



Gender, Conflict and Environmental Assessment/Analysis Blue Nile State

FINAL REPORT

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Executive Summary:

This study aimed to reflect on the implications of conflict and environment on women and men's lives and on their roles and relations in Blue Nile state focusing on Baw and Kurmuk locality. By doing so, the study would contribute to establishing the foundation for the project intervention that tackles the effect caused by environment and conflict on women and men. Specifically, the study aimed to assess the differences in the conditions, needs, participation rates, access to resources and development, control of assets, decision-making powers, protection issues including SGBV, etc. between and among girls/women and boys/men in their assigned gender roles and how this has been impacted by the conflict, environmental and climate crises. Primary data sources were used to obtain the information. It included Focus Group Discussion (FGD), Key Informant Interviews (KII) and meetings with different stakeholders from the two selected localities and government relevant institutions. The study also reviewed secondary data obtained from previous studies, research and reports. In Baw locality the study covered the three communities where UNDP (C2SP) works. Interviews and FGDs were carried out in El Shaheed Afendi admin unit as Baw town is abandoned where most of the people fled the area and haven't return yet. For Kurmuk locality interviews and FGDs were convened in Damazine city because Kurmuk town was not accessible during rainy season and all the targeted stakeholders were in Damazine. The macro-level context of the two areas showed the close interconnections between violence, environmental degradation and poor communities struggle not only due to much localized factors and actors but also induced by broader national structures.

Blue Nile State generally and particularly, the two localities with its geographical location, have been marked by environmental resilience before it has been affected by introduction of destructive practices led by agricultural companies, investors, traders of wood and charcoal and mining activities. The investments have devastated livelihood strategies of local communities, depleted their resources, blocked or narrowed their pastures and animal routes and intensified competition between farmers and pastoralists. As the two localities have long been affected by war between the SPLM and the central government, the holistic majority of population has either become IDPs or refugees. Displaced women are the most affected categories hence should be the first target of any interventions and beneficiary of peace dividends. Due to the protracted conflicts, this category of women did not only lose property and her traditional setting but also suffered from all war related violence and atrocities. During and after war women have become the main gender responsible for family matters (fetching water, food making, cleaning of house, looking after kids etc.), due to absence of family head, who either is in search for work, or fled the area because of insecurity, or because of joining SPLM/N. With these ever-shrinking opportunities, war affected women are shouldering more and more responsibilities.

Women are suffering from different types of gender-based violence (e.g. killing, rape, sexual harassment and vexations) while they are engaging in their daily work (e.g. working on farming, fetching water, collecting hay and firewood). The structural causes of conflicts that include poor development policies, marginalization and poverty have negatively affected women's rights indicated in early marriage, school drop-out and high mortality rate for infant, child and maternal. Despite women are the most affected and vulnerable group, no special consideration has been made in government socio-economic policies. Women have less participation in government institutions, decision making process or local committees that related to natural resource management and conflict resolution mechanisms. It is observed that there are some limited interventions made by national and international NGOs and UN agencies that engage through different projects in collaboration with relevant government institutions. The report poses some recommendations the most important among which are, provision and rehabilitation of social service that could reduce women suffering from lack of social services, advocacy to enhance women's right on participation in natural resource management, handling resource-based conflicts as well as social reconciliation activities; enhance networking between women activists to strengthen efforts/ initiatives of women protection against GBV; formulation and enforcement of laws to protect women from different types of GBV; socio-economic and political empowerment of women, and capacity building and awareness raising for women and other stakeholders in different disciplines mainly UNSCR 1325 in the two localities.

1. Introduction:

This report of Gender, Conflict and Environmental Analysis in Blue Nile State (BNS), and it is related to a proposed project that covers three localities in Blue Nile State, namely Baw, Gissan and Kurmuk Localities. However, this study focuses on two localities namely Baw and Kurmuk where UN Women's project is planned to take place. This project aims to support and engender the peace process in Blue Nile state by enhancing climate resilient livelihoods options for women, youth and other marginalized groups, improving the local governance of natural resources by ensuring the full and equal representation of women, and strengthening the local conflict resolution mechanisms that underpin the development prospects of all groups. The primary objective of this project is to promote durable peace in Blue Nile State through the empowerment of women and girls as active agents of change in natural resource management and conflict resolution. Gender equality and women's empowerment will therefore be central to the delivery of the project.

The report is a response to UN WOMEN request that seeks to carry out a consultancy assignment on Gender, Conflict and Environmental Assessment/Analysis in Blue Nile State. UN Women, UNEP and UNDP are working through an inter-agency partnership with support from United Nations Peacebuilding Fund (UNPBF) with a project titled "Supporting Sustainable Peace in Blue Nile State through Inclusive Natural Resource Governance, Strengthened Conflict Resolution Mechanisms and Climate-Resilient Livelihoods". The proposed project is responding to protracted conflict in Blue Nile State, in which the impacts of climate change have compounded natural resource scarcity and threatened livelihoods that depend on fertile land for farming and grazing.

In many contexts, climate change and environmental degradation exacerbate insecurity, further draining the availability of resources that underpin livelihoods for farmers and herders alike. Women and men are affected by – and contribute to – these dynamics in different and unique ways. However, the interplay between environmental conditions and prevailing patriarchal values and gender discriminatory practices leads to disproportionately experienced adverse effects in which women suffer more consequences of both environmental degradation and their concomitant conflict dynamics (UNDP, 2012). The goal of this analysis is to assess these dynamics and identify entry points for peacebuilding that can both empower women and strengthen community adaptation to climate change.

In societies where agriculture and land-based resources are the main source of livelihoods, issues of security become more complex as various security regimes (food, physical, social and political) impact on each other. In this sense, the quality of life and the quality of environment (productive or degraded) are inseparable and, in fact, mutually reinforcing. Environmental insecurity should be understood within the context to degraded quality of life, which has remarkable implication on gender aspects through changing men and women's roles and responsibilities. The way the environmental crisis has reinforced gender relations, disrupted community life and provoked local, national and regional conflicts¹ is profound.

Blue Nile State in general and the selected areas in particular represent a clear example of how exploitation and subjugation of natural environment, local communities and women went hand in hand with escalating dynamics. Looking at the conditions from this perspective is particularly important during the current transitional period in which making and building peace are prioritized. Otherwise, if we missed to see the deep interconnections, and inbuilt structural violence that connects environment, natural resources, marginalization of local communities and gender discriminatory practices, these attempts of peace building will remain superficial and remain at the level of symptomatic treatment. A sustainable way of dealing with repercussions of conflicts in this state, as elsewhere, should be built on a comprehensive vision that is able to connect all these causes of conflicts. Thus, making the empirical and analytical connections of these issues as main objective of this report. The analysis seeks to assess the differences in the conditions, needs, participation rates, access to resources and development, control of assets, decision-making

¹ Yahya. Abdelmageed M. (2009) Transformation of traditional resource management systems and conflicts in the clay plains of central Sudan, Ph.D theses, U of K, Khartoum

powers, protection issues including SGBV, etc. between and among girls/women and boys/men in their assigned gender roles and how this has been impacted by the conflict, environmental and climate crises.

The findings will inform the design of project interventions and will serve as a key gauge and benchmark in ensuring that project implementation is responding to conflict and gender as well as environmental issues in the target communities in Blue Nile State.

2. Justification and significance of the Study

The triangle of gender, conflict and environment are inextricably interrelated. Women's active participation in environmental planning and conflict resolution contributes to peace and resilience to climate change, while unequal gender relations can derive conflicts and contribute to environmental damage. Gender equality in fragile situations is critical for achieving sustainable peace and environmental stability. The main factors driving gender inequalities, conflict and fragility are prevalence of discriminatory gender norms and practices. Hence addressing underlying social norms and gender relations and link them with conflicts and environmental aspects in Blue Nile State (BNS) is crucial for designing gender sensitive programs. The poor historical government policies in BNS have exacerbated gender inequality and caused environmental degradation. The introduction and wide expansion of mechanized schemes in BNS, in the 1960s, have resulted in crucial changes among traditional recourse users. The distribution of land as mechanized schemes to investors has abolished peasants and land reserves for shifting cultivation as well as accommodating population increases. Peasants and women in particular have been displaced and forced to cultivate in marginal land with negative consequences on their standard of living. However, land appropriation by outside capital investors reduces communities mainly women to work as a precarious wage labor in their own land and many villages have been completely removed and evicted. The expected number of displaced people return to their homeland to use resource (Land, water and charcoal), that may be seen bountiful now but that will become an object of inter and possibly intra - community competition and disputes. So, the study of gender, conflict and environmental analysis will become significant to address how these interrelated issues are reinforcing and integrated when we plan for enhancing gender equality and women empowerment in the two selected localities.

3. Objectives

The overall objective of this assignment as stipulated in the Terms of Reference (ToR) is to assess the differences in the conditions, needs, participation rates, access to resources and development, control of assets, decision-making powers, protection issues including SGBV, etc. between and among girls/women and boys/men in their assigned gender roles and how this has been impacted by the conflict, environmental and climate crises.

The specific objectives can be described as follows:

1. Generate data to better inform the project with essential information on the perceived historical and structural background of violent conflict and how conflict relates to gender and environment issues
2. Identify the key issues related to conflict, natural resource governance, and gender inequality in project locations.
3. Engage all stakeholders in Baw and Kurmuk localities in the process of prioritizing areas for the project interventions in Blue Nile State.
4. Prioritize the selection of communities for project intervention.

4. Coverage Area

The study covered the following areas:

- i. In Baw locality, the study covered the three communities where UNDP (C2SP) works. Baw town is highly affected by IDPs, most of the people fled the area because of the war, and

hence very few households (HH) returned to Baw (around 17 HH). The team organized Focus Group Discussions (FGDs) and interviews at Al-Shaheed Afandi area.

- ii. In Kurmuk locality, the researchers conducted interviews with key informants. Kurmuk locality is highly affected by the war and was inaccessible during rainy season, the team conducted interviews and FGDs in Damazine. Interviews and FGDs were held in Kurmuk coordination office in Damazine where all the responsible officers are in Damazine during rainy season. They included but not limited to the executive manager of the locality, social welfare manager, girls' education manager, representatives of local communities, representatives of the resistant committees, native administration, representatives of change and service committees...etc.

5. APPROACH AND METHODOLOGY

fully participatory approach was adopted, and the study went through the following three phases.

5.1 Phases of the assignment:

a)- Inception phase: During the inception phase, a desk review was conducted, the methodology was planned in close consultation with the rest of the research team where the research tools were designed and detailed field work plan was prepared. During this phase, the methodology, questions, field sites, the required data and best potential combination of resources were fine-tuned, and the research design was accomplished in a participatory manner. The following activities were planned based on the following:

- Four focus group discussion, (2) in each locality.
- Eight Key Informant Interviews (KII), (4) in each locality.
- One workshop in Damazin to validate the field information, and to collect information from authorities at state level.
- Sites visits to selected communities in the two targeted localities of the research, using qualitative tools where quantitative tools like questionnaire have not been applied.

b)- Field visits phase: The data collection team conducted field visits to Baw and Kurmuk localities for the sake of taking the necessary measures to ensure adequate consultation with and involvement of different stakeholders. Four sites in Baw were visited by the team namely Maganza to see how people and companies use toxics and cyanide in mining and data collection; Dirang for returnees, Baw city and the previous capital of the locality; and Elshaheed Afandi, the current capital of the Locality. In Kurmuk locality the study team organized field visits to Bulang for environmental contamination photos and data collection; Dindiro for returnees; and Elmak Nile for IDPs of Kurmuk; and South Damazin City. These carefully selected sites represented a perfect microcosm of the war torn, environmentally affected with clear patterns of spread of different kinds and degrees of GBV.

