

Green Industrialisation: Rethinking African-German Cooperation for Sustainable Steel Value Chains

Philipp Ahovi^a, Burcu Dolanbay^b, Dr. Margitta Minah^b

Germany's commitment to climate neutrality by 2045 faces significant challenges due to the high carbon emissions from its industrial sector, particularly steel production. Current policies focusing on domestic hydrogen (H₂) compatibility and imports from African countries risk economic insufficiency and overlook the scope and ambitions for green industrialisation and climate-positive growth on the African continent. This brief looks at the limitations of this approach and the potential for sourcing energy-intensive iron or steel directly from African countries, that have the potential of significantly higher generation capacities of renewable electricity in the future.

Keywords: Decarbonisation, Energy Intensive Industries, Iron and Steel Industry, Renewable Energy, Green Steel Supply, Energy Partnerships, Bilateral Cooperation

Background and problem statement

The European Green Deal targets for climate neutrality by 2050, as well as Germany's own climate protection law with more precise reduction targets for 2030 and 2040, have committed the country to substantial transformation efforts (Umweltbundesamt 2023). Although Germany has already greatly expanded its generation capacity of renewable electricity, it is not yet able to source sufficient green energy for the necessary decarbonisation of its energy-intensive industries. Germany's current dependency on fossil fuels as predominant energy source in its industrial sector represents both an obstacle to achieving the country's decarbonisation targets and a risk that its energy-intensive industries may become economically unsustainable as EU CO₂ pricing is expected to expand over the coming decades.

The industrial sector is responsible for more than 20% of Germany's greenhouse gas emissions, amounting to approximately 200 million tonnes of CO₂ equivalent per year. The iron and steel industry is the largest contributor to these emissions (Umweltbundesamt 2024). Simultaneously, several sectors of the energy-intensive industry in Germany are already experiencing a recession, not least due to high energy prices. This also holds true for the steel industry, where production has shrunk by around 20% since 2011, resulting in nearly 10,000 job losses by 2023 (Wirtschaftsvereinigung Stahl 2023). At the same time, steel has a pivotal role to play in sustainable transformation

across sectors, e.g. for transportation infrastructure, buildings and energy networks. Moreover, steel is indispensable for large parts of the rest of German industry (such as car manufacturing). Almost 70% of German exports are steel-intensive products (ibid.). The decarbonisation of the German steel supply is therefore of high priority. To decarbonise this sector in the long term, Germany plans to replace fossil fuels, currently the main energy carrier in steel production, with green hydrogen (H₂).

Large and untapped potentials for high renewables production capacities such as wind, solar and hydropower in several African countries have put the continent at the centre of the climate strategy policy debate in Europe and Germany. This matches the political directional decisions taken at the African Climate Summit (ACS) 2023 (Africa Climate Summit 2023). The member states of the African Union set out ambitious industrial development objectives under the principle of "climate-positive growth". In particular, to significantly expand renewable energy production capacity and develop the continent into a cost-competitive industrial hub that can help other regions decarbonise (Nairobi Declaration 2023). This is to be accompanied by a prioritisation of energy-intensive industries to benefit economically from the use of renewable energy and to add value to Africa's natural endowment.

While in Germany there is much interest in importing green H₂ from African countries to decarbonise domestic steel production, the debate does not yet reflect the potential

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for green industrialisation within African countries, not only by supplying green H₂, but also by taking on wider parts of the value chain. This brief therefore addresses the following questions: How is Germany currently pursuing sustainable steel production? What is the potential role of African countries and can they become players in green steel supply?

Current state of German steel supply

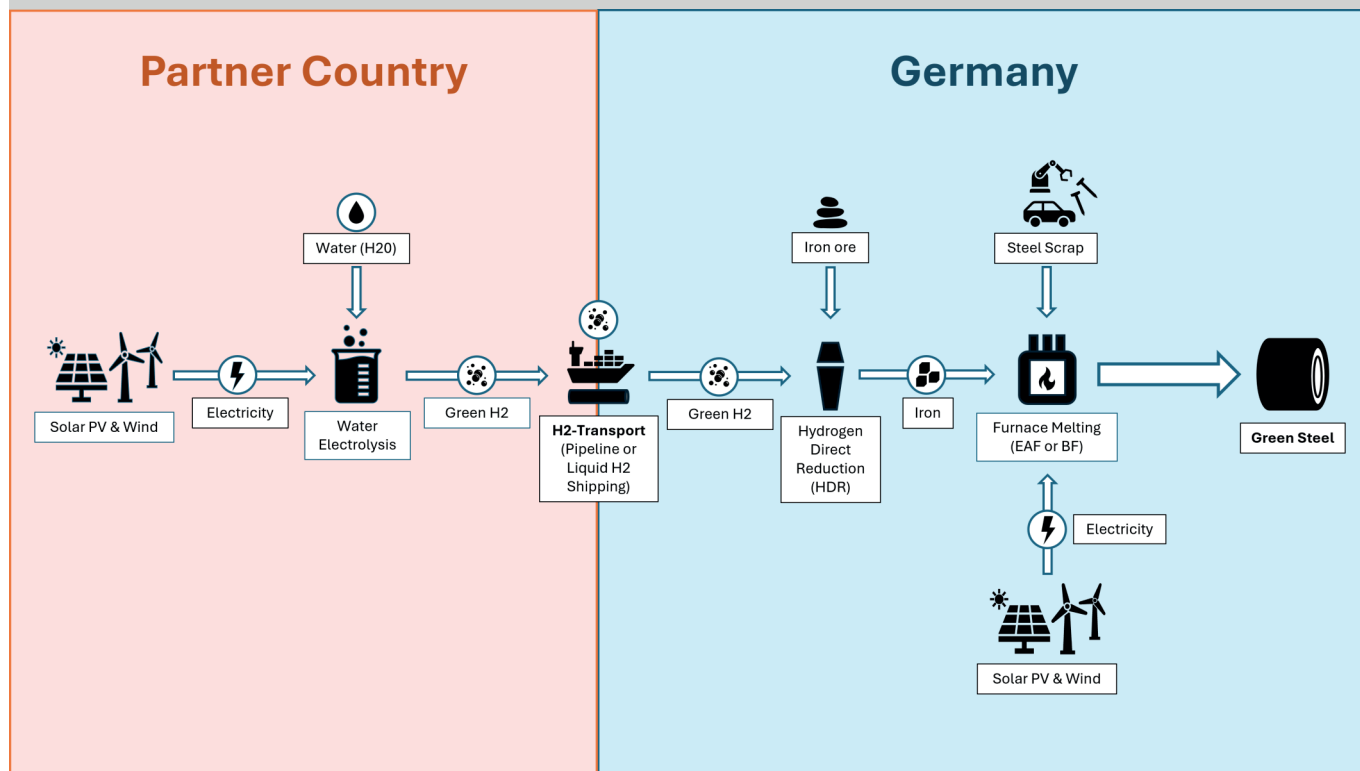
Germany is the largest steel producer in the EU, producing a total of 35.4 million tonnes of crude steel in 2023 (Wirtschaftsvereinigung Stahl 2023). Its primary steel market is dominated by three major producers (ThyssenKrupp, ArcelorMittal and Salzgitter). The majority of steel in Germany (around 70%) is produced as "primary steel" using fossil-based blast furnaces (BFs). The remaining 30% is produced as "secondary steel" by recycling steel scrap in electric arc furnaces (EAFs). Although electric arc furnaces are more widely distributed throughout Germany, they represent a smaller proportion of production (Lopez et al. 2023; Wirtschaftsvereinigung Stahl 2023). The electricity-based production route (via EAFs) can be more easily made carbon neutral through the usage of renewable electricity (and green H₂ as a pre-heating fuel). To neutralise the CO₂ emissions of the much larger blast furnaces based primary steel production would require a considerably greater availability of green H₂, in addition to a substantial technological transition to H₂-based direct reduction of iron ore (H-DR) (Lopez et al. 2023). Without this shift in the production of steel supply, the German emission targets by 2030 will

