

Which Bio_economy for what Kind of Future? Towards the Re-politicization of a Discourse from the Global North with Insights from Tanzania ¹

Research Article

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Abstract

Several critics have already warned that the proliferation of bioeconomy discourse further entrenches the coloniality of markets and knowledge engrained in formally post-colonial North-South relationships. In this paper, we only partly agree with this line of reasoning. The critics of the global power of the discourse on bioeconomy presuppose an understanding of bioeconomy which is too narrow, as we claim. We argue that a unanimous core of the bioeconomy discourse is the quest for visions and ways on how to organize institutions enabling human flourishing (*economy*) in a way that they comply with the requirements of intergenerational and intragenerational justice and that it takes all morally considerable beings into account (*bio*). To open up this “space of possibles”, we suggest a strategical re-appropriation of the notion of “bioeconomy”. Instead, we use the term “bio_economy” whereby the underscore signifies a broad variety of ethically justifiable visions of how the “bio” ought to be entangled with the “economy”.

As we shall see, the full range of policy discourses in countries of Sub-Saharan Africa on the future of agriculture contain potential for development of a critical discourse on visions of bioeconomy. We demonstrate the latter insight by turning to two articulations of the agricultural discourse in Tanzania: land-use and genetically modified organisms. These domains will provide evidence for the diversity of bio_economy visions already endorsed, albeit implicitly, by different interest groups in Tanzania.

1. Outline of the Problem

Climate change and its ensuing effects will pose a serious policy challenge in the 21st century. To mitigate climate change, it is necessary to decarbonise economic activities, moving from fossil to renewable resources. Technology forecasters at the end of the 20th century have recognized that the convergence between bio-, nano-, and computing technologies could have disruptive impacts on the economies of the next century. So, why not use these technological developments to address pressing societal challenges such as climate change, wondered policy strategists in the Global North. In response, the concept of bioeconomy has been coined in the mid-2000s and has made its way into national policy strategies of nearly 50 countries mostly in the Global North (German Bioeconomy Council 2018). The Global South has not been spared by these dynamics. While until today, the term has not gained public or political prominence in Sub-Saharan Africa, several African countries have seen investments related to bioeconomy (e.g. in biofuel production) or developed policy strategies in related fields such as biotechnology (Tanzania), biofuels (Kenya, Senegal) or bioenergy (Uganda) (c.f. German Bioeconomy Council 2018).

Realization of bioeconomy strategies will require considerable amounts of additional biomass (Lewandowski 2015). This additional demand will, in turn, have impacts on land-use policies, especially in countries which are rich in areas with arable lands and high economic importance of the agricultural sector – both criteria apply to most countries in Sub-Saharan Africa. It is therefore not surprising that many issues of the bioeconomy discourse shine through in grand visions of agricultural transformation that several



African countries have adopted since the mid-2000s (Ouma et al. 2013), which have been further accentuated since the food price crisis of 2007-8.

This raises the question of how exactly the bioeconomy discourse – as something of Northern provenance – will influence the quest for visions and policies of agricultural transformation in the countries of Sub-Sahara Africa. Several authors have embraced bioeconomy visions as offering opportunities for African countries: their agricultural sectors could be transformed to value-added knowledge-based sectors supplying the world with high-value products from biomass (c.f. Virchow et al. 2014, Ecuru 2019, Virgin et al. 2019). Others have objected that the Northern bioeconomy discourse relies too much on market-based solutions ignoring their negative local and regional impacts and the social context. Critics have qualified bioeconomy strategies as being “neoliberal” (e.g. Birch 2019) and warned for that reason against implementation of bioeconomy policies in the Global South.

In line with the bioeconomy critics from political economy and ecology (Levidow et al. 2012; Goven und Pavone 2015; Birch 2019), we disagree with the optimists who consider bioeconomy as a global win-win strategy. We shall argue that the latter presuppose interpretations of bioeconomy as emerged mainly in discourses in the Global North. These carry certain moral assumptions which are not explicated or subjected to public debate, thereby contributing to what Swyngedouw (2011) has called depoliticization of discourses. However – and here we disagree with the critics of bioeconomy – it would be wrong (i) to reject the concept of bioeconomy as a reaction to this and (ii) to derive from the depoliticized discourses in the Global North how bioeconomy policies in the countries of Sub-Sahara Africa will evolve.