5.2 Tools and methods of field work:

The team conducted regular coordination and virtual meetings with field-based research assistant to explain the checklist questions and make preparation for field visits. The field survey took place in the two sites (Baw and Kurmuk). The study mainly used qualitative data collection methods, where quantitative techniques (e.g questionnaire) were not applied. The applied qualitative method can be described as follows:

Qualitative data: The qualitative survey adopted a combination of methods to ensure a deeper understanding of the interplay between issues of gender, conflict and environmental aspects that have been evolved in the area. Understanding such a complex and interconnected dynamics required a highly context-sensitive set of tools. Several tools were used to obtain the required information from different stakeholders of the targeted areas. These tools included:

- **Key Informant Interviews (KII)** and consultations with different stakeholders with intersectional clusters across gender, age, ethnic diversity etc. Four KIIs were conducted for each locality with individuals from various backgrounds mainly, but not exclusively; with community leaders,

Community Management Committee (CMC) leaders, government officials, representative of groups, and elites at Baw and Kurmuk localities.

- The research assistant conducted interviews in Damazine with government counterparts that helped much in the assessment and data collection from other sites of the field and to reduce information gap.
- **Gender-sensitized Focus Group Discussion:** The research methodology followed in this project was based on the understanding the different ways of silencing women voices as an integral part of patriarchal structures. In fact, one of the key observations of the research is how the longstanding norms of patriarchy has not only hindered women's full participation in public life but also normalized and idealized the docility and invisibility of women. Against the background of prevalence of such social values, one of the main field related questions became how to make sure that the pre-existing asymmetrical power relations will not affect the full, effective and informative engagements of women interlocutors. Thus, it was crucial in the selection of the participants and the space to conduct the FGDs to make sure that power relations do not affect the natural flow of information.

Two FGDs were held at each locality. The selection of FGD participants was in consultation and coordination with CMCs, to ensure fair representation of diverse groups (different communities where the project interventions are proposed), special attention was paid to the principal of inclusivity particularly considerations of gender balance, age, diverse ethnic groups and vulnerable groups. Including different actors does not necessarily guarantee all of the participants will voice their opinions, share their experiences and stress their interest. Thus, the research paid special attention on inter and intra-group power dynamics that might hinder such easy flow of information. That is why complimenting this method with KIIs proved to be important as the experiences and views of the silenced in a way, or another can be reached out and accommodated.

Two FGDs were conducted in Shaheed Afandi, the capital of the locality with (2) different group, one big mixed group of male and female (leaders, youth, Native administration and CMC members). One FGD was conducted in Damazin for big mixed group of male and female (leaders, youth, Native administration and CMC members) from different Kurmuk communities because it was difficult to conduct in Kurmuk and collect people from different communities due to inaccessibility and lack of means of transportation. The FGD included participants from (Kurmuk, Deim Mansour, Babars, Saly, Surkum, and oklily).

- **Phone calls:** The data collection team invested in using modern communication tools mainly phone calls to cover the hardly accessible areas because of insecurity and lack of means of transportation in some areas of Kurmuk locality.
- **Site Observation and triangulation:** The data collection team also used field observation to describe natural resource aspects and reflect the natural landscape and the dimension of environmental problem in the visited areas.
- Meetings with the UNDP staff in the project area and government counterparts.
- Narratives on the ordinary life of the beneficiaries focusing on priority needs.

5.3 Desk Review:

On the other hand, the consultancy team conducted desk review and went through relevant reports, previous studies to obtain quantitative data related to Gender, Conflict and Environmental aspects in the project area as a basis for the data collection and analysis, as well as to better contextualize the research findings in its broader contexts.

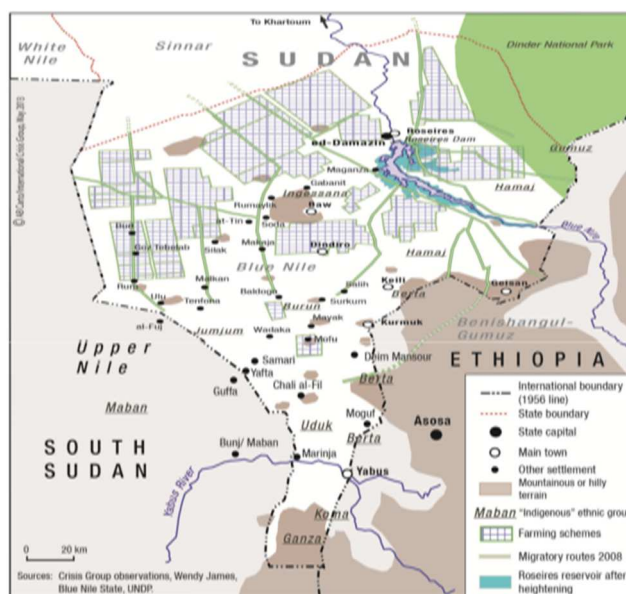
6. Context

The general socio-economic aspects of women in BNS and the two localities in particular, is marked by spread of poverty because of instability and lack of livelihood alternatives, widespread of illiteracy, early marriage because of economic hardship. Women also face so many human rights violations during wartime in terms of forced displacement and accusation by military and security under pretext that their husbands and or relatives support struggle of the armed movements. Insecurity and spread of land mines are the most serious problems facing community and women particularly in Kurmuk locality. Social norms and

recognitions deprive women from land ownership with exception to cases of husband's death, leading to the reason why most women have no large agricultural and/or horticultural lands. Nevertheless, women represent 49% of farmers in irrigated sector and 57% in the rain-fed traditional sector. Despite women playing a crucial role in agriculture and contributing to family income and food security, unfortunately their contribution to agriculture and overall economic development process continues to be undervalued. Women in BNS have actively contributed to agro-pastoral production system as the major resource management system and the main stay for human adaptation. Natural resource management systems has resulted in development of a wide range of socioeconomic and political relations which take violent and peaceful shapes. The violent ones such as conflicts and cattle raids, peaceful ones of marriages, reciprocity built on collaborative labor networks and tribal relations that created a high degree of flexibility and fluidity in access to resource. Women are the main traders of agro-pastoral products in rural markets in different parts of BNS where security aspects permit. The development of market centers and periodical markets at central villages facilitated commodity exchange while also working as places of social interaction and center of political power. However, dramatic environmental changes, socio-economic and political transformations have taken place in BNS over the last decades. Such changes have undoubtedly affected the traditional use of natural resources, gender relations and environmental condition.

6.1 Geographical location:

Blue Nile State (BNS) falls at southeastern part of Sudan between longitude 33:8 and 35:8 East, latitude 09:30 and 13:34 North, bordering Sinnar State from the North; Ethiopia from East and South and the Republic of South Sudan from West and Southwest. The geographical location of BNS has given it a strategic and economic importance, especially after the construction of Roseries Dam as one of the prominent sources of hydrometric power in Sudan. The two selected localities Kurmuk and Baw localities lay in the southern part of BNS, where Kurmuk is bordering Ethiopia at the Southwest (see the map).



6.2 Ecological features of the research area:

The research area is located within semi humid zone with exception to the Southwest parts of Kurmuk locality that fall within the humid zone. The Average annual rain fall estimations ranges between 700 mm – 950mm where seasonal rain fall start in May with peak in August and ends in October. The weather in the rainy season is suitable for agricultural production with maximum temperature of 35 and minimum 20°C. BNS extends from the Ethiopian borders in the east to Sinnar State in the North. The State is characterized by the agricultural lands of clay plains at the Blue Nile banks and the Dam Lake estimated at 3 million feddans. Water resources are available from both rain and the river Blue Nile, at Al Rusairis Dam hydroelectric power plant that produces 280 megawatts/hour, the dam Lake that cover 630 Km² and reserve 7.4 billion meters². One of the main macroeconomic and macro political indicators of marginalization of the state is that its average to electricity has always remained much lower than the national average (50.83%)² despite the fact that BNS has the mega hydropower project. This does only indicate the developmental disparities as one of the main causes of war between the central government and SPLM but also it has other environmental consequences as poor people resort to other environmentally destructive sources of energy as will be explained later. This macro-level context already shows the close interconnections between violence, environmental degradation and poor communities struggle not only due to much localized factors and actors but also induced by broader national structures. It will be difficult to fully grasp the conflict, environmental and gender dynamics at much localized level

² See https://energypedia.info/wiki/Sudan_Energy_Situation accessed on August 3, 2021.

without connecting them to these broader issues. Refer to the section on the context that focuses on filling such gaps.

6.3 Administratively:

BNS is divided into six localities including Russairis, Damazine, Kurmuk, Gissan, Baw and Al Tadamun with Damazine being the State capital. The State covers an area of 385000 Km². One of the ways through which the previous government tried to manage the conflict was by fragmenting the localities and bestowing its loyalists with administrative positions in the newly created local government structures. The territories of localities were mainly drawn along ethnic lines and encouraged different ethnic groups to compete over the control of seats of power in these localities. This legacy bureaucratization of ethnicities and their concomitant struggle for power at these local levels has its negative impact on status conflict dynamics even in post Juba Peace Agreement political fragmentations. As we will see later until the moment of writing this report the pro-Abdul-Azzia and pro Malik Agaar Ethnic groups occupies different localities in addition to other fault lines which historically existed and has not yet been healed by JPA implementation. What we would like to highlight here is the fact that these administrative territories intersect with ethnic divisions and resource-based conflicts and political manipulation of local people aspirations for development and political participation to constitute the broader feature conflict dynamics in BNS.

6.4 Economic aspects: Cursed resource endowments:

The BNS is rich of fertile lands that permit extensive agricultural activities, forest products and mining. Agro-pastoral production system represents the main economic activity and main source of livelihood and income for holistic majority of population in rural areas. Traditional rain fed farming supports 90% of rural communities. Because of these rich natural resources, the BNS has witnessed mega “investments” in agricultural sector since the introduction of mechanized farming in Sudan in early 1970s. There are myriad agricultural companies investing in large-scale mechanized schemes; the most important among which is Arabic Company for Agricultural Investment. The area is also characterized by production of Gum Arabic and forests products. In Baw locality, there are some large scaled semi-mechanized agricultural schemes. Despite these mega foreign external (national and international) agricultural investments, the overwhelming majority of the local communities of the State still rely on traditional small-scale cultivation. These prevailing large-scale businesses has not played its potential role in advancing agro-business environment and economically empowering the communities. Instead, the narratives collected from local communities indicate the fact that these investments have devastated their livelihood strategies, depleted their resources, blocked or narrowed their pastures and animal routes and intensified competition between farmers and pastoralists. Beside the agricultural resources, projects and investments, BNS has also very big livestock population. Estimates have shown that there are more than (6.3) million heads including (1.98 m) cattle, (3.9 m) sheep, 223000 goats and (140000) camels. In addition, BNS is rich in fish production of 5100 tones/ annum, forest resources for production of Gum Arabic and other Gum types estimated at 24% of the State area and mining resources of Chromium; Asbestos; Gold and signs of petroleum. The two localities are very rich in terms of minerals as Gold and Chrome mining (UNDP, 2020; Yahya 2011).

