

## ENVIRONMENTAL IMPACT OF SOUTH SUDANESE REFUGEES ON HOST COMMUNITIES IN ITANG SPECIAL DISTRICT, GAMBELLA REGIONAL STATE, ETHIOPIA

**DOBUOL YANG**

bulchor1994@gmail.com

Department of Civics and Ethical Studies, Gambella University, Ethiopia

### Abstract

---

In countries with large refugee settlements, such as Ethiopia, the effect of refugee settlement on host communities is certain. Thus, the Gambella region hosted 46,537 refugees in the Kule camp from 2016 to 2020. This has caused tremendous pressure on the host community by greatly impacting socioeconomic, environmental and political life. This study examines the environmental impacts of South Sudanese refugees following their arrival in the region, specifically focusing on the opening of the Kule refugee camp in Itang Special District, encompassing three kebeles. Employing a qualitative case study approach, the research utilized purposive sampling techniques. Data were collected from 20 key informants, and five group discussions with six participants were conducted. The study aimed to provide an analytical and interpretive qualitative analysis supplemented by relevant documents. It investigated the host communities' environmental concerns and perceptions. This approach allows for understanding the host communities' ongoing changes and the refugee settlement's initial impact. It highlights the need for the host country to clearly define its position on securing the local situation, allowing refugees to integrate with residents for mutual benefit. The findings indicate that refugees have brought with them challenges such as mismanaged waste, damage to public schools, displacement of host communities, prostitution, deforestation, and a significant loss of livestock, all of which have had severe adverse effects on the local economy.

**Keywords:** Perception, Host Communities, Environmental Impact, Refugees, South Sudanese, Itang

---

### 1. Introduction

Migration involves individuals moving either within their own country or to another country for various reasons (Yonas, 2018: 1-2). In recent years, the world has been experiencing an unprecedented refugee crisis. People are increasingly relocating to foreign nations to escape ongoing conflicts, civil wars, poverty, or to pursue better living conditions." Many countries are blocking their borders. others practiced an "open-door policy" to migrants. The government of Ethiopia maintains an 'open-door' stance toward refugees, fulfilling its commitments on the international stage. (UNHCR, 2017: 23). However, those countries are willing to welcome the immigrants are meddled by the crisis. As a result, issues of conflict, intrusion, racism and ethnicity are raised between the migrants and host communities (Yonas, 2018: 1-2). There were approximately 214 million international migrants in 2010 (UNHCR, 2010: 270). This same literature generally points out that the substantial increase of the labor forces at global level has reached fourfold

for the last two decades.

The southern Sudanese insurgency originated with the 1955 Torit Mutiny involving the Equatoria Corps. This Torit event ignited a nationalist rebellion across Southern Sudan, marking the onset of the country's longest civil war (Raggassa, 2010: 4). Following independence, actions taken by Khartoum's political leaders against the southern region heightened resentment and distrust, ultimately leading to a secessionist armed uprising led by the guerrilla group Anya Nya. As the rebellion expanded in the South, government forces bombed and burned villages, forcing thousands of Southerners to flee the country and seek refuge in neighbouring nations. The continual influx of refugees into Gambella, along with factional fighting and the proliferation of arms in the area, intensified the longstanding socioeconomic and environmental impacts in Gambella. The establishment of military training camps and guerrilla bases significantly contributed to the insecurity and violent conflicts in Gambella (Ragassaa, 2010: 20). By 1991, the UNHCR

operation in Ethiopia was supporting nearly 75,000 South Sudanese refugees, with approximately 90 percent of these refugees residing in four refugee camps scattered throughout the region. The southern Sudanese insurgency originated with the 1955 Torit Mutiny involving the Equatoria Corps. This Torit event ignited a nationalist rebellion across Southern Sudan, marking the onset of the country's longest civil war (Raggassa, 2010: 4). Following independence, actions taken by Khartoum's political leaders against the southern region heightened resentment and distrust, ultimately leading to a secessionist armed uprising led by the guerrilla group Anya Nya. As the rebellion expanded in the South, government forces bombed and burned villages, forcing thousands of southerners to flee the country and seek refuge in neighbouring nations. The continual influx of refugees into Gambella, along with factional fighting and the proliferation of arms in the area, intensified the longstanding socioeconomic and environmental impacts in Gambella. The establishment of military training camps and guerrilla bases significantly contributed to the insecurity and violent conflicts in Gambella (Ragassaa, 2010: 20). By 1991, the UNHCR operation in Ethiopia was supporting nearly 75,000 South Sudanese refugees, with approximately 90 percent of these refugees residing in four refugee camps scattered throughout the region.

These four camps are named *Itang*, Dimma, Pugnido and Bonga. They were established before signing the Comprehensive Peace Agreement (CPA) of 2005. With the outbreak of the South Sudanese civil war in 2013, new refugee camps were established. The Kule and Nguenyiel camps were established in 2013 and 2014, respectively. The new camps established in the same years were Tierkidi, and Jewi. They were established to accommodate an additional influx of nearly 30,000 South Sudanese refugees who fled new outbreaks

of violent conflict in December 2013 (UNHCR, 2016: 33).

Thus, the impacts of the refugees on the socio-economic and environmental issues within the host communities have brought some economic, social, and security changes to the host communities of *Itang*, which is especially distinct from the Gambella regional state. *Itang* is the only Gambella region district that has historically hosted more refugees. Therefore, what motives does the researcher have for assessing the effect of the settlement of these refugees on their nearby host communities? NGOs did not make an assessment; they were not predicting the impact and did not prepare for what would happen.

Some studies and report papers suggested directly or indirectly that the settlement of refugees in that particular area of the country significantly impacts the socio-economics and natural environment. This significant impact is closely associated with the overuse of rural natural resources, driven by poverty, population pressure, insecure property rights, and poor resource management.

