

New Times, New Opportunities

GRASPING THE FUTURE WITH THE WORLD'S
YOUNGEST POPULATION IN THE SAHEL





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PREFACE

The Sahel is the youngest region in the world with close to 65% of the population below the age of 25. It further faces simultaneous challenges of extreme poverty, the dire effects of climate change, frequent food crises, rapid population growth, fragile governance, and terrorist-linked security threats. The world-famous trade and migration routes across the Sahel and the Sahara are being taken over by trans-national organized criminal groups and large-scale traffickers. A small proportion of the criminal or illegal proceeds is instead used to feed extremism and exacerbate instability. Conflict over access to land, water and other resources are significant.

Despite these challenges, the Sahel holds multiple opportunities. Initiatives from their own governments and people, supported by development agencies and foreign investments are also at last making a difference that we have not seen in almost 70 years. This report shows advances and real progress in several key areas. Desertification is being reversed with over 32 million ha of land reclaimed in dry countries of West and Eastern Africa. This is bringing in jobs, cash incomes, improving food security and empowering women. It helps bring in stronger community engagement and reduce conflicts between farmers and pastoralists.

Multiple solar and wind power stations, as over one thousand solar-fed mini-grids have been established across the Sahel, with many more to come, providing the foundation for agricultural markets,

storage and manufacturing through small-scale business development.

Governments and investors are realizing this enormous solar energy potential, and electricity and light is being brought in in the form of solar driven streetlight, micro-grids and power stations. This in turn helps strengthen both local markets and food security.

Indeed, investments have led to a near tripling of the share of GDP in the mining sector in Burkina Faso, as investors are beginning to realize the vast mineral resources in this region. The economies are growing fast, riding on momentum of young entrepreneurs awarded chances and opportunities. These mineral resources provide vast investment potential.

We must not turn back now. The way is forward. Sahel nations and their proud people should continue to aid each other forward, strengthening their bonds and gratitude to those who are willing from abroad, united in efforts, to make this real change inevitable into a more sustainable future.

The UNISS support plan can only be realized with a continuation and fortification of the efforts that are at last now bringing true success. We must upscale and secure the momentum and not turn back now when there is real hope of change, and solidify this future together. For this, we need you all.



Ibrahim Thiaw,
Special Advisor for the Sahel to the Secretary-General



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SYNTHESIS

In the last half of the 20th century, droughts and land pressures caused tree cover to decline by some estimates near 20% in the Sahel, exacerbating conflicts between pastoralists and farmers, and in the 2010s major terrorist and fundamentalist groups attempted to take regional control in Mali and in Northern Nigeria. Containing and preventing these conflicts are vital for all future development efforts.

In 2013, the United Nations Security Council adopted the United Nations Integrated Strategy for the Sahel (UNISS), aimed at addressing the root causes of shocks, vulnerability and insecurity in the 10 Sahel countries. In line with United Nations Security Council Resolution 2391 of December 2017, the UN Support Plan is not a new strategy or a new programme, but an articulation of a concrete action plan and mechanisms to accelerate collective delivery and move rapidly from strategy to concrete results on the ground.

Already, the youngest and fastest growing population in the World has begun to change their own narrative in the Sahel. With 50% more young (64% are under 25) than the global average, The Sahel – comprised of Senegal, Guinea Bissau, Gambia, Mauritania, Mali, Burkina Faso, Niger, Nigeria, Chad, and Cameroon – is undertaking growing, broad-scale positive development and improvements.

The region is spearheading its own story to revitalize its glorious past through a new empire of renewable solar energy, with over one thousand solar-fed grids established across the land, and the number rising. The transition, aided by investments in renewable energy, water, minerals and tree growth, brings together key components for economic growth.

The first 1,000 solar-fed energy mini-grids will impact business development, market access and especially food security. Indeed, from anything from inland and coastal fisheries to meat and dairy products, alongside storage of vegetables, the lack of cooling systems has been detrimental, with post-harvest losses in the range of 10-40%, sometimes much more.

Improving local energy supplies enable small-scale business development in agricultural and fisheries sector and manufacturing. It also provides, with investments in cooling systems and improved storage opportunities, an incentive for pastoralists and farmers alike to supply and market more continuously across the year, within the restraints of seasonal harvesting. This is especially true for vegetables, fisheries, meat and dairy products.

Reducing food losses is not only the fastest way to improving food security, it also facilitates market and business development and cash incomes, aiding rural and settlement communities alike. Hence, implementing further solar-fed mini-grids and access to energy is a key to a game-changer in the Sahel development scheme.

The transformation to more accessible energy also in rural areas brings new hope that continued and targeted efforts can secure its growing inner market, which will ultimately help self-propel the region forwards in economic and sustainable development. For this, investments in both security, business development and energy are further needed.

HIGHLIGHTS

- **Collaboration for stability and development:** *PARENTÉ A PLAISANTERIE* - Trade and hospitality have long historic traditions in the Sahel: “Joking relationships”- locally known as Parenté a plaisanterie – is an expression dating back to the 13th century and used transboundary across the western Sahel to help reduce hostility and embrace through words visitors from across the regions, facilitating contact and trade.
- **Preventing and resolving conflicts:** It is vital to strengthen efforts further to contain and diminish conflicts and prevent spill-over of conflicts such as from Mali into Niger and Burkina Faso. Ensuring development and access to energy and jobs helps provide a foundation against extremism.
- **Promoting inclusive and equitable growth:** The ten Sahel countries have jointly experienced almost twice the economic growth of the global average, albeit with regional variation. The mining sector, such as in Burkina Faso has tripled in less than a decade. The artisanal mining sector, employing over a million people, has vast potential for investments and revenue-generation. Ensuring a sustainable track for the mining sector should also remain a major focus for future development efforts.
- **Governance is improving:** Anti-money laundering laws and anti-corruption laws have been adopted across the region and first successful convictions of high-level perpetrators have taken place, such as in Niger.
- **Building resilience against climate change and improve food security:** Energy investments are helping reduce food losses and waste and trees are returning, with over 21 million ha of degraded land restored since 2000, with tens of millions of trees planted across the wider Sahel, generating livelihoods, protection against droughts and improving food security.
- **Promoting access to renewable energy:** The region is stepping up to its vast solar energy potential and rising to become the World’s primary solar fed region: Over 1082 solar fed minigrids have already been or are being established across the Sahel. Mali has 36 000 solar powered street lights coming across the country, and the government has committed to construct 160 rural power stations based on a hybrid solution of solar and thermal power. And Nigeria further aims to build 10 000 community microgrids by 2023, funded with loans of USD 350 million from the World Bank. Energy and water facilitates education, businesses and food storage - and can provide year-round markets for pastoralists and farmers alike. Also wind farms are being constructed. The Desert to Power Programme, a collaboration between The African Development Bank, The Green Climate Fund, and the Africa50 investment fund, will develop 10 000 MW of solar power throughout 11 countries in the region, aiming to provide power to 250 million people, including 90 million off grid plants. The Desert Power Programme is planned to augment the Great Green Wall plan, which will have several beneficial synergy effects, not least to protect the Green Wall against being used for energy, such as firewood or charcoal.
- **Empowering youth and women:** Characteristics for much of the development efforts are access to renewable and cheaper energy and job creation and investments in education for both young and women.

The current Sahel situation will require a substantial co-alignment of development and security efforts. The UN Support Plan currently provides the most extensive ambition in this endeavour. The report further outlines the key actions and opportunities and emphasizes coordination, such as through The Africa Centre for Climate and Sustainable Development. A number of initiatives under the UN Support Plan for the Sahel and security initiatives can jointly help secure a sustainable future for the Sahel.

The narrative is changing: real change in the sahel

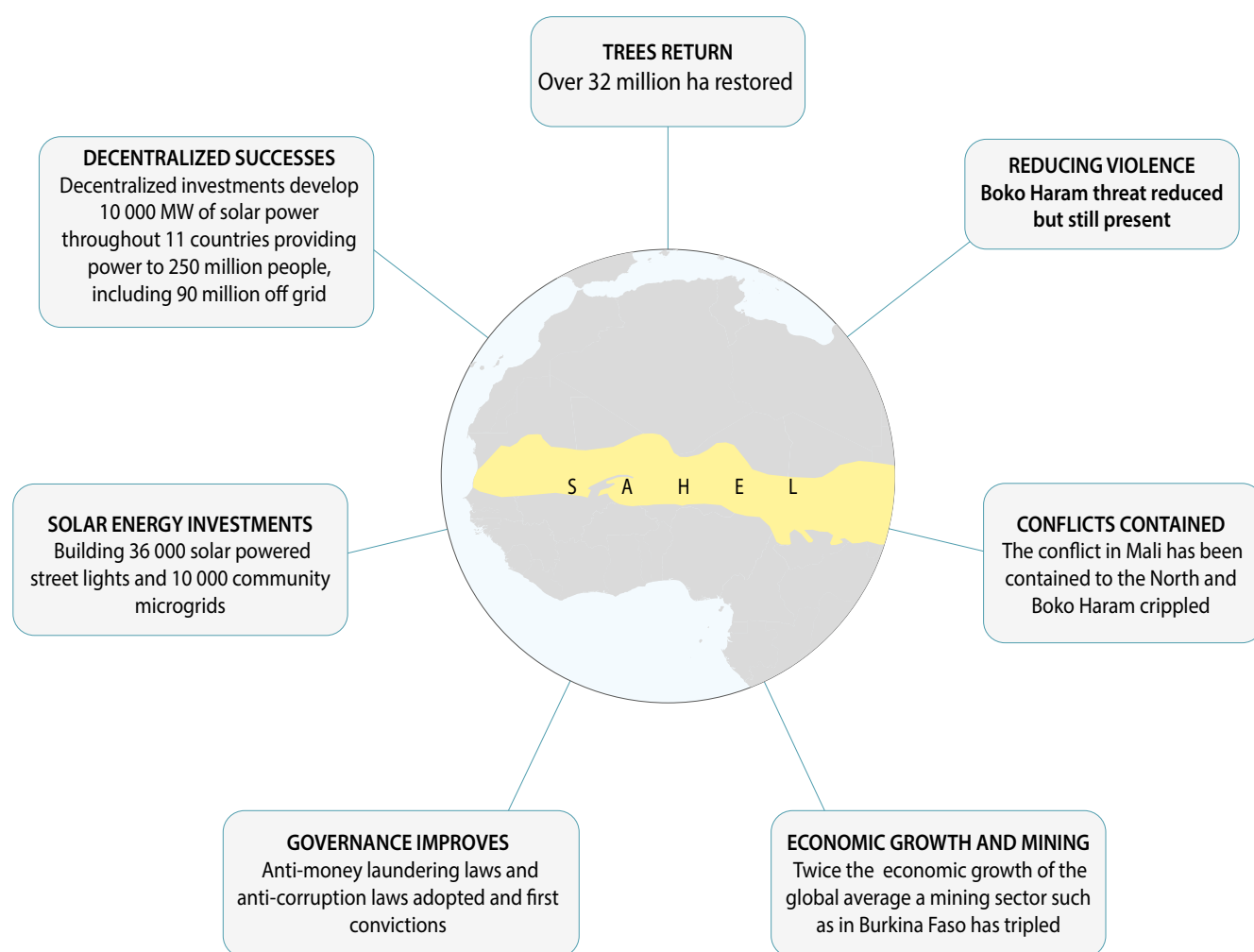


Figure 1

Real-time examples of progress and successes in the Sahel, breaking a 70 year period. A new narrative for the Sahel can begin, yet only with dedicated efforts to security and development, alongside private investments in mining, agriculture and renewable energy.



