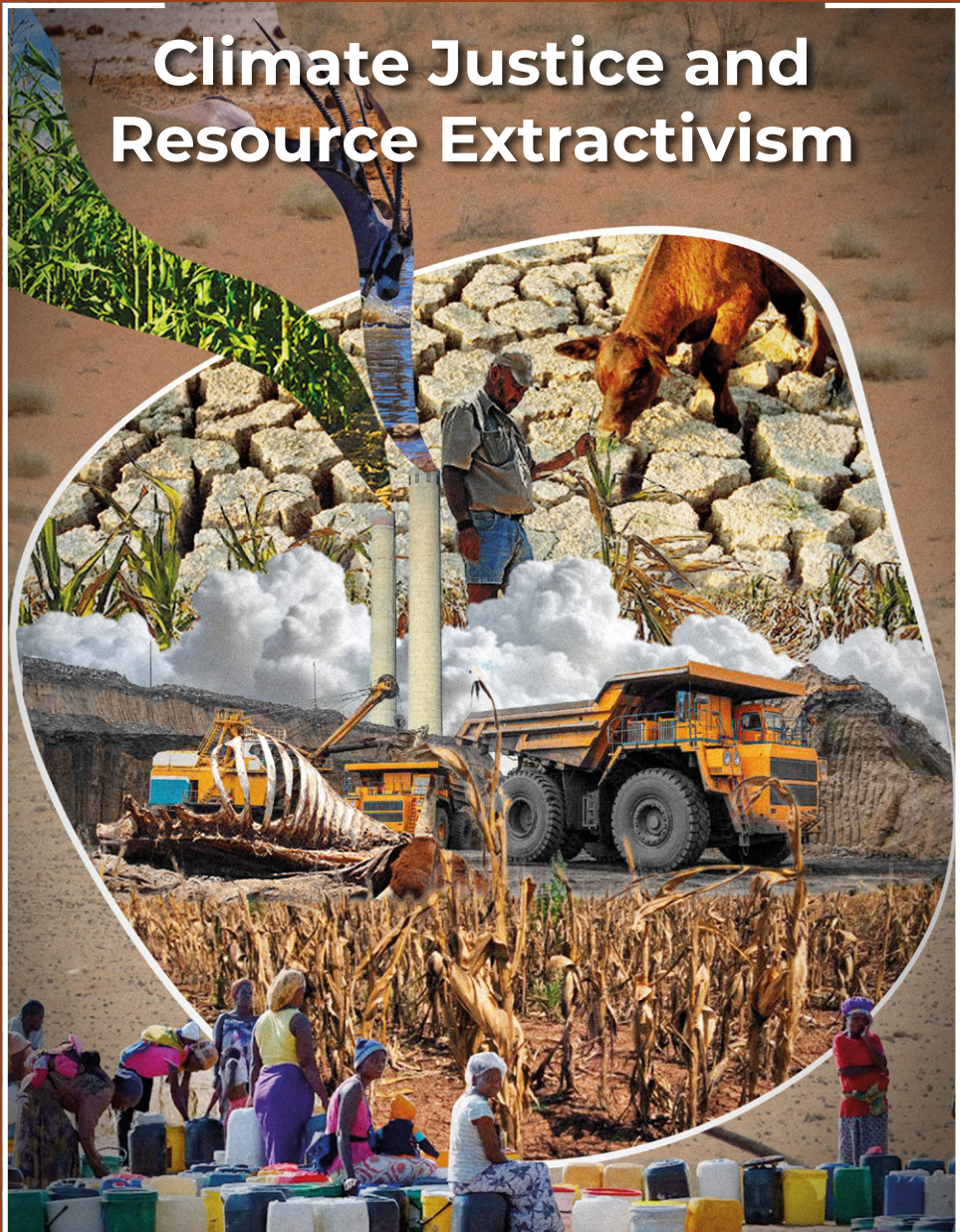


Climate Justice and Resource Extractivism



Derisking of Dependency? A Political-economic Analysis of the Hyphen Hydrogen Project in Namibia

Fabio Banet & Armin Hoepfner

Abstract:

In this article, we examine the financing architecture and the conception of the Hyphen Hydrogen Project (HHP) and look at its consequences for Namibia's position in global capitalism. Based on guided expert interviews and a document analysis, we analyse the interests and resources within the project of the Namibian state, as well as those of foreign actors such as Germany. Based on our analysis, we present three plausible scenarios arising from the HHP and Namibia's hydrogen ambitions, of which we consider green extractivism to be the most plausible. The findings of our article indicate that Namibia's dependence on the capitalist centre tends to deepen, despite the presentation of the HHP as an egalitarian partnership.