In Kurmuk locality, Agriculture, nomadic and gold mining are the main economic activities. Women are mainly working in agriculture, traditional gold mining and wood collection for fire and charcoal making. Young men and adult men work in herding, cultivation and forests production (charcoal making, gum Arabic and wood cutting).

In Baw locality, the main sources of income for women are working as a precarious wage laborer in agricultural schemes, some of them cultivate their own lands, traditional gold mining and handicraft. Youth and elder men work in herding, cultivation, mining and trading.

The mismatch between the richness of the state and the prevailing levels of poverty, economic deprivation, coupled with political marginalization is the main structural causes of conflicts in this region. Particularly so because most, if not all, of the big investors in all above mentioned sectors are from outside of the State and do not contribute to its development. This unfulfilled aspiration of local communities to make use of their resources for their own development, remains to be closely observed during the transitional period of government and the implementation of peace agreements. Till that happens this gap and mismatch will

remain a driving force for conflict and any peace agreement that does not reverse these dynamics on the ground will be futile and short lived.

6.5 Social:

The population of BNS is (858,071) people according to general census in 2008, and is currently estimated at (1,108,391) (UNDP 2020). The state can be described as small Sudan with regard to diversity in population. It comprises complexity of diverse ethnic and tribal groups including but not limited to Al Fong, Al Hamaj, Al Berta, Al Duwala, Al Regareeg, Al Angessena, Al uduk, Al Gumuz, Al buroon, Al Fellata, Al Hawssa, Arabs, West Sudan tribes; South Sudan Tribes, Nuba and North Sudan tribes.

The two localities (Kurmuk and Baw) are inhabited by diverse tribes and ethnic groups (Ayoub 2012). The majority of population (73%) in BNS are living in rural areas. Kurmuk locality population are (91,000), including (51,000) male and (40,000) female. It hosts (8) IDPs camps in Daglok, Abeego, Bling, Dandrow, EL-Kaily, Okilily, Kurn-Kurn, Surkum. Total population of Baw locality is (136,000) including (54,000) male representing around (40%) of the total population, and (82,000) women representing (60%). The locality has been affected by the political war that erupted in 2011 between SPLM/N and the central government. The locality however, hosts (14) gathering points and camps for IDPs and forced migration in Abo-Garn, Agadi, Samsoor, Shansha, El- Azaza, El-Gray, El-Madina 10, El-Madina 11, Danrow, Belaing, Sinja-Nabag, Aroma, Wad-Afodi and Wad-Abok. The total number of IDPs in Baw locality account for (64,000) including (38,400) female representing (60%) and (25,600) or (40%) male. These different social groups live with varying degrees of peace and conflicts depending on their socio-cultural proximities, livelihood strategies and politico-economic struggles that might or might not exist between them. The point here is to emphasize not just the diversity and the demographic weight of each but the qualitative nature of their co-existence that varies from peaceful collaboration to active wars and the question of how diversity is being mis/managed by whom to what kind is the effect will be tackled in the following sections when we analyze conflict and peace actors.

6.6 Gender Aspects:

Gender-sensitized contextualization of the research moves beyond sheer reductionist description of women's conditions in the project areas. All the above described political, economic, environmental backgrounds of conflict and peace dynamics are revisited in this section from a gender perspective. Gender is more than just relations and roles ascribed to both sexes. The prevailing gender inequalities do not only affect women but the quality of life in all above-discussed contextual aspects. These discriminatory gender values against women have been extrapolated and institutionalized to characterize the political aspect with authoritarianism that is underpinned by patriarchal values. The exploitative economic relations and paternalistic developmental intervention that leaves local communities more impoverished instead of redirecting the resources to their betterment is very much interlinked with prevailing gender norms, discourses and practices as we will show in different occasions to empirically substantiate these interconnections. The main argument here is that gender is a cross-cutting issues that connects and dialectically interplay with political dis-enfranchisement, economic impoverishment and environmental degradation as main driving causes of conflict in this region. On the other hand, gender aspects cannot be understood without considering the intersectionality between multiple socio-economic and political dimensions. Problems of war, violence and environmental degradation are suffered disproportionately and women of war who live in the war affected areas are the most disadvantaged groups. Politically, despite the fact that women constitute the majority of population (60%), still participation of women in decision making and leadership positions is at very low. The political marginalization which is suffered by the whole State is more obvious among variously distanced women groups depending on their residence, ethnicity, education and other related factors. According to customs, social norms and prevailing patriarchal values affect women who are also economically marginalized. Though women are the main workers in agricultural activities, this is widely conceptualized as "helping" their husbands and other male family members in different agricultural stages. This cultural and institutionalized perception of women's economic role as secondary and auxiliary hinders women's access to means of production such as land and needed finance. The piece of land cultivated by women is the one called Gubraka the one immediately attached to the home vicinity in which they grow the crops and vegetables for family consumption. While the wider areas away

from homes are cultivated by men for cash products. Relying on traditional tools limits women's cultivation and marketing of their products, women in these areas are not only politically marginalized and economically disadvantaged but also this vulnerability increased their chances of suffering other prevailing negative conditions of violence, climate changes, and agricultural pests. These are the main problems facing women particularly in Baw and Kurmuk localities.

The pre-existing discriminatory gender relations and roles has been further exacerbated by the dynamics of conflicts and most of them fleeing their homelands and losing their traditional bases. Thus, displaced women become the most affected categories hence should be the first target of any interventions and beneficiary of peace dividends. Due to the protracted conflicts this category of women did not only lose property and her traditional setting but also suffered all war related violence and atrocities. Thus, post war construction and peace processes have to prioritize their participation and reversing their conditions. In fact, the war itself was triggered and escalated due to the institutionalized and militarized masculine values of domination and resorting to means of coercion for peaceful resolution of the problem. Thus, atrocities committed between the warring parties had a clear gender connotation in which the militaristically dominating part does not only claim the monopoly attributes of masculinity but the enemies' inability to defend their territory and women proves their feminine qualities. Femininity is already devalued but it becomes more loaded with negative stigma in these war contexts which erects the masculinity and its aggression and ability to inflict violence on the enemy. In this context, war related gender-based violence of killing and raping become an integral part of war dynamics and part of attempt of humiliating the enemies. This category of subjugated enemies is expanded to include all residence of the area even women, children and citizens who do not take part in conflicts but become one of its targets. During and after war women are the most affected group by war that has taken place in Blue Nile State over the last decade. They have become the main gender responsible for family matters (fetching water, food making, cleaning of house, looking after kids etc.) due to absence of family head, who is either in search for work, or fled the area because of insecurity, or because of joining SPLM/N. With these ever-shrinking opportunities, war affected women are shouldering more and more responsibilities.

Despite government policies and official documents focusing on health, environment, education, economic empowerment, laws and human rights, taking special consideration to women's needs in the post-conflict period, these policies have not been implemented on the ground to mitigate the negative effects of conflicts on women. Women in BNS in general and the two selected localities in particular face so many problems including but not limited to widespread illiteracy, poverty, restricting social norms and violating cultural values and other forms of structural violence and the material conditions these deep levels of inequalities produce. Thus, post war peace-oriented interventions should go beyond the symptomatic treatment of war repercussions to reversing the dynamics that perpetuated this deep level of inequalities. Women have less participation in decision making related to peace processes in Blue Nile State. All of those who participated in Juba Peace Agreement negotiation in 2020 were members in SPLM/N who are living abroad. Women as one of the stakeholders inside Sudan, have not been considered to participate in peace negotiation, and they are not participating in orientation sessions or advocacy or a part of bodies that are concerned with implementation of JPA.

6.7 Environmental Destruction and Escalation of Violence:

Blue Nile State generally and particularly, the two localities with its geographical location, was marked by environmental resilience before it had been affected by introduction of destructive practices led by agricultural companies, investors, traders of wood and charcoal and mining activities. The area is considered as one of the richest areas in Sudan with regard to environmental resources and climate variability. It has large and extended areas of forests resources, Nile forests besides seasonal streams and surface water. However, there are diverse types of trees and shrubs fostered by rich and fertile lands that permit agricultural and horticultural practices. Natural resource management systems and access to land is affected by government policies and regulations as well as social norms that are related to native administration aspects. There is great deal of mutual de-legitimation and mistrust between the central government policies and rules that do not recognize local communities as legitimate owners of these resources and the local communities lack of recognition that the government can administer these resources for their development. This yawning gap of mistrust from local communities is supported by their

historical experiences of mega projects that benefited outsiders and left them in worse condition than they were. Dams were built and heightened but remained like a guest in their state casting its light outside the state while they remained in dark, big agricultural investments deteriorated the habitats and left them in poverty while hosting these agribusinesses at the expense of their own and their environmental wellbeing. The spillover effect of these culminated in mistrust that soon materialized in resistance and the mismanaged resistance and attempts of coercive silencing escalated it into a fully-fledged civil war.

The escalation of war in BNS, particularly after the end and collapse of the CPA in 2011, has resulted in massive destruction of forests resources as military forces from both sides (government and SPLM/N) did over cutting trees for security purposes and trading of wood products. Widespread of charcoal making accompanied by overcutting of forests for diverse purposes have badly affected forest resource production. On the other hand, the misguided and exclusionary usage of already inadequate water sources also resulted in mismanagement of reservoirs, which lead to competition and conflict over access and use of the available water sources. So, environmental destruction, forest overcutting, animal death especially cattle and spread of unprecedented diseases are a common feature. Expansion in agricultural activities at the expense of historical grazing areas and blocking of animals' routes led to concentration of livestock in limited areas beyond the carrying capacity of the pastures. Deterioration of natural environment alongside paved roads of trees cutting for security purposes, deforestation, poor environmental sanitation in/around the main towns and the problem of environmental pollution because of using chemicals (Cyanide) by gold mining companies have all resulted in environmental deterioration and destruction of soils and fertile lands. As referred to in the rich literature of eco-feminism³ as basic patriarchal logic of exclusionist management of the resources under the pretext of development and investment leads to both escalation of conflicts and destruction of environment to serve the interest of few powerful groups against the overwhelming peasants and women in particular. This nexus is clearly observable in the way the asymmetrical, authoritarian and militaristic tendency of dealing with resources and local communities who are not only been sidelined from decisions regarding their resource management but their very existence itself is not recognized and their homeland is treated as empty land. When they try to resist such clear tendency of marginalization and exploitative economic interventions the answer has always been the state violent repression rather resorting to peaceful mechanisms. Peace in this context was regarded as method and attribute of weak femininity and the preferable code of conduct was to use the preferable quote of the regime, preserve the clout of the state by silencing counter voices. We cannot overemphasize the effect of patriarchal values that underpins such exclusionary tendency in resource management, environmental destruction and state violence towards marginalized local communities in these areas. It is not a coincident that many environmental destructive companies that destroys forests for wood and charcoal, and gold mining directly owned by military and other security sector companies and personals. In fact, what has exacerbated this detrimental interconnection between escalation of conflicts and exploitative and impoverishing treatment of natural resources is the fact that these resources and properties of people dwelling were treated as booty (Ghanaem). These local communities were not seen as citizens during war but were rather as redefined as "the social incubators of rebellion" and this is the identification that legitimizes and normalizes the atrocities committed in these areas. Women in particular suffered the most of their deteriorating environment,

6.8 Politics of war and peace in the research area:

Blue Nile State is one of the main affected areas by long lasting armed conflict between the central government in Khartoum and SPLM/A, that resulted in the split of South Sudan in 2011. It had become a part of the political conflicts between North and South since 1980s. The political aspects in BNS are marked by the political conflict and war that has taken place in Sudan since mid-1980s between the central government and SPLM/A. The CPA that was signed in 2005 dealt with BNS through special protocol of