INTRODUCTION

THE UN SUPPORT PLAN

The United Nations Security Council adopted in 2013 the United Nations Integrated Strategy for the Sahel (UNISS)¹, aimed at addressing the root causes of shocks, vulnerability and insecurity in the 10 Sahel countries.

In line with United Nations Security Council Resolution 2391 of December 2017, the UN Support Plan is not a new strategy or a new programme, but an articulation of a concrete action plan and mechanisms to accelerate collective delivery and move rapidly from strategy to concrete results on the ground.

The overarching goal of the UN Support Plan is to accelerate and scale up support to the Sahel countries and the region at-large by implementing their priorities to achieve the SDG targets.

The support plan for the Sahel is therefore a regional approach to collectively address the root causes of disruptions such as poverty, migration and youth unemployment, climate change, insecurity, governance, and institutional issues in the region. Herein, an overview of the current situation for each of the priority areas of the UN Support Plan is presented to demonstrate that the full implementation of the plan could utilize an existing momentum of development not seen in decades in the Sahel.

Sahel Empires and cultural heritage



Figure 2

The Sahel trade empires and their foundation in transboundary collaboration and trade exchanges were amongst the largest in African history. The expression "joking relationships - La parenté à plaisanterie- was introduced in the 13th century, but is known across the wider Sahel under different names and can be found in cultures across the World.

THE SAHEL KINSHIP

LA PARENTÉ À PLAISANTERIE

UN Support Plan Priority One

Regional programme on cross-border cooperation for stability and development.

The Sahel empires, founded on trade, provided perhaps one of the most stable and successful trade empires across the last millennia in Africa. The Songhai and Mali Empires were sending students to Alexandria in Egypt in the 13th-16th century, and even today hundreds of thousands of migrants have travelled through the Sahel and the Trans-Sahara through Libya to Europe in the hope of a new future.

Joking relationships - La parenté à plaisanterie – was a phenomenon introduced by the emperor Soundiata Keïta who ruled from 1235-1255. His period represented the beginning of the Mali empire, a trade empire that lasted over 300 years (1235-1545). These joking relationships are also known as sinankunya in Mali, rakiré in Burkina Faso, toukpê in Côte d'Ivoire, Kalungoraxu amongst the Soninkés, Dendiraagel amongst the Halpulaaren, kalir or massir amongst

the Sérères, Kal amongst the Wolofs, and Avouso amongst the Boulou in the Cameroon.

These historic joking relationships provided a foundation for friendly exchanges and collaboration, facilitating trade and welcoming of merchants across the region. If conflicts can be contained and spill-overs prevented, proper investments are more likely to succeed and generate further economic growth, compared to other regions where such traditions of friendly trade and hospitality do not exist. They also form a very foundation for preventing and resolving conflicts.

In spite of the fact that the Sahel - or perhaps because of it – holds the World's youngest population, these traditions are still strong in the region and people travel across borders seeking opportunities, markets and development.



SAHEL SECURITY

UN Support Plan Priority Two

Preventing and resolving conflicts; violent extremism and crime; and promoting access to justice and human rights.

SUCCESS

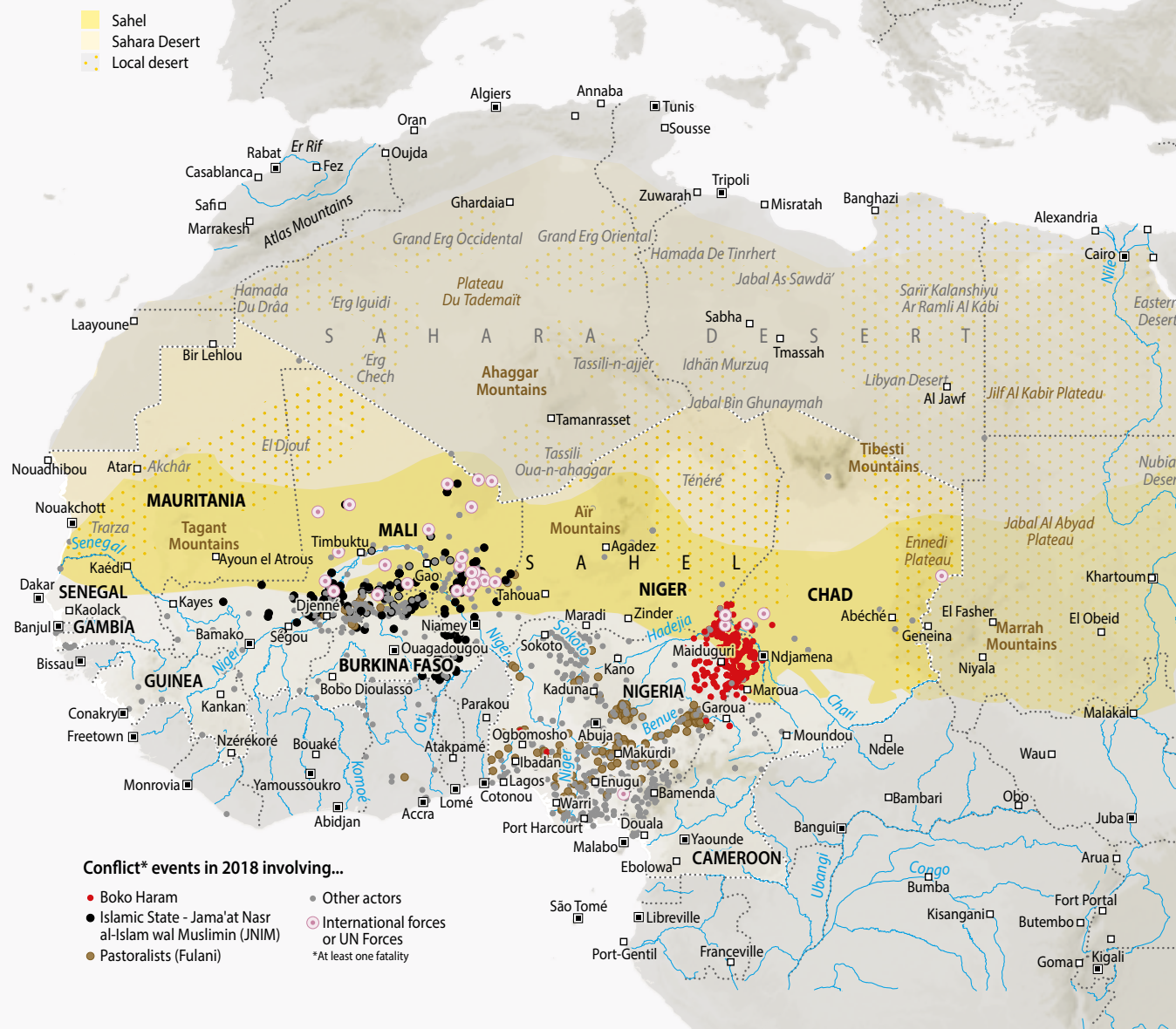
The security challenges across the Sahel region have been met with both operations and the building of regional security architecture. Multi-national operations include the French led operations Barkhane² and Serval³, and the United Nations Multidimensional Stabilization Mission in Mali (MINUSMA)⁴, as well as coordinated operations involving Niger, Chad, Nigeria and Cameroon against Boko Haram.⁵ Increasingly the countries in the region are pooling efforts into expansive multi-national institutional security architectures, such as the G5 Sahel Cross-Border Joint Force⁶ and the Multinational Joint Task Force against Boko Haram. These operations and new institutions not only combat militant groups and interdict illicit flows funding terrorist groups but have also managed with some success to contain some of the conflicts. The new institutions also increase confidence in the region that security challenge will be met with joint international and regional efforts.

GAPS

The 2015 Agreement on Peace and Reconciliation in Mali lacks progress in the implementation of its political commitments, according to the UN Under-Secretary General for Peacekeeping Operations.⁷ Nonetheless, the last 12 months have been the most encouraging for three years and they include successful conduct of presidential elections in Mali. Security continues to be a challenge for the population living in areas directly affected by conflict, and containing the conflicts further, preventing spillovers and ultimately ending the violence is vital to development. Nonetheless, while a serious issue to be addressed, development of solar energy, micro-grids, mining and economic growth appears to continue outside these security affected areas.

Conflicts in the Sahel region

January 2018 to February 2019



Conflict* events in 2018 involving...

- Boko Haram
 - Islamic State - Jama'at Nasr al-Islam wal Muslimin (JNIM)
 - Pastoralists (Fulani)
 - Other actors
 - International forces or UN Forces
- *At least one fatality

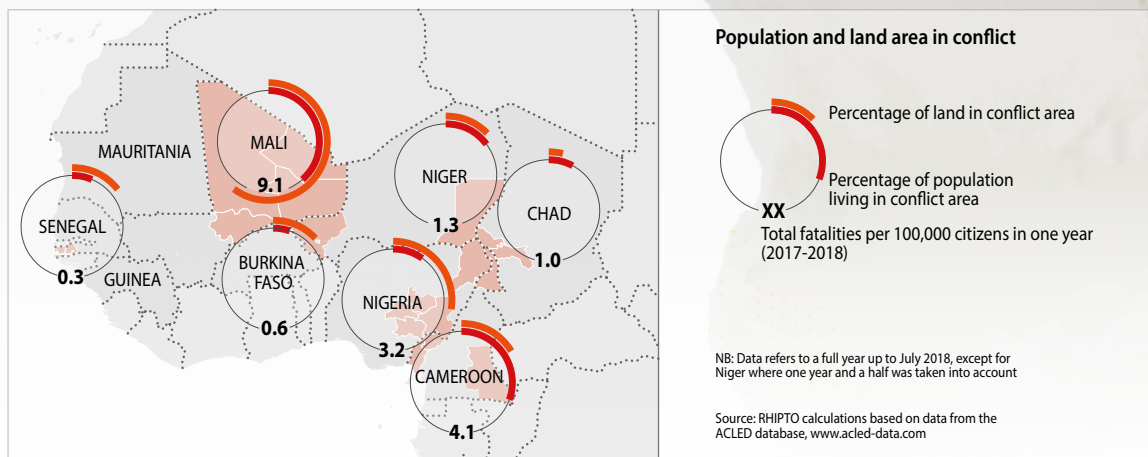


Figure 3

Security and incidents maps from 2018 overlaid with where the Great Green Wall is and the trade hubs – what and where the security issues are – and which areas that are “safe”.

RHIPTO-analyses of ACLED-data^{8,9} shows that in terms of reported security incidents that involved fatalities, there were 8,995 fatalities in the Sahel Region in the year up to mid-July 2018. Of these, 93% occurred in Nigeria, Cameroon and Mali.