not be achieved (Arens et al. 2017). However, the question of where production capacities for green steel should be established remains controversial among economists (Rubröder and Wermke 2024).

Thus far, policies at the German and EU level have been aimed at keeping the steel industry within the domestic economy. In 2020, the German government presented its steel action plan ("Handlungskonzept Stahl") for an internationally competitive and climate-neutral steel industry within Germany (BMWK 2020). The same year, the EU strategy on H₂ was adopted with the aim of making large quantities of green H₂ available for its own industries through domestic production and imports on a large scale (European Commission 2020). In the following years, this strategy was further concretised through several EU policies including investment incentives and project funding schemes for the creation of H₂ infrastructure and H₂ markets.

Looking solely at Germany, two strategic orientations are clearly recognisable so far. Firstly, driving forward the technological transformation of domestic steel production towards H₂ compatibility. And secondly, securing a reliable H₂ supply from African countries. The German government is currently using large-scaled subsidies to support a number of steel companies in converting their production facilities to be H₂-compatible. Last year alone, this included 1.3 billion euros to AcelorMittal, 1 billion euros to Salzgitter, around 2 billion euros to ThyssenKrupp and 2.6 billion euros to Stahl-Holding-Saar. The German government has furthermore begun to mobilise its bilateral energy partner-

Box 1 | Supply chain of green steel under the condition of import of green hydrogen to Germany.
(Source: Own illustration)



ships with several African countries that are considered to have favourable conditions for renewable electricity generation in order to establish them as future import sources for green H₂ (Giz 2024). These include the establishment of green H₂ agreements with Algeria (2024), South Africa (2023), Namibia (2021), and Morocco (2020). Numerous other bilateral partnerships are currently being considered by the German government (BMBF 2023). Box 1 (see previous page) illustrates the supply chain for green steel, assuming the import of green H₂ from a partner country to carry out the complete steel production process within Germany. However, there is reason to assume that this exclusive focus on supplying the domestic industry with green H₂ will not be sufficient to decarbonise the German steel industry in keeping with the climate targets set and in an economically efficient manner.

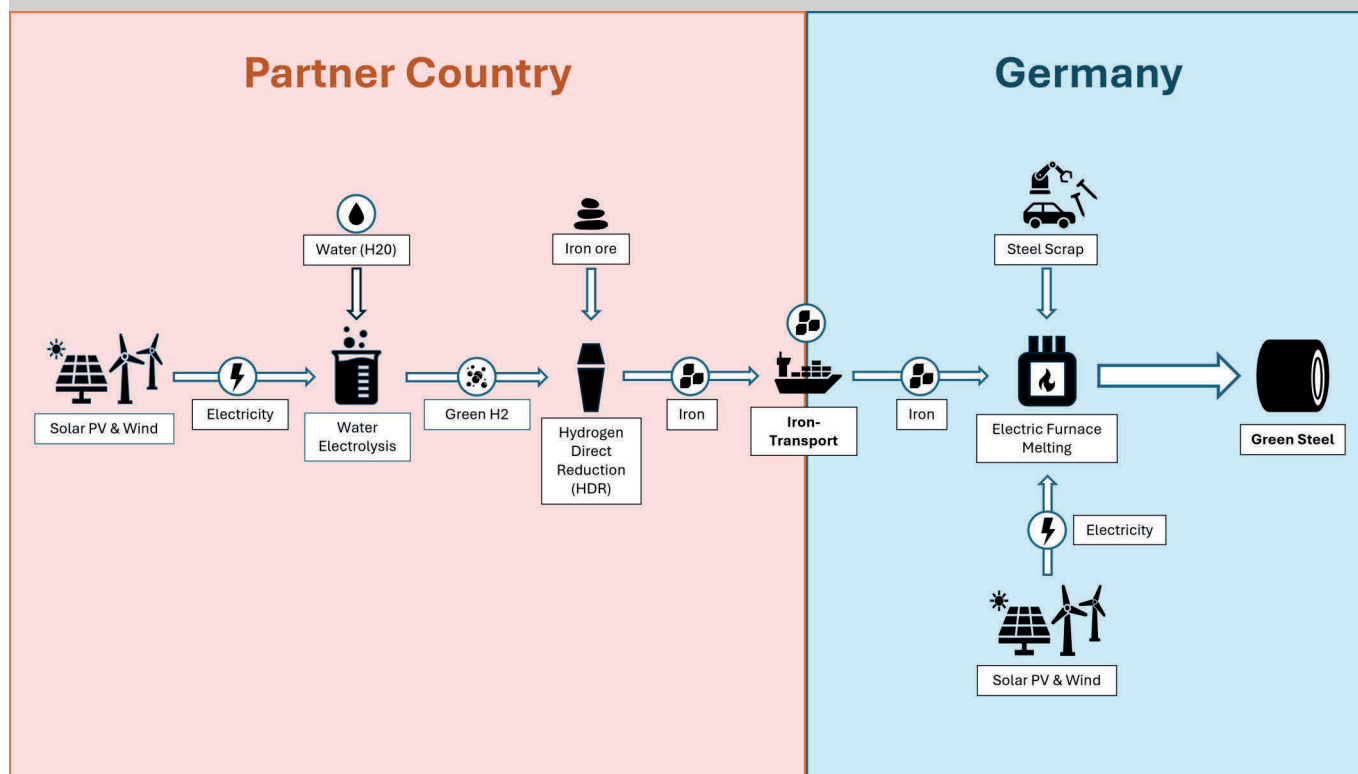
Limitations of the current approach of sourcing green hydrogen for domestic steel production

Still, there is controversy among economists as to whether this currently high domestic steel production capacity in Germany will still be economically reasonable in the future and whether part of the iron requirement could also be purchased on the newly emerging market for green primary products outside Europe or even, in principle, whether green steel could be imported from countries that are expanding their capacities for its carbon neutral production (Rubröder and Wermke 2024).