Keywords: dependency, development, derisking, extractivism, global capitalism, hydrogen

Introduction

The “sustainable” transformation of industrial capitalism, as well as

Western countries turning away from Russian gas and oil, opens new potential for some African countries to establish themselves as suppliers of green hydrogen, which is considered to be the energy source of the future (Van de Graaf, 2022). It has the potential to decarbonise those industrial processes that cannot be electrified and is therefore a key pillar for the green energy transition and a global net zero carbon emission (IEA, 2021). Namibia stands out, as its geographical conditions offer optimal circumstances for hydrogen production. Namibia is therefore trying to utilise these advantages in the hope of economic development, job creation and a general socioeconomic upturn (Ministry of Mines and Energy, 2022). However, realising this renewed development promise requires substantial investments in production capacities. In this paper, we examine the Hyphen Hydrogen Project (HHP) in Namibia, a planned green hydrogen production plant with German government participation.

We explore how the conception of the HHP can change Namibia's position in global capitalism and lead to new socioeconomic structures within the country. We will do so by using the theoretical framework of international financial subordination (Alami et al., 2023). After introducing our methodology, we will analyse the HHP, focussing on the conditions for the profitable production of green hydrogen determined by external factors and negotiated terms, as well as on the Namibian state, its agency, and its limitations. To conclude our findings, we will outline three possible scenarios regarding the HHP and Namibia's hydrogen ambitions. Like other studies, we expect a scenario of green extractivism to be the more likely outcome than failure or derisking developmentalism (Gabor & Sylla, 2023).

Germany and Namibia are linked by a colonial past that led to the genocide of the Hereros and Namas between 1904 and 1908 and still characterises class relations in Namibia today (Schaller, 2004; Melber, 2018). If trade relations between the two countries are now to be revitalised, one must pay close attention to which actors, interests, and strategies are involved, and to the related consequences for the people of Namibia and its ecological environment. The concept of social

justice, understood as a holistic perspective of social, environmental and historical factors, is therefore the guideline of our analysis.

This article contributes to the increasing interest in the field of critical social science regarding the implications of global green hydrogen ambitions. Only recently, different papers have examined the potential consequences and warned about new manifestations of neocolonialism and extractivism (Müller et al., 2022; Müller, 2024; Kalt & Tunn, 2022; Kalt et al., 2023) and have looked at the implications of the European Green Deal for the African continent (Claar, 2021). Other authors focused on the financial conditions under which renewable energy and hydrogen projects take place (Haag et al., 2024; Gabor, 2021). Finally, research has also been conducted on the HHP and Namibia's hydrogen ambitions (Gabor & Sylla, 2023).

An aim of this paper is to contribute to what is a critical debate by examining this important pilot project. Taking a political-economic approach, we attempt to scrutinise the theoretical framework of international financial subordination (IFS) by establishing two dimensions that are fruitful for analysing the HHP and the Namibian context.

HHP and Namibia's Hydrogen Strategy

The Namibian government sees the HHP as the starting point of a comprehensive green hydrogen strategy with the ambitious goal of green industrialisation of the country (Ministry of Mines and Energy, 2022). The Namibian hydrogen strategy thus explicitly distinguishes itself from extractivist economic models that are based solely on the exploitation of domestic resources and their largely unprocessed export abroad. Like many countries in the Global South, Namibia has also experienced such extractivist practices by international corporations, for example in the mining sector, and in the exploitation of the rich fish stocks off Namibia's coast of Namibia (interview 1 (i1)).

The hydrogen strategy is presented as a promising solution for poverty, development, energy security, and ecological problems. However, in the past, such strategies posed the risk of ushering in new forms of green extractivism, defined as “a variation of extractivism, in which resource appropriation and extraction is materialized through climate change policy guidelines and legitimized by green discourses” (Bruna, 2021, p. 163).

The HHP is seen as a pilot project for Namibia's hydrogen strategy, which includes the establishment of

an export infrastructure and Hyphen Hydrogen Energy Ltd (Hyphen, for short), and facilities that will be used for further projects. Hyphen is a joint venture between the German company Enertrag and the offshore investment company Nicholas Holdings Limited. For the hydrogen to be classified as green, it must be produced using renewable sources of energy. For this purpose, Hyphen plans to build a wind and solar farm with a capacity of 7GW, with 3GW for the hydrogen electrolysis plants. By the end of 2030, a total of 350 000 tonnes of green hydrogen will be produced, to be converted into 2 million tonnes of ammonia for export in Lüderitz (Hyphen, 2024a).

Following the selection of Hyphen as the preferred supplier in November 2021, the Concession Agreement (former: Feasibility and Implementation Agreement) was negotiated with the Namibian Government, setting out the key terms and conditions of the project (Hyphen, 2024b). The project is currently in the final assessment phase regarding its feasibility and environmental compatibility before the final decision is made regarding the USD 10 billion investment. However, at the end of 2024, the schedule for the HHP was postponed by over a year without any further details being communicated. Nonetheless, the HHP is of enormous importance for Namibia due to its size.