The conflict between pastoralists, usually Fulani, and farmers, often supported by government forces, is responsible for about 23% of fatalities. This conflict takes place over a similar area, of 262,000 square kilometres (3.8% of the Sahel) and affects about 16.8m people (5.3%).

The third cluster of violence is centred around JNIM's (Jama'at Nasr al-Islam wal Muslimin) area of operation in central Mali, with 654 fatalities, which is a much more dispersed conflict, affecting about 1.3m (0.4%) people over an area of 738,000 square kilometres (10.6%).

The Boko Haram issue dominates the security situation in the region around northern Nigeria. The conflict was responsible for about 30% of the political conflict fatalities in Nigeria, Cameroon and Chad in the year up to mid-July 2018.¹⁰ This conflict represents the most insecure area of Sahel, together with Mali. It affects about 10m people over an area of 300,000 square kilometres, or 3% of the population and 4.3% of the Sahel area.

The Boko Haram conflict peaked in January 2015 when the group's geographical control was at its greatest, ranging from northeast Nigeria and into Chad, Niger and Cameroon, and greatly diminished since then.¹¹ Today the highest fatalities¹² come from attacks inside Chad and Niger, with an average of 12 and 11 people killed in each attack respectively. In Cameroon today, however, the Boko Haram conflict is successfully contained.

A third conflict dimension in this sub-region is the one between pastoralists, usually Fulani, and farmers supported by government forces. This conflict has claimed more fatalities than Boko Haram in 2018 in Nigeria, and it is a significant issue also in Niger, Chad and Mali.¹³

Such a situation warrants a more regional approach, which came on the military side in 2012 when the Lake Chad Basin Commission established the Multinational Joint Task Force (MNJTF) to counter Boko Haram, with units from Benin, Cameroon, Chad, Niger and Nigeria, headquartered in N'Djamena. It was ultimately these efforts, reinforced in early 2015, that pushed Boko Haram back to their current limited ability to operate openly.

Security engagement in the Sahel

Coordination of activities in the Sahel

Given the plethora of actors and activities seeking to bring stability and security to the Sahel, coordination is imperative – the region has been described by some as a ‘security traffic jam’.¹⁴ ECOWAS has been actively aiming to align donor priorities to their Sahel Strategy. The G5 countries have taken a similar approach, bringing partners and donors together. In February 2018, a conference was held in Brussels to raise funds to equip the G5 Sahel Joint Force. A second conference was held on 6 December 2018 in Nouakchott. The G5 identified 40 priority projects outlined in their Priority Investment Program (PIP), which was presented to donors to secure the 2 billion euros required to implement the activities.

African Union

Since the formation of the African Union, there has been a strong focus on conflict management and security across the continent. In April 2017, the AU Peace and Security Council (PSC) authorised the establishment of the G5 Sahel Joint Force to combat terrorism and transnational organised crime.

While this is viewed by some as an effective use of the PSC’s mandate – overseeing regional responses to terrorism,¹⁵ the G5 Sahel Joint Force was not an AU initiative, but rather a joint activity developed by the five participating states. To date, the force has been slow to start, but involves each country’s army operating in their own country, in a strip of 50kms along the border, with the right of pursuit in neighbouring countries.¹⁶

The Joint Force was developed in response to the stagnation of two AU initiatives focused on the Sahel, including the AU Strategy for the Sahel Region adopted in 2014; and the Nouakchott Process developed in 2013. The AU Strategy sought to enhance cooperation among security stakeholders, including intelligence services, while the Nouakchott Process sought to create a culture of exchange and cooperation among security actors. The last ministerial meeting for the Nouakchott Process, however, was in 2015.¹⁷

AU Commissioner for Peace and Security Smail Chergui noted in February 2019 that the G5 Sahel Joint Force was ‘hobbled’ by the lack of funding and training, resources that exceeds the PSC’s means.¹⁸ The AU PSC mandated the force and paved the way for a UNSC endorsement (Resolution 2359), but the involvement of the AU ahead is not yet clear.

ECOWAS in the Sahel

ECOWAS has developed a Sahel strategy, adopted at the ECOWAS Ordinary Summit in July 2013 in Abuja. ECOWAS takes a strong focus on the interdependencies among Sahel countries, but also takes a broad view of security, supporting measures including border management and security, counter-terrorism and political participation.¹⁹

The ECOWAS Sahel Strategy engages with three areas – infrastructural development; sustainable agricultural productivity and food security; and accessibility to education. Accordingly, it focuses on resilience as a strategy to achieve security. The Action Plan identifies 31 projects focused on infrastructure, food security and education, as well as peace and security. However, these projects will cost \$4.7 billion to implement, and will require external funding to realise.

Perhaps because of this requirement, ECOWAS has been working hard to ensure coordination of activities in the Sahel. A Memorandum of Understanding has been developed with the G5 Sahel Joint Force on capacity building, community development and early warning to build on the regional response to peace and security. The Vice President of ECOWAS met with the EU Special Representative for the Sahel in July 2018 to discuss cooperation in the region, and the EU highlights strong relation with ECOWAS and support for a range of initiatives including the Sahel Strategy, but also the Praia Action Plan, that takes a regional approach to organised crime and drug trafficking.

As with AU engagement with the G5 Sahel Joint Force, ECOWAS has been limited in terms of their involvement in the response to Boko Haram, with affected states viewing the Multi-National Joint Task Force (MNJTF) as the best approach. However, the response to Boko Haram led ECOWAS to develop a counter-terrorism strategy, which takes a broad approach to security, engaging directly with radicalisation, but also good governance, employment and discrimination.

Overall, as a security actor, ECOWAS takes a comprehensive approach, seeking to engage with the factors that contribute to insecurity. While it may be lacking in resources to fulfil the strategies it develops without external support, it plays a key role in broadening the agenda of donors to the region.

Commitment of resources

While AU and ECOWAS have developed strategies and plans, they have provided few direct resources, instead relying on external donors. However, the G5 have provided the most resources.

UNDP Successes in the Sahel

The UN has been working towards an integrated strategy in the Sahel through UNISS, adopted in 2013. UNDP has been leading the governance focus of this strategy and is the most visible UN presence on the ground. As with regional actors, the focus of UNDP has been on resilience as a strategy to challenge instability and insecurity, and its activities have been well received by governments and communities. In developing its own approach – the UNDP Support Framework for the Implementation of the United Nations Integrated Strategy for the Sahel – UNDP built on the successes and lessons learned from operating in the Sahel. UNDP had previously focused on institution building to promote economic, legislative and regulatory functions; electoral assistance to improve rule of law; strengthening of livelihoods; youth employment; natural resource management; sustainable energy; gender-based violence; and resilience. One of the most successful programmes implemented in support of UNISS focused on border management and border communities.

Table 2

UNDP spending across the Sahel

Country	Number of Projects	Budget (USD)
Burkina Faso	18	13.97 million
Cameroon	13	3.54 million
Chad	18	7.49 million
Mali	27	22.31 million
Mauritania	16	4.24 million
Niger	25	20.94 million
Nigeria	22	20.04 million

Table 1

Force commitment of the G5 countries

Source: Peacekeeping & Stability Operations Institute

Country	Country's Total Armed Forces	Deployed to any UN/ Multilateral Operations	Commitment to G5 force	Financial contribution to G5 force
Burkina Faso	9,100 (inc 3,500 gendarmes)	2,900 (UN)	550 soldiers, 100 police/ gendarmes	€10M
Chad	30,000	1,250 (UN), 2,000 (MNJTF)	550 soldiers, 100 police/ gendarmes	€10M
Mali	14,700	40 (UN)	1,100 soldiers, 200 gendarmes	€10M
Mauritania	16,000	900 (UN)	550 soldiers, 100 police/ gendarmes	€10M
Niger	6,000	1,200 (UN), 1,000 (MNJTF)	1,100 soldiers, 200 gendarmes	€10M

Border Management and Border Communities

As most borders in the Sahel have been across long standing trade routes, there is a need to foster trade while still protecting borders to minimise the movement of armed groups and illicit commodities. This project sought to improve cross-border relations in two phases. The first – ‘Peacebuilding and Good Governance in the Sahel’ aimed to improve communication between governments and communities, enabling them to work together more effectively to build peace and improve governance.

The second phase – ‘Strengthening Human Security and Community Resilience in the Sahel’ – directly engaged with communities, through income generating activities, national dialogue committees and institution building. At the governmental level, each G5 country was supported to develop or improve border management strategies, and training was provided to relevant personnel. At the community level, there were over 450,000 beneficiaries from the project, including access to water, solar energy, refrigeration and income generating kits that strengthened capacity for cross-border trade.

This is in addition to regional projects, many of which came to an end in 2018. The remaining project ‘Strengthening Human Security and Community Resilience’ ends in December 2019, with a budget of 3.78 million USD.



SAHEL ECONOMIC GROWTH

UN Support Plan Priority Three

Promoting inclusive and equitable growth and increasing access to basic services

SUCCESS

Annual GDP growth rate in the Sahel²⁰ was 4.4 between 2007-2017, compared with 4.19% in Sub-Saharan Africa, 4.35% in Africa and 2.57% in the world as a whole.²¹ Annual GDP per capita grew on average by 1.43% in the UNISS countries in the same time period, which is slightly higher than the world and Sub-Saharan growth rates.²² Given that some of the benefits of growth are lost due to rapid population growth, there is an imperative need for further investments and especially securing and implementing environmental buffers to strengthen and create further opportunities for the 300 million people living in the transition zone between woodland savannah and the largest desert in the World.

These countries rely for their growth on extractives and other natural- and agricultural resources. Total exports in the ten UNISS countries in 2016 was USD 61.1 billion, with Nigeria accounting for 60% of this. The major export products are crude petroleum (Cameroon, Nigeria, and Chad); gold (Cameroon, Burkina Faso, Niger, Senegal, Chad, Mali, and Guinea), gas, wood, cotton, palm oil, fish and aluminium.

Indeed, given lack of attractive opportunities, migration hubs and facilitators created the largest trans-migration financial boom during 2013-2017 worth at least

USD 100-244 million annually locally, and a total value of over 5 billion USD, with 186,000-300,000 crossing the desert in 2016. This boom was further facilitated by a drop in agricultural investments and oases development in northern Sahel and the Trans-Sahara during the Libya transgression. Hubs generated in historic transit and trade points like Agadez attracted entrepreneurs and traders and shows the potential when opportunities arise. Strengthening access to micro-finance, water and energy here is vital for development and in the long term for curbing migration.

GAPS

One of the biggest negative effects of the rapid economic growth is that it is off-set by a corresponding rapid population growth, giving far less growth per capita. The second greatest inhibitor to development in the major trade hubs include the need for water, agricultural and electricity investments to help the basic necessary level of human capital that can spur growth, generate new markets and expand business opportunities and inspire entrepreneurship further. Furthermore, if a minimal level of infrastructure such as water, electricity and road connections is secured, it is easier for local communities in rural areas to attract foreign investments in agriculture, the mining sector and especially in solar energy.