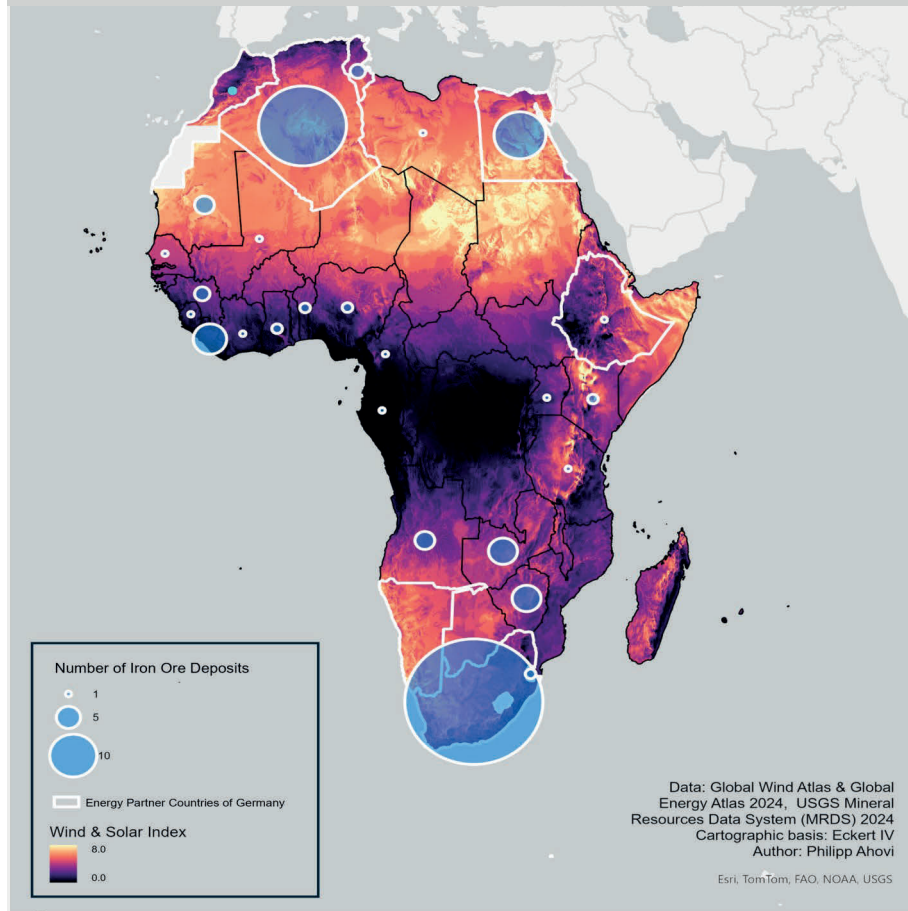
There are a number of serious problems caused by global overcapacity in the global steel industry, such as creating damaging trade distortions and regional imbalances and destabilising world trade relations (GFSEC 2024). Since 2016 the G20 countries have set out to reduce existing production capacity worldwide through the OECD-moderated Global Forum on Steel Excess Capacity (ibid.). This would include reducing subsidies, which are at least partly responsible for the creation of excess capacity. The billions, that are currently being channelled into Germany's domestic steel industry stand in stark contrast with these aims.

Furthermore, positioning African countries solely as H₂ suppliers not only reproduces unequal trading partnerships, but also overlooks their productive capability and fails to support them in developing their economies according to the principle of climate-positive growth. The AU member states are explicitly calling for climate-positive investments that are anchored in their industries (Nairobi Declaration 2023). Among other things, due to the challenges surrounding H₂ transport that economic discussions in recent years have partly shifted from the import of H₂ to the import of green H₂ products into Germany. Therefore, increased focus has been placed on importing on intermediate hot briquetted iron (HBI) to be used in Germany's existing electric arc furnaces (EAF's) (Lopez et al. 2023). Box 2 illustrates how this would change the supply chain for green steel. The energy-intensive iron reduction process using green hydrogen is carried out in the partner country. This means that iron is now being transported to Germany instead of green H₂.

Box 2 | Supply chain of green steel under the condition of import of hot briquetted iron (HBI) to Germany. (Source: Own illustration)



Box 3 | Combined index of wind speed and solar radiation on terrestrial surfaces overlapped with the number of iron deposits aggregated at national level. (Source: Own illustration)



The potential of African countries to supply green iron

Box 3 provides an overview of African countries that, in principle, present the natural prerequisites for the supply of green iron. These involve, among others, a: 1) high capacity potential for the production of renewable electricity (e.g. from wind and solar radiation) and 2) natural deposits of iron ore. Displayed in colour is a combined index calculated from high-resolution raster data on wind speeds and solar radiation (Data: Global Solar Atlas 2023; Global Wind Atlas 2023). The blue circles represent the number of documented iron deposits in a country proportionally (Data: USGS 2024). South Africa has the largest number of iron deposits (30), but Algeria (19) and Egypt (11) also stand out as countries with large iron deposits and high renewable energy potential. All three of these countries already have an energy partnership with Germany, as implied by the white outlines around their national borders. Given their natural preconditions, serious consideration should be given to developing these existing energy partnerships into wider industrial partnerships that promote green iron production infrastructures in their domestic industries.

The case description in box 4 (see next page) provides an example of how bilateral agreements on H₂ can revolutionise a sector, both on site and Germany.

The political and economic implications of a reorganisation of the steel value chain

An approach of outsourcing part of the steel production chain from the domestic industry to other countries is likely to meet with political resentment in Germany as well as in the EU. To this day, manufacturing jobs, including in steel production, are regarded as the backbone of Germany's economic stability. Policy debates often centre on the preservation of employment and security of steel supply. Another reason for German and EU policymakers' neglect of the green steel production potential of the Global South may be their interest in maintaining the nature of the traditional preferential trade relations, which focus on importing raw materials and keeping most of the value added in Germany (Lopez et al. 2023). With Germany's high iron reduction capacities in the form of the numerous CO₂-intensive blast furnaces, a considerable amount of industrial infrastructure could be made superfluous more immediately by importing green iron (ibid.). However, these narratives miss the reality of today's global steel production and, as frames of a de facto protectionist industrial policy, risk harming the German (steel) industry rather than protecting it.