Derisking

In recent decades, the concept of derisking has established itself as a central instrument in development cooperation. The core idea of derisking is publicly financed risk minimisation for private investors. The aim is to create lucrative assets for private capital, for example by removing regulatory hurdles and offering return guarantees. The intention is that private capital will finance the development of strategic sectors and infrastructure without creating public debt (World Bank Group, 2017). Due to the lack of resources and government capacity to realise such megaprojects with public funding in Namibia, the HHP will be implemented using the financing strategy of derisking. It structures the involved actors, their interests, and their strategies, and hence influences the outcomes of the HHP. Derisking is seen as an enabler of the HHP, but it also shapes its outcomes in a field of tension between the private profits of multinational corporations and Global North countries, on the one hand, and Namibia's revenue based on its sun and wind resources, on the other. We are therefore interested in what conclusions can be drawn from an analysis of the project design. Accordingly, this article aims to answer the following question:

How does the derisking of the Hyphen Hydrogen Project affect

Namibia's dependency in the Global North-Global South relationship?

Methodology

In approaching this case-study, we used a mixed methodology where document analysis was intertwined with five guided interviews with relevant experts from the fields of politics, the business world, and civil society, all of whom were directly or indirectly involved in the HHP. The interviews were conducted between December 2023 and April 2024. The interview guidelines were tailored to the respondents' expertise and focussed on determining the financing conditions of the HHP, as well as the potential and risks arising from an emerging hydrogen economy in Namibia.

Our analysis is also based on secondary data taken from policy papers of international energy organisations, partnership agreements between Namibia and Germany, and government documents relating to Namibia's hydrogen economy. Data from these current developments are embedded in longer-term socioeconomic developments, which we drew from available statistics from the Namibian government and international organisations.

The risk of Namibia renewing its dependency due to the way in which

the hydrogen strategy has been planned was clearly expressed by Namibian experts in the interviews. Following the abductive research tradition (Timmermans & Tavory, 2012), we took this hypothesis as the starting point and centre of our study, which follows a deductive and abductive category system. The interviews were coded using MAXQDA software and analysed using thematic qualitative data analysis, as per Kaiser (2021).

Theoretical Framework

IFS (Alami et al., 2023) is used as a theoretical framework to provide a multilayered understanding of the financial conditions and mechanisms of the periphery countries in the context of global capitalism. In our research and in this article, we mainly focus on the two dimensions of production and state within IFS.

The production dimension centres on the question of whether and how a completely new hydrogen industry can be established in Namibia under the conditions of global capitalism. In addition, the social consequences of the HHP will be assessed and an outlook on the relations of production in Namibia will be provided. The conceptualisation of this dimension is based on Marx's understanding of three different capital cycles (money capital, production capital, commodity capital), which interact dialectically (Marx, 1998;

Alami et al., 2023, p. 1 372). Capital is therefore not in a fixed relation but is constantly changing its form. Money (G) becomes means of production (P), and eventually commodities (W), before this cycle restarts (Pechmann, 2016).

Applied to the HHP and Namibia's hydrogen ambitions, the capital cycle as a whole can be understood as follows: First, it requires the investment of monetary capital, which is used to finance labour and production facilities (primarily electrolysers, wind and solar power plants, and desalination plants); this production capital produces green hydrogen; this, in turn, is sold as a commodity, and thus realises surplus value and satisfies the profit expectations of money capital. However, as soon as profitability is considered unlikely, derisking by state actors is required to ensure that private capital is acquired for investment. In our theoretical approach to Marx's capital cycles, we understand derisking as a necessary state intervention to ensure the continuous circulation and transformation of capital within its accumulation.

The state dimension summarises how peripheral states act within IFS, which structural constraints of global capitalism they are subject to, and what scope for action can be opened up and negotiated. Following Simon

Clarke (1991), we define the role of the capitalist state in terms of three functions: 1) realising the international division of labour (in accordance with global class relations); 2) negotiating and pacifying social antagonisms; and 3) establishing and securing the national accumulation regime (Alami et al., 2023, p. 1 375; Clarke, 1991, p. 188). This is intended to counteract the misunderstanding that a (capitalistically organised) developmental state could evade capitalist logic, and particularly IFS, with suitable policies, possibly aimed at regulation and protectionism.

Findings

Production: Ideal conditions for a Namibian hydrogen hub?

