed light on the current gaps and provide a new point of view on the matter which can be practically implemented on the field. Even if both MONUSCO and UNMISS are ongoing, this analysis confirms that an implementation of sustainable ways to conduct the operations may bring a series of positive outcomes. While there is a number of arguments supporting this claim, opposing views still exist. The next section will give an overview of the main counterarguments that go against the claims advanced in this section. Acknowledging the existence of weaknesses in this analysis is essential to address them and paint a complete picture of the situation.

Opposing Views

The positive results of environmental peace-building on missions' outcomes may be confuted by multiple arguments. For instance, the claims advanced by the critics of the securitization of the environment and the link between conflict and natural resources — outlined in the literature review — could invalidate the idea that green plans contribute to the success of the operations. In particular, critics of environmental security support that this dynamic fails to address the roots of the problems, justifies military interventions and acts as a multiplier of inequalities between the Global North and the Global South. Furthermore, those who underline the complexity of the connection between conflict and natural resources — as affected by other factors that can interfere with it — view it as based on unproven assumptions and relying on insufficient data. Other than questioning the climatization of security and the general link between conflict and environmental cooperation,

counterarguments which specifically target environmental peace-building also exist. Indeed, scholars highlighted that UN green plans could do more harm than good. For instance, because they have financial and political risks, they may not align with local priorities and they may fail to match cultural identities that are linked to the immaterial value of natural resources (Green, 2015; Wessels, 2016).

While these arguments are valid in part, the majority of scholars studying in the field follows the line of discussion supported in this dissertation. Hence, there is a more prominent presence of academic literature confirming that a decrease in resource scarcity brings about a decrease in conflict and violence.¹³ Furthermore, multiple are the arguments presented in favor of environmental security, which acknowledge the counterarguments, but still advocate in favor of the climatization of security and environmental peace-building, as having more strengths rather than weaknesses.¹⁴ Therefore, since there is a wide scholarly consensus, the hypothesis that the existing MONUSCO and UNMISS contribute to the success of the mission cannot be rejected. In addition, while it is true that environmental peace-building may bring about a number of unexpected negative implications, it is also reasonable to think that these risks can be taken into account in advance, calculated during policy planning and mentioned in pre-deployment training. Hence, unforeseen consequences will always be present, what will avoid them

¹³ Examples of these scholars are the followings: Burke, Hsiang and Miguel, 2015; Nel and Righarts, 2008; Nordås and Gleditsch, 2015; Theisen, Gleditsch and Buhaug, 2013.

¹⁴ Examples of these scholars are the followings: Bakaki and Bohmelt, 2021; Borla, Liljedahl and Waleij, 2007; Conca and Dabelko, 2002; Dihel, 2018; Fortna and Howard, 2008; Hampson, Batay-an and Bacudo, 2007; Ide and Detges, 2018; Ide, 2019; Ide and Tubi, 2020; Ide, 2020; Ide *et al.*, 2021; International Peace Institute, 2018; Maertens and Shoshan, 2018; Maertens, 2019; Stockdale *et al.*, 2018.

will not be eliminating green plans, but rather limiting uncertainties through attentive mission preparation.

Even if the outcomes of the mission in relation to these aspects have not been actually taken into consideration, the analysis carried out in this work illuminates the multiple ways in which environmental cooperation potentially furthers equal distribution of natural resources, rather than inequality, and contributes to the fulfillment of missions mandates, together with promoting conflict resolution, limiting violent conflict and reducing civilian suffering (Appendices D and E). Thus, it prepares the ground for future research in this field. While this dissertation still acknowledges that episodes of inequality reproduction and justification of military intervention (due to environmental security processes) happened in the past, it still defends the implementation of environmental peace-building in the case of MONUSCO and UNMISS, since the risks for these counterproductive consequences in these two contexts are much lower than the potential benefits. Even if it is impossible to evaluate their outcomes, since these case studies are still ongoing, linking the results of document analysis with the academic background hint that I. MONUSCO and UNMISS conduct environmental peace-building II. Environmental peace-building fits the criteria for defining a mission successful III. MONUSCO and UNMISS green plans contribute to the success of the mission. Therefore, the arguments made by critics of environmental security and peace-building ultimately present points that are reasonable but unlikely to take place in the cases examined.