Regarding (i), we consider the bioeconomy critics to presuppose an understanding of bioeconomy which is too narrow (that point also holds for the optimists). We shall argue that a unanimous core of the bioeconomy discourse is the quest for visions and ways on how to organize economies in a way that they comply with the requirements of inter- and intragenerational justice and that they take all morally considerable beings into account. We shall use the modified term “bio_economy” to carve out a “space of possibles”. Thereby we intend to make explicit that a broad variety of specifications of a bioeconomy are being endorsed by different interest groups in different places although they have not yet been made explicit in formal policy programs. They differ in their normative views on how the living world (*bio*) ought to be entangled with the institutions whose fundamental goal should lie in enabling human flourishing (*economy*).

To justify our second objection (ii), we shall employ the case of Tanzania. We shall provide first evidence that the particular policy arenas addressed by the concept of bioeconomy have already been politically contested in local discourses in the Global South. Tanzania has seen a range of investments into bioeconomic domains since the mid-2000s (such as biofuels) and passed a range of policies aiming at agricultural modernization since then. Contrary to the earlier claims that the agro-modernization agenda smoothly extends the neoliberalization of nature to the country (Buseth 2017; Bergius et al. 2018), we shall show that this line of argument too quickly assigned an impactfulness (global discourses effectively shape local policies) and resemblance (national visions mirror global discourses) that is not matched by realities on the ground. This evidence, in turn, provides an additional reason for an explicit articulation of conceptions of bio_economy endorsed



in the countries in the Global South and an in-depth analysis of the respective policy processes.

This paper is a scoping one. The structural similarities between the bioeconomy discourses in the Global North and the discourses on agricultural futures in Tanzania we shall describe below require a more stringent empirical analysis. With this text, we aim to motivate further research and public reflection on bio_economy, i.e. conceptions of how value ought to be created from the living world. From the methodological point of view, we combine an ethical analysis (research field of three of our authors), with exploratory empirical research from political economy (research area of two of our authors). In line with political economy, we seek to identify hidden normativity in ongoing hegemonial discourses, i.e. normative commitments held by relevant interest groups but not articulated in the actual discourses. However, we neither presuppose any thick normative positions, be it an ethical theory such as consequentialism, deontology or virtue theory (as some ethicists do), nor do we commit ourselves to a particular theory from political philosophy, such as radical democracy which is often presupposed by scholars from political economy². Instead, we see the ethical contribution in an explication of implicit normative presuppositions and in a clarification whether these presuppositions should be ethically controversial, i.e. whether there are other, broadly accepted, ethical positions contradicting them. By coupling the ethical and empirical analysis, we intend to make explicit the relationships between factually held interests and the values which are implicitly endorsed by them and thereby to enable a public discussion of these values and, in our case, the economic futures they seek to envision.

All in all, we want to demonstrate that bio_economies can be shaped according to a broad variety of visions and strategies. Our analysis does not preclude that discourses of Northern origin shape national policies and marginalize other visions of resource-making. But it paints a more complex picture of the local material realities of bioeconomy discourse, policies and implementations 'elsewhere'. The potential contestation of existing hegemonic discourses in specific geographical settings also allows us to reclaim the notion of 'bioeconomy' from its original use and open up the debate towards the question of what 'bio_economic' futures are possible beyond the *neoliberal natures* (Castree 2008; Birch et al. 2010) that market-oriented sustainability thinking seeks to bring into existence.

The text proceeds as follows, Section (2) focuses on the bioeconomy discourse as it has emerged in the Global North. In a first step, we describe its emergence (section 2.1), then we explain why the discourse is depoliticized (2.2) and reveal value conflicts hidden by the curtailed notion of bioeconomy (section 2.3). In Section (3), we turn to corresponding discourses in the Global South, using two debates in Tanzania as examples: land-use (section 3.1) and genetically modified organisms (section 3.2); section (3.3) summarizes the complex picture and motivates further research based on the two debates. Section (4) concludes.

² We thank an anonymous reviewer for stressing this point.