Firstly, it must be pointed out that in Germany far fewer

Box 4 | Case-Study: German-Namibian cooperation agreement on green hydrogen

In June, Germany and Namibia signed three cooperation agreements which are to be implemented from April 2025. One of them focuses on Namibia's green hydrogen sector: Namibia's energy sources enable the production of green H₂ which, as set out in the cooperation agreement, is also to be used locally at the production site in Lüderitz for the production of green ammonia (BMBF 2024; German Embassy in Namibia 2024).

Green ammonia plays a significant role in the production of fertilisers and in the chemical industry. Currently, Germany and the Netherlands have the largest ammonia production capacities within the European Union (Bonnet-Cantaloube et al. 2023), whereas Germany is also the largest consumer (BMWK 2022). In the EU, ammonia production is still largely dependent on fossil fuels, which are estimated to account for about 14 percent of total emissions from chemical production facilities in Germany (Wehrmann 2024).

The relocation of ammonia production to Namibia could have significant implications for a range of stakeholders. For Namibia, this agreement represents an opportunity to diversify its economy, create jobs and become an actor in the global green energy market (BMWK 2022). Moreover, the production of green hydrogen and green ammonia could facilitate economic growth and infrastructure development in the region through the promotion of electrification and income generation. For German producers, the agreement ensures a steady supply of green ammonia through imports, without having to rely on fossil fuels (ibid.).

jobs are dependent on iron ore reduction than on the rest of the steel value chain (Trollip et al. 2022). In addition, as already mentioned, the global steel market is characterised by overproduction, with India and China as large steel exporters already posing a long-term threat to the German steel industry (IG Metall 2024). If preliminary products such as green iron can be imported cheaply, the end products produced by German (steel-)industry will be more price competitive on the global market. This may be necessary in order to keep the domestic steel industry in Germany alive in the long term.

An existing case study on Morocco estimates hot briquetted iron (HBI) imports to be a more cost competitive option for green steel supply than H₂ imports due to Morocco's expected sharp decline in levelised cost of electricity (Lopez et al. 2023). In the long term, the latter is also likely to occur in other African countries. Furthermore, with the import of iron German EAFs would continue to remain operational and potentially expand in capacity as primary steelmaking transitions from BOFs to EAFs (ibid.).

At the other end of the equation, however, are the high costs of capital in many relevant African countries, often characterised by high interest rates (OECD 2023). This is an obstacle to investments, and therefore to the development of industrial infrastructure, and also requires effective policy action by national and local governments to overcome. In addition to a possible lack of adequate infrastructure and

financial barriers, a number of other factors must be taken into account that determine the feasibility of local and green iron reduction or steel production, such as technological capacity, difficulties in securing consistent raw materials, the regulatory environment (bureaucracy, corruption, export regulations, quality standards, etc.), political and economic stability, and social and environmental concerns (safety standards, labour rights, environmental regulations).

Conclusion

Looking forward, the scope of the German government's current policy strategy could be expanded beyond the import of H₂ in the upcoming mandate, as high investment potential in the dynamic African partner countries and industrial decarbonisation capacities for Germany will depend on this in the future. This represents a strategic move towards sustainable industrialisation. By providing financial resources, facilitating technology transfer, and supporting infrastructure development, Germany could support the respective partner countries to build a resilient and sustainable industrial base. This would not only benefit African partner countries through technology transfer, job creation and economic development while accelerating their energy transition, but also ensure and diversify a steady supply of green steel for Germany, aligning with its climate targets as well as its economic and geostrategic interests. In this context, it should be emphasised that the strongest increase in demand for steel is occurring in countries of the Global South, another major consideration for enabling the development of production capacities for green steel on site (Lopez et al. 2023).

This strategic alignment represents a crucial step towards achieving climate-positive industrialisation both in Germany and across its African partner countries.

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Conservation at what price? Bridging the gap between wildlife protection and human rights in Sub-Saharan Africa

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Sub-Saharan Africa is a region of high biodiversity significance in which nature protection constitutes a main leverage for local economic development through wildlife-tourism. Further, it contributes to meeting the 2030 targets of the Convention on Biological Diversity (CBD). In this context, international donors and non-governmental organizations (NGOs) are largely financing and implementing wildlife conservation measures. However, as protected areas are expanding and being increasingly secured, the risk of land use conflicts and human rights violations against Indigenous Peoples and Local Communities (IPLCs) increases. In this briefing paper, we assess some of the current conservation strategies and propose recommendations for international development actors.

Keywords: Protected Area, Wildlife Conservation, Green Militarization, Ownership, Human Rights, Sub-Saharan Africa

Normative and historical background

Under the Convention on Biological Diversity, 196 nations agreed to end and reverse nature loss within the next years, setting 23 targets to be achieved by 2030 in the Kunming-Montreal Global Biodiversity Framework. These include the conservation of “at least 30 percent of terrestrial and inland water areas, and of marine and coastal areas, especially areas of particular importance for biodiversity and ecosystem functions and services” (Convention on Biological Diversity 2022, p.9; Target 3) as well as to “Ensure urgent management actions to halt human induced extinction of known threatened species and for the recovery and conservation of species” (ibid.; Target 4).

Sub-Saharan Africa encompasses irreplaceable biodiversity regions, such as the Serengeti or Tarangire, which makes it a **top priority in global conservation efforts** (Brooks et al. 2006; Di Marco et al. 2016). At the same time, Sub-Saharan Africa is also one of the poorest regions in the world, with 33 countries being classified as “least developed countries” by the United Nations (UN) in 2023 (UN trade & development [UNCTAD], 2023). These are two factors why Sub-Saharan Africa received more Official Development Assistance (ODA) for biodiversity conservation than any other region in the world (Leisher et al. 2022). Besides, conservation measures have a positive impact on wildlife tourism, which is seen as a strong economic leverage in the region (UNWTO 2015; Space for Giants 2019).

The largest direct threats to the conservation of biodiversity in Sub-Saharan Africa are agriculture, fishing, logging, and wood harvesting in natural forests as well as illegal hunting (Leisher et al. 2022). These are closely linked to population growth and urbanization. The environmental degradation is expected to increase as concentrated demand for food and charcoal is leading to deforestation and agricultural extension. With the expansion of global markets, the negative environmental impacts on the African continent, historically caused by smallholder agriculture, are increasingly being surpassed by those from large-scale commercial development (ibid.; OECD/FAO 2016). Hunting and bushmeat harvesting cause severe reductions in wildlife populations in African national parks that were designed to be safe havens for wildlife (Laurance et al. 2012; Chapman et al. 2022). However, here it is important to distinguish between wildlife hunting for food, which is a critical part of indigenous people’s diets, hunting for increased household income, trophy hunting and human-wildlife conflicts (Leisher et al. 2022). In addition, climate change will further exacerbate threats to biodiversity (Chapman et al. 2022; Abrams et al. 2023; Newsom et al. 2023).

