Sudan 2020 Floods

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Abstract:

In this paper, I will give an overview of Sudan's 2020 floods, showing how previous crises aggravated the damage of the disaster, and increased food insecurity across the whole country. Moreover, I will show that the response plans and initiatives proposed by FAO and IFRC are not gender-sensitive, and don't use a whole community approach. Finally, I will propose disaster mitigation and preparedness plans for Sudan's recurrent floods, in a gender-sensitive approach.

Introduction

Over the past twenty years (2000-2019), the number of disasters recorded by EM-DAT, which is a worldwide international disasters database, noticed an intense and significant increase, as compared to the previous twenty years (1980-1999). This sharp increase in disaster during the past two decades caused the death of 1.23 million people, affected over 4 billion people, and led to economic losses of around $2.97 trillion worldwide.

It is worthy of note that floods accounted for 44% of all disaster events, during the last two decades, and affected around 1.6 billion people (40% of the total), as shown in figures 1 and 2 below. Fortunately, unlike other disasters, flooding has affordable mechanisms of primary prevention (dams, draining systems…), and it impacts are preventable.

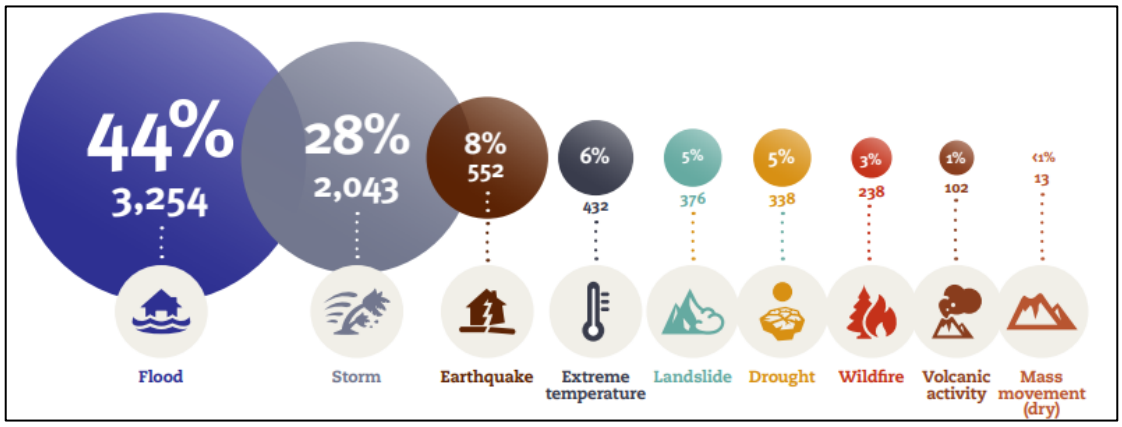

Figure 1: Disaster types and percentage of occurrence over the last two decades (2000-2019)

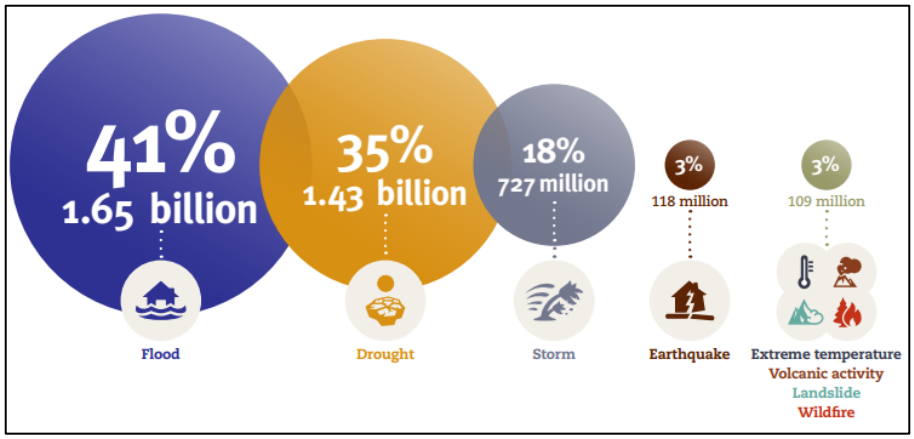

Figure 2: Number of affected people over the last two decades, by disaster type (2000-2019)