In the circumstances of a peripheral region of global capitalism, high capital costs are a major obstacle to the profitable production of green hydrogen. Due to legal uncertainties and a lack of basic infrastructure and qualified labour, as well as racially connotated assumptions, these investment conditions are considered unfavourable in comparison to the Global North:

As I said at the beginning, the central problem ... that investors will face is the cost of finance, i.e. credit financing. [Note: Namibia] ... has no equity of this magnitude, but ... the banking world has to get

involved ... and the banking world looks at Africa and then says ... "Interest rates are twice as high" (i3)

High capital costs reduce the profitability of the project, as lenders' interest must be earned in the accumulation process before profits can be realised. This tends to discourage investment, which, among other things, has led to a lack of industrialisation in many sub-Saharan countries (Döver & Kappel, 2015). Under the given financing conditions, only extractivist practices geared towards the export of unprocessed raw materials remained profitable (Brand & Dietz, 2022, p. 251).

The limited state capacity resulting from the low level of industrialisation is made even more difficult by the challenge of the inevitable foreign currency debt. This means that states are heavily dependent on the key interest rates of the dollar or the euro, as these determine the price of their debt (Koch, 2024, p. 250). Like many countries in the Global South, Namibia's national debt has increased sharply because of the COVID-19 pandemic. Between 2018 and 2021, the debt ratio in relation to gross domestic product rose from 49% to 70% (Statista, 2024). The high cost of the debt burden is limiting the scope of action for many countries in the Global South. In 2020, for example, 62 countries spent more

money on repaying external public debt than on healthcare (Munvar, 2021, p. 2). The risk of a debt crisis has been latent since the pandemic and has led to an increased need for foreign exchange earnings (Gabor & Sylla, 2023, p. 6).

Derisking is seen as the answer to these uncertain investment conditions and a lack of state financing capacity. The aim is to encourage private capital to invest in global infrastructure projects and enable the circulation of monetary capital by providing state security and producing profitable assets (Gabor, 2021). The targeted private capital is heavily concentrated in the hands of institutional asset managers, which are disproportionately located in the US financial centres. Private asset managers such as Blackrock manage trillions of dollars and seek profitable investments worldwide. Derisking measures are intended to create investment opportunities for this transnational financial capital (Banse & Shah, 2021, p. 313).

Due to the Namibian state's limited fiscal scope of action, it is not able to implement the same cost-intensive derisking measures as the countries of the Global North. Namibia's primary derisking tool is the USD 1 billion "Namibia One" fund, which was set up with the help of loans from international development banks. These funds are intended to secure

the development, construction and operation of hydrogen projects on the supply side (Ministry of Mines and Energy, 2022, p. 17; Gabor & Sylla, 2023, p. 8). In addition, the Namibian government is taking regulatory and legal measures to support the hydrogen strategy by avoiding bureaucratic obstacles and thus additional costs. In May 2023, the Namibian government made a commitment to Hyphen in the Concession Agreement (former: Feasibility and Implementation Agreement) to create the "legal, fiscal and regulatory framework for project implementation" (Hyphen, 2024b, p. 1).

The transition from money capital to production capital will take place after the final investment decision, which is due at the end of 2024, when the construction of the production facilities is to begin. The production of green hydrogen requires technology and capital-intensive facilities. These include renewable energy plants, desalination plants for water treatment, electrolysis plants and a storage and transport structure for hydrogen and its derivative, ammonia. The capital composition of the HHP is therefore heavily weighted towards constant capital, i.e. production resources. The complex plants require significant labour solely for their construction. Hyphen expects to need 15 000 workers in the first five years. After that, only

3 000 permanent jobs, mainly highly skilled, will be created (Hyphen, 2024a).

In addition to the equipment, the successful production of green hydrogen requires large quantities of renewable electricity and fresh water. Hyphen is planning to build 7 GW of production capacity to cover its electricity needs, which corresponds to 10 times Namibia's current electricity production (i5). However, only a few details were communicated about the electricity required to desalinate the seawater, which poses an unresolved challenge to the success of the production process:

But all the other projects never got off the ground because of water. ... And that is [unclear] fact: No water. ... Nothing is possible. ... Uh, ... like, I mean, if you [unclear] desalination plant, everybody says, oh, no, they'll build desalination plants. Um, ... do you know, uh, you know, it takes a 3.5kW of electricity to generate just one litre of water. ... Yeah. ... Uh, if you're going to be producing 300 000 tonnes of their stuff, you know. ... Yeah. Uh, that's 3.5 million, kilowatts. It's a three gigawatt of electricity just to have the water, just to have the water. And you haven't actually done any processing of that water. You haven't started up your hydrogen plant as well (i2).