2. Problematizing “Bioeconomy” in the Global North

2.1 The Emergence of Bioeconomy on the Policy Arena

The concept of bioeconomy was introduced by institutionalized agents from the Global North at the beginning of the 21st century (Golembiewski et al. 2015). In the United States, institutions such as the *National Agricultural Biotechnology Council* or the *National Research Council* (NRC) conducted stakeholder discussions and published reports under the term “bio-based economy” (Eaglesham et al. 2000, NRC 2000) which highlighted the relevance of biotechnologies for what they considered to be the societal challenges of the 21st century (Hardy 2002). The European Commission conducted several conferences in the first decade of 2000 introducing the concept of a “knowledge-based bioeconomy” (McCormick and Kautto 2013, 5f.). In 2012, the Commission adopted the strategy “Innovating for Sustainable Growth: A Bioeconomy for Europe” (European Commission 2012). The third institutional agent who developed a vision of bioeconomy in the early 2000 years was the OECD (2006, 2009). Followed by these reports issued by counselling, intergovernmental and supra-governmental institutions, almost 50 countries adopted national bioeconomy strategies by 2018 (German Bioeconomy Council 2018).

Meanwhile, “bio-based economy”, “knowledge-based bio-economy”, and “bioeconomy” are used interchangeably. They all refer to visions of an economy in which renewable biomass substitutes the fossil and in which biotechnologies contribute to a significant share of economic output. A further unifying point was the motivation of the development of this vision: their driver was the idea that biotechnologies can attain a crucial role in the 21st century in two regards:

1. in addressing present societal challenges (e.g. combatting climate change and securing food provision), and
2. in addition, improving the quality of life (by enabling technologies for health care and generating economic wealth).

Despite their differences in details, all bioeconomy policy papers share the goal to suggest strategies for a reorganization of the economy. Thereby bioeconomy policies presuppose substantial normative assumptions. For designing economic institutions requires commitments to the fundamental goals of an economy (e.g. material wealth or enabling of human flourishing) and on moral principles regulating the realization of these goals. Since the reports explicitly motivate economic transformation by climate change and food security challenges, they are committed to the requirements of inter- and intragenerational global justice. Additionally, recommending a transformation towards economies deploying only renewable raw materials, bioeconomy strategies implicitly presuppose normative claims about the relationship between humans and other morally considerable beings. For instance, it is possible that some bioeconomy reports take nearly all non-human living organisms merely as economic resources, i.e. as proper object for use for human purposes. In that case, these reports implicitly presuppose at least one substantial and controversial ethical claim, either the claim that nearly all non-human living organisms are not morally considerable or the claim that nearly all morally considerable beings should be used as economic resources.



In light of the normative assumptions contained in all bioeconomy reports, the core of the bioeconomy discourse is the quest for visions and ways on how to organize economic institutions (*economy*) in a way that they comply with the requirements of inter- and intragenerational justice and that take all morally considerable beings into account (*bio*).

2.2 Depoliticization of Bioeconomy

Several political economists have already pointed out that bioeconomy policy papers are not merely analytic or descriptive but contain hidden normative assumptions (Birch et al. 2010; Levidow et al. 2012; Hilgartner 2015). The critique of environmental discourses that Swyngedouw (2011) brought forward under the term *de-politicization* applies to the bioeconomy discourses, too: the latter presuppose a societal consensus in the final goals and hide the existing controversies in interests of different societal groups from the public discourse. Additionally, Birch (2019) accused bioeconomy reports of being “performative”:

“they’re not primarily describing something ‘out there’; rather, they’re advancing a particular future as desirable and others as undesirable, thereby shaping the preferences and decisions of social actors to bring about those desired ends” (ibid: 69).

Let us distinguish between the criticism of depoliticization of a discourse and of being performative³. Since bioeconomy reports contain policy strategies, it is not surprising that normative assumptions are presupposed there, that normative claims are made and that their editors intend to change preferences or beliefs of political agents. However, sometimes policy strategies aim at changing beliefs in a legitimate and sometimes in an illegitimate, manipulative, way.

Both criticisms of the bioeconomy discourses from the Global North claim that institutionalized agents such as the OECD or the European Commission aim at bringing about a change in beliefs towards their policy recommendations in an illegitimate way. The objections differ however in the mechanisms their proponents consider to be manipulative. The empirical questions of whether bioeconomy reports (i) bring about a belief change in the public and (ii) by which mechanisms they do it, raise a tremendous task for empirical analysis which we must omit here. However, by the means of argumentation analysis (Tetens 2004, Hansson and Hirsch Hadorn 2016) we distinguish two methods of manipulation which the objections indicate.

According to the depoliticization objection, bioeconomy policy papers pretend to derive their policy recommendations from broadly accepted normative assumptions, whereas, in fact, the latter are controversial. Acceptance of such a recommendation contradicts the ideals of autonomy or self-determination, which provide the normative justification for democratic institutions. If the relevant policy agents were fully informed about all relevant underlying normative assumptions, they would not accept the policy recommendations.