In this paper, I will give an overview of Sudan's 2020 floods, showing how previous crises aggravated the damage of the disaster, and increased food insecurity across the whole country. Moreover, I will show that the response plans and initiatives proposed by FAO and IFRC are not gender-sensitive, and don't use a whole community approach. Finally, I will propose disaster mitigation and preparedness plans for Sudan's recurrent floods, in a gender-sensitive approach.

Overview

In September 2020, a devastating flood have affected 17 out of the 18 Sudanese states, because of profuse and continuous rainfall, which caused the Blue Nile to rise and reach water levels greater than 17.5 meters, breaking all records. Moreover, according to the Sudanese minister of labor and social development, the rates of floods and rain exceeded the records set in 1946 and 1988.

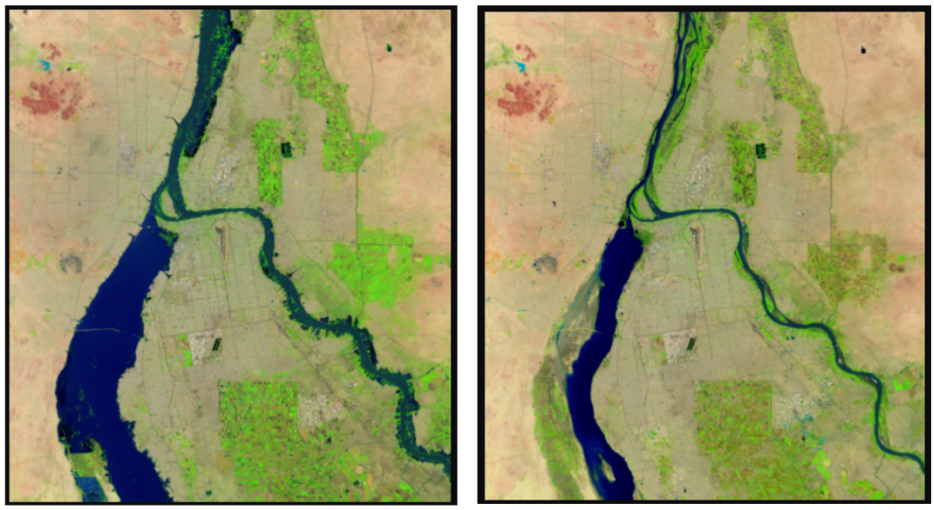

Figure 3: Flooding in Sudan's capital, in September 2020 (on the left), compared to a typical rainy season in September 2016 (on the right). (Source: NASA)

Consequently, Sudan's transitional government declared a three-month state of emergency throughout the country, on 4 September of 2020, and Sudanese authorities decided to consider their country a natural disaster area, because the catastrophic floods marked the worst flooding in the country in three decades, especially since it took place in the middle of the agricultural season. The worst-hit states in terms of damage and planted area were Khartoum, North Darfur, West Darfur, Sennar, and Blue Nile. However, the most affected communities were located along the Blue Nile.

Previous crises' impact and damage assessment

The heavy flooding in Sudan between July and October 2020, which ranks among the most severe floods recorded in the region, affected more than 3 million people, destroyed more than 100,000 homes, left thousands of people homeless, and caused about 143 deaths. Furthermore, the floods affected about 1.1 million refugees, and around 1.9 million internally

displaced people. The flooding meets all the criteria of EM-DAT, and therefore was recorded as a disaster, not a natural hazard.