Chapter 7: Recommendations

The findings outlined in Appendix C are useful to advance connections between the presence of UN green plans and the literature background. However, they also shed light on the current gaps in peacekeeping operations. This is because the areas in red (pre-deployment and post-deployment plans) and in orange (UNMISS's wildlife plans and pre-deployment training) are weak or completely lack any form of measure addressing environmental concerns. For this reason, this section will present some recommendations to improve these areas but will also offer general advice to enhance the environmental peacekeeping process as a whole.

Pre-deployment

Even if pre-deployment efforts are present in both UNMISS and MONUSCO, they are either quite weak or not efficiently communicated. Thus, they are usually mentioned but rarely explained in their totality. The current state of pre-deployment preparation encompasses training courses, which are, however, not mandatory and not mainstreamed within the UN peacekeeping system. Hence, they are present but optional and available only in some training locations. A first step towards better pre-mission preparation could indeed be the implementation of mandatory environmental training which raises troops' awareness and instructs them on how to embrace a sustainable behavior during operations (Maertens and Shoshan, 2018; United Nations Environment Programme, 2012 a).

While basic environmental training should be standardized and made accessible for all peacekeepers, a class specifically tailored to the mission of reference should also be added to take into account the different cultural identities and local grievances. The formation of the courses themselves could be strengthened through increased coordination with relevant bodies — such

as UNEP or UNITAR — and experts. In particular, the creation of an experts panel could be established to review documents, collect good practices, identify sources of degradation, work with relevant local entities and address financial and legal issues. Furthermore, greater attention should be devoted to limiting transportation, as it accounts for the majority of peacekeeping emissions, and the inclusion of environmental concerns in the mission mandate. Such strong base would constitute an adequate start for being deployed in a location which suffers of environmental problems and would make the experts panel a relevant point of contact that can be consulted in any circumstance.

Post-deployment

Even more than pre-deployment efforts, post-deployment systems taking into account the environmental aspect of peacekeeping missions are almost completely absent. Strengthening post mission procedures is essential not only to end the operation without leaving any trace, but mostly to end it leaving even better conditions than before. Even if the goals of the mandate are met, peacekeepers may still do more harm than good by contributing to environmental degradation while achieving their objectives. Hence, failing to consider local grievances may hinder the credibility of the organization and the effectiveness of the mission in the long term. For this reason, even if MONUSCO and UNMISS are still ongoing, a careful planning of sustainable camp-closure activities should be included in the mission duties.

Other than addressing camp-closure, post-deployment efforts should also include a system that facilitates sustainable political and economic development, leaving autonomous institutions and structures that can last in the long-term without UN's help. These projects may encompass guidance to national authorities, awareness programs, a process for collection of lessons learned, auto metered metering and monitoring tools and effective ways of

reintegrating former combatants that can be carried out autonomously by the local entities. Overall, the roads to improve post-deployment initiatives in MONUSCO and UNMISS, and in the UN in general, are many. Even if not necessary in the short-term — since missions are still ongoing — they still constitute a vital component that should be inserted in the future tasks of the operations, since they plan for the preservation of UN's legitimacy and credibility, other than helping the environment.

UNMISS's Wildlife Plans

Special attention should be devoted to the weak presence of wildlife plans in UNMISS. Hence, while MONUSCO's intra-deployment projects address in some ways all the main types of environmental issues irritating the territory, UNMISS lacks adequate response to wildlife loss. Even if wildlife preservation is essential in both of the case studies, since they host a large number of at-risk species that cannot be found anywhere in the world, UNMISS does not present enough programs that tackle this problem. Initiatives in the field could be expanded by cooperating with local NGOs or other relevant actors — such as INTERPOL — and copying strategies from other field missions. For instance, replicating awareness programs and projects aimed at reducing smuggling, improving cohabitation and preservation inside of wildlife reserves. Likewise other environmental efforts, these plans should be tailored to the location of implementation and measured to emphasize lessons learned and challenges. Inserting this type of system within UNMISS's intra-deployment activities will surely benefit the mission's goals and protect UN's credibility on the field.

Other Intra-deployment Plans

Both UNMISS and MONUSCO present — to different extents — initiatives which intend to mitigate the problems of waste mismanagement, water scarcity, threatened biodiversity and wildlife and unsustainable energy.