Germany stands out as one of the **largest public donors** supporting **protected areas**¹ in countries of the Global South as well as emerging economies, and accounts for almost 10 percent of the six billion US dollars that are made available from International Cooperation worldwide to sup-

¹Protected Area: clearly defined geographical space, recognized, dedicated and managed through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values (Dudley 2008).

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port biodiversity. In Germany, the largest share of spending on biodiversity comes from the Federal Ministry for Economic Cooperation and Development (BMZ) which increased the budget from 400 million to 600 million euros in 2021. Germany is providing support to over 500 protected areas globally, encompassing a combined area exceeding four times the size of Germany itself (BMZ 2020). Between 2007 and 2017, the German budget for development cooperation on the African continent doubled while the share that is spent explicitly on biodiversity conservation increased sevenfold. As climate change and biodiversity loss gain more attention, countries in the Global North are increasingly recognizing their implications on matters of migration, security, and the economy, and partially their responsibility for these crises, which is boosting their willingness to invest in solutions. The intention to act most effectively draws attention to the biodiversity hotspots and “lungs of the planet”, including the Congo Basin, and motivates Germany to make transfer payments for environmental protection measures in African countries (Schlindwein 2020). From 2025 onwards, fewer budget funds will be available for international climate and environmental protection than in previous years. The funds for global environmental and climate protection in the BMZ budget and the International Climate Initiative (IKI) in the budget of the Federal Ministry for Economic Affairs and Climate Action will decrease by around 100 million euros, or about 12 percent (VENRO 2024). This raises the risk that Germany may not fulfil its commitment to provide 6 billion euros per year for international climate financing.

Historically, the creation of natural parks and protected areas has often been shaped by colonial and Eurocentric perspectives on nature which has implications until today. The establishment of natural parks and protected areas was influenced by the European view of **nature as untouched wilderness**, leading to the displacement of local populations and denial of their access to ancestral lands (Neumann 2002; Murombedzi 2003; Jones 2006). In the late 19th century, colonial governments enacted hunting restrictions and created game reserves, driven by European aristocrats aiming to preserve game for elite sports hunting, excluding Indigenous **Peoples and Local Communities (IPLCs)**². From the 1920s, Africa's first national parks were established, continuing into the postcolonial era (Munro 2021). Restrictive hunting laws allowed trophy hunting for high fees while restricting IPLCs from hunting under the threat of punishment (Schlindwein 2020). Post-World War II, these efforts intensified, displacing African populations to create national parks (Munro 2021). Today, many protected areas like Timbavati (South Africa), Selous (Tanzania) or Rungwa (Tanzania) are financed with big game hunting license fees (Hariohay et al., 2018; Mremi et al., 2023; Schlindwein 2020; Timbavati, 2022).

Challenges and consequences

In the early 2000s, a so-called “**fortress**” model based on intensively protected areas was developed (Hutton et al. 2005). In this context, wildlife protection in Sub-Saharan Africa is nowadays criticized for **exacerbating land use conflicts** between IPLCs and conservation staff in and around the parks. The former need land for farming or for grazing and experience abuses ranging from the interdiction to access natural resources to forced evictions from certain areas (Weldemichel 2020). **Human rights abuses** against local communities linked to conservation issues are reported in and around many protected areas around Sub-Saharan Africa, e.g. in Lobéké National Park in Cameroon (Cosmas et al. 2020), in Bwindi Impenetrable National Park in Uganda (Kokunda et al. 2023) or in Serengeti National Park in Tanzania (Weldemichel 2020). The main causes of the **conflicting relations** between park authorities and local communities can be described as follows:

First, scholars describe as **green militarization** the repressive and coercive policies that emerged from the 2000s to tackle poaching in protected areas (Lunstrum 2014). This approach entails the increasing weaponization and military formation of rangers and the use of para-military personnel. It has been developed as a response to the increasing violence and armament of larger-scale criminal poaching groups, ultimately leading to a vicious circle on both sides (IUCN 2014). More broadly, green militarization establishes nature conservation as a security issue (Duffy 2022). A concrete example of the militarization trend is the “shoot-to-kill” policy targeting suspected poachers that has been implemented in Botswana since 2013 (Mogomotsi 2017).

Second, populations living in and / or around the protected areas often **profit little** from wildlife tourism despite its high potential as economic leverage (Space for Giants 2019; Zhou 2023). Local communities are pushed to the periphery of wildlife conservation and the tourism value chain (Massé et al. 2017). For instance, tenants of official hunting zones often do not provide the agreed services to IPLCs, e.g. the construction of schools or health centres (Kulla et al. 2024). Also on the political level, they are **barely included in decision-making processes** in many protected areas. This undermines the effectiveness of wildlife conservation in the long term by reducing its social acceptance from local stakeholders (Wicander 2015). Eventually, this economic and political exclusion builds up on existing discrimination and marginalization of indigenous groups, including pastoralist communities (Schilling & Wetland 2023).

Third, direct **human-wildlife conflicts** like crop-raiding or livestock predation are increasing in and around protected areas (Mogomotsi 2020). This leads to retaliations from pastoralists and farmers and often to the killing of the animals, fuelling tensions with conservation authorities in turn

² Small Indigenous People and Local Communities: Although Indigenous Peoples (IP) have unique characteristics and different internationally accepted rights when compared to Local Communities (LC), both groups often have an intimate connection to their communally held lands and waters. [...] In many cases, it results in systems of practices, knowledge, innovations and values that support the conservation of biodiversity, with associated spiritual, social and cultural values (WWF et al., 2021).

(Bulte & Rondeau 2005). Compensation measures from conservation institutions for damage through wildlife either exist only on paper or are non-accessible for IPLCs (Kulla et al. 2024). Human-wildlife interactions are more likely to happen because of agricultural expansion and growing settlements (Stoldt et al. 2020). This is exacerbated by the changing practices of some pastoralist groups turning to farming (Makumbe et al. 2022). Finally, climate change amplifies human-wildlife conflicts, for instance by sharpening the competition over freshwater and grasslands (Abrahms et al. 2023).

Against this background, some international donors and development and conservation organizations have been blamed for supporting wildlife protection projects where human rights violations have been reported (Marijnen 2017). Particularly, a study of the NGO Survival International highlighted the persecution faced by the Baka ethnic group by a project financed by European and German taxpayer money in the forests of Messok Dja of the Congo Basin (Survival International 2017). These accusations have raised consciousness by international cooperation actors to focus more on safeguarding human rights in their conservation actions. This is shown by the publication of special guidelines to address that issue (GIZ 2020; WWF 2023). Their recommendations include, among others, the better integration of indigenous perspectives or the development of complaints channels for IPLCs. Also, German donors like BMZ and KfW have set up **new safeguards**. For instance, they provide technical cooperation along with financial cooperation in case implementing partners lack the former. But the question remains if these commitments to protect IPLCs' rights translate into reality on the ground.