Moreover, the impact of the flood was compounded due to the many problems and crises Sudan was facing before the floods including, but not limited to, armed conflict, economic and health crises, outbreaks of polio and COVID-19, desert locust threats … For example, pharmacies were reporting shortages of medicine, hospitals lacked adequate equipment, and Sudan's currency was facing a brutal devaluation, which caused a 50% increase in the cost of basic foods, such as bread and sugar.

In addition, the conflict in Tigray, an Ethiopian region, led to the fleeing of more than 46,000 people into Sudan, which aggravated the situation and made relief and recovery efforts in the region even more challenging.

Agriculture losses and food security

According to the UN Food and Agriculture Organization (FAO), around one-third of cultivated land was flooded, which impacted 3 million people in agricultural households. Moreover, FAO estimated that 108,000 head of livestock were lost, 2.2 million hectares of cropland were flooded, and in planted areas, around 1.1 million tons of grain was destroyed. Therefore, the flood had a devastating impact on the agricultural sector, and the losses were significant. Also, the flooding destroyed aquaculture farms, and caused a significant loss of fishing gear.

In addition, the destruction of farms aggravated the already severe food access problems in the country: about 9.6 million people, which constitute around 25% of the Sudanese population, faced acute food insecurity in 2020, especially in Khartoum state, where over 1.4

million people were severely food insecure (OCHA). Among people suffering from malnutrition are around 520 000 children under the age of five.

It also is important to note that more than 70% of Sudan's population rely on livestock and agriculture as means of living, and that the agricultural sector accounts for about 30 % of Sudan's GDP, which shows the severity of the floods, and their extensive damage to people's lives.

Consequently, in order to guarantee seeds for the next agricultural season, farmers started borrowing productive assets or selling them, to ensure they will have an adequate access to food, and this is one of the many negative coping mechanisms caused by the flood.

Figure 4: Aerial view near the Nile river in South Khartoum, Sudan, showing buildings and roads submerged by floodwaters. (Source: El Tayeb Siddig/Reuters)

Diseases caused by the flood

Water samples across 13 Sudanese states were analyzed, out of which more than 30 % were contaminated. Moreover, hundreds of water sources were damaged extensively, and several thousands of latrines collapsed, which increased the possibility of disease outbreaks. In addition, because of the flood, water in houses was mixed with sewage water, and the drinking water was also contaminated.

Accordingly, over 10 million people were at risk of contracting water-born diseases, for example fever, diarrhea, stomach infections… and 4.5 million people were exposed to vector-borne diseases like malaria, chikungunya, viral hemorrhagic fevers (VHF)…

FAO's and IFRC's response overview

To address the needs of affected communities, with a special emphasis being given to the most vulnerable people, and to female-headed household, FAO proposed immediate interventions, but also medium and long-term priorities. The proposed immediate priorities included, but were not limited to, the following:

- Provide agricultural equipment, tools and seeds for the next winter season
- Limit post-harvest losses by distributing bags to store grains
- Re-establish shallow wells, and provide people with fishing gear
- Address food and basic needs by providing cash transfers
- Protect the non-affected livestock, by providing veterinary vaccines, drugs and animal feed

On the other hand, FAO's suggested medium and long-term priorities included, but were not limited to, the following:

- Ease access to agricultural and fishing equipment and tools, for the summer season of 2021

- Improving cropping methods and supporting the diversification of crops, by providing technical support
- Setting up village-level seed banks
- Support the abundance of livestock by providing and strengthening veterinary services, and improve breeding practices by providing professional aid and support

Base on the short-, medium- and long-term interventions listed above, we can notice that they are not gender sensitive, and no special attention was given to the most vulnerable ones. So, the claim of FAO stating that the most vulnerable groups and women will be prioritized in response efforts, does not hold true.

In addition, in the report "Emergency Appeal Sudan: Floods", issued by the International Federation of Red Cross (IFRC), although it is acknowledged that all response sectors will aim at meeting the minimum standards on gender, protection and inclusion, and that a gender/diversity analysis will be conducted, we can notice after a detailed examination of the report that this is not the case.