While the existence of even minor projects addressing environmental grievances in these cases represents a huge difference from UN peacekeeping missions taking place only ten years ago, since before they were almost non-existent, these efforts can still be expanded in the future to facilitate even more environmental peace-building. Even if budgeting, time and other factors may obstacle this process (as it will be outlined in the next chapter), underlining possible ways of improvement is still relevant for the aims of this dissertation. The main expansions related to environmental plans are all linked to technological advancements that implement more sustainable ways of water, waste, energy and wildlife management. These may encompass solar panels, water efficient shower-heads, water regulators, metering tools, automatic switch-off systems, water treatment plants. Despite the high short-term costs, these options are all viable ways which proven to have huge long-term economic, political and social benefits. Other less expensive practices also include awareness campaigns, which have proven to be effective in other locations and could be easily replicated (United Nations Environment Programme, 2012 a: 27).

General Recommendations

While it was necessary to outline viable solutions to address the specific gaps in MONUSCO and UNMISS's pre, intra and post-deployment efforts, it is equally important to advance recommendations that can be generally applied on all levels of the operations. The main pillar that could help the two case studies and the UN DPO as a whole is the systematization of any environmental best practices learned from field missions (with attention to tailoring details to each mission location, if needed). In particular, it would be relevant to mainstream training and camp-closure activities, together with certain intra-deployment initiatives to achieve a holistic monitoring system that enhances UN credibility and effectiveness. This process should also

include standardized material accessible at all times and methods of data collection to exchange information for future operations. In addition, special attention should be given to raising awareness, stimulating discussion about the topic and ensuring that peacekeepers ‘walk the talk’ by committing to sustainable behavior. Particularly, the UN could promote events to gather information about personal experiences where personnel can be vocal about the weaknesses and the strengths of the environmental actions that are implemented in the field. Overall, this clear structure would demonstrate a consistent commitment of the peacekeepers, which would increase trust between UN and local actors. Thus, it would facilitate the workings of the organization, increase local wellbeing and improve the international image of the institution.

Chapter 8: Challenges

The recommendations outlined in the previous chapter would be all reasonable and adequate to serve the purposes of UNMISS and MONUSCO, if environmental concerns were the only grievances present in these countries. However, taking into consideration the current political, social, economic state of the operations, these suggestions are difficult to implement all at the same time, due to several constraints. Realistically, because of the issues which will be outlined in this chapter, it is difficult to implement even the primary objectives of the operations. Hence, it is hard to think that MONUSCO and UNMISS can put environmental problems at the forefront of their priorities if civilians still lack basic necessities to survive. Ultimately, environmental protection in these locations is a luxury which could be prioritized, but acknowledging first other primary local needs. This chapter will give an overview of the existing challenges that peacekeepers have to overcome to achieve sustainability in the field with the goal of painting a complete picture of the situation and recognizing the hardships that UN operations face when attempting to include environmental plans in peacekeeping dynamics.

UN Resources

The main obstacles to achieving sustainability in peacekeeping missions are all linked to a weakness in UN resources — namely — lack of budget, staff, leadership, awareness, timing or communication. Budgeting issues exist because countries are more hesitant to invest in environmental project, since the gains resulting from sustainable initiatives are hard to estimate and, often, entities prefer to devote their resources to short-term plans which produce visible results. For similar reasons, staff is also often under-equipped or under-qualified. Thus, a large number of troops still needs to be trained on the matter and lack expertise to install the sustainable systems

which have been proposed in the recommendations. Given that, realistically, peacekeepers sometimes do not receive even basic training, due to a lack of time and resources, including a mandatory environmental training in their preparation would also be hard to implement immediately. Because of the recent nature of environmental peace-building, UN DPO staff also lacks officers who can take the lead inside of operations and training. Overall, the weaknesses inside of UN resources are connected to a lack of budget, time, but also awareness, which is limited because of weak communication, a challenge which obstacles exchange of information and extends the timing of deployment.