³ See work of Vandana Shiva on interconnections between exploitative capitalism, environmental degradation, war mentality and patriarchy. Namely her books on:

1. *Ecofeminism*, Maria Mies and Vandana Shiva (1993), Fernwood Publications, Halifax, Nova Scotia, Canada, ISBN 1-895686-28-8.
2. *Earth Democracy; Justice, Sustainability, and Peace*(2005).[South End Press](#), [ISBN 0-89608-745-X](#)

conflict resolution, which was designed to solve the political problem in (Blue Nile, South Kordofan/Nuba Mountains and Abyies), which is known as the three contested areas of the CPA. The BNS had enjoyed peace and stability during the implementation of the CPA, however, after the secession of South Sudan the war broke out again in BNS between the National Congress Party (NCP) regime in Khartoum and SPLM/N. The eruption of war in BNS since September 2011 has seriously affected the people of the area, where more than (500,000) fled their homeland as IDPs and more than (250,000) were forced to seek refuge in the Republic of South Sudan (SS) or Ethiopia according to 2015 estimations. So, war affected the Blue Nile citizens and disturbed their livelihood and agriculture and lost education, services, health and business. Women are the most affected groups as they shoulder additional responsibilities including heading households, degradation of her livelihood base, war induced violence, increasing inaccessibility of market and other basic social services. These new conflict-induced layers of miseries added to historically experienced structural violence to magnify the vulnerability of women in these war-torn areas. Facing extremely difficult life conditions with every decreasing opportunity and resource became the main features of women suffering in these localities. Thus, it was not a coincidence that the 2018-2019 revolution started from BNS with heavy involvement of women. BNS ranked among the very active states with regard to political protests against the previous regime. BNS has actively contributed to political change in Sudan both through armed struggle and peaceful civilian protests that culminated in December 2018's revolution. Damazine witnessed the first protest against the previous regime when the people of the state started their active demonstrations on 13th December 2018. However, the split of SPLM/N has prominent repercussion on the political aspects in BNS as SPLM members divided into two groups; one support Malik Aggar and the other support Al-Hilo. So, Baw locality is dominated by SPLM/N led by Malik Aggar, where Kurmuk is dominated by other armed groups who support Abdel-Aziz El Hilo. Accordingly, Juba Peace Agreement has its impact on the ground in the areas that are dominated by Malik Aggar (who is one of the signatory groups), where Kurmuk is still not a part of JPA despite the security situation. When comrades of yesterday become enemies of today, peace processes become more of another wave of conflict than achieving peace. This is one of the worrisome developments of post-revolution politics of peace and conflicts. This is already leading to polarization among and between local communities and if not handled properly will jeopardize the whole peace processes and might add this epoch to this list of missed opportunities. This factor is of great importance, not all outcomes of JPA is reversing the processes of conflicts. In fact in some other aspects such as politically manipulated security arguments is leading to more military recruitments than adoption of proper DDR program that might achieve badly needed citizens-centered security. Many informants refer to the fact that peace is not yet experienced in their daily life and did not achieve more than temporarily silencing the gun. This has been the typical features of cyclic patterns of short-lived negative peace relapsing into another more severe waves of conflicts as grass roots needs for justice and development are addressed and peace dividends are not experienced to address all above-discussed grievances and reversing the process that caused them. This is the process that needs to be addressed if we are to break away from the cyclic patterns of conflict.

6.9 Social services:

1- Education: There are (34) basic and secondary schools in different admin units of Baw locality. Among which there are only (17) schools (14) basic and (3) secondary that are functional. With exception to one school for girls, all schools are either mixed or for boys. All schools lack conducive environment that help in the delivery of quality education services. Kurmuk locality has (15) basic schools. No existed records and data on school dropout among girls in BNS, however, according to interviews with government authorities in Damazine, it is observed that the rate of school dropout has increased during 2019 because of the political instability and also during 2020 due to COVID 19 pandemic restrictions and lock down. Girls' dropout from schools also related to economic situations and displacement, where some of families use to manage their economic problem by depriving girls from education and supporting boys to continue. However, some women based on their inherited culture, prefer early marriage to their daughters instead of spending long time in education. According to manager of girl's education in BNS, it is observed that numbers of girls are very high in lower levels and gradually decrease in the upper levels. Other reasons behind high rate of girls' dropout at secondary education, are absence of secondary schools in rural areas of the two localities (Baw and Kurmuk) accompanied by absence or poor hostels where families in rural areas do not permit their girls to stay with other families.

2- Health: Among (12) existing health centers and (2) hospitals in Baw town and Wad-Abok, there are only (8) health centers and one rural hospital which are operating. In Shaheed-Afandi, Abo-Garn, Ahmer-Seedak, Silik, Samsoor, Masfa, Khor-Adar, Mugja, El-Noraneyah, El-Bangadeed and Adar. Health centers provide different services including treatment, vaccination, child feeding and reproductive health programs. In Kurmuk locality there is only one hospital in Kurmuk town and (8) health centers, among which there are only (5) operating. The limited available health services lack the minimum requirements, accessibility equipment and cadre to provide services for the people of the locality who are suffering from insecurity situation because of the war and also diverse types of diseases due to poor environmental condition.

3- Water sources: Water is an essential element to development, stability and social welfare as it is prerequisite for human needs, agriculture, animal resource and domestic activities. Ground water are the main sources for drinking and domestic use for more than 80% of human population and livestock. The geophysical nature of the BNS as located in the Nubian and Alluvial Basin make the two localities suffer from inadequate water sources under conditions of bad quality of existing water sources. Women are the mainly affected group by inadequate water sources as they are responsible for bringing water to satisfy their household daily consumption. Women are vulnerable to health problems and GBV risks when they travel long distance to bring water. More than (80%) of population in the two localities depend on hand pumps and seasonal reservoirs (Haffirs) as the main sources of water. Unfortunately, the majority of hand pumps are broken and in need of rehabilitation. In Baw locality there are some water yards in Shaheed-Afandi, Wad-Abok, Meginza and Dairing and the rest of the locality rely on hand pumps and seasonal water sources (mainly reservoirs).

In Kurmuk locality there are only two water yards in Beling and Kurmuk, and there is one Haffir (reservoir) in Dandrow and the rest of the locality areas depend on hand pumps as the main water sources.

6.10 Governance and security institutions:

1- Police Centers: Despite the two areas suffering from different types of conflicts and daily incidents, there are few police centers existing in the two localities with limited officers or policemen. Kurmuk locality has three police centers in Kurmuk town, Dandrow and Belaing. In Bawo locality there are few policemen in Meginza and there are police centers with low profile in Wad-Abok, Shaheed Afandi and Dairing. Due to the protracted conflicts with the central state, the local community's relations with formal security sectors is characterized by lack of trust if not hostilities. Formal security sectors need to go through serious transformation to gain the acknowledgement and legitimacy in perception of local communities. With exception to Damazine and Roseris towns the cases of violations against women are in recurrent and increasing rate due to absence of police center and service. Many violations against women reported against military forces whether they are husbands, brothers and others were the main actors. In April 2021 a soldier attacked his divorced wife and killed her and her daughter by burning fire. In May 2021 there was a case of woman raped by a soldier reported in Giessen (Kurmuk area) and disappeared. Around Baw locality local people are suffering from insecurity situation due to widespread of trading in weapons and drugs, and many families were forced to flee their areas because of clashes between policemen and traders of drugs and weapons. In April 2021 a girl was raped by five soldiers who disappeared without being captured. In August 2021 a woman working in tea making in Shansa rural market (Baw locality) was killed due to clashes between policemen and a trader of drugs and weapons. What is at stake here more than the limited presence of formal security sector but the negative presence that caused more insecurity than protecting citizens. The gap of mistrust is thus so wide and deep and need to be addressed through serious security sector reform that can heal the wounds and increase the trust. Security is the cornerstone of any development and gate for any positive intervention and thus the JPA security sectors arrangements should be expanded from its narrow militaristic and technical sense of DDR to encompass all dimensions of human security. Great efforts need to be taken to transform these repressive and coercive forces into a trustworthy security sector that contributes to reversing conditions rather exploiting both natural resources and local communities. This adversary relations have been intensified more in newly emerging economic sectors such as gold mining in which some security sectors related companies are direct stakeholders and being part of these lucrative business of reaping the privatization of state power at the expense of local communities' resources and environments is a continuation of deep structural violence that predated and postdated the active conflict. Security sector as the highest manifestation of institutionalized masculinity have strong sense of entitlement to both power and resources and that is relatively the case with the peace

signatories who should depend more on political legitimacy than their guns. Lack of meaningful participation of women in peace negotiations is a clear testimony to this patriarchal sense of entitlements that is likely to address these deep causes.

2- Judiciary System: In the two localities (Bawo and Kurmuk) there is no department which is responsible for the natural resource management in either locality. Hence, the related departments working individually or are partially collaborating with certain actors working on the implementation of the activities. About 90% of the court cases related to people's livelihood and land issues were addressed by native administration and its court system which are operated at city and rural village levels. With regard to violations against women in the two localities, it is observed that most of women's cases are related to GBV. No updated comprehensive studies on women aspects in BNS, however, based on a random survey to the police official records on women's cases over the last six months in BNS, there were (6) cases out of (10) that are violations against women including beating and killing. Between April to September 2021 more than (10) cases of rape were reported where none of them have been taken to court. The point raised about the lack of trust, and mutual de-legitimation between security sector and local communities in these areas also applies to the formal legal institutions which has not been providing justice in their struggle with above-described forms of inequalities and violent exploitation. In fact, the parallel security institutions (rebel movement) and legal institutions (customary legal systems) were historically created and strengthened as a way of shielding themselves from unjust formal state laws, repressive state security apparatus and the whole structure that does not recognize their full citizenship. Thus, these conditions lead us to stress the point that the post conflict interventions need to consider these deep-seated predicaments. Having said that we also would like to point out that the traditional justices' systems are both male dominated and supported by masculine values. The fact that the traditional justices is more relevant and gives some sense of justice to the local communities should not obscure the fact that it does not contribute to gender equality but rather perpetuates inequality. Thus, interventions in these local communities should cautiously deal with these nuances and should not naively deal with traditional leaders and its courts systems as representative of local communities' aspiration for justices.

7. Key findings of Gender, Conflict and Environmental Analysis

Generally, the key findings can be described in the following points:

- Subjugation of local communities and their environment goes hand in hand.
- Though the whole communities suffer marginalization and violent conflicts, women are among the most suffering categories. Women themselves do not equally suffer vulnerability those who are in IDP camps or conflict zones are in more precarious conditions than those who live in urban areas for instance. Thus, interventions should prioritize the need of those most devastated.
- State legal and security apparatus have been conducting the exact opposite of their normal roles. Security sectors were terrorizing citizens and justice system were blocking them from accessing fair treatment.
- The current peace processes might not be able to address the deep structural causes that erupted the conflict.
- The natural resource management system that depends on powerful actors' exploitation of local communities is not sustainable as it triggers conflicts.
- Subordination of women, exploitation of natural resources and impoverishment of local communities are interconnected as they stem from the masculinized exclusionist mindset.

7.1 Gender and Environmental Analysis:

7.1.1 Natural resource management systems: As mentioned above, agriculture, pastoralism, forest products and mining are the main economic activities and stay for the two selected localities.