Additionally, an illegitimate belief change can be caused by appeal to authority or exercise of power. If members of a community accept recommendations of a policy report just *because* the report has been issued by a powerful organization, their belief change (i.e. the acceptance of its recommendations) is also clearly illegitimate. We suggest interpreting

³ We are indebted to an anonymous reviewer for bringing this point to our attention.



the objection from performativity having such a manipulation in mind. By the means of argumentation analysis such a manipulation can be further analyzed: a belief change is performative if the reasons brought forward for it can be reconstructed only in terms of non-conclusive arguments. An argument is non-conclusive if it is either deductively invalid or its premises are obviously false or highly implausible. If it turns out that the arguments the bioeconomy policy papers provide for their policy recommendations are non-conclusive or based on controversial normative assumptions, then the policy papers are manipulative for they intend to bring about a belief change towards the acceptance of their recommendations in an illegitimate way.

In the following, we shall turn to the depoliticization objection; an analysis of the objection from performativity remains a task for a latter publication. We shall demonstrate that the bioeconomy discourse in the Global North is depoliticized by identifying its hidden normative assumptions and arguing that there are good reasons for their rejection. This will demonstrate that the position of bioeconomy optimists rests on controversial assumptions and justify the demand for making visible the respective normative views of diverse social groups in the Global South.

Bioeconomy policy papers implicitly bring forward an argument with a practical conclusion, i.e. a conclusion claiming what ought to be done. In a nutshell, it has the following form of a means-end-argument⁴:

1. Humanity ought to realize certain ends in the 21st century such as: combat climate change, secure food provision, generate economic wealth, and improve health care.
2. Transformation of the current fossil economies towards bioeconomies is the best means for the realization of the ends specified in (1).
3. Therefore, all economies ought to transform their economies towards bioeconomies.

The argumentative structure of bioeconomy policy papers helps to explain how the latter depoliticize the bioeconomy discourse. The papers implicitly agree on the first premise – the normative one specifying the goals. At first glance, it seems to be uncontroversial: even if there might be some further desirable goals for the 21st century, the ones contained in the first premise seem to express a minimal requirement of what the global society should aim at, or so one might argue.

The policy papers differ, though, in the specification of the second premise, i.e. in the description of how a bioeconomy should be designed. This is reflected in the literature reviews of the bioeconomy policy strategies which distinguish at least two types: a technology-based vision and a resource-based vision⁵. According to the technology-centered visions (e.g. OECD 2006, 2009, The White House 2012), biotechnologies are

⁴ This representation of a means-end-argument is simplified for heuristic reasons: it is not deductively valid for the conclusion does not follow from the two premises alone. We have omitted some premises which would be necessary for a deductively valid argument. The omitted premises are non-controversial, and we would like to turn the attention on the plausibility of the two normative premises which we have made explicit in the reconstruction.

⁵ C.f. Bugge et al. 2016, Meyer 2017. Rolf Meyer (2017) calls this vision “transformation-centred vision”.



considered as necessary or essential means for the attainment of the goals of the vision. Based on this claim, the proponents of the technology-centered visions demand political support of the research and deployment of respective technologies. The other type of bioeconomy visions stresses the importance of all economic sectors which deal with biological resources (e.g. BMBF 2010, European Commission 2012) for the realization of the vision. According to its policy recommendations, decision makers should promote these economic sectors.

This survey of the dialectics of bioeconomy policy papers reveals that these documents problematize the means for the ends but omit a critical discussion of the ends of bioeconomy. Thereby, the focus of the discourse is directed towards the means. The resulting bioeconomy discourse – at least so far as it is articulated in policy documents – implicitly presupposes that the ethical assumptions are uncontroversial and do not need a justification or a public debate. It thereby implicitly pretends that the vision of bioeconomy as developed in the policy papers does not contradict interests of any social group, neither from the Global North nor the Global South since nobody seems to deny that the goals pursued by the visions were worthwhile. The bioeconomy discourse as it is led at the policy arena expresses a ‘win-win narrative’ according to which bioeconomy brings about social benefits and no losses, at least none which deserved a public debate. A discussion of the means for the attainment of the ends seems to be, in turn, rather a topic for experts from relevant academic disciplines such as economics, biotechnologies etc. Thereby these reports relocate the debate of bioeconomy visions from the sphere of public deliberation to that of experts, which results in the depoliticization of a discourse.