The Sahel mining sector

SUCCESS

While vastly unexploited, gold and mineral reserves not only bring jobs and incomes, but can over time strengthen revenues to governments if investments in governance and audits are enhanced. This could vastly help improve the often unfavourable working conditions in artisanal mining, including of gold, and bring in jobs and development in the transition. In Burkina Faso, for example, the most important structural change in the economy has been the growth of the mining sector, which increased from 3 percent share of GDP in 2009 to 9 percent in 2016, while its share of exports increased from 43 percent to 69 percent. The mining sector provided about USD 350 million in revenues in 2016, and 9 000 direct jobs from 11 industrial mines and an estimated 1 000 000 jobs in artisanal and small-scale mining. Countries are however vulnerable to shocks from volatile prices on oil, gold and copper – or security issues. Diversifying the economy, however, will help improve financial and human security, as the current majority of impoverished people are associated with rural areas and highly vulnerable to both climate change as well as natural pulses of the great desert expanse.

GAPS

Currently the far majority of the miners are artisanal. Given only hand tools, it is hard for artisanal miners to exploit the full potential of the minerals or access to deeper ore, it also often includes highly insecure and unsafe working conditions. Furthermore, because of its informal nature, artisanal mining does not provide revenues to the government. Hence, while important for livelihoods, a sustainable mining strategy to attract investments is necessary. The industry needs audits and management to ensure that both workers and the local community, as well as the state, benefits. Here, private public partnerships are beneficial, to provide private sense of ownership, as well as government oversight to be able to build up a tax base and to redistribute some of the profits in the local community. Particular concern should be given to risk of corruption and loss of revenues.

Mineral resources in the Sahel region



Figure 4

Mining and mineral resources in the Sahel: Mining sectors share of GDP tripled in less than a decade in Burkina Faso and over a million people work in artisanal gold mining in the Sahel.



Burkina Faso's mining sector

Development opportunities and sustainability

The mining sector of the Sahel, especially in Burkina Faso, is on the rise and provides major development opportunities, jobs and hope for rising revenues. However, there are also multiple sustainability challenges, including both health, pollution and risks of illegal taxation by armed groups. Ensuring a sustainable path ahead will be vital for its future role in development.

The mining sector in Burkina Faso employs at least 600,000 people, the vast majority in small scale artisanal mining. Gold reserves of more than 1 000 tonnes, as well as diamond traces, are spread throughout the country, according to the Minister of Mines and Quarries, Oumarou Idani.²³ Production in 2016 reached 39 tonnes.²⁴ In addition, manganese is found in the northeast and south, and iron, titanium, vanadium and nickel in the north and east as well as deposits of non-ferrous metals around the country. In the decade to 2016 nine gold mines and a zinc mine were opened, and at least six mines are currently under construction.²⁵

The extraction of this gold is plagued by sustainability issues and security concerns. There are health problems related to the use of toxic substances like mercury, in the mining, both from exposure to toxic materials and contaminated drinking water far beyond where the concessions are.²⁶ Indeed UNDP and UN Environment's joint initiative Poverty-Environment Initiative (PEI) have in 2012 and 2013 identified that the unsustainable use of such chemicals costs the government over USD 24 million per year, with health consequences for over 850 000 people. Law makers in Burkina Faso seized on the data to open an inquiry into the process of how mining concessions are issued as well as social responsibility features of mining company operations.²⁷

The mining sector's challenges with sustainability issues comes at a time of growing security concerns across the country, but particularly in the north, and increasingly west and east as well. The northern part, bordering Mali, has growing encroachment by Islamist militants, particularly Ansaroul Islam. Attacks on security forces increased from 33 in 2017 to 119 in 2018, reflecting equally worrisome trends in Mali, and, albeit to a lesser extent, in Niger. The violence in the north has displaced 54,000 people since 2016 and is now spreading to other parts of the country. The western part has presence of the Ansar Dine/ Macina Katibat branch of Jamaat Nosrat al-Islam wal-Mouslimin (JNIM). During 2018 Al Qaeda and Islamic State affiliated groups established several strongholds in Burkina Faso, for example in the "W" national park at the tri-border of Burkina Niger Benin. Also the eastern Est Region has seen increasing militant presence, with reach into neighbouring Niger.²⁸ The attacks will challenge the French led counterterrorism efforts of the G5 Sahel, by making each country withdraw troops from the alliance and focus on their own security issues, and to gain incomes from controlling terrain in and around artisanal mines, where they can tax mining and transport activities.

JNIM have taken lead on regional strategy, and typically claim responsibility for the largest most successful attacks. IED attacks, kidnappings of foreigners and attacks on security forces are all increasing in both Mali and Burkina Faso. There are signs of increasing regional cooperation between AQ and IS groups, as well as between Islamic State in the Greater Sahara (ISGS) and Islamic State in West Africa Province (ISWAP).²⁹



THE SAHEL

LIFE ON THE BORDER OF THE WORLD'S GREATEST DESERT

UN Support Plan Priority Four

Building resilience to climate change, decrease natural resource scarcity, malnutrition and food insecurity.

The Sahel has historically been a hub of transition with pastoralists, agriculture and trade across the deserts linking North Africa and the Middle-East to Western and Equatorial Africa.

However, the Sahel has also been exposed to considerable population growth, currently amongst the highest in the world, generating additional land pressures, and exasperating poverty traps. Indeed, situated right in the transition between woodland savannah and the vast desert expanse to the north, rural livelihoods are continually exposed and highly vulnerable to the natural expanding and contracting pulses of the desert and variations in

rainfall. The populations in this rural rim of the desert are particularly vulnerable to climate change, droughts and floods. A substantial expansion in contiguous tree cover provides a long-term synergetic solution for farmers and pastoralists alike to break out of poverty and make productivity gains in agriculture and commerce.

Satellite imagery and aerial photos supported by field investigations have detected significant tree density decline in the period 1954-2002 in the western Sahel of 18 ± 14 percent. This was confirmed through field investigations 1960-2000 showing species richness decline of 21 ± 11 percent.³⁰

The Great Green Wall and 4 priority areas in the Sahel Region



Figure 5

The Sahel and the hope of the Sahel Great Green Wall – a mosaic of land restoration projects where more than 32 millions of restored ha from west to east including Ethiopia have generated tens of thousands of jobs for women and men alike and improved food security. The four areas include areas of particular development or security gaps.

One major constraint to any development in the region has been the fact the Sahel lies in the transition zone between deserts and woodland savanna and dry grasslands, making the zone highly vulnerable to the pulses in the expanse of deserts, as well as to degradation by unsustainable land use practices or extreme weather conditions.³¹ With over 90% of the population dependent upon the land resources, any development must secure or restore lands from degradation as the very first step on a sustainable path to development and future prosperity.³²

Indeed, rehabilitation and restoration of land water resources, especially in a region with so many young people, quickly trigger initiatives, innovation and generate benefits. As access to water is the very foundation for any life, agriculture, pastoralism, business, industry and trade, the oases, lakes, rivers and mountains – the primary water towers become imperative for any step forward.

Young people willing to grasp opportunities and possibilities in the Sahel must start where the water resources are. Policy makers must link life in and around green vegetation with complimentary efforts in infrastructure and security.

A large number of initiatives are currently developing across the region, such as the G5 Sahel initiative, The Great Green Wall, the Desert to Power Programme and many others supported by the EU, the World Bank, the UN, and others. However, delivering development support and investments across an area of over 3 million km², with over 300 million people, requires a fundamental understanding of its cultural history, tribal affiliations and underlying pre-conditions needed for any development to carry the onward momentum for true change. In some areas it even entails adapting development projects to the presence of ongoing conflict. All of which puts particular demands on careful identification of prioritization areas, synergy effects and coordination.

Across the Sahel's more northern and poverty-stricken areas, agriculture is the most important element of both food security and cash crop provision. For the very poorest people, rain-fed agriculture provides livelihoods, but it is highly exposed to shocks, particularly droughts and flooding. Successful development of agriculture to reduce poverty and to create conditions for increased human capital rely on optimising household incomes through increased quality (leading to higher prices on produce) and quantity (leading to higher sales volumes and more food security) of production. Very simple factors can obstruct increased production, such as lacking storage and refrigeration possibilities, rural roads being in poor condition, shortage of electricity, and lacking knowledge of local market opportunities beyond the nearest villages.³³

In both Burkina Faso and Niger agriculture, including livestock, occupies 80% of the workforce.³⁴ However the sector has untapped potential Sahel wide, but it requires development of water resources for increased irrigation, as well as technical skills within animal health, land- and crop management.³⁵ Both surface water, where it exists, and wells drilled using solar powered electricity, for example, are realistic and promising options to increase productivity. Such input is necessary for example in the Lake Chad area of Chad, where agricultural productivity has stagnated, and the surface area of the lake has contracted enormously in recent decades.³⁶

Even though agriculture is a key feature of all the economies in the Sahel, and is the lifeline for the very poorest, it has very large untapped potential for optimization and upscaling. In Niger, for example, yields in crops such as sorghum can increase by a factor of 20, and millet by a factor of 8, and rice could double.³⁷

In Burkina Faso the size of arable land that is cultivated can be doubled and the size of irrigated land can increase by 88%, which will increase productivity dramatically.³⁸ There are specific projects on the way that can serve as pilot projects. In Burkina Faso, for example, the Bagré Growth Pole Project will develop 5 500 ha of irrigated land to be used for both livestock and fish.³⁹

The Great Green Wall Initiative

SUCCESS

A harmonised strategy has been developed for The Great Green Wall for the Sahara and the Sahel Initiative (GGWSSI). The programme has been adopted by the African Union, and is supported by the EU, FAO and the Global Mechanism – United Nations Convention to Combat Desertification (GM-UNCCD). Vast vegetation regeneration projects both along the Great Green Wall initiative, and elsewhere, based on indigenous tree species using community-based natural resources management, have led to the planting of over 11 million trees in Senegal and 25 000 hectares have been restored. Such planting has provided tens of thousands of jobs in Nigeria, Niger and Burkina Faso, alongside Ethiopia with a total of over 21 million ha restored.

Since the Green Wall programme's launch in 2007, 15 million hectares of degraded land has been restored in Ethiopia, and land tenure security has been improved. In Nigeria 5 million hectares of degraded land has been restored and 20 000 jobs created. In Sudan, 2 000 hectares of land has been restored, and in Burkina Faso, Mali and Niger, about 120 communities have been involved in creating an over 2 500 hectares green belt through degraded drylands, using more than two million seeds, and with seedlings planted from fifty native species of trees. These efforts are providing jobs, especially for women, and improving their cash incomes and subsequently support further their crucial role in development. The increased incomes and jobs for both women and men also improve school attendance, while the planting, especially drought-resistant Acacia, helps improve water retention, which has positive effects on local water provision and irrigation. By 2030, the ambition is to restore 100 million hectares of currently

degraded land, sequester 250 million tonnes of carbon, and create a minimum of 350,000 jobs in rural areas.

Tree densities on farms in some areas have increased substantially during the past decade, such as on 500,000 hectares of Mali's Seno Plain.⁴⁰

GAPS

The full establishment of the Great Green Wall will require a concentrated effort with funding, regional and international coordination, including ensuring community collaboration and participation, to ensure that it develops into a truly coordinated linked effort. Unity of effort and unity of "command" will be required to deliver a precise and joint effort for success, exchanging best practices and identifying individuals across the Sahel with an established record of success in actual implementation as lead entrepreneurs.