As a matter of fact, problematic nature conservation practices are still making headlines nowadays, like the violent attempt of the Tanzanian government to displace the Maasai from their traditional lands in order to create a private hunting reserve (The Guardian 2023).

Discussions points

This raises the question of the ongoing popularity of the **fortress model**, which can be attributed to its **effectiveness** attested by another recent example: In Botswana, the elephant population has rapidly increased due to the militarization of conservation and violent anti-poachers' policy. Upset by the rising damages caused by elephant herds and the German ban on trophy hunting, the president Mokgweetsi Masisi threatened in April 2024 to send 20,000 elephants to Germany (BBC 2024). But beyond that example green militarization has been found to have inherited pitfalls. The normalization of the loss of human life in the pursuit of wildlife conservation incites the debate about whether wildlife is more important than human lives. These divisions and the hardening of positions under the fortress model question its sustainability and productiveness as it leaves minimal space for the engagement of the local population. Some initiatives try to enhance local communities' engagement, for example with inclusive **anti-poaching**

community scout programs. The scouts come from neighboring IPLCs and act as a link between park authorities and their own communities. However, these initiatives often fail to create ownership and accountability, providing scout jobs to few community members instead of pushing for bottom-up approaches by developing a **wildlife-based economy** inclusive of locals as active stakeholders (Massé et al, 2017).

Indeed, ecotourism, based on watching wildlife in their natural environment and trophy hunting, can be a catalyst for regional development and a source of revenues for IPLCs. They should ideally be involved at all levels of the **tourism value chain**, so that economic spinoffs do not just benefit an elite, namely the tourism infrastructure proprietors (Zhou 2023). Rwanda has for instance invested considerably in nature-based tourism in the last two decades and has become a forerunner country in that matter. Now 1 in 20 working-age Rwandans works in the tourism sector and 15% of tourism revenues are spent on infrastructure around the protected areas (Space for Giants, 2019). Furthermore, **community-led tourism** initiatives can be driven to encourage local communities to preserve natural resources. However, local governments and donors often neglect the **unintentional negative effects** of ecotourism. This includes the degradation of nature by tourism infrastructure, e.g. the construction of hotels and roads or the poor waste management. Moreover, the COVID-19 pandemic and terrorist attacks can be mentioned as destabilizing factors driving tourists away. In that sense, the approach of moving local communities from subsistence and autonomous agriculture to tourism, which depends on external visitors, may not prove to be sustainable in the long run.

Eventually, the **participatory approach**, involving IPLCs in conservation efforts, is presented as an alternative to the fortress model. It is alleged to be well representative, equitable, and most importantly legitimate (López-Bao et al. 2017). In practice, the participatory approach entails for example awareness campaigns to educate IPLCs about their rights and responsibilities with regard to wildlife management. The establishment of compensation schemes as compensation for wildlife-related damages can also be an incentive for IPLCs to engage in conservation (Nkansah-Dwamena 2023). Still, participatory conservation itself may not be the panacea of conservation, especially if it lacks resources and capacity building for participants. Notably, community-based conservation projects receive on average less financial support, and when financed are rarely developed within communities, and are rather a result of a top-down approach (Baldus 2009).

Recommendations for international conservation actors:

First, conservation organizations should systematically implement a **Do Not Harm assessment** through all stages of their conservation projects. In line with the good practices of WWF and GIZ, this entails a risk analysis of the impacts of conservation measures on local populations and their interactions with the habitat. The creation of complaints

channels for IPLCs and the monitoring during and after project implementation are also critical. Overall, a **participatory approach** should be encouraged in early project phases, so that the interests and perspectives of IPLCs are considered in conservation efforts. The consideration of the Free, Prior, and Informed Consent (FPIC) rights of IPLCs in selected conservation areas before funding should become systematic in that regard.

Second, the development and training of community rangers in protected areas should be encouraged. In contrast to governmental employees, these rangers come from the surrounding communities. On the one hand, they know the area and its wildlife. On the other hand, they have a closer link to the people, know the local customs and can thus better mediate land use conflicts. The International Fund for Animal Welfare (IFAW) is **supporting the training and capacity building** of community rangers. In addition to that, IFAW takes action to empower Maasai female rangers in a traditionally male-dominated work. The organization also trains rangers to acquire technical skills for the investigation of environmental crimes. In Kenya, more wildlife crime cases have been prosecuted after these training sessions have been done (IFAW 2024). NGOs and (German) development organizations could focus more on such projects, aiming at supporting and expanding rangers' activities beyond the only repression of poaching. It is also important to ensure decent salaries for (community) rangers, to reduce corruption risks by the local population or criminal gangs.

Third, biodiversity and wildlife conservation plans should be integrated into a **holistic development strategy** for a region. It must be ensured that wildlife has enough space to roam freely, ideally through connected habitats. This reduces the risk of habitat degradation and overuse of protected areas by certain species (e.g., overgrazing by elephants) while allowing for migration routes, genetic exchange and the escape of natural threats (Boone & Hobbs 2004; Mbaiwa & Mbaiwa 2006; Kowalczyk et al. 2012). This can also lead to reduced pressure on local communities as solely relying on fencing limited areas merely leads to shifting human-wildlife conflicts to other places (Osipova et al. 2018). In order to achieve a systemic, synergistic and solidarity based form of land stewardship that addresses the land use trilemma of climate protection, food security and biodiversity conservation, **integrated landscape approaches** are needed (WBGU 2021). These approaches aim for integration of policy and practice for various land uses to ensure sustainable and equitable land management while addressing climate change. The aim is to balance the competing land demands through adaptive management, considering both the physical landscape and socio-economic and political factors affecting land use. Thus, multiple stakeholders have to be included in governance strategies to balance societal and environmental goals at the landscape level, aiming to identify trade-offs and potential synergies for more sustainable and equitable land management (Birhanu et al. 2024; Reed et al. 2022).

Lastly, as climate change exacerbates existing problems, adaptation measures are needed, including climate resilient agroecological practices to decrease pressure on the environment as well as on the local communities. Timely conservation practices should go hand in hand with the creation of livelihood opportunities for IPLCs that do not rely on the exploitation of wildlife or the degradation of natural resources. Furthermore, countries and societies of the Global North urgently need to increase efforts to mitigate climate change to do the very least to not exacerbate the pressure on communities, wildlife and landscapes.

In conclusion, tackling the interconnected challenges of conservation, climate change, and local community welfare requires integrating social, environmental and economic considerations. A combination of the proposed approaches is vital to effectively address these issues on local, regional and global scales to promote resilience for both ecosystems and the communities that depend on them.

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In the Shadow of *Schuld* – Can Germany Meet Demands for Reparative Justice Through Development Cooperation?