2.3 Hidden Values behind the Bioeconomy Visions

So far, we have demonstrated that the mainstream bioeconomy policy papers implicitly assume that they presuppose uncontroversial normative claims. In this section, we shall argue that this assumption is wrong. The bioeconomy visions developed so far by the institutionalized agents from the Global North are not in the interests of all societal groups and they do articulate substantial normative conflicts. The latter ought to be a subject of public debates according to ideals of democratic societies, as we shall argue below.

First, the goals of bioeconomy policy papers (premise (1)) are controversial for good reasons. Therefore, they should not be accepted without a critical reflection and public debate. Suppose that the ends which are endorsed within the bioeconomy policy papers are individually justified. This does not imply that all together they are justified, too. For it might be the case that they all are not collectively attainable due to trade-offs among them (cf. Kroeber and Potthast 2015). Several scholars have argued that the achievement of climate policy goals such as restriction of global warming to 1,5°C is likely to require reduction of economic activities in the wealthy economies (e.g. Jackson 2017, Kallis 2017). If that is true, the goal of combatting climate change must be weighed with the goal of sustaining economic wealth – a weighing that must be justified by ethical reasoning. Moreover, it is not clear whether the particular ends of the bioeconomy visions are individually justified. It might be that the ends of the countries in the Global North differ from those in the Global South. Again, the goal of material wealth provides the most prominent example here: several scholars from the Global North have argued that the overall quality of life in these countries might benefit if they reduce their economic



growth and material wealth (e.g. Latouche 2010, Paech 2012, Jackson 2017), whereby there are several countries in the Global South where material wealth ought to further increase.

Second, the second premise of the means-end argument is also a normative one and requires an ethical justification and public debate before it can be reasonably accepted or rejected in policy processes. Even if there was an agreement on the final ends of a desirable economy for the 21st century, it will still remain controversial, by which means these ends should be attained. Several authors pointed out that the main goals of a bioeconomy do not necessarily require promotion of biotechnologies or of economic uses of biological resources (e.g. Levidow et al. 2012). Others question on an ethical basis the very idea of reducing life (greek: *bios*) to a mere resource (Gottwald and Krätzer 2014). Transformation of social and economic institutions (property rights, taxation, or redistribution of wealth) might also lead to a global society, which attains its climate policy targets, improves health, wealth, and food provision on the global average.

Let us summarize. Visions of bioeconomy aim at ends which are ethically contested at least in some respect, and they contain strategies by which these ends should be attained, which are much more ethically contested. Ideals of democracy require that ethical disagreements among the options of a decision process should be made transparent for the public, for only then the members of a society will be able to recognize which position mostly corresponds to their normative stances. This requirement definitely holds for theories of deliberative democracy (e.g. Habermas 1996), but it should be uncontroversial among nearly all democratic theories – democracies understood broadly as processes of collective decision making among equal members of a society (Christiano 2018).

However, this transparency has not yet been created in the discourses of the Global North. Instead, the bioeconomy discourse is mainly led among experts neglecting the variety of possible conceptions of bioeconomy differing in the underlying normative views. This fact has been widely criticized in the academic literature; however, it remains open whether this will substantially change the policy processes (c.f. Hausknost et al. 2017).

The policy debate on bioeconomy in the Global North has led to a depoliticization of the discourse, hiding substantial and controversial normative commitments from public debate, even though some of the countries are heralded as beacons of liberal democracy. Most countries in Sub-Saharan Africa have not yet experienced a policy-driven bioeconomy discourse. However, the realization of these strategies will have strong land-use impacts in the Global South, particularly in countries with large agricultural areas. Anticipating these policy dynamics, controversial views have emerged in the academic literature.

On the one hand, scholars who share the normative assumptions of the dominant bioeconomy discourse emphasize the opportunities of bioeconomy policies for countries in Sub-Saharan Africa because of the plenitude of arable lands there (c.f. essays in Virgin and Morris 2019). On the other hand, scholars who do not accept the normative presuppositions of the bioeconomy discourses of the Global North, warn that the neoliberalization of nature associated with the proliferation of bioeconomy discourse



further entrenches the coloniality of markets and knowledge engrained in formally post-colonial North-South relationships⁶.