It is estimated by the FAO that 166 million hectares of the Great Green Wall area offer opportunities for restoration projects, so while existing efforts have proven that this is possible, a far greater effort than what is currently taking place will be required. The Great Green Wall's core area crosses arid and semi-arid zones on the north and south sides of the Sahara. Its core area covers 780 million hectares and which is an area that is home to 232 million people. To halt and reverse land degradation, around 10 million hectares will need to be restored each year.⁴¹ That is equivalent to what has been achieved in total in the previous decade. The costs are projected to USD 8 billion – but this is possible to raise with stronger coordination and financial commitment.

During an expedition to the Sahara in 1952 Richard St. Barbe Baker proposed a 'Green front' to act as a front-line of trees 30 miles deep to contain the desert.⁴² In 2007 in Addis-Ababa, Ethiopia, African Heads of State and Government endorsed the Great Green Wall.⁴³ In 2014, the EU and FAO, in collaboration with African and

other regional partners, launched the EUR 41 million over 4.5 years programme Action Against Desertification to build on the GGWSSI.

The Great Green wall is conceived as 7 775 km long and 15 km wide, with a total area of 11 662 500 ha. The

ambition, conceived as a forest like wall is unrealistically expansive, however a series of interconnected patchworks of regeneration with a wide variety of indigenous species, is achievable. Similar, though much smaller, endeavours in China have included much narrower belts established in certain areas, such as the 4 x 25 km Kekaya green protective screen, in the Taklamakan Desert.⁴⁴ While it has been reported that 30 million or more trees have been planted, a 15 km wide belt would - even with xenophile/desert plants in most places - require as much as over a 100 billion plants. Indeed, to halt and reverse land degradation, around 10 million hectares will need to be restored each year, according to the FAO Global Drylands Assessment.⁴⁵

Today there is very considerable re-greening taking place in Niger and Burkina Faso, due to bottom-up initiatives by local farmers, using innovative but inexpensive techniques to modify existing agricultural practices. One such practice in Burkina Faso is known as 'zai', a series of intersecting deep planting pits in hard ground that provide irrigation waterways as well as retention of water. Dike like stone barriers are built to contain water around the fields.⁴⁶ Another technique used in Niger has also been successful and inexpensive: protect useful indigenous tree species, then prune them for use of branches, and grow other crops, such as sorghum and millet, around them.

The Zinder Valley in Niger had 50 times more trees in 2004 compared with 1950. By 2011 more than 4.8 million ha had been regenerated in this way in the country, and more than 0.5 million ha in Mali. Currently these lessons are being widely disseminated⁴⁷ and turned into a USD 1.2 billion effort by the World Bank called AFR100, which aims to restore 100 million hectares by 2030 in 22 countries.⁴⁸

A series of other initiatives are also underway, such as a UNCCD 'flagship initiative' under the Great Green Wall called FLEUVE – The Local Environmental Coalition for a Green Union. This four-year EUR 7 million EU Commission-funded project is concluding in 2018.⁴⁹ Yet the full realization of the Green Wall will require at least USD 8 billion. The UNCCD project is in other words lacking primarily in scale.

What is required in the Sahel is the overall coordination of very large-scale programmes that complement each other and create synergy effects. The Great Green Wall cannot exist alone without efforts made to provide energy so that the trees are not cut down for firewood as soon as they are planted. The Desert to Power Programme for energy is an initiative that is intended to be coordinated with the Great Green Wall, as well as being of sufficient scale.

Even though the budget has not been publicly announced its goal of producing 10 gigawatts of solar power is ambitious. Similarly, the SAWAP (see below) project, for water and land management, is necessary to avoid inequality in the distribution of the new resources, as well as sustainability of water resources in the long term, as water is heavily used to ensure the initial survival of both the planted trees and parallel and upscaled agricultural initiatives. This programme, at USD 1.1 billion is also approaching sufficient scale.

China has since 1978 been establishing the Three-North Shelterbelt Programme or Green Great Wall, designed to curb the pulses of the Gobi Desert. The project is aimed to continue until 2050, and by then to cover 4 500 km along China's northern deserts, and cover 405 million ha. Since its inception and until 2014, according to official sources 66 billion trees have been planted.⁵⁰ Efforts and experiences from these two projects would benefit both sides.

Of equal importance for food security is access to renewable and affordable energy. Increased access to cooling systems and improved storage opportunities, provide incentives for pastoralists and farmers alike to supply the market more continuously across the year, within the restraints of seasonal harvesting. This is especially true for vegetables, fisheries, meat and dairy products. Reducing food losses is not only the fastest way to improving food security, it also facilitates market and business development and cash incomes, aiding rural and settlement communities alike. Hence, implementing further solar-fed mini-grids is a game-changer in the Sahel development scheme.

Post harvest food loss in Sub-Saharan Africa

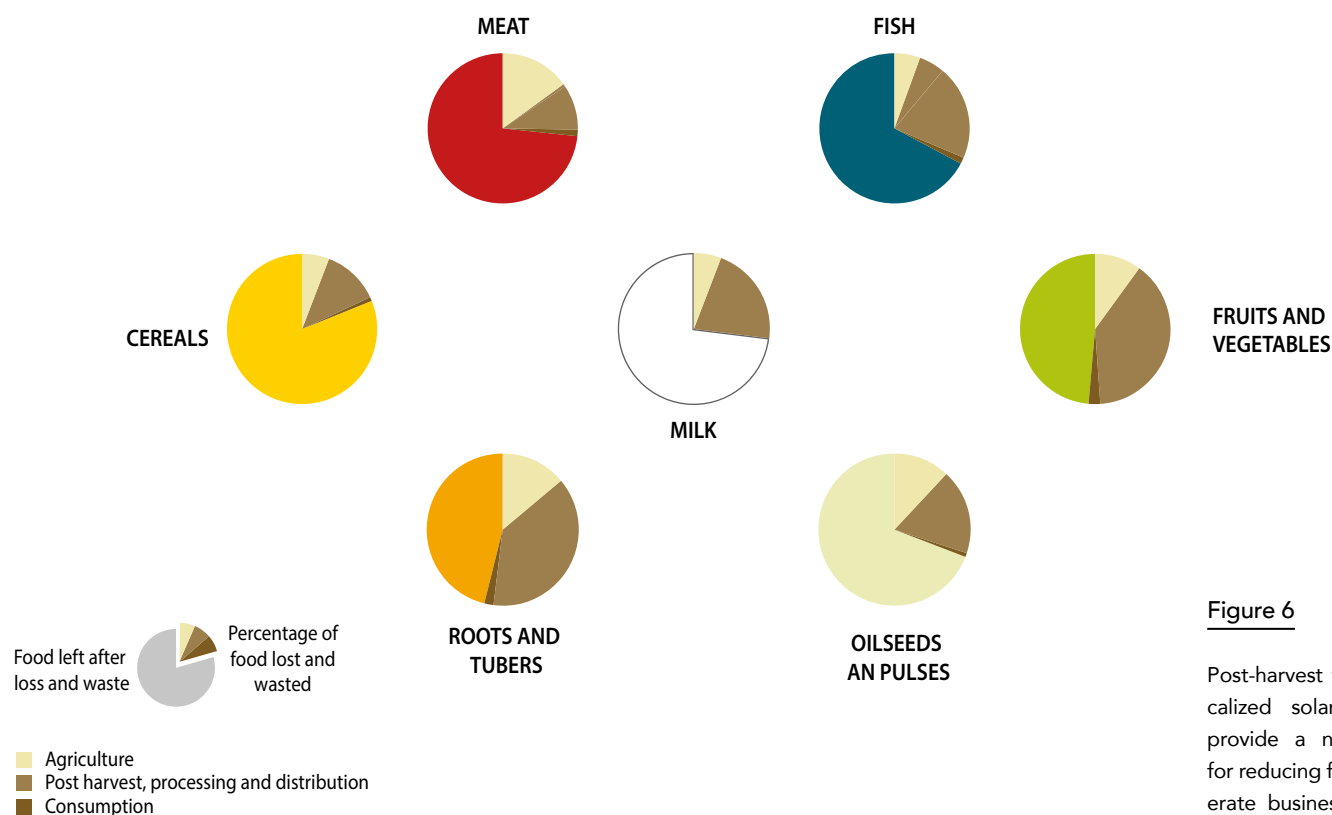


Figure 6

Post-harvest food losses. Localized solar-fed mini-grids provide a new momentum for reducing food losses, generate businesses and manufacturing and improving cash incomes and food security.

Due to the vast expanses of the Sahel drylands and deserts with scattered population, agriculture and pastoralism, energy supply has been particularly difficult. In fact, the very same agricultural and pastoralism practices that have enabled people to settle in the drylands have also been a challenge for providing electricity, simply due to the settlement patterns and distances involved, and the high costs associated with localized and expensive diesel generators.⁵¹

The environmental benefits of using solar powered irrigation systems are large. In a cradle-to-grave scenario the green has gases reduction of emissions associated

with going from diesel powered pumps to solar is in 97-98% range.⁵²

Solar-fed energy mini-grids are changing this and will impact business development, market access and especially food security. In one investigation solar market gardens the amount of women's group households involved in vegetable and fruit production increased with 26-55% after introduction of solar market gardens.⁵³ Indeed, from anything from inland and coastal fisheries to meat and dairy products, alongside storage of vegetables, the lack of cooling systems has been detrimental, with post-harvest losses in the range of 10-40%.

Sahel resilience

The vast growth in the solar energy-fed mini-grids is perhaps one of the strongest boosts to resilience and development across the Sahel. It will facilitate education, agricultural manufacturing of dairy and meat products and storage of vegetables – and help generate markets and small business development. In addition electricity will help promote education and school work and help solidify the positive development trends.

For poverty alleviation to succeed in the Sahel, the exposed populations living in the arid parts of the northern half of the Sahel need a lift in infrastructure and human capital investments. The people living in these areas are usually dependent on rain-fed agriculture and livestock. At the same time, they score very high on population growth, birth rates and dependency ratios, while education levels, literacy and primary school completion, particularly for girls, are low. These factors all contrive to reinforce poverty traps. Initiatives to break out of these cycles require both tailoring to the particular topographical environment, as well as in some areas security situations with ongoing conflict.

Access to modern energy is the major problem in poverty alleviation in rural Sahel, because of the costs of transportation and lacking infrastructure, and opportunities to develop infrastructure. This can be alleviated through investments in renewable energy sources, particularly solar power, where outside support is especially necessary for the upfront establishment costs of minigrids.

Establishment costs can be forbidding for poor communities, but they can more realistically bear more modest running costs in the medium term. The aim is to transition into more environmentally friendly and lower running-costs forms of energy. The burden of this energy gap is out of proportion borne by women, because of their primary roles in cooking, cleaning and heating for their families, and their role in providing energy in the form of firewood, charcoal and kerosene.⁵⁴ Lacking access to clean and affordable energy is a direct cause of the persistence of poverty traps as well as to health problems from poor indoor climate.