1- Agriculture: In Kurmuk locality, there are two types of agricultural practices; rain fed traditional cultivation and horticulture. Local people cultivate subsistence crops to secure their food, where they cultivate small plots as they depend on traditional tools and there is no modern technology or agricultural inputs existing in the area. Women mainly cultivate beans and they don't have access to funding institutions despite they represent the majority of agricultural labor through working as precarious cheapest wage labors. However, most of Kurmuk locality areas are out of the central government control and have severely

been affected by war as they have been dominated and controlled by SPLM/N forces. Accessibility to some areas is difficult and dangerous because of the spread of landmines, active ammunition and explosives. In Dandrow and Banora areas there are some mechanized farming of 40000 and 7000 Feddans respectively. Local people also practice horticulture and mainly produce Mango in Babrus, El-Daim, Wawra and Yaboos. Unfortunately, these gardens have no feasible revenue to owners as they are located in inaccessible areas because of insecurity and bumpy roads since the eruption of war. So, the owners of these gardens are suffering a lot every season, to access and benefit from their products. Mostly formal military forces ban or force them to sell their products in a very low price to officers or other traders.

Baw population practice agriculture in small plots due to the mountain nature of the area. Men are responsible for agricultural tasks with regard to distance farms where cash crops (e.g sesame and sorghum) are cultivated. Women work in small plots nearby or surrounding villages where peanut, beans and sorghum are the main subsistence crops cultivated for local consumption. Women also work as agricultural laborers mostly in large schemes. Local people rely on traditional tools in cultivation and there are no agricultural companies that could provide agricultural inputs because of two reasons.

- Insecurity situation, and.
- Limitation and lack of agricultural lands with exception to Wad-Abok and Agadi where agricultural schemes extended into (250000) feddan and (158000) Feddan in the two areas respectively.

Agriculture (farming and livestock) is the main source of income and livelihood for most rural households in Blue Nile State and agricultural sector represents more than 60% of the state revenue. The proposed project responds to protracted conflict in Blue Nile State, in which the impacts of climate change have compounded natural resource scarcity and threatened livelihoods that depend on fertile land for farming and grazing. Women work in small agricultural plots close to villages, and many of them engage seasonally as precarious wage laborers in agricultural schemes at different stages of agriculture mainly crops harvesting. Men dominate control and management of natural resources where women have less participation in decision making related to natural resource control and management. Women face many types of GBV while they are working in farms or achieving their daily work.

Women in the two localities, play intrinsic role in different agricultural stages, started from land preparation, cutting of small trees, cultivation, weeding, harvesting and storing. Food making, water fetching and provision of firewood are the main responsibility of women. So, women are the most affected by environmental deterioration and change that resulted in fundamental change in vegetation cover and land yield. Farmers cultivate and produce diverse subsistence and cash crops including but not limited to sesame, sorghum and groundnut. The main point to be highlighted about agricultural sector is that women's position is relegated to most traditional, small-scale, domestic consumption-oriented strata of an overall marginalized sector. Women mainly produce subsistence crops with some limited engagement in cash crops cultivation. Blue Nile State represents one of the most famous areas in Sudan with regard to investment in agricultural sector, where the giant companies like Arabic Company for Agricultural Investment have large and extended agricultural schemes since 1970s. The expansion in agricultural investment in BNS accompanied by climate change reflected in fluctuations of annual rain fall have worsened the situation of women who mainly depend on cultivation of small plots with limited options of crops diversifications as they mainly cultivate legumes as the main stay for livelihood and family income. It is observed that over the last five years, the annual floods and crops damage have comparatively increased as a result of climate change impact.

Women as agricultural laborers are exposed to exploitation either through unfair fees or SGBV. They represent the majority and the cheapest agricultural laborers, where the existing associations and agricultural labor bodies do not protect women's rights or prevent exploitation against them. However, it is observed that there is very clear discrimination against women in agricultural funding policies. Funding policies do not enable peasants mainly women to get benefits from funding opportunities where most of funding is allocated to big merchants, holders of large schemes and investment companies. Unfortunately, women have social barriers restricting their ownership to agricultural lands and most of them are not able to get access to funding opportunities. Women also suffer from stress, malnutrition, looting of their crops such as beans and face many types of GBV including sexual harassment. It is known that women cultivate around their villages, however, due to conflict over land boundaries between Giesana and Baw localities,

women are deprived from cultivation as the State Ministry of Agriculture stopped cultivation in disputed areas. As a result, many women lost their cultivation season.

2- Herding System: Pastoralism represents the second economic activity besides agriculture. In Kurmuk locality, most of those who practice regular nomadism are Fellata and Arabs who are not considered as a part of the locality populations. As Kurmuk locality is highly affected by war and insecurity situation, the historical pasture and grazing areas have been backed and inaccessible, which forced pastoralists to concentrate in secured areas that most of which are agricultural lands. This new situation became a source of conflict between pastoralists and local communities. In Baw locality, herding is one of the prominent economic activities that has taken place in the area for a very long time, where cattle products in Angasana Mountains is widely considered the best quality of animal butter. Because of the war and change in pasture lands, animal population and production have been decreased.

Women in the two localities work in herding system as they breed small number of animals (mainly goats) in their villages' vicinities, but they do not engage in grazing of large number of livestock, which need moving faraway from villages. However, according to social norms and culture women are the main gender responsible of milk production and selling.

3- Gum Arabic and Forest Products: Forest products represent the second source of income in Kurmuk Locality. The formal military forces prevent local people from access to forests products and control forests area under pretext of security aspects, and at the same time they benefit from harvesting and marketing of forests products . The locality is famous for high production of Baobab products and gum Arabic. As well, the locality is first one in production of Canna particularly in the western part of Kurmuk Locality. Women have limited participation in these practices because it is difficult for them to work in this kind of work beside insecurity situation. The location of BNS and Baw locality in Gum Arabic belt makes it famous for high production of Gum Arabic. However, the production of Gum Arabic is facing the problem of overcutting to forests due to deployment of SAF and Struggle between Armed Movements. All of them are working in cutting of trees for the purpose of charcoal making and marketing of wood. Women have limited contribution to Gum Arabic production, but they work as precarious wage labor in collection of Gum. Deterioration and destruction of forest resources due to forests cutting for different purposes (firewood, charcoal making, building materials ...etc.) and engagement of companies and investors from outside BNS, have all increased women suffering to get access to their main source of domestic energy (firewood and charcoal). Women walk very long distance to get firewood, which badly affect their health and put them at risks.

Military forces dominated forests around villages for security reasons which expose women to different types of GBV including sexual harassment and rape, unfair wage and exposure to violence when they go to logging. They meet with formal military forces who deal with them brutally and face violence while they work in harvest as laborers, and mostly owners give them unfair wage and insult them. Women have been directly affected by deterioration of forests resources because they are responsible for collecting rubbish and firewood. Moving of women to distant places far away from their villages exposed them to risks of violations and abuse by formal military forces. Many women claimed that the formal military forces used to take their bundles of wood and prevented them from logging.

4- Traditional Mining: By the beginning of 21st century many people in BNS and the Baw locality have started to work in mining activities. Before engagement of local communities in mining, this activity was absolutely in control of investment companies that work in Chrome and Gold mining in Khor-Gadad (Maganza) and Dering areas. Mining activities have caused a very serious pollution in the locality particularly in Jam and Fadmia areas. Women actively participate in mining activity through working in screening beside men who work in pitting and mining. The majority of the locality populations practice traditional gold mining that represents the main source of their income in South-East and Western part of Kurmuk, Oklili, Khor-Elbod and Blaing. There are no gold mining companies in place with exception to Blaing, and people rely on safety traditional methods of dealing with gold rather than using cyanide. So, mining activities face some challenges and problems, the most important among which are:

- a) Using of Cyanide, which has a very serious repercussions of water and air pollution and causes dangerous health problems resulting in spread of cancer diseases, high rate of abortion cases for women and girls and death of large number of people.

- b) Mining activities have very serious social implications indicated in widespread of child labor in traditional mining, widespread of drug abuse and engagement of farmers and herder in mining activity. This process has direct impact on women who shoulder responsibility of family matter, heading household and loading additional work that could be done by their husband and children if they didn't engage in mining.
- c) Using modern methods of minerals extraction from the ground, by some companies led to destructive effect on landscape through cavity and collapse of earth.
- d) Unorganized mining led to the destruction of historical monuments.

Mining sector represent a glaring example of how powerful actors like military related companies are the most dominant ones then comes other investors from outside the State, then men from the local communities mainly as laborers and few women only working on petty services related to this sector such as selling tee and food. Women hardly access this male dominated sector. Despite mining is regarded as the most lucrative business the fact that these precious resources are not invested in their betterment is a new source local frustration, what adds to these grievances is the fact that these activities are being conducted in violation of globally acknowledged standards and environmentally harmful ways. The core notion is that because of malfunctioning judiciary systems and environmental authorities' companies avoid environmentally sensitive methods of extraction as this would increase the production cost. This cost is avoided by the investors and paid by the local communities and their environment. Finding a legally binding measures of environmentally friendly methods and reallocating some of the resources to development of infrastructures and provision of social services can be an area where previous marginalization processes be reversed. However, this will not be an easy task as the most powerful actors have a vested interest in maintaining the status quo as much as they can. How far the peace agreements and their concomitant political changes will realize these goals remains to be seen.

5- Trading: Baw: In the past, most of the inhabitants of the locality practice trading on forests products, which is extensively available in the area. Traders used to sell their forest products through weekly revolving markets where they sold Dom, and baobab., They were also very active in marketing of frankincense gum that was produced from the widespread of *Boswellia* trees. Women are working in trading of forest products beside men, and they are very active in products related to handcraft of food covers and traditional fans. Men are working in making traditional beds and seats. Charcoal trading was not widespread as most of the existed trees are not suitable for charcoal production. However, because of the war, trading activity has either reduced to a very limited level or completely stopped as insecurity situation locked down the weekly markets. Trading activity is only active in stable markets that are close and related to mining areas in Meginza and Dairing. On the other hand, Kurmuk Locality is famous for cross-border trading as its location near borderline between Sudan and Ethiopia provide good opportunity for the people in Kurmuk Town, in particular, to get engaged in trading activities. Unfortunately, the bumpy roads do not facilitate easy movement between Kurmuk and other towns and thereby restrict the prosperity of trading activity. Women do not engage in cross-border trading activities as it is high risky for women and hard as mostly the male traders take the risk of smuggling and passing through jungles and forest under condition of insecurity.

7.1.2 Challenges and change in access and use of natural resources:

Unlike Baw locality, people in Kurmuk don't rely on rain-fed agriculture as their main natural resource and this is according to the locality executive director because of many factors:

- First and foremost, domestic instability in the area and most of the agricultural lands are under the control of armed movements.
- In addition to that, there are mines in some places which make it hard to access the lands. Therefore, mining is their main natural resource, and this caused conflict because Kurmuk people think that they have the right to receive the mining revenue because they historically own the land.
- Kurmuk people mentioned that they can't access the forest resources area since it's under the military control, and they don't receive any of the horticulture crops.

However, the most important challenges in Kurmuk locality include:

- Women are not allowed to participate actively in natural resource management committees, and they are facing big challenges to use their limited resources. They face so many problems to

register their small agricultural plots as their lands have become a part of big schemes owned by traders and investors and women don't have the financial ability to lease large agricultural lands nor register their small lands.