Once the hydrogen has been produced, its conversion into a commodity form through sale on a market represents the final hurdle in the movement of capital. There is currently no global market for green hydrogen (i2). Therefore, a considerable price and quantity risk exists, as companies cannot make any reliable forecasts about how much hydrogen (derivatives) they can sell, and at what price (i2). This uncertainty has a negative, inhibitory impact on the planning certainty of green hydrogen projects. The H2Global Foundation's derisking instrument is the central measure to counter the price and quantity risk described above. As an intermediary trading platform, the Hydrogen Intermediary Company GmbH (HINTCO) is intended to facilitate the development of a green hydrogen market by countering demand uncertainties. This is done by means of a so-called double auction process, in which HINTCO concludes long-term supply contracts on the supply side with companies that can offer a tendered supply quantity of green hydrogen at the most favourable price. On the demand side, they sell the purchased hydrogen to the highest bidder, with supply contracts that are shorter-term. This measure takes an expected increase in willingness to pay as a result of rising emission costs for fossil alternatives into account (i2). It is expected that initially, supply and

demand prices will not meet, which is why these contracts allowing for differences are concluded (Bollerhey et al., 2023). This price gap is closed with funds from a public sponsor; in the case of H2Global, this is financed by the German Federal Ministry of Economics and Climate Protection (BMWK). The BMWK had already approved 900 million euros by the end of 2021, and a further 3.5 billion euros have already been pledged. Other countries in the Global North, such as Canada, want to participate in financing the instrument.

State: A national development promise in harmony with global economic trends?

Building a new mode of accumulation

The Namibia Green Hydrogen and Derivatives Strategy, which the Namibian government published in 2022, was the result of several years of effort to develop a new economic development strategy. The strategy was developed under the leadership of the consulting firm McKinsey with the participation of the Namibian agency Monasa Advisory & Associates, funded by the German Federal Ministry of Education and Research (BMBF) (McKinsey secures consultancy, 2022). A 2020 World Bank study had already emphasised Namibia's potential for

the competitive production of green hydrogen (IPPR, 2021, p. 3), and further studies followed (Gabor & Sylla, 2023, p. 16). Namibia's geographical and climatic conditions are considered ideal locational advantages: The combination of sun and wind in Namibia is one of the most favourable in the world. For example, photovoltaic systems in Namibia can generate 2 950 full-load hours of green electricity compared to 900 in Germany (i3). In addition, photovoltaic and wind power plants require large, empty spaces. Namibia fulfils this requirement due to its low population density. However, other harsh site conditions make investments in Namibia more difficult. There is limited project-specific infrastructure required for the various phases of the HHP. For example, the construction of a project of this scale requires a stable electricity grid, distribution within the country requires transmission lines, and specialised port infrastructure is needed for exports (i2). As stated by Tom Alweendo, the Namibian Minister of Mines and Energy, this form of infrastructure is only available to a limited extent in Namibia, and in the main still needs to be financed and built (Ndjavera, 2023). Other requirements such as the availability of well-trained, preferably specialised workers are also only partially met.

Through the Namibia Green Hydrogen and Derivatives Strategy,

Namibia is also part of globally coordinated efforts and plans to establish an international hydrogen market at various levels. With the REPowerEU Plan, the European Union (EU) once again increased the targeted import quantity of hydrogen to 10 million tonnes by 2030 and emphasised its central role for the decarbonisation of sectors that are difficult to electrify (European Commission, 2024). In this context, the EU concluded agreements with Namibia and other African countries to expand capacities for renewable energies and green hydrogen. Germany is playing a pioneering role in this transformation; as early as 2019, the Federal Government adopted a National Hydrogen Strategy, which, in its 2023 update, assumes an import requirement of between 50% and 70% for 2030 (BMWK, 2024, p. 9). This was followed in July 2024 by a hydrogen import strategy, which again emphasises that “a large part of Germany’s hydrogen demand [...] must be covered by imports from abroad in the medium and long term” and is intended to provide “orientation and clarity” about German import requirements (ibid., p. 2). In this scenario, the HHP plays a pioneering role in Germany’s post-fossil energy supply. The German government has classified the project as a strategic foreign project (Enertrag, 2024).

The international plans to establish green hydrogen as the central energy

source of the future are thus closely aligned in terms of both temporality and content with Namibia’s decision to position itself at the “next frontier of the energy transition” (Van de Graaf, 2022, p. 21; Gabor & Sylla, 2023, p. 15).

With its Namibia Green Hydrogen and Derivatives Strategy, Namibia is not only formulating a claim to establish a new and sustainable accumulation regime that will enable broad and sustainable industrialisation, but is also positioning itself as an energy exporter in the context of a reorganisation of the international division of labour. It should be noted that these two objectives are, at least in part, in conflict with one another. In their hydrogen strategies, the countries of the Global North, and Germany in particular, only set out specific targets for the import of the energy source and its derivatives. The production of goods such as fertilisers or steel using green hydrogen should continue to take place in the developed economies in order to maintain the accumulation regimes. This objective can also be clearly seen in the design of the derisking instruments (see the section on production). Namibia’s hope of shifting green hydrogen-based value chains into its national economy is therefore only partially supported by development funds from the Global North. This leaves Namibia with a vague prospect that its successful establishment as a

hydrogen producer will result in cost advantages, and thus in a relocation of further manufacturing processes. However, these cost advantages must be substantial to compete with massively funded derisking efforts such as HINTCO from Germany for the limited quantities of hydrogen available.