Sahel governance

With UN assistance, Member States adopted legislation with measures against anti-corruption (in Burkina Faso in November 2015 and in Niger in December 2016), against terrorism (in Burkina Faso, in 2015 and 2017, and in Niger in 2016), against money-laundering and terrorism financing (in Burkina Faso in 2015, Mali and Niger in 2016). In May 2017 Chad, Mali and Niger signed a judicial cooperation agreement to authorize joint investigations and transfer of criminal proceedings.⁵⁵

Niger registered its first ever conviction for money laundering, setting a precedent for countries in the region. The Court confiscated an equivalent of USD 670,000 in May 2015, following a court order issued in Niamey. This case was followed by the establishment of the Asset Recovery Inter-Agency Network for West Africa (ARIN-WA) that the UN supported.⁵⁶

UN-supported judicial platforms on regional exchange of information have facilitated the handling of high profile human trafficking and terrorism cases by Niger, Mauritania and Senegal, and allowed processing over 100 requests for mutual legal assistance and 14 cases of extradition; national legislation leading to the marking of more than 50,000 state-owned weapons, notably in Burkina Faso and Mali; the introduction of integrated border and cross-border community management in the Lake Chad Basin, and the training of 320 border agents in Mauritania.⁵⁷

Burkina Faso has demonstrated good improvement in the governance of agriculture, services and mining, by reforming public administration through improvements in both the country's legal architecture and institutions.⁵⁸

Across the Sahel, judicial reform and regional cooperation agreements have improved very considerably between 2014 and 2017, with 14 laws in the pipeline that will harmonize national laws with international instruments against terrorism and organized crime. Similar results have been achieved in the area of information sharing within law enforcement leading to 38 cases and 16 separate arrests.⁵⁹

Governments in the Sahel gain revenues of a total of about USD 38 billion annually (43% of which is Nigeria), with ODA of 6.4 billion (average 2010-2016).⁶⁰ International financing accounted for a total of near 11 billion USD in 2016.⁶¹ In comparison, total illicit flows comprised an estimated 5.1 billion USD out of the region annually⁶², revealing that investing in enforcement, audits and strengthening the judicial sector is vital for securing the long-term sustainability and accountability.

Niger is financially dependent on aid and natural resources. This is in part related to an overly centralized bureaucracy where the state regulates development, which stifles entrepreneurial initiative.⁶³ The same issue applies in Cameroon, which has a business environment that is not conducive to private initiatives, both in the formal and informal economies.⁶⁴

On the World Governance Indicators on control of corruption, rule of law, and government effectiveness, Chad, Cameroon and Nigeria score low on all three, with Chad in particular struggling on all indicators.⁶⁵ The weak public sector performance indicated by these governance indicators, in combination with lower oil prices, have reduced oil income, leading both poverty reduction and investments in agriculture to fall behind.⁶⁶ The electricity sector, and the management of the national utility in particular, requires improvements in technical capacity and governance.⁶⁷ The World Bank has called for outside investments to be made more directly in rural areas, but this requires improvements in governance decentralization. However, this particular shortcoming in governance is not only an issue in Chad.

In local communities surrounding both Niger and Chad's extractives sectors there are grievances around the income distribution from these natural resources, where relatively few people benefit from the mining industry.⁶⁸ In Chad fighting over gold resources in the Tibesti mountains has claimed more than 40 lives in the year up to July 2018.⁶⁹

Population growth and poverty

There is a mutually reinforcing relationship between poverty, population growth, dependency rates and gender marginalisation in the most exposed areas of the Sahel.

Crippling poverty is experienced by a large number of people in the Sahel, and it needs to be defeated in order to make progress on any other areas, whether security (which is necessary and expensive), commercial success, human capital or infrastructure expansion. Cameroon and Burkina Faso have reduced relative poverty, but population growth has kept the absolute number of poor constant or increased it.⁷⁰ In Niger and Chad, the poor live in the rural areas. But in Chad, 73% of heads of poor households work, which means it is low earnings rather than absence of work that causes poverty there.⁷¹

In Cameroon's Far North Region, both the incidence of poverty (from 56% in 2001 to 74% in 2014) and the depth of poverty (from 19% to 34% in the same period) have increased.⁷² This region is arid and dependent on rain-based agriculture and livestock, and thus particularly vulnerable to shocks. Such shocks can be droughts, or floods, or man-made situations like the deterioration of the security situation caused by the Boko Haram. The poverty impact education too and disempowers women disproportionately. Only 22.5% of women in the Far North Region are literate.⁷³

Niger, Chad and Mali have very high fertility rates, with 7.24, 5.95 and 6.06 births per woman in 2016, respectively. Their adolescent birth rates for ages 15-19 per 1 000 adults are also exceptionally high, with 173 for Niger, 179 for Chad and 151 for Mali.⁷⁴ The Niger population, for example, is projected to increase from the current 21 million to 30 million in 2030 and 70 million in 2050.⁷⁵

The population growth reinforces the cycle of poverty, with high dependency rates, low access to health services, including reproductive, maternal, neonatal and child health, and nutrition (RMNCHN) services, high fertility rates and low access to education and commercial opportunities, particularly for women. The dependency ratios for 100 working age population in 2017 stands at 111.65 (Niger), 98.52 (Chad) and 100.90 (Mali), compared to an average of 85.19 for Sub Saharan Africa.⁷⁶

This cycle can be broken through access to education, particularly to increase knowledge about family planning and reproductive health. Dependency rates must be reduced to defeat poverty, which frees resources to overturn poverty traps into positive cycles where improvements in health care and education lead to entrepreneurship opportunities, first through increasing agricultural productivity and increased quality products and thus prices, and later expanding into other fields as access to water and electricity improves telecommunications reach, particularly for the young, and for women to gain more time outside childcare.

Promoting access to renewable energy and water

About ¾ of the 17 gigawatts of installed electrical power capacity in the 10 UNISS countries is in Nigeria. The energy sources for this electric power come from diesel, hydro and thermal. Less than 0,3% is based on solar power.⁷⁷ As of 2014, the total installed solar capacity for all of Africa was 1.3 gigawatt but it is rapidly increasing.⁷⁸

Vast countries like Chad, Niger and Mali have low electricity rates, especially in rural areas. Chad has 4% overall and 1% in rural areas. Niger, has 15% overall and 4% in rural areas. Mali has 35 overall and 18% in rural areas. 42 of 89 million people who have no access to electricity in the 10 UNISS countries live in Chad, Niger and Mali. Because of the large areas, grid expansion is unrealistic, so decentralized off-grid systems, primarily through solar power become the best option. They are increasingly available and dropping in price.

Solar powered tube wells can provide irrigation for agriculture. In south west Afghanistan the number of solar panelled tube wells double every year. The countrywide agricultural land grew from 143,060 hectares in 2003 to 472,838 hectares in 2016. Crucially, this expansion was not based on either government or donor help, but local initiatives using technological improvements in solar energy. In the southwest of the country, there were only a handful of solar powered wells in 2013, but in 2017 there were 25,000 of them.⁷⁹ The increase happened rapidly, with 80% increase from 2016 to 2017.⁸⁰ The local price of Chinese panels has more than halved in four years. And now retailers are operating in villages rather than just major regional cities.⁸¹

This was possible in an area beset by high levels of violence, where land was simply rocky desert only ten years ago. The problem in Afghanistan is that the necessary investments in this infrastructure has come from poppy production, and this high-profit crop can also explain the strong incentive for farmers to invest in irrigation, despite living in a high-conflict zone. The price for a

complete set, including water pump, pipes, solar panel with a capacity of 300 ampere, cables and installation, is about USD 5,000.⁸² The lesson from Helmand, notwithstanding the role of the poppy, is that off-grid solar panel plants can be sourced, built and run to irrigate desert land even in a high conflict zone.

While there is a risk that high use of water can drop water tables, the Sahel Region is rich with aquifers.⁸³ The Lake Chad Basin is one of the largest sedimentary groundwater basins in Africa, at about 2.38 million square kilometres. The basin has “regional aquifers of enormous quantities of good quality groundwater able to meet the human demand for drinking and agriculture use.”⁸⁴ One of the key resources that off grid solar power plants can provide, is clean water wells. In Algeria, for example, 300 MW of solar power is already installed for water pumping. In Egypt, 9% of solar capacity is for water pumping.⁸⁵

Across Africa 14 GW of solar photovoltaic power is in the pipeline, and an additional 6 GW of more major concentrated solar powered plants for on-grid connection. However, the large plants are expensive to build, with a typical project cost of USD 1.1 – 3.4m per megawatt, and they are attractive targets in high-threat areas.

Decentralized off grid solutions are much smaller and versatile. They can provide energy for schools, where students can do homework after dark, as well as for homes, where residents can reduce pollution from charcoal and firewood, and increase their active hours, whether for housework, homework or small-scale business activities.

Hospitals have continuous needs for lights and running hospital equipment. Medicines, in particular vaccines, need to be refrigerated. Communications is another major application, whether for charging mobile phones, or for running telecom towers.⁸⁶ Off grid solutions are less sensitive to power outages. Cameroon has an average 10 outages per month in their grid system.⁸⁷

World bank report on solar power in Burkina Faso

“As in any developing country, the majority of women in Burkina Faso are faced with challenges to access improved energy for domestic tasks and livelihood generation. Most women use kerosene lamps or battery-powered torches and rely on wood and/or charcoal to cook. The use of traditional fuels for cooking and lighting have negative socioeconomic, health, and environmental impacts; the smoke produced by firewood during cooking causes lung diseases with women and children as the main victims, whereas the overuse of wood fuel exacerbates deforestation and the greenhouse effect, increasing to this extent the vicious cycle of poverty among women. In Burkina Faso, the National Energy Policy does not address gender dimensions in its design, planning, and interventions. Hence, the progress on providing greater access to modern energy to women has not been significant.”⁸⁸

Production cost for on grid PV systems have dropped to a quarter from 2009 to 2015. The price for solar PV utility projects in 2014 ranged between USD 0.13 – 0.26 kwh. Off grid systems cost vary depending on the size, from USD 2.2 – 17/w, with systems under 1kw costing about twice as much as those over 1kw.

According to the International Energy Agency, off grid solar capacity is set to almost triple in five years to about 3,000 MW in 2022. Several models are being experimented with on decentralised projects to supply 10,000 households for a combined 10 MW of electricity using pay-as-you-go models, such as Kilowatts, which is a microfinance company operating in the four states Bayels, Ondo, Ogun an Osun in Nigeria.⁸⁹



RENEWABLE ENERGY

THE GROWTH OF THE SAHEL

SOLAR ENERGY EMPIRE

UN Support Plan Priority Five

Promoting access to renewable energy.

SUCCESS

The vast growth of the solar mini-grids of energy supply is evolving in the Sahel as it is becoming a future powerhouse of development, enabling business and manufacturing and facilitating education. Furthermore, it increases the potential of food storage for pastoralists (meat) and farmers alike, generating a momentum for small-scale business and all-season market development, so vital to economic growth. The last decade has seen over 1,083 mini-grids in development across the region. These mini-grids are prerequisites for improving agricultural storage opportunities, food security – and for building year-round markets for pastoralists (meat and dairy products) and food storage. This, in turn, provides the platform required for manufacturing and small-scale business development with year-round resources, energy and hubs becoming available.