Indeed, the report acknowledges that people with disabilities, women and girls, the elderly, migrants… are the vulnerable among the vulnerable, and that they will have increased challenges and difficulties in accessing relief supplies and medical care. Moreover, it also acknowledges that children, women, and young girls, are more prone to violence after the floods, and states that a special attention will be given to ensure their protection and to address their needs.

However, the proposed response interventions provided in this report indicate the total opposite! In all the focus areas analyzed, from shelter, health, sanitation, and hygiene…zero gender-based solutions have been proposed! Not even one of the response programs, or

instructions, or toolkits, mainstreams gender issues, or even the special needs of the vulnerable groups!

So, this confirms again that in our current world, emergency management organizations or NGOs sometimes pretend, or try to take into account gender-issues, and to adopt gender-sensitive techniques, but they actually don't: no special measures are being taken to address the different needs of the most vulnerable groups, especially women. Even a plethora of experts from the FAO and the IFRC failed to effectively mainstream gender into the response phase!

Important facts to consider

Before diving into the gender sensitive mitigation and response plans, we must not forget the importance of livestock and agriculture in Sudan, which are means of living for more than two thirds of the population. Therefore, prioritizing agricultural related activities is a must. Moreover, I personally think that the "most vulnerable groups/population" are the following:

- The elderly (people aged 60 years old or above), especially those with limited mobility
- Children (aged below 18 years old), especially orphans, and those living with a disability or unaccompanied ones
- Children (boys and girls) headed households
- Newborns, infants, and toddlers (aged 4 years old or below)
- People of all age categories with severe mental, psychological, or physical disabilities
- Deaf or blind individuals
- Non-swimmers
- Pregnant women
- Transgenders

The categories I listed above does not mean that they are the only ones that should receive relief assistance, but it means that they are the first ones that should be looked for and assisted, they have a priority over others.

Moreover, each village, city or municipality in Sudan must have updated records of its inhabitants, and they must classify these inhabitants according to their age groups, gender, economic position, and according to the vulnerable categories I listed. This will facilitate post-disaster efforts, as emergency teams will know which areas to tackle first.

Importance of a gender-sensitive approach in disaster management

A gender-sensitive approach means that it addresses equally the needs of men and women, but usually, gender-inclusive approaches tend to give an additional focus to address the needs of women. Why? Because gender relations tend to place women in socially, economically, and politically marginalized positions vis-à-vis men, which limits their ability to anticipate, prepare for, survive, cope with, and recover from disasters. Consequently, the victims of natural disaster most of the time, tend to have a strong inclination towards women and girls.

So, by understanding the gender differences between men and women, between boys and girls, and their implications, specific strategies can be implemented to make sure that all human beings, regardless of their gender, have an equal and fair access to relief and recovery assistance, in addition to disaster preparedness.

<u>Gender sensitive mitigation plan</u>

- Conduct a vulnerability analysis whose goal is to locate flood-prone areas, and inform people living in those areas about the high risk of flooding they face, and convince them to relocate

out of the floodplain, to purchase flood insurance, or to modify their homes by applying structure elevation techniques

- Prohibit new constructions or developments in flood-prone areas, or impose building codes and construction standards that minimizes to a great extent the threat of floods
- Build structures that prevents water from reaching a village community, like seawalls, floodwalls, retention ponds, levees, dams, in the most flood-prone areas
- Organize awareness rising activities and show the importance of hygiene, to help in preventing water and vector-borne diseases
- Get professional help from local or national meteorological systems, and strengthen the institutional capacity to develop early warning systems
- Hire female volunteers who have access to communication devices (ex: radio, internet…), whose job is to inform women and groups with restricted mobility and restricted technological access, and communicate to them the danger of an upcoming hazard, detected by early warning systems
- Use simulation techniques to test the available contingency plans, and whether they successfully target the needs of the most vulnerable groups and assess their needs; if not, develop these plans in a gender-sensitive way
- Improve media communication, and train local or traditional leaders to promote preparedness and mitigation actions for the community, or to communicate immediate response actions in case of an emergency, and the location of shelters where aid will be provided; this step should involve an equal participation of both men and women, and preferably from within the community, since they will be more trusted and have a bigger and more positive influence