Pacification of social antagonisms

The Namibian government hopes that the national hydrogen strategy will lead to a broad socioeconomic upturn. By 2030, its development is expected to contribute over USD 6 billion to the GDP (gross domestic product) (Statista (2024, p. 3) gives Namibia's 2022 GDP as USD 13 billion) and thus create 280 000 new jobs (GH2Namibia, 2022, p. 32). With an unemployment rate of over 33%, the prospect of new jobs has been particularly well received by the population (Namibia Statistics Agency, 2019). At the same time, publicly communicated job figures are the central issue in every election campaign, which is why such announcements are increasingly viewed with scepticism (i5; i1).

With regard to the HHP, the Namibian government has endeavoured to shape the terms of investment in line with its own development goals in the negotiations

with Hyphen. Ambitious targets were agreed: 90% of the jobs are to be filled by Namibians, creating 15 000 full-time positions during the construction phase and 3 000 during operation. So far, the only concrete step towards this goal is a BMBF funding programme to support the education and training of 200 Namibian students. However, the total funding amount of 40 million euros appears to be negligible given the scope of the HHP (BMBF, 2022). It has also been agreed that 30% of the goods and services used will be sourced from Namibian companies, although the specific implementation and scope of this agreement are unclear (Ministry of Mines and Energy Namibia, 2022, p. 16). In addition, Hyphen pays around €16 million per year to Namibia for the project area during operation (ibid.), which cannot be compared with the income of €500 for the one-off issuing of a mining licence (GH2Namibia, 2023, p. 3). The mere fact that Namibia was able to negotiate these contractual conditions shows a change in the mode of cooperation compared to previous fossil fuel projects. The change can also be observed in the communication of Hyphen, which describes its plans more transparently and openly than fossil fuel companies such as the Canadian ReconAfrica (i1). Civil society is invited to consultations on environmental impact assessments and the company makes documents on the project process available to the public

on its website (i1; i3).

However, there are doubts as to whether all the agreements can be implemented and, above all, monitored. This is because the Namibian state sometimes lacks effective resources and practices to effectively control international companies, as one interviewee noted:

Our government doesn't have the capacity, or our government is not interested in scrutinising ... what the mining company is doing here. ... They don't go around and check what they are doing. Even if the community is complaining like, this company is poisoning us. No – no government official will go there and have a look and see if these companies are doing things according to the plan that was set up. Or according to the contract that was signed with government. ... Our government doesn't do that. They just let these companies come here and run wild. You know, those are – those are nice words that they are using in the Hyphen contract. We will do this. We'll do that. But who's going to make sure that they stick to that. Nobody will be. So we're not expecting anything. It's just a contract. It doesn't mean anything in Namibia (i1).

Nevertheless, the Namibian government seems determined to utilise

the potential of the hydrogen economy for Namibia. Namibia has secured the option to acquire a 24% stake in the HHP to benefit directly from the hoped-for economic success. As this participation exceeds Namibia's financial scope, the European Investment Bank and a semi-governmental Dutch financing company have promised Namibia a loan on favourable terms (i3). Although the final decision on Namibia's participation in the HHP is still pending, there are already critical voices. They warn that if the HHP fails, Namibia could face national bankruptcy due to the debt burden of a single project (Wagner, 2023, p. 108). As a result, this possible participation would entail considerable disciplinary measures for Namibia, as it would no longer be practically possible to independently cancel the project.

And, um, the other thing that really worried me was that ... the government is also agreed to ... taking up 25% shares ... in the Hyphen Project. ... If you – if you calculate that money, it's like ... half our – ... half our national budget ... that we are required, ... you know, to provide for the Hyphen Project ... And if something went wrong with that project, ... that – that's us left with – with some debt to pay. We don't have money as usual. We always depending on – on investors, ... uh, foreign investors (i1).

Summary: Risks of Namibia’s Dependency Development through the HHP

Table 1 Summary of the results

Dimension	Category	Results
Production	Money capital	<ul style="list-style-type: none"> • Framework conditions: high capital costs, neo-colonial accumulation patterns, foreign currency debt • Derisking to attract private capital for infrastructure investments • Profitability of investments in H2 must be guaranteed
	Production capital	<ul style="list-style-type: none"> • Capital- and technology-intensive production facilities are required • Qualified labour for operating the plants will probably come from abroad • Water and energy requirements for desalination is still an unresolved problem
	Commodity capital	<ul style="list-style-type: none"> • Uncertain acceptance of green hydrogen, sales depend on implementation of decarbonisation plans in industrialised countries • Demand-side derisking instrument HINTCO equalises purchase and sales price
State	International division of labour	<ul style="list-style-type: none"> • Namibia’s hydrogen strategy is part of the development of a global green hydrogen industry: • Germany as a pioneer in green hydrogen and most important partner for Namibia (import: 3 million tonnes from 2030) • In the context of the REPowerEU Plan, the EU is also planning to establish hydrogen as the central energy source of the future (import: 10 million tonnes from 2030) • Namibia is positioning itself as a producer of green hydrogen and is (primarily) supported in this role by countries of the Global North
	Accumulation	<ul style="list-style-type: none"> • Favourable site conditions and foreseeable increase in international demand for green hydrogen justify decision for new accumulation model • Namibia’s economic policy efforts are mainly focussed on building up a hydrogen industry • Hope for broad industrialisation through competitive relocation of value creation to Namibia in the context of hydrogen production
	Social peace	<ul style="list-style-type: none"> • Towards the Namibian population: • Renewing the promise of development