Mandate

Another constraint which may obstacle environmental peace-building is the unclear position on whether to include or exclude environmental concerns from the mandate. On one hand, the lack of an explicit mention of these issues in the mission mandate may obstacle the prioritization of environmental concerns and limit the conduction of activities with the necessary confidence and resources. On the other hand, the inclusion of these matters in the mission mandate may not be the best way to achieve environmental protection. Indeed, the most suitable ways to address environmental grievances may be found outside of peacekeeping activities and including these plans in the scope of these mission actually may constitute a threat. For instance, because adding environmental matters to the mission mandate does not align with peacekeeping efforts, since they are primarily military, and may take away time and resources from more important goals. Indeed, there is a risk of mission overloading, which means adding too many duties in an already complex situations, a dynamic that may deteriorate its conditions by overwhelming the team and distracting it from the core goal of peace and security (Brown, 2021: 19). Moreover, there is also a possibility for

mission ‘creep,’ the condition where activities change over time and are not anymore aligned with the original goals of the operation (Brown, 2021: 19). Ultimately, both the inclusion and exclusion of environmental concerns in the mission mandate may bring about a series of threats. The unclear view on whether one is better than the other represents a challenge for UN operations because it weakens collective action and leaves decision-makers with a tough choice to make.

Cooperation

Together with the lack in UN resources and the absence of academic consensus, weak cooperation also constitutes a challenge to overcome to further environmental plans. Hence, it is essential to build trust with local actors to ensure rapid and efficient coordination, to exchange information, to avoid duplication of tasks and to reduce the burden on the local authorities. However, it is not always easy to do so. In the past, persuading different actors has been difficult because of political, economic and technical matters (Brown, 2021: 21). Thus, different political interests and capacities often hindered the ability to support each other. These challenges have been observed both inside and outside of the UN, since the existence of too many entities to collaborate with limits efficiency due to decreased rapidity and capacity to reach agreements. Therefore, special attention should be devoted to strategic coordination of activities to mitigate the risks of inefficient cooperation between the UN agencies themselves and local actors.

Respect for Diversity

Protecting the cultural differences of local communities represents the last challenge that has to be taken into consideration when implementing environmental initiatives. Hence, different mission locations have different needs but also different cultural components, which may represent a threat to

UN credibility and legitimacy if not respected. As Mr. Cardi¹⁵ claims, “a challenge to implementing new environmental initiatives is finding the balance between respecting a host country’s sovereignty and achieving the mandated goals of a mission” (International Peace Institute, 2018). In particular, mainstreaming environmental practices may fail to account for cultural diversity and bring about a range of negative externalities, such as discontent and fragile trust between the UN and local communities. For these reasons and more, standardized environmental procedures in peacekeeping operations should have a holistic approach which starts from a common base but is later assessed according to different cultural identities.

In conclusion, while a large number of recommendations may be proposed to improve the current situation of environmental plans in UN peacekeeping missions — and in MONUSCO and UNMISS in particular — realistically, there is also a significant number of challenges that must be taken into account when doing so. These involve the lack of UN resources — ranging from time to budget and staff — the difficulty to cooperate with multiple actors and to take into account local cultural identities. Overcoming these matters will eventually protect the credibility and effectiveness of the operation. Even if the lack of UN resources is the hardest points to work on, cooperation and respect for diversity can be more easily achievable and already could contribute to strengthening trust. While it is unreasonable to think that environmental concerns can be immediately included in all the mission components, it is still valid to claim that small steps can be taken towards more sustainable ways and that some plans are better than no plans. After all, the presence of MONUSCO and UNMISS indeed contributes to advancing the successfulness of the mission, following the line of thought explained in the discussion chapter.

¹⁵ Permanent Representative of Italy to the UN.

Chapter 9: Conclusion

Peacekeeping operations account for more than half of UN emissions and, in general, constitute one of the largest global polluters. Because of the significant impact that these activities currently bring about, improving the sustainability of these missions could potentially have a large impact on environmental conditions worldwide. Other than decreasing climatological concerns, addressing environmental problems present in the mission locations and limiting the emissions of the UN troops itself also enhances UN credibility and the successfulness of the operations. Mainly, because peacekeeping missions are taking place in fragile contexts — where environmental problems are already on the rise — tackling green matters mitigates a large number of interconnected economic, political and social grievances that would be, otherwise, fueled by the UN itself. Hence, environmental peace-building reduces the risks for the missions to be more harmful than helpful in the locations of their activities. In particular, an efficient environmental management has a large potential to facilitate the achievement of the mission mandate because local problems are often linked to lack of natural resources.