Leander Heblich^a, Theresa Wolf^b

Activists and descendants of those affected by colonial violence persistently advocate for reparative justice. In addition to an apology, they call for concrete measures to alleviate the consequences of past atrocities that can still be felt today. Germany is also confronted with such demands, particularly, but not only, regarding the genocide committed against the Ovaherero and Nama, Damara and San between 1904 and 1908. Following years of dialogue, government delegations from Germany and Namibia reached an agreement in 2021. However, that joint declaration is yet to be signed, facing strong criticism from affected groups of descendants and their allies. They argue that the proposed bilateral funding, primarily designated for development programs, would reflect an insincere and insufficient approach to reparations and reparative justice more widely. This paper discusses the following question: Is bilateral Development Cooperation (DC) an appropriate instrument to effectively foster reparative justice?

Keywords: Reparative Justice, Postcolonial Reparations, Colonial Violence, Ovaherero and Nama Genocide, Bilateral Development Cooperation, German-Namibian Relations, Reparations Debate, Descendant Advocacy

Background

German colonial rule lasted from the late 19th century until the end of World War I and was characterized by brutal practices. One case that has been prominently discussed is from today's Namibia, at the time labelled German South West Africa: In 1904, the Ovaherero, Nama, Damara and San people resisted German land grabs and inhuman conditions. Led by Lothar von Trotha, a military commander under Kaiser Wilhelm II, German forces killed significant parts of the opposing communities on the spot, forced others into the desert where they died of thirst and imprisoned others in concentration camps. Between 50,000 and 65,000 Ovaherero, 17,000 Damara and 10,000 Nama are estimated to have been assassinated, mirroring 80% of the entire Ovaherero and nearly 60% of the Damara population at the time. Trotha openly spoke of a supposed "Rassenkrieg" ("race war") and called for the extermination of the communities. This is now considered the first genocide of the 20th century.

"The Herero are no longer German subjects. [...] They must leave the country. If the people do not do so, I will force them to do so with cannons. Within the German border, every Herero [...] will be shot."

Lothar von Trotha, 2nd October 1904 in his "Vernichtungsbefehl"

Despite gaining independence in 1990, Namibia continues to grapple with the legacy of German colonialism, which profoundly influences its policies, international relations, and societal structure. This legacy is evident in persistent wealth disparities, including unequal land ownership, enduring social divisions marked by racial hierarchies, cultural erasure and marginalization, and the ongoing need for healing from the trauma inflicted by colonial violence. In the context of addressing such injustices, **reparations**¹ set a legal and moral precedent, regardless of the point of time

¹Reparations: Reparations is a legal term protected by various branches of international law. Since 2005, a specific UN framework on reparations has existed, the UN Basic Principles and Guidelines on the Right to a Remedy and Reparation. These legal instruments collectively affirm the obligation of states to attempt to repair the consequences of human rights violations, as well as in societies dealing with enduring economic, social, and psychological damages that resulted from violence and exploitation.

Reparative justice is a broader concept that encompasses reparations but goes beyond them. It refers to the systematic and holistic approach to addressing and rectifying historical injustices and their enduring impacts. Reparative justice aims to transform the structural and systemic conditions that perpetuate inequality and injustice (International Center for Transitional Justice, 2024).

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at which they are initiated. Depending on the specific context of the wrongdoing, reparations can encompass various forms, but are best designed to reach beyond a purely monetary compensation. Typically, they involve a combination of the following components:

1. Formal apologies issued by the perpetrators to the affected groups
2. Creation of institutions mandated to uncover the full extent of the crimes committed
3. Financial restitution provided by the perpetrators to the affected groups
4. Social, economic and educational initiatives, including programs promoting cultural preservation, social cohesion and the prevention of a recurrence of issues arising from colonial crimes

The implementation of reparations, however, presents significant challenges, including determining the form, recipients, and scale of compensation.

Current status

Several formerly colonized countries have sought reparations from former colonial powers after gaining independence. For instance, Tanzania accuses German troops of war crimes during the suppression of the Maji Maji uprising and intends to seek compensation, as does Burundi for crimes against humanity committed by German colonial rulers. However, Namibia stands out as the only nation to have made significant progress in this regard. Since 2016, German-Namibian government negotiations have been underway, leading to the provisional signing of a Joint Declaration in May 2021. This declaration sees Germany acknowledging moral responsibility for the atrocities and issuing apologies to the descendants of the victims. Germany pledges approximately EUR 1.1 billion over the next thirty years, with EUR 1.05 billion designated for a "reconstruction and development support program" and EUR 50 million for "projects on reconciliation, remembrance, research, and education." The development-related funds are earmarked for initiatives concerning infrastructure, education, agriculture, energy and water supply in Namibia's structurally weak regions where many descendants of the affected groups reside. In light of the previously outlined definition of reparations, Germany appears to have met many of the specified criteria. However, the negotiation process and the declaration itself have faced substantial criticism by various parties, leading to Namibia withholding ratification.

Discussion: Bilateral Development Cooperation as a substitute for reparations?

A. A continuity or avoidance of (full) responsibility?

In 1989, the German Bundestag first decided to support the soon-independent state of Namibia via bilateral Development Cooperation (DC) - already invoking moral

responsibility for colonial atrocities. The current German government, out of a similar rationale, continues to call its overall cooperation with Namibia exceptional, being its highest per-capita assistance to an African country. However, critics point to the avoidance of the label "reparations" in the joint declaration. The German government has justified this by suggesting that the 1948 Genocide Convention may not apply in retrospect and that Germany has no legal obligation to pay reparations. Imani & Theurer (2021), however, hold that this logic implicitly validates colonial laws that established racist inequalities at the time. Ovaherero and Nama representatives further criticise that the declaration refers to a genocide "from today's perspective". This wording supposedly reflects the German government's interest to avoid a legal precedent for compensation claims in other cases. A lack of similar progress on reparative justice has been criticised for the brutal suppression of the Maji Maji uprising by German colonial forces in the area of today's Tanzania. This is despite researchers noting "strong evidence to support a claim of genocide" in that case, too (Bachmann & Kemp, 2021).

B. Divergent views on the inclusion of the affected descendant groups

That Germany primarily negotiated with the Namibian government, reflects the concern that a direct agreement with representatives of affected communities on compensations could signify interference with Namibia's sovereignty. Leading representatives of the Ovaherero and Nama have, however, attempted to challenge the negotiation arrangement in court. They continue to criticise a lack of effective participation - a concern that influenced the protests that motivated the Namibian parliament to halt ratification of the joint declaration. Similarly, in 2023, several United Nations Special Rapporteurs urged the German government to go beyond external consultations with the affected communities and to instead centre their concerns. The German government, in response, pointed to the refusal by leading representatives of the communities to participate. It also stressed that the human rights instruments the Special Rapporteurs referred to did not "grant a right to participation in a certain form nor a veto right for individual representatives of the affected communities." Meanwhile, the Namibian government-appointed Special Envoy at the time, Zedekia Josef Ngavirue, wasn't recognized as a representative by his community, the Ovaherero. Moreover, Damara and San members criticise their exclusion from the negotiations, while other descendants who - due to the genocide - today live in Botswana point to the Namibian government's lack of a mandate to represent descendants in the diaspora.