Refugees are individuals forced to leave their home countries due to push factors like conflict and violence, which are key areas of focus in international relations (Parkins, 2011:12). People are compelled to abandon their homes in response to severe challenges, including widespread human rights violations, structural violence, wars, internal conflicts, ethnic and religious tensions, political persecution, and economic or natural disasters. Ethiopia has a long history of welcoming refugees and upholds an open-door asylum policy, ensuring humanitarian assistance and protection for those seeking refuge.

By the end of September 2017, Ethiopia was home to 883,546 refugees, primarily from neighbouring countries, ranking as the second-largest refugee-hosting nation in Africa. Over 99 percent of these refugees came from four countries: South Sudan,

Somalia, Eritrea, and Sudan. Most reside in 26 refugee camps, where access to services and opportunities is limited, leaving them largely reliant on humanitarian aid. (UNHCR, 2017: 23).

Evidence suggests that the presence of refugee camps in the Gambella region, which hosts the majority of refugees from the South Sudan and earlier Sudan crises, has significantly impacted the socioeconomic, environmental, and health conditions of residents. The growing refugee population has dramatically strained the region's resources and social services. The influx of South Sudanese refugees, combined with challenges such as food shortages, drought, and high unemployment, has led to diminishing hospitality, particularly in areas where refugees now outnumber the local population.

Jacobsen (2002: 5) highlights that cultivating land near refugee camps to supplement food rations can lead to the overexploitation of grazing areas, natural forests, firewood, food resources, and water supplies. The host communities will feel they are losing their valuable resources in places with limited natural resources. This eminently becomes a viable reason for hostility against the refugee population.

Likewise, Omeokachi (2013: 46) has commented that refugee settlement in the specified area can result in environmental degradation. The major challenges are water pollution, deforestation, and the production and dumping of rubbishes. The poor living conditions in slum areas pose significant health risks, as residents in rural slums and informal settlements are inherently more susceptible to diseases, malnutrition, and hunger, as well as natural disasters. Many individuals in these squatter communities lack access to essential social services, including clean water, sanitation, electricity, healthcare, and education facilities.

Martin (2005: 336), in his study of the Bonga refugee camp in Gambella, argues that refugees

have had a significant environmental impact, particularly through deforestation and wildlife hunting. Even though the region witnessed recurrent deforestation, the effect increased in 1993 when refugees settled there. The refugees adopted seasonal slash-and-burn agricultural practices on nearby hillsides to cultivate sorghum and other food crops. Additionally, it was observed that both refugees and host communities depended heavily on wood for fuel and construction purposes. High levels of hunting, often involving spears and dogs, were also reported. In the Bonga refugee camp, the refugees significantly outnumbered the local host population (Ibid.).

Endalkachew (2018: 215) highlights that the large refugee population in various parts of the Gambella region, both urban and rural, who mingle freely with local communities, has had adverse security implications in some instances. The political instability in South Sudan has exacerbated insecurity in the region. Significant resources have been diverted to addressing refugee-related challenges and the resulting security issues. Additionally, the influx of sophisticated weaponry has fueled banditry, cattle rustling, and increased violence, making such incidents more frequent in the area.

Similarly, Yonas (2018: 1-4) noted that the host area has become overcrowded due to human settlements, negatively affecting mobility and traditional grazing patterns. The host communities, known for their large livestock populations, are now forced to travel long distances in search of water and pasture as these resources are becoming scarce and, in some cases, entirely depleted. Furthermore, the combined demand for firewood and building materials from both the refugee and host populations is substantial, with nearly equal contributions to the total demand from both groups.

However, these studies did not specifically investigate the extent of South Sudanese refugees'

socioeconomic and environmental impacts on the host communities in the Itang Special District within the Gambella region. These studies failed to address the specific context of the study area. Researchers primarily focused on refugee impacts in other countries, such as Uganda, Kenya, and Rwanda, which may not share the same dynamics as Ethiopia (Omeokachi, 2013: 46; Jacobsen, 2002: 10-11). Their scope was broad and not tailored to the particularities of the region in question. For instance, Martin (2005: 336) researched the former Bonga refugee camp, located in the eastern part of Gambella town, with a population of less than ten thousand.

Similarly, Yonas (2018: 1-4) studied refugees in the Benishangul-Gumuz Regional State, focusing on refugee settlements' dynamic and long-term impacts. Endalkachew (2018: 215) centered his research on the security impacts in Tierkidi Camp; however, his analysis lacked a solid basis. The host population in Gambella had experienced unrest even before the establishment of refugee camps, and there is no concrete evidence linking refugees to widespread armament.

Therefore, the main reason to carry out this research is to clear the gap that the aforementioned studies have unable to go through regarding what impacts could encounter the host communities particularly on the socio economic and environmental effects in the study area. The aim of this study is to assess the environmental impact of South Sudanese refugees on host communities in Itang Special District, Gambella Region, with a particular emphasis on the Kule Refugee Camp.

## 2. Research Design

This study adopts a **case study** research design, with a focus on the lifestyle, culture, and socio-political structure of the community. Purposive sampling was employed to select participants, and a qualitative research methodology was utilized. The primary objective of the study is to critically examine and elucidate the impact of refugees on host communities in Itang Special Woreda, offering an in-depth analysis of the specific contextual factors and dynamics in this area.

### Method of Data collection

#### Observation

By employing this method, the researcher seeks to understand the relationship between refugees and host communities in the Kule refugee camp. The primary areas of observation included social interactions, waste management practices, water shortages, deforestation, transportation services, and the shared use of institutions such as schools and healthcare facilities. An observation checklist was used for observation.

#### In-depth Interview

In collecting primary data, in-depth interviews were conducted with 20 key informants selected based on their knowledge and experience relevant to the topic. The key informants were drawn from various groups, including Woreda administration officials, kebele leaders, elders, NGO workers, and refugees. The information provided by the key informants was recorded using a portable voice recorder supplemented with photographs and videos. When informants declined to have their voices recorded, the researcher took detailed notes and increased the number of follow-up contacts to ensure comprehensive data collection.