GAPS

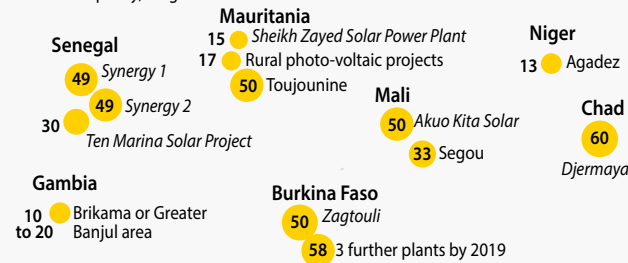
Continued investments are needed to facilitate the growth in the solar-fed mini-grids and power stations. Development and education support should further utilize this momentum. Establishing more solar fed mini-grids and subsequent development will require foreign investments and continued development in this transition phase. Support to mini-grids in and around key aquifers, combined with micro-finance and larger investments in small-scale manufacturing and storage capacities will initially require external support. However, given the business and food security potential, this is likely one of the very best ways to propel development and food security forwards in both the short and long-term, with a proven record of sustainability.

Solar energy potential and renewable energy plants in the Sahel Region



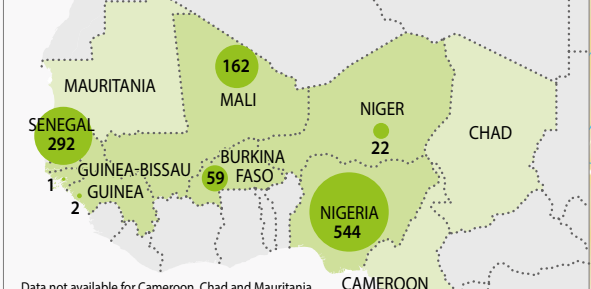
Most relevant existing or planned photo-voltaic projects in the region

Installed capacity, megawatt



Clean Energy Mini-Grids* in the Sahel region

Existing or planned, December 2016



Data not available for Cameroon, Chad and Mauritania

* Isolated grids (small-scale electricity generation) which serve a limited number of customers (households, businesses, hospitals, schools etc.), through a distribution network, often having no access to the main utility grid, yet capable of offering similar quality of electricity as those connected to the grid.

Figure 7

The Sahel region is becoming home to one of the World's largest concentrations of solar and renewable energy-fed mini-grids, generating small power-hubs for markets and small-business development and manufacturing.

Names in *italic* indicates the name of the project or the plant, other names indicate approximate location
Sources: JRC, Photo-voltaic Geographical Information System, SARA Solar Radiation Data, RHIPTO analysis; ECREE, Mapping and Assessment of Clean Energy Mini-Grids in West Africa, 2016

The first 1,000 solar-fed energy mini-grids will impact business development, market access and especially food security. Indeed, anything from inland and coastal fisheries to meat and dairy products, alongside storage of vegetables, the lack of cooling systems has been detrimental, with post-harvest losses in the range of 10-40%, sometimes more.⁹⁰

Irrigation too, can be provided by solar-powered irrigation systems (SPIS), where PV panels provide energy for pumps to abstract, lift, and distribute water. Improving local energy supplies enable small-scale business development in agricultural and fisheries sector and manufacturing. SPIS can help stabilize, increase and diversify production.⁹¹

The Desert to Power Programme, a collaboration between The African Development Bank, The Green Climate Fund, and the Africa50 investment fund, will develop 10 000 MW of solar power throughout 10 countries in the Sahel. The ambition is to provide power to 250 million people, including 90 million off grid.⁹² This compares with the 143 MW of currently operational solar plants in the G5 Sahel region⁹³, and at least 347 MW in the pipeline by 2020 for Burkina Faso, Niger, Mali and Chad.⁹⁴ The Desert Power Programme is to augment the Great Green Wall plan, which will have several beneficial synergy effects, not least to pro-

tect the Green Wall against being used for energy, such as firewood or charcoal.⁹⁵

Other decentralized successes in terms of solar energy are Mali's coming 36 000 solar powered street lights across the country, and that government's commitment to construct 160 rural power stations based on a hybrid solution of solar and thermal power. Nigeria has a very modest current PV capacity of 19 MW, but with plans for reaching 1 300 MW by 2020, and with private initiatives pledging 5 400 MW, including 200 village micro-grids of 1 MW each. Nigeria has a Rural Electrification Agency, which will launch a programme to supply 37 universities and 7 teaching hospitals with a total of 90 MW solar-hybrid power. And Nigeria further aims to build 10 000 community microgrids by 2023, funded with loans of USD 350 million from the World Bank.⁹⁶

The World Bank and the Global Environment Facility are past midway in a project called the Sahel and West African Programme in support of the Great Green Wall (SAWAP). This project has a budget of USD 1.1 billion, and over USD 100 million of this is targeted towards sustainable water and land management. The projects are aimed at improving resilience and water and management. It is an example of an overarching programme that is tailored to the specific needs of 12 Sahel countries.

Chad

- Djermaya PV solar plant, 30 km north of N'Djamena. EUR 60 million 32MW plant with coming expansion of another 28MW, operational in 2018-19. First utility-scale renewable energy project, and first privately owned and, financed and managed power plant in Chad. It will produce power at less than half the current cost in Chad. It is a model that can be copied by other African countries.⁹⁷ It also compares with Chad's existing electric production capacity, which is 100% diesel generated, at 125 MW.
- Another project, the Starsol Solar PV plant, also 32MW in N'Djamena, is funded by the African Development Bank, and developed by a consortium.

Burkina Faso

- The biggest solar power plant in West Africa is Zagtouli PV in Burkina Faso. It generates 33MW and is located 10km from the capital.⁹⁸ It cost EUR 47.5m to build, was funded by EU and France's Development Agency, and is currently operational. The plant will be expanded by 17 MW to a total of 50MW, which significantly boosts the country's existing capacity of 325 MW. This electric power, however, is generated by hydro, diesel and heavy oil. In addition, the price of a kwh from Zagtouli will be one third (45 versus 145 CFA) of fossil fuelled plants.
- There is also a further 58 MW of solar power in the pipeline across three separate projects, all expected to be commissioned in 2019.

Niger

- Niger has two projects in the pipeline, one 13MW PV and 6MW diesel combination project to be located near Agadez, financed by the French development agency. It is currently out for tender.⁹⁹ The other is the Niger Solar Electricity Access Project, which aims to provide capacity support, funding and market stimulation to provide solar power, as well as transition existing diesel generation to solar-diesel hybrids, in rural areas outside the national grid. The project closes in 2024, and has a cost of USD 47 million, paid for through international developmental assistance.¹⁰⁰

Senegal

- Senegal has three major solar power projects already operational. Their total effect is 84 MW, which compares with the country's non-renewable capacity of 864 MW. Two projects, Synergy 1 and 2, total 49 MW, whereas a third, the Ten Marina Solar Project, has a capacity of 30MW. The two former plants were inaugurated in 2017. In early 2018 the Ten Marina Plant was inaugurated by PM Dionne.¹⁰¹

Cameroon

- In Cameroon, three major PV projects will produce 76.2 MW solar powered electricity in the coming few years. This compares with the country's existing 1292 MW of power. The Solar Rural Electrification Programme will bring 32KW off-grid solar power plants to 350 different communities. The project costs USD 123 million, funded by a loan from the Bank of China, and will provide 150,000 people with power. In addition, three PV projects with a total of 35 MW capacity are in the pipeline, destined for northern Cameroon, with one expected online by 2019.¹⁰²

Mauritania

- Mauritania has invested substantially in solar, wind and hydropower, with an ambition to reach 20% coverage of the country's electricity needs through renewables by 2020.
- The Masdar developed, UAE funded and government run Sheikh Zayed Solar Power Plant has provided 15MW to more than 10 000 homes in Nouakchott since 2013. It contributes substantially to Mauritania's total capacity of 380MW of electricity.¹⁰³ Masdar subsequently developed eight new rural PV projects, powering 39,000 homes with a combined output of 16.6MW. These were operational in 2016 and cover 30% of the country's rural energy needs.¹⁰⁴ Another large 50MW PV plant is operational in Toujounine east of Nouakchott.
- Mauritania in addition has three major wind power projects. A 30MW plant in Nouakchott operational in 2015, a 4.4MW plant in Nouadhibou, operational in 2013 and a 100MW expected to go operational in 2018.¹⁰⁵
- Mauritania cooperates and shares with Senegal, Mali and Guinea three dams of hydro power in the River Senegal Basin, with a total production capacity of 400MW.¹⁰⁶

Guinea

- Guinea's renewable energy comes from four hydro-electric reservoirs with a combined capacity of 995MW. In addition, the country is collaborating with France to produce its first three large scale PV plants. One of them is to be located in Khoumagueli, with a capacity of two times 44MW in separate stages. This plant will allow the 75MW Garafiri hydro plant to store water to run its turbines at full capacity overnight, which increases its capacity with 20%.¹⁰⁷
- A large share, in 2015 47%, of the energy consumption in the country goes to the mining sector.

Nigeria

- Nigeria has about 60% electricity cover rate for its 198 million people. Their target is to reach 75% of the population by 2020, with 30% derived from renewables by 2030.¹⁰⁸ The production of electricity is at about 7,000MW, in practice only 4,000 reaching the grid, with over 80% of this generated by gas.
- Nigeria has three large hydroelectric dams that produce 2 100MW electric power, about 17% of the country's total capacity. They were built between 1968 and 1990.

Gambia

- Gambia has an existing power generation capacity of 99MW, 100% derived from fossil fuel, which reaches almost half the population.
- Gambia's utility NAWES is, in collaboration with the World Bank, developing the country's first major solar plant, with a 10-20MW capacity intended either as a single plant in the Brikama area, or for 3-5 smaller ones in the Greater Banjul area.

Mali

- Mali is building the Akuo Kita Solar 50MW USD 96 million solar power plant in the south of the country. The project is funded by the Emerging Africa Infrastructure Fund and the French green IPP Akuo Energy. The energy will be sold to the national utility, and it will add to Mali's existing 310MW capacity, which is $\frac{3}{4}$ hydro power from the 200MW Mantali Dam, and the rest from diesel generators. In addition, a EUR 48.4m PPI is underway for a 33MW plant outside Segou, which is also to be connected to the national grid at a fixed price of USD 0.134/kwh. It is expected to become operational in 2018.¹⁰⁹



GENDER EMPOWERING YOUTH AND WOMEN

UN Support Plan Priority Six

Empowering youth and women as agents of socio-economic transformation and peaceful society.