- Insecurity situation and spread of land mines and explosive ammunition that restrict population movement and expansion in agricultural activities.
- Disputes and conflicts occur between local communities and agricultural investors over use of villages' vicinities mainly in El-Kakly and Dowia areas.
- Domination of the official military forces to existing natural resources and depriving local community to access and use the available natural resources mainly forest products.
- Bumpy roads restrict the easy movement of population and thereby hamper growth of trade and also don't assist local producers to transport their production to markets and consumption centers.
- Administrative corruption in agricultural sector; as the agricultural administration used to distribute fertile agricultural lands to outside investors at the expense of local inhabitants. Agricultural administration has allocated large agricultural schemes to investors and big farmers in area owned by IDPs who fled their homelands.
- Insecurity and spread of land mines are the most serious problems facing community and women in Kurmuk locality.

In Baw locality, agriculture faces many problems related to dispute over boundaries between Baw and Giesan locality, as they were one locality in previous time before getting divided into two localities. The main factor that affects and impedes natural resources usage and management is the territorial dispute between them and people in Giesan. It all started when the division of localities wasn't done with clear borders and the villages citizens have been displaced by the dam. Bringing in mind that there are large areas where there is no agricultural usage for citizens. This increased attritions between farmers alongside the territories line. Women are the most affected victims particularly those whose farms are located on the border line. Last year women were not able to cultivate their lands in the area between Samsoor and Banat as a response to a decision made by the state ministry of Agriculture. According to FGD with local people the decision has affected women's access to their lands. In addition to that, most of the large areas and even the inhabited villages were distributed for mining projects, it threatens their return to their homes where companies have contaminated the area and are not habitable anymore. Farmers cultivate sorghum, sesame and beans. The most serious problems that face agricultural production in Baw locality can be described as follows:

- Depending on traditional tools in agriculture.
- Cultivation of lands adjacent to villages.
- Floods and agricultural pests.
- Small farmers lack protection to their farms from violations by animals.
- Blocking of animals' corridors and expansion of agricultural lands at the expense of grazing areas. Women affected by blocking corridors as nomads use to enter their animals in cultivated land some of which own by women.
- Conflicts over land access and use.
- Despite the ministry of agriculture reducing the large agricultural projects by 20% in favor of opening corridors, but unfortunately, they were redistributed and exploited by some influential persons, which reproduced the problem.
- Overcutting of wood and using of modern machines led to massive destruction to forests resources, where forests have been looted by armed forces and forests products became the property of military forces.
- Over utilization of forests resource has resulted in scarcity of firewood. Firewood has become distant and expensive which threatens the voluntary return of IDPs. Women are the most affected group by destruction of forests as they are responsible of wood gathering for different domestic purposes. Forests and vegetation face a cute deterioration because of wood overcutting and charcoal making that are produced by militaries in areas under their control. State forest administration is not able to govern forests and prevent encroachment due to extended spaces and weak capacity and they mainly depend on local forest guards.
- Mining activity also faces many challenges and problems including but not limited to chronic environmental pollution that has taken place in Dering, Meginza and Kharaz-Jidad due to companies waste solid that have been accumulated in an area close to the main water source. The

environmental pollution led to massive animal death (cattle, sheep, dogs etc), in addition to emergence of high rate of abortion and cancer cases in Baw locality particularly at villages that are located around mining areas.

- Herding system as well, face so many challenges related to recurrent encroachment against livestock routes. As a result, the Baw 2011 conference on arrangement on natural resource management, the cultivated land was decreased by 20% to open livestock routes and provide enough pasture and grazing areas, but unfortunately these areas have been cultivated by military and security authorities as well as some authorized individuals.

7.1.3 Natural resource policies and governance:

Natural resource availability, access and utilization is inextricably linked to government policies that determine natural resource management systems. Sudan was one of the African countries that early developed laws, policies and institutions towards protection of the environment and governing access, and management of its natural resources (UNEP, 2013). The colonial regime developed legislations, geared towards governing access and use to natural resources and management since early years of the 20th century. Since the Sudan independence the legislative framework governing natural resources access and use was confronting a situation of sector-based: dual legislative of considerable laws, and institutional framework that's governing access and management of natural resources. That means, there is no unified system of natural resources legislation governing formal and informal access, allocation and use of natural resources in the country. Blue Nile State and the two selected localities (Baw and Kurmuk) have directly been affected by the Unregistered Land Act of 1970, which stated that all unregistered land in the whole country is state property. This Act paved the way for the government to apply legislative land tenure system all over the country including Blue Nile state in particular. The Act did not recognize the customary land arrangements. It practically excluded the rural communities from the process of land arrangement, mainly pastoralists' communities were being prevented from access rights to water and grazing lands (Shazli 1999, IUCN, 2007). This created an apparent governance gap on land use at community level in most parts of the country, particularly after the abolition of the native administration. This situation has created real deficiency of land tenure arrangements in the rain fed rural areas of BNS.

The main impacts of this Act were: arable land, grazing land, woodlands, and surface water resources and livestock routes have been converted to open access resources. In addition to, absence of definite government mechanism and measures to regulate allocation, access of land and other natural resources mainly the natural forests resources. Government became unable to regulate and control access to these resources. Also, pastoral tribes and traditional farmers, continued to have access to grazing, arable, forest land and water resources without control. Consequences of the above-mentioned points, boundaries of rural communities' resources have become open to outsiders without being bound to rules regulating their access and use of the resources they utilize. The uncontrolled extraction of resources particularly forest land resources led to fierce competition for access to the uncontrolled resources and consequently severe environmental degradation has taken place.

On the other hand, the investment Act of 1980 that was amended in 1991 and 2001 was one of the very influential government policies. The act aimed at encouraging agricultural investment in the country. This development of encouraging investment in common agricultural lands has resulted in creation of new entitlements to the resources that go against customary arrangements mainly in the areas of the savanna Belt. These poor conceived policies extended to cover wood and forest, where wood and forest Ordinance during colonial era and after the independence declared that forests resources are government properties and established for more forest resources reserved through National Forest Corporation. Linking between the above mentioned economic activities (agriculture, herding, forest resource, mining and trading) and these polices, it is clear that conflicts, gender aspects that related to women access and use of natural resource, land tenure issues and competition over access and use of natural resources are all bound by these policies. Natural resource availability for local inhabitants and conflict are not only affected by government policies and legislations but also climate variability and change that has taken place in BNS as a whole and the two localities in particular.

7.1.4 Participation in decision making and natural resource governance:

All above discussed features of environmental destruction, local people's marginalization, and women's vulnerability in all walks of life stems from the fact that these local communities are disenfranchised from decision making structures. Decisions about their livelihoods and resources are taken away from them and to serve the interest of the elites at their expense. When it comes to women's position, this is the case from very localized committees to higher positions of decision making. Thus, empowerment is the solutions if they are to reverse the longstanding marginalization.

- Most women are sidelined from participating in government institutions, decision making processes or local committees that are related to natural resource management and governance (agricultural management, department of fodder and pastures in the two localities, conflict resolution committees, estimation of crop damage committees, agro-pastoral production committees, coordination committees for community responsibility regarding mining activities, ...etc.).
- Women have less participation in decision making related to peace processes in Blue Nile State. All of those who participated in Juba Peace Agreement negotiation in 2020 were members in SPLM/N who are living abroad. Women as one of the stakeholders inside Sudan, have not been considered to participate in peace negotiation, and they are not participating in orientation sessions or advocacy or a part of bodies that concern with implementation of JPA.

7.2 Gender and Conflict Analysis:

Conflicts have been viewed as explosive preserve of men battling to either defend some class of people or for protection of area or group. Women in their capacity as wives, mothers or sisters are particularly vulnerable due to the endemic GBV that exists in their communities (Okyere. 2018). Blue Nile has experienced different types of political, social and economic conflicts. Despite women are usually not presented as primary provokes of conflicts, but they are most vulnerable and victim group (UNDP 2020). This section focuses on factors, causes, triggers, types and actors of conflict as well as the impact of Conflict on community and Gender aspects.

7.2.1: Factors of Conflicts:

1- Structural Factors: the structural factors cause conflicts in BNS comprise marginalization, poverty, illiteracy, poor government policies and climate change and environmental degradation.

2- Marginalization: Feeling of political and economic marginalization in BNS dates back to the beginning of 1980s, when land grabbing and exploitation led some in Blue Nile to identify more with South Sudan than the Sudan. The people of BNS and women in particular have experienced political marginalization as they have less participation in decision making, which made SPLM leaders namely Malik Aggar push for self-rule and substantial autonomy. Economic marginalization was also linked to the question of wealth sharing between BNS and the Central government, asking for Dam revenues to go to the state and demanding respect for customary land tenures involving traditional leaders and local people. Women are affected by political and economic marginalization as they already in the margin of marginalized community. Women are highly affected by war that resulted from dissatisfaction of political leaders and activists through continuation of war in BNS. On the other hand, women are not involved in decision making institutions and most of women's issues are not considered in government strategies and plans.

3- Illiteracy: It is widely known that the original tribes of BNS mainly Angasana tribes were not engaged early in educational institutions, where illiteracy rate is very high particularly in areas distance from Damazine Capital like Baw and Kurmuk. The spread of illiteracy rate in BNS has negative impact on natural resource access/use, participation in power and decision making as well. Based on 2008 estimations, it is observed that BNS reported the highest rate of illiteracy in Sudan, and the majority of illiterates are women where more than 50% of women in BNS are illiterate comparing to 40.5% among men. That is mainly due to economic deterioration and political instability and high rate of school dropout. It is expected that illiteracy rate has increased due to re-eruption and escalation of war after September 2011, where most of the schools and education institutions have either been destroyed or occupied by military and security forces.

4- Climate change and environmental degradation: There is a strong link between climate change and gender aspects at any given society with special consideration in developing countries like Sudan. Women

in BNS are vulnerable to the effects of climate change, which could exacerbate gender disparities, chronic environmental hazards (e.g., deforestation, scarcity of water sources, land degradation ...etc.) and seriously destroy rural economy and worsen the situation of already existed discrimination against women. Women in the two localities are the most vulnerable group to climate change and environmental degradation since their livelihood system is mainly dependent on traditional natural resource management system that are affected by climate variability. Based on the different roles and responsibilities, women are the most vulnerable group because they have less participation in decision and policies related to mitigation and adaptation with climate change, cultural and social norms also play intrinsic role in restriction of women to build their skills such as swimming and tree climbing that could help them much to stay survive during chronic natural hazards⁴. According to interviews with many people in the two localities, environmental degradation and climate change's impact have become a common feature in BNS. The area has long been affected by over utilization of natural resources either through introduction/expansion of mechanized farming, trees overcutting and investment in mining activities using unsafe chemicals, which all caused massive destruction to environment leading to limitation of livelihood alternatives for already vulnerable communities. As a result, resource-based conflicts escalated between farmers and herders due to the demand for resources such as land and water. Conflict also occurs in the summer season along nomadic corridors during transhumance. The reasons for these conflicts are to some extent related to environmental condition as the condition of any ecosystem is a direct result of human activities. This is why natural resource scarcity, shortage of water during summer and environmental pollution are playing the underpinning source of conflict.