- Teach women and girls how to climb trees and to swim, most preferably by a female trainer, especially in socially conservative regions
- Conduct a gender analysis on the population to identify their different roles, and the main risks or vulnerabilities they faced in previous flooding disasters, by a gender-balanced and diversity-balanced team
- Educate community leaders and local government officials to involve marginalized groups in disaster management activities, and promote the idea of equal participation between men and women in decision-making processes
- Train community with skills related to construction, and make sure that there is an equal participation of men and women; if not, encourage women to participate in these activities locally, or try to provide them with these skills in their home or safe place
- Train emergency response teams to include items related to both men and women's reproductive needs, in all relief kits (ex: condoms for men, midwifery and sanitary kits for women), to prevent the spread of sexually transmitted diseases and diseases caused by bad hygiene practices

<u>Gender sensitive response plan</u>

- Ensure that female-headed households, whose mobility is restricted in socially conservative regions, receive gender and culture specific relief assistance, by getting feedback from them
- Ensure that the ratio of women to men emergency toilets is three (for every male toilet, there is three female toilets), and provide a reasonable acceptable distance between men's and women's toilets
- Make sure that women's toilets have a separate area allowing women to wash and dry menstruation cloths

- Form gender-balanced and diversity-balanced emergency response teams, from within the community
- Provide gender-trained health personnel, both males and females in an equal number, and include female gynecologists and obstetricians
- Provide sanitary needs and midwifery kits for women, with a special emphasis/priority being given to pregnant women, and make women individuals distribute these kits hand to hand to the female recipients
- Provide condoms for men, to prevent an increase in childbirth post-disaster, because sexual relations tend to increase after disasters as a coping or stress relieving mechanism
- Provide potable water, by prioritizing the communities of the Blue Nile state, who usually depends on the Bout Earth Dam, which have collapsed
- Offer psychological support for the most overwhelmed and distressed people, encourage men to accept psychological aid, and organize counseling sessions about alcohol abuse and domestic violence prevention
- Provide affected households with emergency shelter options and impose a distance of at least 2 meters between those shelters, for privacy issues and to limit the spread of diseases
- Make sure that water reaching each shelter is filtered or is supplied from an independent source, to prevent the spread of infections related to stagnant water
- Maintain security in all emergency camps, and ensure male and female police officers are present equally
- Provide agricultural tools, equipment, with a special emphasis being allocated to the most vulnerable and low-income communities

- Provide agricultural seeds, and distribute grain storage bags to reduce the post-harvest losses, to the most affected and poor communities
- Provide goats, poultry, animal feed, veterinary vaccines and fishing gear, with the priority being for poor- and female-headed households
- Distribute cash transfers for the most affected people and the poorest ones, according to the following method: for each household, if the persons living in it include a married couple, give the man and the women half the sum each, and if not, give the full sum to the person responsible
- Teach female-headed households' basic income-generating activities
- Provide technical support to improve breeding and cropping practices, by prioritizing the most vulnerable population

Conclusion

In conclusion, the 2020 flooding in Sudan was a detrimental disaster that affected a huge part of its population, ruined their lives and damaged their assets. Moreover, the response plans at hand do not provide gender-sensitive solutions, so a greater attention should be paid to my humble plans, but also to other disaster management pioneers who have a good experience in gender issues.

In addition, due to global warming, the floods may reoccur in Sudan in the near future, so by applying a robust gender-sensitive mitigation, preventive measures, and by improving the response plan, and raising awareness, the human and economic losses of these floods will be substantially reduced, and it will also increase the resilience of the most vulnerable groups.

Finally, these measures will prevent a hazard, which in this case is flooding, from turning into a disaster.

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