So far, our analysis has provided an argument against the optimists: An evaluation of the impacts of bioeconomy policies depends on the underlying normative assumptions. The latter are controversial; therefore, it is also controversial how the social changes intended by bioeconomy policies as articulated in the policy papers should be evaluated. It is at least clear that they will not provide ‘win-win’ outcomes for all.

However, we also do not fully agree with the warnings of the sceptics. The latter wrongly assume that bioeconomy policies are confined to the policies which have been established in the bioeconomy discourse from the Global North. Rather, as we have elaborated in this paper, “bioeconomy” should be understood as a quest for visions and policy strategies which entangle the morally considerable living world (*bio*) with institutions which enable human flourishing in compliance with the principles of justice (*economy*). Conceptions for such bio_economy are also being developed and discussed in the Global South. As we shall argue in the next section, the full range of policy discourses in countries of Sub-Saharan Africa on the future of agriculture contain potential for the development of a critical discourse on African visions of bioeconomy and arguments which can be used for politicization of the bioeconomy discourse in the Global North.

3. Grappling with the Bio_economy Elsewhere: A View from Tanzania

The visions that have been developed so far in the Global North often are weak on problematizing the links between economic processes in both the Global North and South. However, their realization would have substantial effects on the economies of the Global South. Since biomass should become the crucial resource, countries with high potentials for biomass production, i.e. countries rich in arable land areas, will become economically more relevant due to increasing global competition for the use of their lands. It is here where the bioeconomy discourse seems to shine through projects of market-oriented agricultural transformation on the African continent⁷: bioeconomy as a means for stimulation of economic growth and simultaneous mitigation of climate change. Development organizations, governments, agribusiness and even financial markets nowadays want to awaken the “sleeping agricultural giant” (World Bank 2009) that Africa is said to be. Here, it is said, large reservoirs of “underutilized” land could be valorized for food/agrofuel production and carbon sequestration; yield gaps can be closed; hidden value can be “unlocked”. Many African governments have responded to this new global interest in their agriculture as part of a market-oriented agricultural policy agenda that has been on the rise since at least the mid-2000s, and that often intersects with bioeconomy and related strategies, such as on biotechnology or biofuels, although the latter do not outrightly displace the former.

If we screen the existing critical literature on agro-modernization (e.g. Bergius et al. 2018; Sulle 2016) and the proliferation of bioeconomy strategies and projects in and beyond

⁶ e.g. Levidow et al. 2012; Goven and Pavone 2015; Birch 2019; Ashukem 2020.

⁷ They often incorporate elements of Green Growth or Sustainable Development strategies; see Buseth 2017; Bergius et al. 2018; Müller-Mahn 2019.



Africa (e.g. McMichael 2013; Chung 2017), we may be tempted to argue that both developments share a resemblance, and try paving the ground for technology-intensive and large-scale forms of agriculture backed up by high-yield seeds, modern farming practices and new forms of debt-relations. Yet in what follows, we will demonstrate the articulation between bioeconomy discourse and market-oriented discourses of agricultural transformation for the case of Tanzania, but caution against a framing that opts for a crude “‘impact model’ through which inexorable forces of global capitalism bear down, albeit unevenly, on passive ‘locals’” (Hart 2004: 91).

In the following section, we use the domain of land-use and of genetically modified (GM) crops to develop our argument – both domains have featured strongly in the bioeconomy discourse and in attempts to modernize Tanzanian agriculture. The evidence we provide there remains, however, rather coarse. We largely describe both discourses from a bird’s eye view – they are based on literature reviews and continuous monitoring of policy processes in Tanzania, as well as the detailed on-the-ground knowledge by two of our authors (Stefan Ouma and Leiyo Singo, see e.g. Ouma 2020). The details need to be excavated by a systematically designed empirical analysis in the field. Still, we believe to provide first evidence substantiating our claim that Tanzanian political dynamics relating to the future of agriculture contain potential for the development of a critical discourse on African visions of bioeconomy and for politicization of the bioeconomy discourse in the Global North.

3.1 Contested Discourses: Land Use

Tanzania has a long history of struggles over the pathway of agricultural transformation (Mbilinyi 2016). The country embarked on the largest project of social engineering in post-colonial Africa in the 1960s and 1970s – the socialist villagization project, which was by no means uncontested and unresisted during its implementation (Schneider 2007). The transition from socialism with heavy state-involvement to a market economy over the last 30 years has been marred by increasing political rivalry, corruption and inequalities, resulting in a climate of intensified political contestation within the state apparatus, but also between the executive, the parliament, civil society and the private sector (Aminzade 2013).