## Focus Group Discussion

The focus group discussions (FGDs) included participants who shared similar perspectives. Five FGDs were conducted in both Kule Refugee Camp and Itang Special Woreda. In Kule, two FGDs were held, with six participants in each group. Similarly, three other FGDs were conducted in nearby kebeles, including Pulkoat, Waar, and Wathgach, with six participants in each group. The discussions were structured around four key themes that guided the research.

The FGDs took place in quiet, comfortable settings to ensure a conducive environment for the participants. A recorder captured the discussions, which lasted approximately ninety minutes. Participants included community elders, leaders, educated individuals, teachers, Woreda administrators, religious figures, and NGO workers. These individuals were selected based on their knowledge and experience regarding the impacts of refugee settlement in the study area.

## Secondary Sources

The secondary sources used in this study were diverse and encompassed both published and unpublished materials. These included dissertations, theses, research reports, government policy documents, constitutions, publications, statistical reports, performance reports, annual plans, and books. Additionally, materials prepared for policy discussions and conferences at national and international levels, as well as journals and workshop proceedings, were consulted to provide a comprehensive understanding of the topic.

## Selection of Study Participants

The sample population was selected from Itang Special District to carry out this study, focusing on key stakeholders involved in refugee-host community interactions. In order to gather accurate and relevant information, key informants were selected from various organizations, including

NGOs, as well as from local administrative and community structures. The selected key informants included representatives from ARRA, Itang Special District administration, Kebele elders, and refugee representatives, ensuring that both male and female participants were included.

The researcher actively engaged with these informants, believing they could provide valuable insights into the socio-economic and environmental interactions between refugees and host communities, which were crucial to achieving the study's objectives.

## Key Informant Interviews (KII):

The breakup details of the key informants include

- ARRA: 2
- Woreda Administration: 2
- Court: 1
- Education: 1
- Water: 1
- Health: 1
- Agriculture: 1
- Kebele (Waar, Wathgach, Pulkoat): 4
- Security: 1
- RCC (Refugee Coordination Committee): 2
- Camp Trader: 1
- Camp Police: 1

## Focus Group Discussions (FGD):

- Refugee Camp (Kule): 2 groups, 6 participants each
- Host Communities (Waar and Wathgach): 2 groups, 6 participants each
- Host Community (Pulkoat): 1 group, 6 participants

## Sampling Techniques

The researcher employed purposive sampling techniques to select participants for the study. Participants were selected based on their expertise,

knowledge, and experience related to the subject matter.

The informants included both refugees and host community members who were well-informed about the socio-economic and environmental impacts of refugee settlement. Additionally, NGO workers and key community figures from the selected kebeles were chosen based on their roles and positions within their respective communities.

All participants were fluent in Nuer, the primary language spoken in the area, with some NGO workers being fluent in English, which facilitated cross-cultural communication and enhanced the breadth of data collection.

### **Method of Data Analysis**

The data from the interviews and focus group discussions were analyzed using an interpretive approach to construct meaning from the information. This analysis was further substantiated and corroborated by secondary data sources. To enhance the validity of the findings, the researcher employed a triangulation method, cross-checking the data from multiple sources and perspectives. The interpretive approach allowed for a deeper understanding of the perspectives and experiences shared by the informants, providing rich insights into the socio-economic and environmental impacts of refugees on host communities. Results and Discussion

### **3. Perception of the host communities on the refugees**

Perceptions shape the attitudes and behavior of individuals, which in turn drive and influence policies. The perceptions we discussed with the host communities in this study relate to the effect of the presence of the refugees on the socioeconomic and challenges such as food, water shortage, health care, land, criminal activities, and environmental effect. The host communities and the refugees have admitted there are negative impacts on both sides,

and there is a need to have a joint task for overcoming social interactions as a challenge if not properly handled by the government. They also share the same in gang acts when refugee criminals collaborate with host communities' criminals, robbery of livestock such as cattle and others are becoming danger due to uncontrolled movement of refugees. However, there are opposite sides to feel what the host has benefits from refugees' settlement into area. During the focus group discussion with leaders from host communities, they highlighted that competition over common property resources is a frequent source of conflict between them and the refugees. They noted that activities such as cultivating land for camp development often led to the depletion of grazing land, trees, firewood, food, and water resources.

Key informants indicated that both hosts and refugees acknowledge the strain the presence of South Sudanese refugees has placed on shared facilities and resources. Among hosts, more men than women expressed concern over this pressure. Interestingly, the perspective differs between male and female refugees. Male refugees primarily emphasized the strain on education, transportation, water resources, food supplies, and land, while female refugees highlighted the pressure on health services, housing, and sanitation facilities. This disparity suggests that female refugees may bear greater household responsibilities than their female host counterparts.

During focus group discussions with host community members, participants confirmed these challenges. They explained that increased demand overwhelms shared facilities such as schools, clinics, water sources, markets, and transportation systems. Community members in Pulkoat Kebele identified housing and sanitation as the most heavily strained resources.

We faced a land problem when refugees arrived in our area. We were displaced

from our previous land to another location where there is a Murle and Anyuak rebel group who are looting our cattle, and we also lost our properties during the summer season because where we have placed it now, there is flooding.

As key informants indicated, thus, in light of the likely long-term settlement of the South Sudanese refugees in the Gambella region of Ethiopia, and multi-layered, comprehensive policy-making is required to achieve sustainable resolutions. This must begin with the host community recognizing that refugees form a vibrant society, striving to thrive and contribute as valuable community members, just like any other society.

Despite the environmental changes negatively impacting the host communities, it is clear that these changes have affected the lives of people in these communities. The following focus group discussion aims to describe how the host communities themselves have experienced these effects. The findings reflect both lifestyle and economic impacts, which are the direct results of environmental shifts in the region. To ensure the discussions accurately capture the views of those most directly affected by the presence of refugees, the majority of the information comes from individual interviews and focus group discussions with stakeholders in Itang Woreda.