5- Unfair government policies: Despite BNS represents one of the rich areas with natural resource including land, livestock and mining resources, the successive Sudanese government, particularly the previous regime has not adopted development policies that could solve the problems and reduce historical grievances against marginalized groups mainly women. This in turn, resulted in continuation and escalation of political and community-based conflicts with special emphasis to the two targeted localities. For instance, the formulation of Unregistered land Act 1970 and advent of formal administration changed the established system and regulations. Hence, the government has control over lands and decided to distribute fertile lands to retired government officials, Companies and investors as well. Thus, indigenous farmers and women in particular who had cultivated their lands for years found themselves landless under condition of suffering from acute poverty. Some local farmers including women indicated that increased investment in mechanized farming and the role of investment authority in distributing lands without consultation with state and local communities is the main reason of war and conflict between several groups.

7.2.2 Causes of Conflicts:

There are many disputes and conflicts reported in the two localities due to:

- a) Problems related to lack of knowledge of borders and rights and expansion of urban planning at expense of historical land ownership.
- b) Seasonal conflicts between farmers and settled communities over agricultural land tenure systems.
- c) Borders conflicts between Giesan, Baw and Kurmuk over land ownership. Border lines between these three localities are not clearly demarcated and agreed upon. In 2020, the State Ministry of Agriculture took a decision to stop agricultural practices in the borders strip between Baw and Geisan localities as a response to manage conflict over land ownership in Semsor (Baw) and Banat (Giesan) areas. The existed social and cultural context in BNS consider women as peace makers rather than conflict provokers. Because men consider women as the most vulnerable and expose to different types of exploitation mainly SGBV during conflicts, women have not been allowed to get engage in violence and conflict. Women have a wide tendency to peace to avoid conflict's burden, however they do not actively participate in decision related to conflict or peace.

⁴ Senay Habtezion (2012) overview of linkages between gender and climate change, policy brief, at www.undp.org/gender

7.2.3 Triggers of Conflicts:

- a) The security situation in the area is affected by political war between the central government and SPLM/N particularly in Kurmuk locality that is dominated by Abdel-Aziz Al-Hilo followers make security situation volatile.
- b) Ethnic polarization among Blue Nile tribes and other Fellata and Arab tribes, as conflict occurs over access and use of natural resource and then turn into take ethnic lines.
- c) Proliferation of firearms especially in the hands of the nomads who mainly belong to Arab groups supported by the previous government militias.
- d) Spread of military forces around villages who restrict local communities from using their natural resources and violations against women mainly SGBV.
- e) Using of social media in conflict escalation community mobilization for conflicts.
- f) Harvesting season in the two localities is extremely serious and conflicts arise because of intentional animal encroachment into cultivated lands and crops damage before and during the harvesting season.

7.2.4 Types of Conflicts:

Blue Nile State and the two localities in particular have experienced many types of conflicts that are related to different factors. The very feature of conflicts is political armed conflict between the central government and SPLM/N, natural resource-based conflict among community including conflicts over land access/ utilization and tribal conflicts as Hamag –Arab conflicts and also conflicts between returnees and traditional authorities. On the other hand, there are other types of conflict as conflict between local communities and mining companies over land ownership and rights in mining. We can detail these conflicts as follows:

1- Political conflict between SPLA/M and the central government: The area used to be safe, and many places did not follow SPLA/M. After SPLM/A entered the area and the government started chasing them; the people were terrified and ran off to their villages as from AIDago area, Al Gashimi and Bamba. There are forces named Al Dali heroes that entered the area and Dr. John Garang started protecting the Uduk and established training in camps. Because of accusations that the people joined the movement many people fled their villages fearing the government brutality and joined the movement as example; the Uduk in Lengoya out of Al Kurmuk.

2- Natural Resource-based conflicts: These include but not limited to conflicts among farmers over land ownership, conflicts between pastoralists and farmers, conflict over garden lands and horticulture.

3- Land conflict between the army and the citizens on agricultural lands owned by the local citizens in Kelgo at Baw locality and its neighboring areas. The area is described as safe and peaceful. The commander and chief of the army took all the agricultural lands and started leasing them to the merchants. The conflicts are recurrent and expected to escalate.

4- Farmers and nomads conflicts takes place in Baw and Kurmuk localities and escalated seasonally due to animals' encroachment into farms. Mostly, this type of conflict takes ethnic and tribal dimensions as the settled farmers belong to Blue Nile tribes where Arabs and Fellata tribes are nomads. The traditional authority is able to solve the conflict though it exists between the farmers and the nomads.

5- Conflicts over Gardens lands: These types of conflicts take place in Baw and Kurmuk localities between the landowners and investors on gardens lands. The gardens are licenses and given by the investment ministry that depends on the land surveying committee. All this process takes place without consulting the ministry of agriculture or checking with the landowners who own the benefit of the land tribal ownership.

6- Conflicts between local communities and investors: As many parts of Sudan many companies where work in agricultural investment or mining have got license with no consideration to property rights of local people. As mentioned before the Unregistered Land Act of 1970 gave the government stake of allocating lands to outside investors at the expense of local inhabitants. These companies do not provide any service

as a compensation to local communities despite BNS has witnessed the very early introduction of mechanized farming since 1970s, where giant companies (e.g Arabic Agricultural Investment Company) have long been working in the area and some companies work in Baw locality in particular. The problem extends to include conflicts between communities and mining companies. Citizens see the solution in having Good Governance State with rule of law and justice and to cancel the institutions that do not serve the community. Also, the state should not approve any licenses to dig a well for a company without right procedures including approval of the State and citizens awareness of their rights specially that some projects are approved through going around the laws and procedures. The investment companies see they have the right, and mining is a national issue, they satisfied all conditions and work in accordance with the law.

7.2.5 Actors of Conflict:

1- Key actors in the project locations:

Organization	Intervention	Status
Mobadiroon	School feeding and distribution of food	Not active/two years ago
Bankair	Health and food	Not active/two years ago
SOLO	IGAs	Not active/ four years ago
Islamic Relief	School feeding	Active
World Relief	Distribution of food for IDPs and returnees	Active
Peace and Reconstruction	Support community centers and provide agricultural inputs in Shaheed Afandi	Active
Fayalig Medical	Support health unit of Wad-Abok	Active

- The most active projects in Baw locality are related to food security, food for health, preventive health, primary health services that support operation of health centers in some areas.
- There are also some organizations that work in provision of humanitarian assistants to IDPs and returnees.
- Four years ago, Sudan Open Learning Organization (SOLO) had limited interventions of supporting women groups through provision of Income Generating Activities (IGAs).

2- Women organizations in Blue Nile: Women organizations and associations in Blue Nile State have long been affected by war as most of the qualified and active women fled the area as IDPs or refugees. The existing organizations face many challenges as they have very low capacity in terms of knowhow, registration as formal legal entity or with regard to availability of qualified staff who have the capacity to develop their work.

a) In Baw Locality

- There is **El- Rahma Women Association** that has been funded by USAID, and.
- **Women Group** that supported by UNDP through Community Security and Stabilization Fund that implemented by SOLO.
- There is no existing formal and registered women’s organizations or associations in Baw locality with exception to some small and local groups. In some cases women organize themselves to help each other in implementation of some social ceremonies lime “**Hum Minni**” group, which means “**They are a part of me**”. It is not considered as an organization, it is rather like local cooperative initiative formed by a woman to enhance cooperation between women who are working in Shaheed-Afandi market (e.g through sharing of equipment, loans, rotational fund .etc.).

b) In Kurmuk Locality: they have:

- **Women Initiative for Awareness Raising**, has a partnership with UN Women and implemented some activities in Kurmuk and Baw.
- **Shali –El-Feel Women Association for Education and Development**
- **Women Initiative** for receiving returnees in Kurmuk.

7.2.6 Impact of Conflict on community and Gender aspects:

- 1- Impact on IDPs, refugees and returnees:** In September 2011 a new wave of war erupted again that marked the failure of the CPA where thousands of citizens and households either IDPs in safety neighboring states and towns or refugees in the Republic of South Sudan and Ethiopia.

Also, military bombing during the war in BNS has resulted in high influx of displacement where women and children were the most affected groups. According to International Crisis Group Report (2013), in June 2013, some 150000 representing, at least (15%) of the state population, were living in refugees' camps including (117000) in South Sudan and (30000) in Ethiopia. In Late 2012 the government forces reportedly prevented 10,000-15,000 Angassana civilians from fleeing to South Sudan. According to SPLM/N humanitarian sources estimated some (80,000) – (100,000) civilians, most of them displaced in SPLM controlled areas. In government controlled areas, some (86,000) civilians in three localities (Gissan, Baw and Kurmuk) were IDPs in urgent needs.

Although JPA mentioned IDPs and Refugees in its provisions, there are no organized arrangements nor coordination department for this matter. The government does not guarantee their transportation, nor provide needed services to them, placing IDPs and refugees and there is no special concern within government institutions or organizations strategies.

- 2- Impact on Gender Aspects:** Women in Baw locality face many problems like:

- Women suffer more than men from conflicts, as they displaced economically during conflicts with regard to their roles at home and among their community, conflicts increase women daily work, activities, responsibilities as they shoulder men responsibilities (e.g. heading households) when their husbands or sons disappear. Women in war affected areas mainly in Kurmuk sacrifice and go to insecure areas while working in farms, collecting firewood or fetching water to protect their husbands from risks.
- Widespread of poverty because of instability and lack of income alternatives
- Widespread of illiteracy
- Early marriage due to economic aspects

During the war time in the past, many women were exposed to violations in their rights and different types of GBV and forced migration as well as atrocities from security officers under pretext that their husbands and/or sons support the struggle armed movements. Women also work as a seasonal laborer in large agricultural schemes in the surrounding areas or work in gathering of forest products to market it in local markets.

Women in Baw face many problems of poverty because of instability and lack of livelihood alternatives, widespread of illiteracy, early marriage because of economic hardship.

- Forces migration and displacement:
- They also face so many violations and abuses by military and security forces during wartime. They were forcibly migrated displaced to Roseries and Damazine localities because they have been accused by military and security that their husbands and or relatives support the struggle armed movements.

Women in Kurmuk Locality, face so many problems because of conflict augmentation and continuation and instability, which resulted to erosion of women traditional role as they lose their chance in education and work. As a result, women have engaged in informal sectors through working in agricultural and mining activities, which made them subjected to different types of risks including but not limited to landmines, explosive mines and pollution. Women are also exposed to different types of GBV from military forces

around the villages and in forests. However, there are some women initiatives that contributes to enhancing social fabric.

7.2.7 Conflict Resolution efforts and mechanisms:

- 1- **Government Effort; Juba Peace Agreement and conflict resolution:** Despite the local people in BNS generally expect that peace agreement will maintain security, satisfaction and self-rule but there is no serious action made by the government to boost implementation of the agreement. People see that they can enjoy security and stability only when JPA became clear and understood by local people, when community be aware of their rights, when commission of transitional justice established and when at least, social reconciliations achieved.

In Baw locality, many people believe that JPA has addressed the issues of natural resource particularly in ad hoc way. However, the signed agreement has not practically been implemented by the government nor the relevant implementation bodies have not been established yet. For instance, land commission and many of the important article have not been considered yet. The BNS has long experienced constitutional and executive gap as the position of the state governor was unoccupied for more than 3 months. The area witnesses recurrent conflicts among communities over villages' territories as well as conflicts between communities and investors. Another conflict over who should take the power and participate in the State government cabinet.