One of the most contested fields has been the issue of land-use. Since 2006, Tanzania has seen rising investments in subsectors such as sugar, rice, or maize, some of which were targeting biofuel production. It has been particularly the *Southern Agricultural Growth Corridor of Tanzania* (SAGCOT)⁸, a large-scale agricultural transformation program targeting a third of mainland Tanzania, that has sparked controversial debates inside and outside the country (Buseth 2017). SAGCOT must be seen in light of a series of like-minded political projects, of which *Tanzania’s National Development Vision 2025* is the overarching one. One of the three principal objectives of *Vision 2025* is to achieve good lives for all and to build a resilient economy (Kibugi et al. 2015: 6). With the help of *Vision 2025*, politicians want to realize food security and food self-sufficiency by increasing agricultural growth on the one hand and linking agricultural sufficiency with sustainability

⁸ SAGCOT is a public private partnership between the government of Tanzania, development agencies such as *UK Aid* from the UK government, *United States Agency for International Development* (USAID), The World Bank, and Royal Norwegian Embassy, and several large agribusiness corporations (Bergius et al. 2018: 829f.).



on the other (Kibugi et al. 2015: 9f.). More recently, the vision has been directed at the attainment of the Sustainable Development Goals (Capitani et al. 2016: 3).

While many observers have argued that recent transformation projects in the agricultural domain are further entrenching market rule in a top-down fashion (e.g. Mbunda 2017; Bergius et. al. 2018), the existing scarce literature on the politics of contemporary socioeconomic and socioecological transformations provide first evidence of increased political controversy:

“The struggles over land and labour in agriculture and biofuel production are increasingly politicised, and the corporate and agency forces noted above have sought to drown out alternative voices. These latter argue for support for the organic transformation of local small-scale producers and criticise the economic viability and environmental sustainability of petrochemical-based irrigated agriculture.” (Mbilinyi 2016: 122)

Criticizing the donor agencies pushing the large-scale agricultural transformative project of SAGCOT and their call for land formalizations, Maganga et al. (2016) argue that

“these are sponsoring what could be the largest land grab in the history of the country: the SAGCOT [...] program involving a number of agro-industrial multinationals. Conflicts are on the rise within the area demarcated for SAGCOT investments, where formalization efforts are happening at the same time as large-scale evictions of pastoralists and, to a lesser degree, of small-scale farmers. SAGCOT goals align eerily well with a longstanding government objective to end traditional modes of livestock keeping and forcibly settle pastoralists.” (ibid.: 3f.)

Moreover, some authors take it so far as to envision the rise of a new transformative politics from below that takes inspiration from “the emancipatory legacies of ujamaa”⁹ (Greco 2016: 35) including “the idea of democracy as grassroots participation through debate” (ibid.; see also Schlimmer 2017).

These assessments of the Tanzanian land-use policies provided partly by Tanzanian scholars, partly by academics located in the Global North, are based on Tanzanian dynamics in their land-use discourses which we briefly characterize in the following. Under the previous government (2005-2015), there seemed to be one land-use discourse which dominated at the political-institutional level. It favored globally oriented, market-based solutions to agricultural transformation. Opposing discourses supporting a more nationalist, state-centered approach, sprinkled with an embrace of the market or a more smallholder-focused, agro-ecological and communitarian approach seemed insignificant. Under the new government of the president John Magufuli (since 2015), the nationalist, more state-centered discourse has become more powerful (Jacob and Hundsbaek 2018). This discourse selectively reaches out to the concerns of smallholder farmers in a Neo-Nyererist fashion. At the same time, the very top-down nature of this discourse and its ambitions for agro-modernization (in the language of the new government increasingly equated with agro-industrialization) are at odds with some of the manifestos from

⁹ Swahili word for “familyhood”, was a concept for a form of African Socialism based on ideals (values and ways of living) of a “traditional African family”. It served as a political thought that guided Nyerere’s nation-building policies (unity, peace, justice, and equality for all) in post-colonial Tanzania (1967-1985). Julius Nyerere was the founding President of Tanganyika (1962) and Tanzania (following the union with Zanzibar in 1964). Under his leadership Tanzania experimented the policy of Socialism and Self-Reliance (1967-1985), collectivization of the major means of production; communitization of the workforce, and resettlement of rural population in communal villages.



smallholders and interests of farmers deploying agro-eco-logical methods (Mdee et al. 2018, Martinello and Nyamsenda 2018).