C. Framing and distribution of the proposed funding

Heiko Maas, German Foreign Minister at the time, stated that the affected communities would "play a key role in shaping and implementing" the proposed programs. But representatives of these communities see the framing as DC as patronizing. The UN Special Rapporteurs, too,

warned of perpetuating “colonial dynamics and perceptions” where the former colonial power would set conditions. The German government has rejected this, stressing that all projects were “tailored to Namibia’s development policy priorities” and that DC would continue “independent of the dialogue on reconciliation.” However, the UN Special Rapporteurs have pointed to a perceived inconsistency of the funding in the form of DC with effective reparation. In addition, they highlighted the need to atone for long-term consequences of gendered violence. The German government responded that the declaration did not “ignore the gender aspects of the genocide”, including women and children’s suffering from abuse and rape, and stressed “a gender-sensitive and/or gender-transformative implementation” of the programmes. Meanwhile, critics also question the proposed funding amount - as it corresponds to the amount of bilateral funding to Namibia since 1990 - and refuse the claim that this would settle all demands for compensation. Further, they perceive an undue focus on monetary reparation at the expense of atonement for trauma and symbolic reparation, with only 50 million out of 1.1 billion Euro for remembrance, education and reconciliation purposes. The German government, however, stresses the importance of the proposed bilateral initiatives for remembrance, including a Binational Commission to consolidate the German-Namibian “special relationship”, and a joint trust or fund for reconciliation projects, especially for intergenerational dialogue.

Recommendations

The currently prevailing approach to DC represents a shift from a donor-centric, aid-dependent model to a more partnership-based, inclusive model aiming to respect and empower local communities to achieve long-term development outcomes. However, even with this approach, critics argue that DC cannot serve as a substitute for reparations, as it is itself historically intertwined with colonial legacies and may thus not adequately address the complex, multifaceted harms inflicted by colonialism. In the following, it will be suggested that DC can nonetheless play a role for reparative justice, if it manages to integrate the concept of reparative justice into its frameworks, with compensation and reconciliation as its primary objectives. This requires comprehensive structural reforms aimed at liberating DC from colonial legacies and their enduring consequences. To forge a path towards a more just, reparative approach and meaningful reconciliation between Germany and Namibia and to set an example for potential future reconciliation initiatives between Germany and other states and communities affected by German colonial crimes, the two governments and further actors in German DC are encouraged to consider the following:

A. Use of explicit, affirmative terminology

Rather than avoiding the term “reparations” and adding qualifiers such as “from today’s perspective” when discussing the genocide, the legal right to reparations to

the affected communities should be more clearly acknowledged. Doing so will make it easier to establish clear mechanisms for accountability, monitoring and evaluation to ensure that reparation initiatives are implemented effectively, transparently, and in accordance with international human rights standards. Setting a moral and legal precedent in Namibia will aid other countries and communities previously subjected to colonial rule in asserting their claims. This approach signifies an honest admission of collective responsibility and fosters equity among affected states and communities.

B. Engagement in inclusive, meaningful dialogue.

It is crucial to promote a participatory dialogue approach by taking a step back from one’s preconceptions and sincerely listening to affected communities in Namibia and neighbouring countries, civil society organizations, and local experts. All affected communities, particularly the Herero, Nama, Damara and San, should be genuinely represented in negotiations and decision-making processes. The Namibian government is advised to choose the representatives of these communities more carefully and on the basis of their own self-organization. Additionally, both governments should work towards strengthening partnerships and solidarity with descendants outside of Namibia, other concerned states, international organizations and actors dedicated to advancing reparative justice such as the United Nations (UN), the African Union (AU), German and Namibian universities and International Human Rights Organizations.

C. Advocacy for comprehensive reparations measures

Initial steps should include formal apologies, both at the governmental and personal levels, symbolic gestures as well as the restitution of human remains and cultural artefacts. In the short to medium term, a strategy must be formulated to define comprehensive reparations measures. This strategy should encompass decisions on the form, timeline with milestones, recipients, and magnitude of compensation for states and communities affected by German colonial violence and injustice. Representatives of the affected communities in Namibia have indicated concrete amounts, exceeding the currently pledged sum, which could be provided through trusts or funds managed by the affected communities and/or through direct transfers. It will be worthwhile for German and Namibian government representatives to engage with deliberations regarding these matters that occur across multiple forums, such as the sessions and annual reports by the Permanent Forum on People of African Descent.

Financial compensation should be paired with development and infrastructure projects, particularly in regions historically affected by colonial atrocities, as proposed by the German government. However, these projects should be primarily designed, monitored, and overseen by representatives of the affected groups, both within and outside Namibia. It is crucial to establish transparent and accountable mechanisms, to manage and distribute reparations in line with national laws and international

"Germany must, as part of the broader bilateral relationship improvement, look to sit down with the descendants of the victims and craft out a package of reconciliation with them, after accepting what it has done at the state level."

Mbakumua Hengari, Chair of the Ovaherero-Ovambanderu Genocide Foundation (OGF)

human rights standards. In this regard, the German government's commitment to establishing independent structures, such as trusts for education and cultural programs, is a positive step.

The Namibian government could strengthen legal frameworks to support reparative justice, protect the rights of affected communities, and continue to work on land reforms and property restitution. It could further promote open dialogue and awareness about the colonial past, its ongoing impacts, and the reparations process by supporting education programs, public forums, and remembrance events that encourage national unity and a

shared understanding of history. However, more concrete initiatives - both in Germany and in Namibia - to foster a culture of remembrance must be aligned with the priorities of the affected communities. A positive example is the Genocide Remembrance Day, first proclaimed in Namibia on May 28, 2024. Its recognition as an official holiday in Germany would also be a meaningful gesture. More widely, the issue of reconciliation should thus also be re-validated within German collective memory in a way that primarily relies on reconnection and recentering of the descendants' own experiences.

The path to reparative justice demands a continuous, sustained commitment. While DC plays an important role, it has its limitations. Whether or not financial compensation will be realized through DC, the reconciliation process should be started anew in such a way that financial and any additional compensation is primarily realized in direct response to the demands and priorities articulated by representatives of the affected descendant groups. While German and Namibian government institutions will be key to implementation, they should not be the main drivers of the reconciliation process and rather understand their role as one of learning and responding. Beyond this change in approach towards a reparative DC, it is essential to address the structural injustices and power

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