Source: Author

Conclusions

Scenario 1: Derisking developmentalism

According to Gabor and Sylla, the scenario communicated by Namibia and Germany can be described as derisking developmentalism. The Namibian state develops a hydrogen strategy under the conditions of IFS and creates attractive investment conditions with the financial support of industrialised countries. This lays the foundation for private capital to significantly finance and build up Namibia's economic development vision due to the profitability of the assets created (Gabor & Sylla, 2023, p. 3f.). Namibia's goal within the framework of the National Hydrogen Strategy is to implement the development promise, which includes broad industrialisation, the creation of good, sustainable jobs and a general socioeconomic upswing, and an increase in the financial leeway of the Namibian state (GH2Namibia, 2023). In view of our analysis, this scenario is primarily supported by the agreements made with Hyphen regarding the employment rate of Namibian workers, the proportionate use of Namibian primary products, the lease payments for the area, and the possibility of a 24% stake in HHP, which would allow the Namibian state to participate continuously in the economic success of the HHP. In addition to the agreements with

Hyphen, the aspirations and practices of the German government in its partnership with Namibia also speak in favour of this scenario: Germany not only financed Namibia's development of the national hydrogen strategy, but also awards scholarships to young Namibians who are undergoing professional training in areas relevant to the hydrogen economy. In addition, various pilot projects are being subsidised to test further possible uses for green hydrogen. However, development funds outside of the HHP are low in relation to the required investments. Namibia hopes to realise the promise of development and industrialisation through competitive advantages that arise from the HHP, and to make investments of private capital in subsequent business areas profitable and therefore attractive. In that respect, derisking developmentalism can be understood as a congruent development strategy by the state. However, the inherent logic of derisking prevents sufficient control of the means of production such as the technology for hydrogen production, as well as an increase in local value addition.

Scenario 2: Failure

The second scenario is the failure of the HHP due to the analysed challenges surrounding the project. Various factors have the potential to make the

investment riskier and considerably more expensive than anticipated: The chronic water shortage necessitates the construction of huge desalination plants at a considerable energy cost to provide the considerable amount of water required; such construction is therefore essential for the functioning of the production capital cycle. In comparison to Namibia's current economic activities, the scope of the HHP is almost beyond comprehension. Not only does the investment volume of USD 10 billion almost equal Namibia's GDP, but the planned power generation capacity (5–6 GW) also exceeds the capacity currently installed in the country (610 MW) by a factor of 10 (Gerrard & Hauser, 2021, p. 10). Equally relevant are the overall lack of infrastructure which is required both for the actual operation of the HHP and for its construction, and the insufficiency of the supply of skilled labour for the hydrogen industry in Namibia. There are also political risk factors: general elections were due in November 2024 and the SWAPO government was in danger of losing a significant percentage of votes, which could at least jeopardise the smooth continuation of the HHP. Although a complete abandonment of the HHP seems rather unlikely, even if former opposition parties were to participate in the next Namibian government, there is a possibility that the momentum of implementation could decrease. This is

in line with the observations made by one interviewee after the death of Hage Geingob (i5). The extent of the German government's commitment also depends largely on the appointment of a politician from the Green Party to the Ministry of Economic Affairs, which is unlikely in the next legislative period given the current state of the German government.

In addition to the risks specific to the HHP, the general uncertainties regarding the profitability of green hydrogen are a major factor in HHP's and Namibia's hydrogen strategy. When developing a market that does not yet exist, there is generally a price and quantity risk. The main reason for this is the considerable cost disadvantage of green hydrogen compared to grey hydrogen, as green hydrogen is currently around two to three times more expensive to produce. This is compounded by higher transport costs, as fossil hydrogen is generally produced directly at the point of use (Alagu et al., 2024, p. 19).

Perhaps we need to ... consider where this demand [for green hydrogen] comes from? It's not ... an economic need in the sense that it's not economically viable. It's a need because we have to do it because we're in a climate crisis. And if it were an economic need in the sense of "this is a great market and ... a gap in the

market or something”, it’s not a gap in the market. We have to switch because otherwise we’ll run into a climate catastrophe. That’s where the demand comes from ... and as long as nobody has priced in the climate consequences // ... So ... it’s just going to be expensive (i2).