This analysis of the environmental aspect of MONUSCO and UNMISS builds on these arguments and outlines the current green plans implemented in these two peacekeeping missions, advances suggestions on how to strengthen them and highlights their relevance, in line with multiple academic claims. While Chapter 2 offers the theoretical background, terminology and research plan, Chapter 3 sets the timeline of UN green efforts that is illustrated in Appendix B. These environmental initiatives are explored more in depth in Chapter 4 and 5, which analyze, respectively, the history and the existing green projects of MONUSCO and UNMISS. Appendix C

summarizes the findings of these two chapters and highlights the gaps in green plans. The results coming from this table set the base for Chapter 6, where they are assessed against academic arguments and their relative counterarguments, a discussion that sheds light on current academic weaknesses. These findings also prepare the ground for the recommendations and challenges outlined in Chapter 7 and 8, respectively.

Overall, this exploration of the environmental aspect of peacekeeping missions in the cases of MONUSCO and UNMISS sheds light on broader gaps in the workings of UN peace operations and in the weaknesses of the academic literature dealing with the topic. Hence, in both case studies, pre and post-deployment green efforts could be improved, as illustrated in the table resulted from the analysis of UN documents dealing with environmental peacekeeping (Appendix C). Furthermore, a framework for evaluation of environmental peace-building initiatives is missing and scholars currently fail to address this lack. This study attempts to fill these gaps by offering recommendations, by discussing the challenges faced when trying to tackle environmental issues during peacekeeping missions and by expanding the academic conversation dealing with peacekeeping studies, environmental security theories, environmental peace-building theories and conflict studies. In particular, this dissertation contributes to the literature conversation because it highlights the connections between some prominent authors in the fields. Indeed, Appendix D and Appendix E show how the claims made by Dresse *et al.* (2019) and Pushkina (2006) are linked and confirm that both MONUSCO and UNMISS present environmental plans that qualify them as promoters of environmental peace-building, a dynamic that contributes to the successfulness of the missions.

The inadequacy of the theory and the gaps in certain areas of green plans reflect the global inability to address environmental concerns. Thus,

peacekeeping operations are just one example of activity which should be shaped to follow a more sustainable management, since environmental issues affect and are affected by activities taking place on every level of society. While it is clear that an enhanced green transition worldwide is needed, this goal cannot be qualified as a priority everywhere. Hence, sustainability is often a luxury for certain parts of the world, which are still struggling to have basic sustenance for survival. Even if long-term investments to enhance environmental performances could bring a wide range of social, political and economical benefits, they are often too costly in the short-term. For this reason, this dissertation advances recommendations based on the analysis of MONUSCO and UNMISS green plans, with the awareness that they should be tailored based on local capacities and impending needs. Despite the challenges that environmental peace-building presents during its implementation and especially because the countries where the missions are taking place struggle to achieve sustainability, the UN should lead the way in assisting the regions of the world where environmental problems are the most present and take the responsibility for its own impact. A positive step towards these goals is visible with the increase in number and significance of UN environmental efforts taking place in the last years, ultimately aimed at maintaining the credibility of the organization, at enhancing the success of peacekeeping missions and at facilitating the creation of a greener environment.