Kurmuk locality has not witnessed great change with regard to security aspects after signing of JPA as most of the locality lands are still dominated by non-signatory SPLM/N of Abdelaziz Alhilo forces. Despite the increasing number of returnees from refugee camps in Ethiopia accompanied by influx of IDPs return into BNS, trading activities are only concentrating in Belaing, EL-Kaili and Kurmuk areas.

The people in BNS and the two localities worry about delaying implementation of JPA and what could happen if the ongoing negotiation with Al-Hilo came up with an agreement contradicted to JPA, which was signed by Malik Aggar wing. Interference of prerogatives and legislatives between forest administrations at state and national levels led to mismanagement and corruption. The unlimited legislatives to the central government regarding approval of the investment schemes without consultation to native administration and the state authorities led to the emergence of many conflicts and disputes mainly between local communities and investment companies. Unfortunately, investment companies don't take special consideration to the rights of rural communities in lands close to their villages.

2- Community-Based Conflict Resolution mechanisms:

Women have no right to participate in most government institutions, decision making process or local committees that are related to natural resource management and governance (agricultural management, department of fodder and pastures, conflict resolution committees, estimation of crop damage committees, agro-pastoral production committees, coordination committees for community responsibility regarding mining activities, etc). Native administration and traditional mechanisms are the main and the most effective and influential mechanisms of conflict resolution in BNS. Local communities have long experience in dealing with local disputes and conflict. Different committees are operating to solve different problems and issues. With exception to resistant or change and services committees' women have no active membership in different committees in the two localities. These committees include:

- Change and Services Committees at neighborhood level. These have been developed from the experience of Resistant Committees that led the demonstrations against the previous regime. These committees work to assist local people in provision of basic and social services.
- Crop damage estimation committee that deals with encroachment of animals into cultivated lands and crop damage to compensate affected farmers.
- Conflict resolution committees that deal with community-based and daily incidents including inter-tribal conflicts.
- Supreme committee for solving mining issues that solve conflicts that emanate from attritions between mining activities.
- Water committees that wok to manage and solve problems related to access and use of water sources including solving water pollution problems.

3- Participation in conflict resolution mechanisms: Because of social norms, culture, early marriage for girls and widespread of illiteracy among women, they have no right to engage as members in conflict resolution mechanisms or compensation and reparation committees. They are not a part of service committees. **Women in Baw** locality don't participate in conflict resolution and repatriation committees. They do not have effective role in service committees due to widespread of illiteracy and restrictions of culture and social norms. Women are not participating in top government positions, or civic committees that are related to natural resource management systems. Most of those who clearly participated in Juba Peace Agreement were members in SPLM/N who are living abroad. Women who live in the locality did not participate in orientation sessions on JPA and they are not part of implementation bodies. **In Kurmuk locality**, there are no established mechanisms to support natural resource governance and/or dispute resolution, but there are some committees concerned with reconciliation and solving emergency conflicts, where most of which don't include women as members. All of these types of committees mainly include members from locality officers, security officers and native administration.

8. Environmental changes, Conflict and Women Aspects

It is not a coincidence that the military and security sectors dominate environmental destruction, resources extraction and spread of violence. In a society highly governed by masculine values that devalues attributes of femininity, it is natural that military which is embodiment of institutionalized masculinity stands out as the most powerful actors in environmental destruction and violence inflicted upon local communities and women in particular.

- Women in Kurmuk and Baw face so many problems due to conflict and instability that lead to erosion of their role as they lose opportunities of education, access to resources and work, and subjected to different forms and degrees of violence. They are forced to engage in irregular agricultural and gold mine work exposing them to risks of landmines and pollutants. The deployment of military forces around villages and rural areas prepared the sphere for military forces to run their exercises and activities, including conventional and unconventional activities, excessive logging of forests resources degrading local environment and threatening livelihood of local population. The UNEP (2007) report revealed that military activities in Sudan contributed to loss of almost 12% of forest cover in 15 years during the civil strife. Military operations also contributed to lack of vegetation re-growth due to constant bombing that were carried in the BNS generally and the two selected localities. Women have become exposed to SGBV while they go outside villages to farming and/or providing their needs from forests products.
- Military operations in the two localities forced women and indigenous population to flee their home land and increased the demand for firewood and wood building materials which dramatically affected aspects of natural resource-based conflicts through increasing competition over access and utilization of natural resources. Expansion in agricultural activities accompanied by irrational practices of military and people have all resulted in destruction of ecosystem and vegetation cover, which seriously contributed to environmental degradation, vulnerability of the local population. Women and children are the most affected groups because they are responsible for collecting firewood, charcoal and building materials from forest.
- Using landmines during escalation of war in the Blue Nile State by the military to trap the SPLM groups have resulted in huge deforestation, soil erosion, water pollution, reducing fertility and then yield of agriculture. Also, many people mainly women and children were either injured or killed by landmines.
- Ceasefire has resulted in expansion of agricultural lands and increased access of local communities to land and other natural resources. Women have enjoyed this relatively opening up situation but far from a satisfactory level as the deep structural causes have not yet been addressed.
- Returnees' movement from refugee camps in Ethiopia since late 2019, has resulted in enlivening of mining in South-East Kurmuk. Women aspects have not been changed particularly in Eastern Kurmuk areas (in Belaing and Dandrow) as military outstay on the surrounding forests still continued in areas where most women activities take place through collection of wood and forests products. Women have clearly participated in episodes that followed December 2018 revolution.

- Belaing and Dandrow witnessed serious clashes and violent conflicts between local communities and gold mining companies due to lack of commitment to Corporate Social Responsibility (CSR), when youth burned companies' equipment and the problem was peacefully settled.
- Ceasefire also has resulted in increase of militarization of youth among formal military forces and armed struggle movements as well. With increase of militarization among Rapid Support Forces and participation of SAF in Yeman and KSA military campaign, fostered by economic hardship among the people of Kurmuk Locality, early marriage among child girls has clearly increased.
- On the other hand, the problem of water pollution is one of the very serious issues facing the people of the two localities as it is an old problem. The problem is due to lack of clean water and accumulation of toxic subsistence, which led to contamination of water and spread of disease. Environmental pollution in mining areas has seriously affected women in particular, because they work in less protective condition, and they are exposed to different types of diseases and health problems. Many people in the area mentioned that despite there being no official studies, it is observed that there is an increasing rate of abortions cases among women. Over the last year, more than 6 people died of cancer in Martyr-Affendi alone.

9. Conclusion

Blue Nile State and the two selected localities (Baw and Kurmuk) are very rich with ecosystem services that permit diverse options for natural resource users mainly women before getting affected by attack of investment companies and large-scale mechanized farming under condition of poor perceived government policies. Agro-pastoral production is the main economic activity and livelihood system to the majority of population as (80%) of total population are working on traditional resource management systems that are related to land, forests and livestock resources. Women have experienced drastic historical grievances as they represent the majority and the cheapest of agricultural labor, shoulder responsibility of their families, fetching water, collecting firewood and expose themselves to SGBV while they are doing their daily duties. Women are not allowed to participate in fight, but rather they traditionally should take the role of caretaker of home. Men look to the process from the perspective of their duty to protect their wives and children from direct risks that emanate from participation in wars and conflicts. Continuation of conflict in BNS has negatively impacted on socio-economic and political aspects of gender roles and worsened the situation. Women are the main victims of political and natural resource conflict as well as the impact of climate change and environmental degradation as their daily work is diametrically related to access and use of social services and natural resources. So, the different roles and interaction of men and women with environment, climate change and conflict have clearly impacted on women. As women are responsible of food production and processing, collecting water and firewood in developing countries like Sudan, climate change is expected to reduce crops yield where woman is the main victim. Climate change exacerbates natural resource scarcity where women and girls need to travel farther for the sake of collecting water and firewood, which increase threats to their safety. In many contexts, climate change and environmental degradation exacerbate insecurity, further draining the availability of resources that underpin livelihoods for farmers and herders alike. Women and men are highly affected by – and contribute to – these dynamics in different and unique ways. Thus, designing project interventions based on understanding these dynamics is stepping stone for serving as a key gauge and benchmark in ensuring that project implementation is responding to conflict and gender as well as environmental issues in the selected project localities.

9.1 Key Challenges/ Study limitations:

- a) Raining season started early in Kurmuk in 2021 making movement across the locality difficult. So, the study team organized the interviews and FGDs in Damazine.
- b) Lack of literature and previous studies related to the study topics on Blue Nile State, made the consultant to spend much time to review literary underpinning.
- c) The study had been conducted during Covid 19 restrictions where the study team used to follow the instructions of the Ministry of Health concerning the pandemic.
- d) No phone Network in Kurmuk locality with exception to the northern part, and this has affected communications and early coordination

9.2 Recommendations:

9.2.1 Programing Recommendations:

- a) The two localities have long been affected by war that resulted in destruction of basic services mainly education, health and water, special consideration should be given to support rehabilitation and provision of social services, which could reduce women suffering from lack of social services.
- b) Provide economic empowerment interventions to women through providing and/or facilitating women's access to financial institutions would be vital to enable women invest in their lands rather than working as precarious wage labor, and in turn reduce women suffering from taking responsibility of heading households and family matters. This should be linked with building capacities of women and youth in different disciplines mainly small business management, marketing their products and train them how to get access to financial institutions to facilitate their integration in market economy to maximize their benefits from border trading opportunities.
- c) Adopting awareness raising activities on UNSCR 1325 to enhance the role of women in decision making and participation in socio-economic and political matters. Awareness raising should consider native administration and community leader to let them understand the importance of women participation in natural resource management and handling resource-based conflicts as well as social reconciliation activities.
- d) Institutional support programing through providing support and building capacity of justice and security institutions, as well as advocacy to formulation and enforcement of laws and legislations that protect women from SGBV violations and reserve environment from irrational use of natural resources and encourage environment friendly activities. Special concern should be made to reduce the negative effects of using pollutants and toxics materials in mining, which could protect women's lives.
- e) Enhance networking between women activists to strengthen efforts and initiatives related to women protection against GBV.

9.2.2 Policy recommendations:

- f) Bearing in mind Corporate Social Responsibility (CSR), it is most likely for investors to take special consideration to marginalized and vulnerable groups mainly women and build partnerships with the local communities, to develop their skills through advocacy and capacity building workshops and provide financial support to women in particular.
- g) Implementation of JPA would be a stepping stone for solving many problems like accessing and use the forest resources, leading to improved economic relationship between the localities which will reduce dispute and conflicts and increase women security and enable the access to their land and forest resources.
- h) Natural resources mapping and environmental education could positively contribute to environmental conservation and enhance response/ adaptation to climate change, where women are the main affected group by environmental degradation and natural resource scarcity.

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11. Interviewees:

Baw locality:

Name	Direction	Locality	Conact
Mohammed Ramadan	CMC member	Shaeed Afandi/ Baw	091935226
Elsheikh Ali Elour	Community leader	//	0918928202
Kawther Gonfoth	(Girl Education Manager)	//	0915145908
Ali Jakalow	Locality Administration)	//	0906575382
Ahmed Mahjoop	(mining affected communities) Leader)	Kurmuk locality	0902349445
Osilat Elshareef	Girl Education Manager	//	0919173589
Osman Elhadi Tanjoor	Locality Administration	//	
Mohammed Tahir	(MOA Deputy Manager of agriculture administration)	Damazine	
Elraih Souar	Manager of state forest	//	0914410783
Taiseer Musa Khasran	MOS manager of Women Center for Human Rights	//	0903651950
Abdalbagi Mohammed Babikir	MOF Manger of development planning	//	0912311149