The development of a market for green hydrogen can therefore be understood as a political project which must be implemented in line with the inherent capitalist compulsion to accumulate capital. Accordingly, the success of this political project depends on the chosen instruments convincing private investors of the profitability of their investments and thus also of the political project in terms of their scope and reliability. Whether the promise regarding the sustainability and profitability of green hydrogen will convince private capital can at least be doubted. There are still no customers for 88% of the planned hydrogen projects within Europe, which is an unusually high figure (Energy voice, 2024). Interviewed observers also shared the assessment that there is a massive gap between the forecast demand and the actual willingness to invest (i2). Although demand-sided derisking instruments such as HINTCO provide a flexible and market-oriented response to price and quantity uncertainty, which could in principle also close larger gaps between

supply and demand prices, it appears that the market is still in a state of flux. Also, the reduction of grey hydrogen’s competitiveness by pricing its climate-damaging emissions has been contested by right wing parties in the Global North. The fossil fuel backlash is fuelled by the fear of the social consequences of making fossil fuels more expensive and the doubt that a political response to their socioeconomic consequences can be found to preserve social peace (Patterson, 2023; Gourinchas et al., 2024). Overall, private capital does not seem convinced that the green transition will be implemented with the necessary determination and rigour to ensure the profitability of green hydrogen investments.

Scenario 3: Green extractivism

However, a complete failure of the HHP does not appear to be conceivable, which is why the scenario of green extractivism can be considered the most likely outcome. The HHP is the main pilot project for green hydrogen for Germany, which is also reflected in its classification as a “foreign project in the strategic interest of the Federal Republic of Germany”, which enables “more support than usual through our foreign trade promotion instruments” (Enertrag, 2024). The priority of the project for the German import strategy can also be seen in the visit of the German Minister of Economic Affairs and the

appointment of a special representative for German-Namibian climate and energy cooperation (Hoffmann, 2023). In addition, the derisking instrument HINTCO is already equipped with considerable financial resources. The importance of green hydrogen as an alternative and a green energy carrier is of central importance for the German accumulation model, which is clearly demonstrated by the cooperation with the HHP. Despite the fossil fuel backlash described above and the most recent European elections, the HHP and the green transition do not appear to be substantially jeopardised in the European context either. In her political guidelines, Ursula von der Leyen commits to the “Green Deal” adopted in the last legislative period, which, however, is to be increasingly geared towards improving the competitiveness of European industries with the help of a “Clean Deal” (Von der Leyen, 2024, p. 9f.). The HHP could benefit from this, as hydrogen projects are explicitly mentioned in the context of a planned fund for competitiveness (ibid., p. 25), in contrast to climate protection projects, which do not contribute to the competitiveness of the European market. In view of the economic downturn within the EU and in Germany in particular, the “Clean Deal” may indicate how climate protection will be organised in the coming years: A consolidation of ambitions combined with an

increased focus on those fields that promise to secure the competitiveness of one’s own accumulation model. In combination with a persistently strong ideology and policy of austerity, this could also change the structure of HHP cooperation. With a change of government in Germany, the partnership may be focused solely on the central goal of hydrogen exports, or Namibia may be asked to make a larger financial contribution, further constraining Namibia’s already limited ability to advocate for its own development goals.

To understand the significance of the green extractivism scenario for Namibia’s dependency relationship in Global North-Global South relations, it helps to look at the definition of dependency of a co-founder of dependency theory, Theotônio dos Santos (1970, p. 231): “A situation in which the economy of certain countries is conditioned by the development and expansion of another”.

This understanding of dependency can largely be applied to Namibia’s position within the green extractivism scenario. Since green hydrogen is not a competitive and profitable product and private capital will only invest if the Global North finances extensive derisking instruments, Namibia is directly dependent on the success of the political project of green transformation.

However, there are many indications that this project cannot be realised to the same extent and that green hydrogen will only play a smaller role in the future than planned. This will inevitably reduce the scope for Namibia's development ambitions, meaning that Namibia will at best be able to establish itself as an exporter of green hydrogen. This puts Namibia in a twofold dependency. On the one hand, industrial production in Germany is a prerequisite for the continued existence of demand for green hydrogen. The quantity of this demand is not within Namibia's sphere of influence and can be jeopardised by various scenarios, such as a relocation of capital and subsequent deindustrialisation of Germany (Hüther, 2023). On the other hand, Namibia is becoming dependent on the world market prices of green hydrogen. These are linked to global demand and thus tend to be linked to the needs of the Global North in general, as well as geopolitical events. As a result, instead of greater independence, Namibia's integration into the international division of labour will increase and Namibia will likely be subject to increasingly strong restrictions by capital and the countries of the Global North.

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