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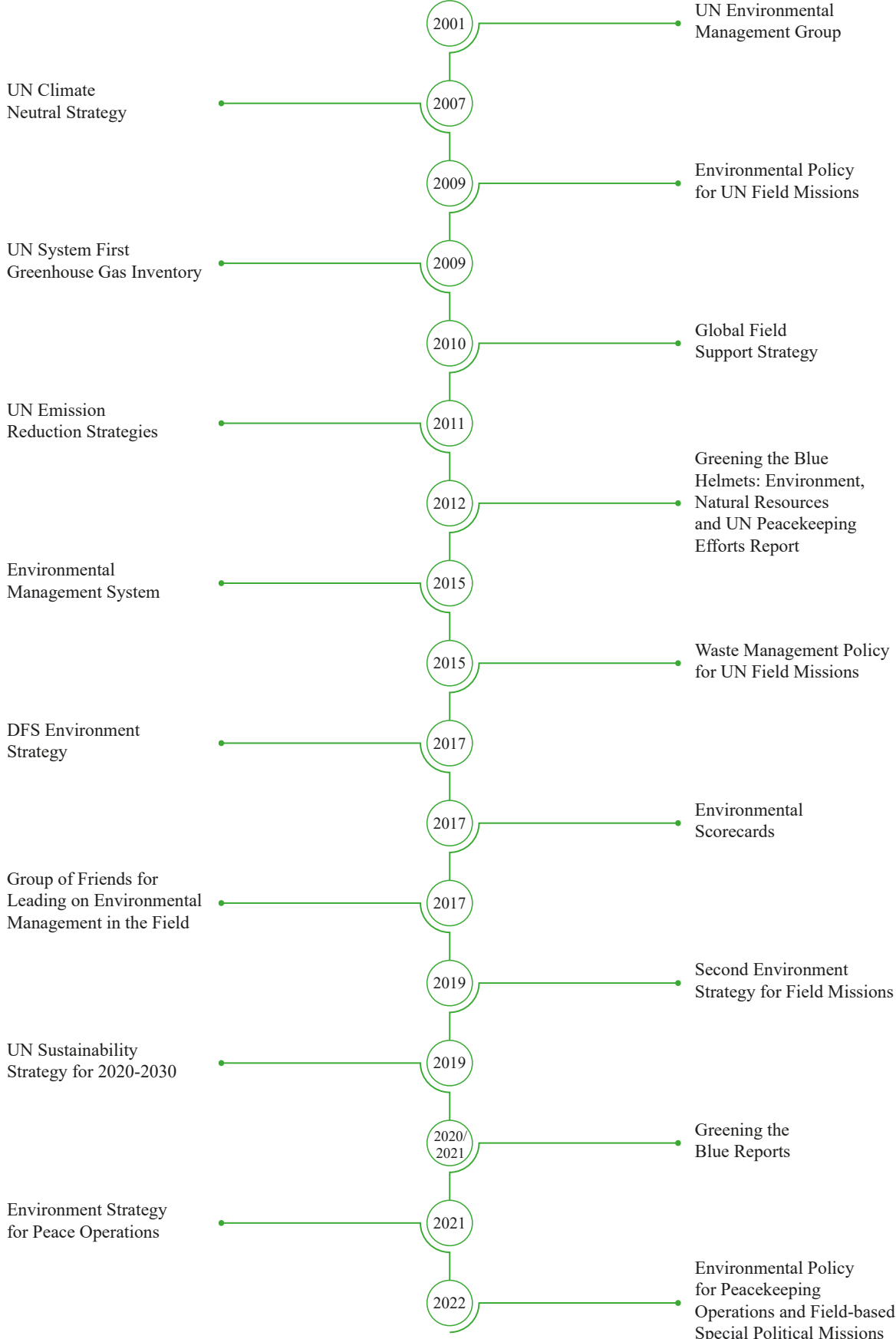
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Appendices

Appendix A - Framework for Document Analysis

		MONUSCO	UNMISS	Others
Characteristics	Budget			
	Years			
	Mandate			
	Main environmental problems			
	Others			
Pre-deployment	Training			
	Others			
Intra-deployment	Water			
	Energy			
	Solid waste			
	Wildlife			
	Others			
Post-deployment	Camp closure			
	Others			