However, environmental factors are not the only variables influencing the lives of the host communities and their relationship with refugees. This study also examines the displacement of host community residents, noting that it has often resulted in more destructive consequences. Many host community members view the refugees as a burden on the economy, public services like education and housing, and as competition for jobs. The perception that refugees are willing to work for lower wages further fuels this view. Additionally,

residents who see refugees as a strain on social services are more likely to express negative attitudes toward the South Sudanese refugees. One notable concern raised by the host community is the overcrowding of classrooms due to the influx of refugee children, which is seen as contributing to a decline in the quality of public education, according to key informants.

State discourse should align with this approach, as it would ultimately facilitate the peaceful coexistence of both refugee and host communities. Recent advances in understanding conflicts in Africa support the political-economic approach, which emphasizes the role of actors who, driven by economic interests, exploit conflict to further their agendas. Central to this perspective is the "greed and grievance" framework, as articulated by Collier and Hoeffler (2000).

In the context of this framework, greed refers to the tendency of political elites to monopolize power and resources for personal gain. On the other hand, grievance is viewed as a collective societal experience—rooted in inequality, injustice, or marginalization—that not only triggers conflict but also serves as a deep-seated cause. Greed and grievance are intertwined in shaping conflict dynamics and should be addressed as part of any long-term peacebuilding efforts.

During the FGD with District representatives at *Waar*, they mentioned the destruction made by refugees when they arrived in the area and when they came, while the shelters were not yet ready. According to UNHCR, the presence of South Sudanese refugees has caused significant disruption in host communities, with schools being repurposed as transit camps for both people and animals. This shift has led to challenges in maintaining normal educational activities and exacerbated the strain on community resources.

For instance, the experience of the *Pulkoat* and *Waar* primary and junior schools and the

destruction of the schools were mentioned here during an interview with such experience by the school director.

A key informant noted that during the reception of South Sudanese refugees, the ARRA used schools as transit camps in 2015. After the refugees moved to inland camps, many school classrooms and furniture were damaged, leaving students unable to return to school until the next academic year due to necessary repairs. Additionally, socioeconomic changes in Itang led to increased school dropouts, with many students leaving to take up casual work in the refugee camps. Sometimes, teachers even left the national school system to teach in schools established within the Kule refugee camp.

The researcher investigated the perceptions of the host communities regarding their schools and the presence of refugees, focusing on both the opportunities and challenges. On the positive side, the construction of classrooms, latrines, and the provision of educational materials—such as desks, blackboards, books, and other resources—were seen as enabling opportunities for host community primary and junior schools. However, the presence of refugees in the area also presented several challenges to these schools. For example, many refugee children enrolled in local schools, leading to overcrowded classrooms and a strain on resources. As a result, there was a shortage of books, classrooms, and desks, which further impacted the quality of education for both host community and refugee children.

Informants also highlighted several key challenges faced by host community schools, including a lack of clean water, insufficient fencing, high turnover of teachers, and student absenteeism, which contributed to higher dropout rates. Additionally, teachers in the host community schools were often

paid lower salaries than those working in refugee camp schools operated by UNHCR. As a result, many teachers were compelled to leave government schools for positions in refugee schools, where the salaries were higher. These issues significantly impacted the host community's stability and quality of education.

Some informants highlighted that refugees can bring positive economic effects to host communities by drawing development organizations to partner with local populations and aid workers. Refugees allowed to work can support agricultural production and participate in local economic activities, boosting the surrounding economy. However, in the case of Kule Refugee Camp, the impact on the host community in Itang Special District seems more negative. The increased pressure on local resources, heightened competition for jobs, and environmental damage have created challenges that outweigh the potential economic benefits in this context. When comparing the perceptions of the host communities with the reality on the ground, the impacts of the refugee presence seem largely negative, with the challenges outweighing the potential economic benefits.



Plate-1: Refugee Camp Site

**Source: Field Survey by the researcher**



The identity and cohesion of any society, along with its understanding and acceptance of other communities, are largely shaped within schools. Schools are among the few remaining institutions that offer a partnership between families and society, providing a space for socialization and investment through learning. The benefits of education allow individuals to make sense of societal changes, embrace sustainability, and foster lifelong learning. The creation, communication, and effective use of knowledge are essential in this process. In short, a society's most important investment is in the education of its people, as those who lack access to quality education suffer while those who benefit from it succeed.

Educational environments encompass both the "soft" and "hard" environments. The soft climate refers to the relationships and interactions between students and teachers. At the same time, the hard environment includes the physical conditions, materials, and facilities that support the educational process, such as the school campus. Education is fundamentally a process through which individuals transmit accumulated knowledge, experiences, and values across generations, contributing to the survival and development of society (MoE, 1994: 6).

Moreover, education enables individuals and society as a whole to participate fully in the development process by acquiring the knowledge, skills, and attitudes necessary to solve problems and address challenges. It strengthens both individual and collective capacities, starting from basic education and extending to all levels of learning. Through education, societies empower their members to engage in development, improve their problem-solving abilities, and enrich their cultural and social fabric. A student informant from the Pulkoat junior school explained, the case as follows during the interview:

According to key informant mentioned that: In our school we have no fence, anytime when we want to leave the classroom we go freely without anything that can protecting us from the school, I know it's because of the absence of the fence at the school compound, our teachers can do restriction, but different direction student can just past to home, in addition, because there is no fence, our parents are calling us to come back home by assisting them for food preparation and home activities. <sup>3</sup>

Thus, the lack of a suitable school compound has a different effect on the education learning process; the absence of a fence causes students to disrespect their teacher, leading them to go before the breaking time, according to informants. Therefore, school fences serve multiple functions. According to informants, they are not merely physical barriers that define the boundaries of school campuses but also play a critical role in protecting staff and students from external threats. Installing school fences clearly delineates property boundaries and prevents outside interference, allowing school activities to run smoothly while ensuring the safety of students, staff, faculty, and school property. Interference can come in various forms, including inappropriate human behaviour, noise, and pollution from the surrounding environment. Thus, school fences are essential not only for security but also for maintaining a conducive learning environment.