SUCSESSES

Female empowerment cuts across a range of priorities in the Sahel, however family planning has been identified by the Sahel Women's Empowerment and Demographic Dividend (SWEDD) Project,¹¹⁰ the Lake Chad countries and the FP2020 countries¹¹¹, as an essential investment to empower women and reduce gender inequality.¹¹² The SWEDD programme, a joint effort by the World Bank and UNFPA, responded to a call from the heads of state of Burkina Faso, Chad, Cote d'Ivoire, Mali, Mauritania and Niger in 2015 for increasing regional availability of reproductive, maternal, neonatal and child health, and nutrition (RMNCHN) services. The efforts are already seeing increased political commitments as well as results. Burkina Faso managed to increase its contraceptive prevalence rate from 15.7% in 2012 to 22.4% in 2017. Mali pledged to reach a contraceptive prevalence rate of 15% by 2018, and is on course to make it, and has subsequently extended their pledge to 20% by 2020. Mauritania passed a new law guaranteeing right to reproductive health and family planning.¹¹³

In the ten UNISS countries, an estimated 2.3 million unwanted pregnancies occurred in 2017. However, in

the same period 813 000 unwanted pregnancies were prevented due to the availability and use of modern contraceptives. For the same reason about 12 550 maternal deaths were prevented. These successes relied on availability of contraceptive, which are facilitated by UNFPA Supplies, given donor funding. The Bill and Melinda Gates Foundation and UK's DFID have committed to provide USD 80 million to ensure interim funding.¹¹⁴

GAPS

The prevalence rates of modern contraception use, while high in Cameroon and Burkina Faso (21.6 and 22.4), are low in Gambia and Mauritania (7.8 and 9.7), and very low in Chad (4.1), compared to an average of 16.5 in West Africa. The adolescent birth rates per 1 000 adolescents (aged 15-19), is 127 on average in Sahel, and very high in Niger and Sahel (173 and 179), but down in the 80s in Gambia, Senegal and Mauritania. The efforts underway under the SWEDD programme, as well as similar initiatives need to be continued and expanded. The programme is funded for four years until 2019 with USD 207 million.

As the SWEDD and FP2020 countries have agreed, family planning is a means towards reducing birth rates, which in turn reduces both child and maternal mortality rates as well as making it possible for women to free up time and opportunity to complete school, increase literacy and seek education and professional development.¹¹⁵ The SWEDD programme focuses on benefitting women, adolescent girls (15-19 years) and girls (10-14).

Sahel infant mortality is slightly higher than the average for Sub-Saharan Africa, and approaching twice as high as the world average. The fertility rate is significantly higher than sub-Saharan Africa, which is exactly twice as high as the world average. The age dependency ratio is 90,91 in the Sahel, also higher than the Sub-Saharan Africa average of 85,19. In terms of education, the rate of women who complete primary school is 60% in the Sahel, compared with 67.5 in Sub-Saharan Africa, and 89,32% for the world (see table 1). As these numbers indicate, there remains a need for concerted efforts on the most basic aspects of female and youth empowerment.

In terms of education the primary school completion rate is also lower than Sub-Saharan Africa, but the biggest discrepancy is in literacy. With an average literacy rate for young females of 44,7% for the age 15-24, the completion of primary school in the region leads to literacy at a significant lower rate than in Sub-Saharan Africa as a whole. In the world on average as well as MENA, there is a close correlation between primary school finishing rate and literacy. The gap is about 4 percent between the two for Sub-Saharan Africa, but in Sahel this gap is 15%, which indicates that the quality of education as well as ensuring provision of teachers are areas for urgent investments.

A closer look at the same variables in the four highlighted areas (see table 2), shows that Chad and Niger are the countries most urgently needing investments to secure female and youth empowerment. Indeed in 2015, Niger was ranked 151st and Chad 150th of 152 countries in the Gender Inequality Index. In Niger, furthermore, the median marriage age in 2015 was 15.7 years, the lowest in the Sahel.¹¹⁶



Table 3

Human capital in the Sahel

*Except Sahel, which is compound of 2010, 2013, 2014 and 2016

	Fertility Rate, births per woman, 2016	Child mortality Rate per 1,000 live births 2016	Age dependency ratio per 100 working age pop, 2017	Primary completion rate female any age, (2013 Chad, 2014 Guinea, 2010 Nigeria) 2016	Literacy rate, young females 15-24 in 2016*
World	2,44	30,5	54,36	89,32	89,88
Sub-Saharan Africa	4,85	53,3	85,19	67,52	71,64
Sahel	5,46	55,4	90,91	60,22	44,70
Mena	2,77	21,1	55,23	88,74	88,51

Table 4

Human capital in the four priority clusters of the Sahel

	Fertility Rate, births per woman, 2016	Child mortality Rate per 1,000 live births 2016	Age dependency ratio per 100 working age pop, 2017	Primary school completion rate % female any age 2016 (2013 Chad, 2014 Guinea, 2010 Nigeria)	Literacy rate, young females 15-24 in year
Cluster 1: Masiff'l Air (Niger)	7,24	50,90	111,65	65,3	15,1
Cluster 2: Mauriania-Mali	5,37	61,20	88,27	54,7	43,5
Cluster 3: Mali, Burkina, Niger	6,22	57,20	101,12	59,1	32,8
Cluster 4: Lake Chad (Nigeria, Ni- ger, Chad, Cameroon)	5,86	61,45	95,69	58,8	43,0
Outliers	Niger 7,24	Chad 75,2	Niger 111,65	Chad 29,5%	Niger 15,1%, Chad 22,4%

UN SUPPORT PLAN ACTIONS NEEDED AND PRIORITIES

The Sahel Alliance committed in 2018 to implement over 500 projects worth over EUR 6 billion in the G5 countries between 2018 and 2022, especially in Burkina Faso, Chad, Mali, Mauritania and Niger. Below are summarized the priority objectives of the UN Support Plan:

UN Support Plan Priority One

Regional programme on cross-border cooperation for stability and development.

1. Support the national, regional, and other partners to achieve at least 90 percent implementation of the G5 Sahel Priority Investment Plan in the five Sahel countries by 2020.
2. Work with the LCBC Member States to develop the Lake Chad Stabilization Strategy and Programme by 2018; support efforts to recharge at least 20 percent of Lake Chad
3. Support the UNISS countries to implement the Great Green Wall for the Sahel national strategies and action plans fully by 2021.

UN Support Plan Priority Two

Preventing and resolving conflicts; violent extremism and crime; and promoting access to justice and human rights.

1. Train and equip at least 10 000 law enforcement personnel to prevent violence and combat terrorism and crime including violent extremism, strongly increase access to justice and rule of law by 2021.
2. Train 50-100 public judicial experts (judges, lawyers and court registrars on how to fast track rule of law and access to justice as well as advocate enforcement of non-discriminatory laws and practices in each country by 2022.
3. Strengthening institutional capacity for citizens engagement, trust building and social contracts in at least 1500 communities seriously affected by conflicts by 2020.
4. Support efforts to reduce corruption and bribery through promotion of e-governance, fiscal citizenship and emphasis on domestic resource mobilization as well as scale up demand for accountability in public service deliveries.

UN Support Plan Priority Three

Promoting inclusive and equitable growth and increasing access to basic services.

1. Promote decent jobs and sustainable livelihoods through vocational training, skills, technological upgrading, and entrepreneurship development accompanied by seed money for start-ups for between 7,000 and 10,000 beneficiaries by 2022 and implement local content policies in the 10 Sahel countries by 2022.
2. Improve universal health coverage, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for 10 million people by 2022 (SDG target 3.8, 3.c).
3. Implement nationally appropriate social protection systems and measures at least 10% of the poor and the vulnerable population (of men, women and children) living in extreme poverty by 2022 (SDG target 1.3 and 1.2).

UN Support Plan Priority Four

Building resilience to climate change, decrease natural resource scarcity, malnutrition and food insecurity.

1. Facilitate at least 20 million farmers' access to affordable drought-resistant seeds, fertilizers (organic/inorganic) and or irrigation facilities (including solar-powered facilities) by 2022 in the region (SDG targets 2.4).
2. Combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and support national and regional institutions to reclaim at least 10 percent of degraded land in 500 communities by 2022 (SDG targets 15.3).
3. Increase transhumance or cattle tracks by at least 30,000 to support pastoralism and reduce pastoralists-farmers kilometers by 2022 (SDGs targets 2.3; 16.1).

UN Support Plan Priority Five

Promoting access to renewable energy.

The specific objectives include:

1. Support at least 3000 rural communities to have access to renewable energy (e.g. solar energy) by 2022 (SDG target 7.2).
2. Increase access to affordable, reliable and modern cooking facilities by at least 15 percent in 2021 (SDG target 7.1).
3. Support the establishment of at least two solar panel factories in the region by 2020 (SDG target 7.b).

UN Support Plan Priority Six

Empowering youth and women as agents of socio-economic transformation and peaceful society.

1. Increase the proportion of youth (boys and girls) completing secondary education by at least 25 percent by 2022 (SDG target 4.1).
2. Increase the number of youth and women with technical and vocational skills by at least 1500 in each country by 2022 (SDG target 4.4).
3. Promote legislation to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws (SDG target 5.a)
4. Facilitate the implementation of safe, regular and responsible migration and mobility programme including through the implementation of planned and well-managed migration policies in the 10 UNISS countries (SDG target 10.7).

A critical component for success will be the coordination between security and development efforts. Here, The Africa Centre for Climate and Sustainable Development, can play a crucial role.



CONCLUSION

The UNISS priority areas can be effectively centered around more confined geographic locations as starting points, utilizing hotspots of positive trends, and gradually expand from there to the entire Sahel. This, in turn, can provide more targeted use of resources. However, it is important to see the UNISS support plan as a whole, as part of an integrated holistic effort requiring coordination amongst donors.

There are several key challenges that must be met. Security is vital, and containing the conflicts and preventing any spill-overs of conflicts – such as from Mali to Burkina Faso -is the foundation for any development to take place.

Already the broad investments in the power grids and renewable energy are generating hope and will help both expand existing local agricultural markets, as well as generating new ones as business opportunities revolve around energy and the supply chain. This will not only positively affect markets, but also help improve food security.

Furthermore, mining is adding very significantly to the economy.

The Green wall belt can serve as a vector for improving coordination of development across the Sahel in a zone less or unaffected by conflict; It can be coordinated with efforts to facilitate that at least 20 million farmers access to affordable drought-resistant seeds, fertilizers (organic/ inorganic) and or irrigation facilities (including solar-powered facilities) by 2022 in the region. It can further be a vector for increasing transhumance or cattle tracks by at least 30,000 to support pastoralism and reduce pastoralists-farmers kilometers

by 2022. The project – with logistics and support – can be combined with promoting decent jobs and sustainable livelihoods and support entrepreneurship development accompanied by seed money for start-ups for between 7,000 and 10,000 beneficiaries by 2022.

By generating businesses and jobs in the mining sector, the Sahel Green wall and renewable energy, also alternative and additional livelihoods for locals and migrants alike are created through all the supporting small-scale businesses that follow any major development. Specifically, as has been already seen in several countries including Senegal, it helps provide cash-income jobs for women and subsequently support empowerment. This can further help improve vocational skills and language skills given the transboundary nature of the Sahel, while it can help create incentives for and promote legislation to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws.

The combined actions of containing conflicts, increased mining, tree planting and building power grids are also contributing to jobs, improving markets and food security. There appears to be a momentum in the Sahel which has not been seen in many decades.

The people, governments and their partners abroad are now changing and creating their own narrative in the Sahel, breaking a vicious 70 year pattern. Change is already happening and development is taking place. The successes are real and it is imperative that the momentum is utilized to avoid setbacks. Both security, as well as attracting private investments in mining, agriculture and energy, will be required.

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