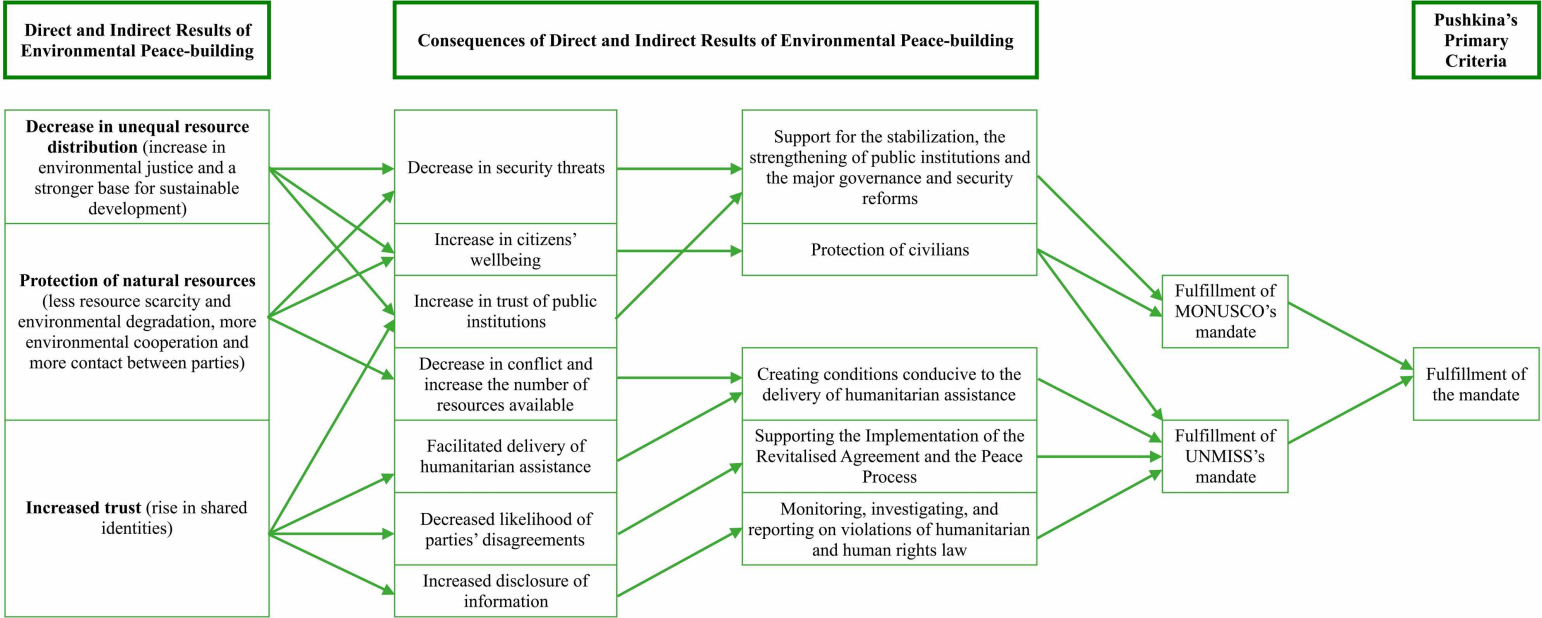
Appendix B - Outline of Environmental Efforts in Peacekeeping Missions



Appendix C - Framework for Document Analysis (filled out)

	MONUSCO		UNMISS
Characteristics	Budget	1,123,346,000 dollars	1,201,887,500 dollars
	Years	2010 - Present	2011 - Present
	Mandate	<ul style="list-style-type: none"> Protection of civilians Support for the stabilization, the strengthening of public institutions and the major governance and security reforms 	<ul style="list-style-type: none"> Protection of civilians Creating conditions conducive to the delivery of humanitarian assistance Supporting the Implementation of the Revitalised Agreement and the Peace Process Monitoring, investigating, and reporting on violations of humanitarian and human rights law
	Main environmental problems	Waste mismanagement, water scarcity, threatened biodiversity and wildlife, unsustainable energy	Waste mismanagement, water scarcity, threatened biodiversity and wildlife, unsustainable energy
Pre-deployment	Training	DFS/UNEP/FOI joint training on environmental and natural resource management	Present but weak
	Others	Absent	Absent
Intra-deployment	Water	Water treatment plants and regular monitoring, testing bio-latrines	Environment Risk Assessment app, flood, water and sanitation facilities, wastewater treatments plants, token operated showers with low-flow shower-heads, rainwater collection tanks, waterless urinals and other low technology options for water use reduction
	Energy	Photovoltaic-diesel hybrid power systems, solar thermal panels and minimization of energy coming from firewood	Multiple solar powered projects
	Solid waste	Waste composting project, collaboration with EcoPlastic and waste management plans (with special attention on the treatment of hazardous waste chemical materials)	Plastic ban (bags, water and soda bottles), plastic recycling initiatives, waste collection systems, preliminary environmental assessment of the dump sites, initiatives to improve the health and safety of waste pickers, awareness-raising campaigns
	Wildlife	Law enforcement with INTERPOL, plans to reduce gorilla smuggling, improve co-habitation between people and hippopotamus and preservation of the okapi wildlife reserve	Present but weak
	Others	Biodiversity protection plans, awareness programs, governmental partnerships	Biodiversity protection plans (tree-planting, soil blocks), awareness programs, governmental partnerships
Post-deployment	Camp closure	Absent	Present but weak
	Others	Absent	Absent

Appendix D - The Link between the Consequences of Environmental Peace-building and the Mandates of the Missions



Appendix E - The Link between the Consequences of Environmental Peace-building and Pushkina’s Four Criteria