However, the protective function of school fences has become the primary justification for their existence. Beyond ensuring security, these fences play a crucial role in shaping the perceptions of teachers, students, and outsiders towards the school, influencing the overall atmosphere and culture of the institution. In this sense, school fences are not just physical

boundaries but essential in defining and maintaining the school's cultural identity and landscape. Many informants mentioned a fence was built before the refugee's arrival, but it was built by local communities, not by the government; the fence was constructed with wood and grass. Thus, after arriving refugees in the area, everything was stolen, including desks, blackboards, the woods of the school fences they use for cooking. .

#### 4. Environmental impact of South Sudanese Refugees on Host Communities

##### Waste disposal management

Environmental impacts are one of many factors that influence and shape the relationship between the refugees and hosts: the combination of factors differs in each refugee situation. This study has discussed the environmental problems in the region, both within the refugee camps and surrounding villages and rural areas. Accordingly, the researcher discussed with informants how these changes and problems have affected the host communities.

During the focus group discussion and interview, informants were discussing about the natural environment. Thus, the informants were mentioned any changes that have occurred over three years since the establishment of the camps. They were mentioned as deforestation, waste product disposal, flooding, erosion destruction and depletion of water resources since the recent years. This is followed by a description of Gambella's natural environment, with a focus on the changes that have occurred over the years, particularly following the coming of the refugees. One of the refugee informants was mentioned:

The way refugees did not managed the waste product properly, many refugees are used to depositing the waste product in the front of the house or near with latrine and

because the UNHCR did not provided us a place where we can use to throw unwanted products that is why we put them in the space near to area we live.<sup>19</sup>

Some of the informants from the hosts mentioned that the refugees not only disposed of their waste product there in the camp but every time they came by evening near the road side between the camp and host villages, they use to throwing many decaying, non-solid and solid waste along the roadside, the areas became very dirty because of the refugees' disposal waste, that also led blaming between two communities.

However, in some instances, the informants were recommended that even though the villagers are participating in environmentally harmful activities, they only started doing so after the refugees came; the refugees are seen as the primary cause.



Plate- 2: Waste disposal near the home and toilet

Source: Field Survey by the researcher

Solid waste refers to all non-liquid waste, including various materials such as food waste, rubbish, commercial waste, institutional waste, street sweeping waste, industrial waste, construction debris, and sanitation waste. It can contain recyclable items (e.g., paper, plastic, glass, metal) and toxic substances like paints, pesticides, used batteries, and medicines. During the focus group discussion (FGD), participants suggested that the

most efficient waste management system would involve a common ditch where unused materials from consumers are placed. The size of this ditch should be based on the population it serves, with a recommended long-term objective of six cubic meters per 50 people. The pit should be fenced to prevent accidents, particularly from small children, and should be located within 100 meters of the dwellings it serves. Waste should ideally be covered with a thin layer of solid material weekly to minimize flies and pests.

The location of landfill sites should be determined through consultation between community authorities and the local population. These sites should be fenced at least one kilometer downwind from the nearest dwelling. While complex recycling systems may not be suitable, some recycling—such as of plastic bags, containers, tins, and glass—may be possible, as these are often valuable commodities in many communities. Solid waste, generally regarded as unwanted and discarded material resulting from daily activities, requires effective management. This involves tasks such as waste generation, collection, sorting, allocation, and disposal, as mentioned during the FGD.

Currently, the disposal of human waste remains a critical issue, especially since no waste treatment is being implemented at any camp, and there are no signs of a feasible solution in the foreseeable future. This problem is particularly acute at Kule camp, which is situated on a mountain, making it difficult to excavate pit latrines. Natural depressions are being converted into latrines, but this is a temporary solution. There is no cost-effective or sustainable method for dealing with these latrines once they are filled. One approach has been to line the latrines with plastic and pump out the excreta when full. However, managing the pumps has proven to be a challenging task. Consequently, efforts have focused on concentrating defecation in designated areas for better management.

Another challenge is managing defecation areas during the rainy season. Heavy rainfall and storm runoff contaminate surrounding areas, which has significant health implications for humans and animals. It also poses a risk to surface and groundwater contamination in specific regions. The current human waste disposal methods are unsustainable in the long term, highlighting the urgent need for more effective and sustainable solutions in the camps.

### **Flooding**

Another environmental impact is flooding, which occurred after the displacement of the host communities to another area, where they are now facing flooding during the summer. Thus, the flood disaster condition is more separated from the destruction of physical and social assets. The impacts of flooding on non-productive yet socially significant aspects of life are highlighted. Participants in the Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs) shared their experiences regarding the recurrent damage caused by floods. They noted that floods frequently damage essential community infrastructure, including houses, schools, roads, culverts, and shops. These are critical for the social and economic functioning of the community, as they affect people's daily lives, access to education, and local commerce.

In addition to the direct damage to infrastructure, floods disrupt the social fabric by displacing people and hindering their ability to carry out regular activities. The destruction of homes forces families to relocate temporarily or permanently, often leading to overcrowding in certain areas. Schools, an essential part of the community's social life and development, are also damaged or rendered inaccessible, further exacerbating the challenges students and teachers face.

The floods also have a significant impact on transportation and trade. Roads and culverts, vital

for mobility and trade, are often washed away or damaged, making it difficult for people to travel or transport goods. This disruption hampers economic activities and weakens social ties, making it harder for community members to engage in regular social interactions or business activities.

The men-made mud house cannot resist water that entering during flooding time. During the monsoon period, continuous rainfall causes significant damage to the grass houses in the community. According to the informants, the heavy and persistent rain weakens the structural integrity of the thatched houses, making them prone to collapse. The grass and thatch used in construction are particularly vulnerable to the prolonged exposure to water, resulting in the houses becoming loose and severely damaged after flooding.

Floods can cause varying levels of damage to homes and properties, ranging from minor damage to significant destruction or total loss, as well as disruptions to daily life. In such circumstances, it is crucial to provide temporary housing solutions tailored to the extent of damage sustained by affected households. To guide recovery efforts effectively, including housing resettlement, a thorough assessment of the damage levels must be conducted in the aftermath of a flood. This assessment will help determine the most appropriate interventions and prioritize support for those most severely affected. In many cases, these natural disasters have not only caused significant properties damage, but in many cases, have risen in the full destruction of the property in the place.

According to all informants in this study, health facilities are among the most severely affected during flood periods. Floodwaters often inundate health centers, causing them to close and disrupting essential medical services. As a result, waterborne diseases such as diarrhea, cholera, jaundice, and skin-related health problems are prevalent during these times, as reported by the informants.

The impact of these health issues is especially severe for vulnerable groups, such as children and the elderly, who suffer the most from these health-related challenges. The lack of access to basic healthcare services exacerbates the situation, and providing adequate treatment becomes difficult, especially when essential medicines and supplies are unavailable due to the flooding.



**Plate-4: Houses blocked by flooding in the summer season**

Source: Field Survey by the researcher

In addition to damaging physical assets, the floods have significantly eroded social assets, such as neighbourhood ties, brotherhood, and kinship bonds. The erosion of these social assets has continued in recent years, as shared by the informants. When a flood hits a community, many families are forced to evacuate to safer locations for varying lengths, from a few days to several weeks.

As a result, all social institutions are likely to be disrupted during such events. The social fabric that typically unites a community is severely weakened. People are forced to relocate to more durable locations, causing relationships to break down, companionships to be disrupted, social linkages to be shattered, and domestic relationships to experience heightened stress. These impacts were reported during the Focus Group Discussions (FGD).



Moreover, the flood also caused significant losses in livestock, including goats, sheep, chickens, cows, and oxen. Since animal husbandry is a primary source of livelihood, more important than agriculture in many cases, the sweeping away of livestock and the deaths caused by the flood, as well as those resulting from diseases that emerged after the flood, severely impacted the community's livelihood. Cows, in particular, suffered the most, with many experiencing health-related issues. Goats suffered the food crisis in the last and recent years' floods. One of the informants said:

The food crisis for livestock is one of the major challenges during floods in the study areas, namely Waar, Wathgach, and Pulkoat. As the floodwaters rose daily, the livestock were relocated to higher ground within the household areas to protect them from the rising water. Some informants mentioned that they also moved their animals to the nearest embankments, seeking safety in these elevated areas to prevent further losses.

One of the informants mentioned that livestock frequently suffer from various health-related issues during flood events, and managing medical care for sick animals becomes extremely difficult. Sometimes, the animals must be transported to a veterinary hospital far from the village. Additionally, informants noted that the floodwaters covering the entire area are contaminated with bacteria and toxic substances. Despite the health risks posed by this polluted water, people are forced to use it for daily activities due to the lack of access to safe water sources.

In the study area, there is a prevailing belief among local administrators, researchers, and the community that flooding has worsened since the construction of refugee camps and other developments in the area. This concern was also highlighted in the current study, with the local

community chief reporting that the backwater effect of increased flood discharge from the Baro River has negatively impacted drainage in the inundated areas. This has contributed to the persistence of flooding in the region, as mentioned during the Focus Group Discussions (FGDs).

Furthermore, the community's social fabric is severely affected during flood events. Family roles and duties undergo significant changes, exacerbating economic hardship and difficult living conditions. Relocation efforts often force people to adapt to unfamiliar environments, making adjusting and easing their circumstances challenging. Relatives welcome some families displaced by the floods, while others are treated as unwanted guests, creating fractures in the kinship system and social dynamics.

Many informants in the FGDs reported that the area has experienced frequent flooding in recent years. The socioeconomic damages caused by these floods can be partially attributed to the lack of effective disaster risk management at both the local and national levels. Over the past seasons, precipitation levels have surpassed historical records, and floods are becoming more frequent and severe. The increasing intensity of flooding is evident when comparing reports from the last seven years.

Another significant environmental impact observed in the study area is deforestation. The urgent need for construction materials, fuel for cooking and heating, and other essential resources during floods often leads to the cutting of trees and the depletion of local woodlands. When communities gather these resources in response to immediate needs—such as shelter construction, food provision, or livestock care—this can result in considerable environmental degradation. If such practices are not regulated or if alternative solutions are not found, this resource depletion can escalate into large-scale and irreversible ecological damage.

### The refugees impact on the surrounding forest

Deforestation in Itang Special District, exacerbated by the presence of South Sudanese refugees, is a critical environmental issue. The primary drivers include charcoal production, shelter construction, agricultural expansion, and camp development activities. Forests play a key role in stabilizing soils, regulating local climates, improving water retention, and supporting biodiversity. However, these forests have been severely depleted due to wood and firewood collection, damaging the region's environmental stability (UNHCR, 2005).

Refugees have contributed to deforestation by cutting trees for fuel and land clearing. Despite replanting efforts, poor soil conditions hinder tree growth, disrupting the water cycle and exacerbating droughts and reduced rainfall. In Focus Group Discussions (FGDs), teachers from Wathgach emphasized that deforestation leads to habitat loss, soil erosion, and desertification as trees are removed and vegetation is lost.

The relationship between environmental change and migration is complex. Disasters such as deforestation drive both temporary and permanent migration, but the effects of migration on environmental degradation remain under-researched. This issue is not limited to Ethiopia but is observed globally, especially in agricultural economies where the need for land for subsistence and cash crops drives deforestation.

The consequences of deforestation are far-reaching: habitat loss, climate change, biodiversity decline, and increased vulnerability to natural disasters. Deforestation disrupts ecosystems, contributes to flooding, and causes soil degradation. Governance weaknesses—such as unclear land tenure, weak law enforcement, and lack of monitoring—further exacerbate the issue. Without measurable economic benefits from forest conservation, there is little incentive to protect these vital ecosystems.



**Plate-4:** Tree Cutting for Cooking Energy (firewood)

Source: Field Survey by the researcher

The negative impacts of deforestation are not only felt economically but also in terms of environmental and social consequences, particularly in relation to climate, biodiversity, and poverty. Key informants noted that refugees in the area often burn grass and trees, contributing to significant environmental degradation. The plants, animals, insects, and fungi that make up a forest ecosystem before a fire may be replaced by different species after the fire, which can disrupt the balance of the ecosystem.

Certain species, particularly those adapted to fire, may thrive in areas frequently affected by bushfires, but this is not necessarily due to evolutionary adaptations—rather, it is driven by their life forms and reproductive opportunities. As a result, these fire-resistant species may become more dominant, further altering the composition of the ecosystem.

Air pollutants, which can either be natural (e.g., smoke from forest fires) or man-made (e.g., automobile exhaust), pose additional risks to the environment and human health. These pollutants, in the form of gases or particulates, can have detrimental effects on air quality and contribute to broader environmental issues such as climate change.

Forests are vital habitats for a wide range of animal and plant species. When deforestation occurs, these species lose their homes, reducing biodiversity and threatening the survival of many organisms. This loss of habitat further exacerbates the negative impacts on the local ecosystem and livelihoods, highlighting the urgent need to address deforestation and promote sustainable environmental practices.

## Conclusion

This study assessed the environmental effects of South Sudanese refugee camps on host communities in Itang Special District, Gambella Regional State, Ethiopia, focusing on the Waar, Wathgach, Pulkoat, and Kule camps. The findings revealed that while the arrival of refugees has led to significant environmental challenges, such as deforestation and resource depletion, host communities often view refugees as exacerbating these issues. The study identified key environmental concerns, including increased deforestation, water scarcity, and land degradation, which have strained the local ecosystem and affected the livelihoods of host communities.

Deforestation, driven by the demand for firewood and charcoal, was found to be one of the most pressing environmental issues, contributing to soil erosion, loss of biodiversity, and reduced agricultural productivity. Water scarcity emerged as another critical concern, negatively impacting household activities and development in refugee and host communities. The competition for natural resources such as land, water, and firewood has led to growing tensions between refugees and host communities, further exacerbating environmental degradation.

The study highlights the need for sustainable interventions to address energy needs and resource conflicts in light of these challenges. Environmental education, sustainable resource management practices, and collaborative efforts

between refugees, host communities, and aid agencies are essential to mitigate the negative environmental impacts and promote long-term environmental sustainability.

## Recommendations

The following measures are recommended to address the environmental challenges faced by both refugees and host communities:

- ARRA and Woreda Agriculture Offices should regulate tree cutting for charcoal production outside the refugee camp and establish reforestation programs to restore degraded areas.
- Implement vocational training programs focused on sustainable livelihoods, including alternative energy solutions, to reduce dependence on firewood and charcoal.
- Organize joint environmental awareness gatherings between refugees and host communities to strengthen cooperation and promote sustainable practices.
- Conduct training on environmental protection, reforestation, and sustainability, along with solid and liquid waste management workshops to improve resource management and waste disposal practices.
- Address water scarcity by implementing community-based water conservation initiatives, improving water access, and promoting efficient water usage practices.
- Facilitate periodic meetings between host communities, refugees, and the camp administration to address environmental concerns and foster collaboration on sustainable resource management.

## References

Abey, A. H. (2013). Economic effects of urban refugees on host community: Case of Somali

- refugees in Eastleigh, 1991–2012. MA Thesis, University of Nairobi.
- Abiye, Y. (2018, June 30). Bill to provide for refugee integration. *The Reporter*. Retrieved from <https://www.thereporterethiopia.com/article/bill-provide-refugee-integration>
- Alemseged, T., et al. (2014). Impacts of flooding on human settlements in rural households in Gambella Region of Ethiopia. UNECA and Arba Minch University, Arba Minch Institute of Technology.
- Alonso, J. A. (2011). International migration and development: A review in light of the crisis. *CDP Background Paper No. 011*, United Nations, Department of Economics and Social Affairs.
- Bilsborrow, R. E., & Zlotnik, H. (1994). The systems approach and the measurement of the determinants of international migration. Workshop on the Root Causes of International Migration, Luxembourg, 14–16 December.
- Bishop, T., & Garnett, T. (2000). Civil conflict and the environment in the Upper Guinea forest of West Africa; West Africa trip report. Washington, D.C.: Biodiversity Support Program, Disasters and Biodiversity Project, and USAID.
- Boll, V. (2005). *Ethiopia and the missions: Historical and anthropological insights*. LIT Verlag Munster.
- Bryman, A., & Cramer, D. (1990). *Quantitative data analysis for social scientists*. London: Routledge.
- Callamard, A. (1994). Refugees and local hosts: A study of the trading interactions between Mozambican refugees and Malawian villagers in the District of Mwanza. *Journal of Refugee Studies*, 7(1), 39–62.
- Census. (2007). Ethiopia 2007 Population and Housing Census – Administrative Report. Addis Ababa: Ethiopian Central Statistical Agency.
- Chambers, R. (1986). Hidden losers? The impact of rural refugees and refugee programs on poorer hosts. *International Migration Review*, 20(2), 245–263.
- Christopher, L. (1998). A case study of African refugees in Ethiopia: With particular emphasis on Dimma Refugee Camp. BA Thesis in Sociology and Social Anthropology. Addis Ababa University.
- Cohen, Y. B., & Organski, A. F. (1981). The paradoxical nature of state-making: The violent creation of order. *American Political Science Review*, 75(4).
- Collier, P., & Hoeffler, A. (2000). Greed and grievance in civil war. World Bank Group, The Economics of Civil Wars, Crime and Violence. Retrieved from <http://www.worldbank.org/research/conflict/papers/greedandgrievance.html.net>
- Cortes, K. E. (2004). Are refugees different from economic immigrants? Some empirical evidence on the heterogeneity of immigrant groups in the United States. Princeton University and IZA Bonn.
- Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. (3rd ed.). Los Angeles: Sage.
- Crisp, J. (2002). Africa's refugees: Patterns, problems, and policy challenges. *New Issues in Refugee Research, Working Paper No. 28*. Geneva: UNHCR. Retrieved from <http://www.jha.ac/articles/u028.htm>
- Denzin, N. K., & Lincoln, Y. S. (Eds.). (2011). *Handbook of qualitative research*. (4th ed.). Thousand Oaks, CA: Sage.
- Deutsch, M. (1973). *The resolution of conflict: Constructive and destructive process*. New Haven: Yale University Press.
- Ek, R., & Karadawi, A. (1991). Implications of refugee flows on political stability in the Sudan. Ambia, August.
- Endalkachew, G. (2018). Security impacts of South Sudanese refugees on the host communities of Gambella Region of Ethiopia. *International Journal of Political Science and Development*, 6(7), 214–218.
- Estifanos, G. M. (2010). The nature of conflict between Sudanese refugees and the surrounding local communities: The case of Gambella Region for the last two decades. MA Thesis in Peace and Security Studies, Addis Ababa University.
- Evans-Pritchard, E. E. (1902–1973). *Economic life of the Nuer: Cattle*.
- Faist, T. (2000). *The volume and dynamics of international migration and transnational social spaces*. Oxford and New York: Oxford University Press.



- Gay, L. R., & Airasian, P. (2000). *Educational research: Competencies for analysis and application*. New Jersey: Prentice-Hall, Inc.
- Grinvald, M. (2010). Problems of integration of refugees and internally displaced persons in Serbia. Palacky University.
- GRI. (2002). Sustainability reporting guidelines 2002. Global Reporting Initiative, Boston. Retrieved from [http://www.globalreporting.org/NR/rdonlyres/529105CC-89D8-405F-87CF12A601AB3831/0/2002\\_Guidelines\\_ENG.pdf](http://www.globalreporting.org/NR/rdonlyres/529105CC-89D8-405F-87CF12A601AB3831/0/2002_Guidelines_ENG.pdf)
- Guy, S., & Goodwin, G. (1998). *The refugee in international law* (2nd ed.). Oxford University Press.
- Hamid, A. A., Usman, L. A., Elaigwu, S. E., & Zubair, M. F. (2010). Environmental and health risk of bush burning. *Advances in Environmental Biology*.
- Hugo, G. J. (1987). Postwar refugee migration in Southeast Asia: Patterns, problems, and policies. In *Refugees: A Third World Dilemma*, Ed. J. R. Rogge. New Jersey: Rowan and Littlefield.
- Jacobsen, K. (1997). Refugees' environmental impact: The effect of patterns of settlement. *Journal of Refugee Studies*, 10(1), 19–36.
- Jacobsen, K. (2002). African states and the politics of refugees: Refugee assistance as political resources. *Feinstein International Famine Centre Working Paper No. 6*. Tufts University. Retrieved from [www.famine.tufts.edu](http://www.famine.tufts.edu)
- Jacobsen, K. (2003). Livelihoods in conflict: The pursuit of livelihoods by refugees and the impact on the human security of host communities. *International Migration*, 40(5).
- Koang, T. (2010). Assessing the viability of traditional conflict resolution mechanisms in a changing world: The case of Jikany Nuer along the Ethio-Sudan border.
- Kristoffer, A. (2013). Faculty of Economics and Social Sciences, Department of Development Studies. Master's Thesis, University of Agder.
- Lincoln, Y. S., & Guba, G. E. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.
- Marion, C., & Maurice, H. (2008). *The Refugee Studies Centre or the University of Oxford*.
- Martin, A. (2005). Environmental conflict between refugee and host communities. *Journal of Peace Research*, 42(3), 329–346.
- Mckay, S. (2008). *Refugees, recent migrants, and employment barriers and exploring*. Routledge.
- Mitchell, C. R. (1981). *The structure of international conflict*. London: Macmillan Press.
- MoE. (1994). *Education and Training Policy*. Federal Democratic Republic Government of Ethiopia. Addis Ababa: St. George Printing Press.
- Mooney, E. (2005). The concept of internal displacement and the case for internally displaced persons as a category of concern. *Refugee Survey Quarterly*, 24(3).
- OCHA. (2020). Coordinates the global emergency response to save lives and protect people in humanitarian crises. Advocates for effective and principled humanitarian action.
- Oucho, J. O. (1996). Refugees and displacement in Sub-Saharan Africa: Instability due to ethnic and political conflicts and ecological causes. In A. Adepoju & T. Hammar (Eds.), *International Migration In and From Africa: Dimensions, Challenges and Prospects*. Dakar, Senegal: PHRDA.
- Oucho, J. O. (2007). Environmental impact of refugees and internally displaced persons in Sub-Saharan Africa. Keynote Address to the African Migration Alliance Biennial Workshop on Climate Change, Environment and Migration, East London, South Africa, November 15–16.
- Perera, S., & Traverse, A. (2013). *Living through terror*. Routledge.
- Pingali, P. L. (2016). Cornell University, Ithaca, NY, and approved May 12, 2016. *Proceedings of the National Academy of Sciences*, 113, p. 27.
- Prabhu, L. P. (2016). Cornell University, Ithaca, NY. Approved May 12, 2016. Vol. 113, p. 27.
- Regassa, B. S. (2010). War and peace in the Sudan and its impact on Ethiopia: The case of Gambella, 1955–2008. PhD Dissertation, Addis Ababa University.
- Samuel, K. (2011). Humanitarian assistance to refugees in rural Ghana: Implication for refugee-host relations. *Norwegian Journal of Geography*, 65-75