How these various discourses play out in detail, what power relations shape their reiteration, what ethical justifications for agricultural transformation underpin them and whether these justifications differ from those articulated in the Global North, remains a matter for future research.

3.2 Genetically Modified Organisms

While Tanzania does not belong to the forerunners of Sub-Saharan countries to foster genetically modified (GM) crops on a commercial scale – these are rather South Africa, Sudan and Burkina Faso (Adenle et al. 2013: 159; Okeno et al. 2013: 124f.) –, the deployment of GM crops has become a controversial object in Tanzanian politics. In 2005 farmers' organizations and civil society organizations in Tanzania campaigned against the government's move to table in the parliament the country's draft policy on genetically modified organisms (GMOs). Consequently, the government postponed the tabling of the bill and banned the import, growing or germinating and consumption of GM crops until it will adopt some regulation to accommodate the practice (Mugwagwa and Rutivi, 2009).

However, Tanzania has taken part among five countries in Monsanto's and the Bill and Melinda Gates Foundation's *Water Efficient Maize for Africa* (WEMA) project which contains GM components. After decades of being closed to GMOs due to its biosafety law, in 2015, the Tanzanian government weakened its biosafety law and in 2016, it authorized field trials of WEMA. Civil society actors such as the *Tanzania Alliance for Biodiversity* (TABIO) as well as the *Network of Smallholder Farmers in Tanzania* (MVIWATA – *Mtandao wa Vikundi vya Wakulima Tanzania*) have been very critical of Tanzania opening its doors to GM seeds (ACB 2015 & 2018; TABIO 2016; AFSA 2017). For instance, while TABIO objected against WEMA for scientific reasons, it has also mentioned economic and political reasons against it:

“The multinational seed corporations are promoting GMOs as a panacea to food insecurity and poverty in Africa. TABIO sees that the corporate promotion of GMOs has little to do with ending hunger and poverty in Africa. This is more a means to advance their agenda of enslaving African farmers into a system that will require them to purchase seeds from the corporations every year rather than save and reuse them.”¹⁰

At the same time, many politicians, academics, reporters and private sector representatives have made a case for GMOs, such as the former Permanent Secretary in the Ministry for Agriculture and Forestry Wilfried Ngirwa: “Tanzania cannot afford to be left behind by technologies that increase crop yields, reduce farm costs and increase profits”.¹¹

Debates over this topic are sensitive and can get emotional: some food activists take it seriously as a multinational plot to take over the peasant sector by controlling seed systems thereby depriving people of a key resource base for survival. The role of the media

¹⁰ <http://www.tabio.org/campaigns/anti-gmo.html> This website is currently offline. A snapshot from 26.04.2019 can be accessed here: <https://web.archive.org/web/20190426063650/http://www.tabio.org/campaigns/anti-gmo.html> (accessed 21.12.19).

¹¹ <https://www.scidev.net/global/gm/news/gm-crop-tests-get-green-light-in-tanzania.html> (accessed: 29.12.2019).



in this debate becomes controversial since each side seeks to push its narrative to the public arena – consequently the media distort or misreport under the influence of particular interests (Masinjila 2018; Nyamsenda 2018).

Contrary to the land-use discourses, the GM-seeds-friendly discourse has not yet gained political efficacy. Dominant discourses are still subjugated to some sort of state-scepticism towards GMOs despite a weakening of Tanzania's biosafety regulations over the past years. The state, even under a market-oriented regime, effectively banned their open cultivation in 2009 by creating huge liability risks for those who tried (Schmickle 2013), meaning that anyone introducing GMOs needed to account for all potential risks associated with it. Still, with projects such as WEMA or laboratory trials going on at *Mikocheni Agricultural Research Institute* in Dar es Salaam, the GMO-friendly discourse carved out pockets of experimentality. These experiments ended abruptly, when lately the state under the regime of the new president, with great support from the farming and activist community (e.g. TABIO, MVIWATA and *Sustainable Agriculture Tanzania*), found that those involved in the trials did not follow a proper code of conduct (Mirondo 2018). While the supporters of GM-seeds have not disappeared and continue to exist with research, government, donor and private sector institutions, this shows that dominant and subdominant discourses on seed provisioning do not relate in straightforward ways to each other.

3.3 Bio_economy in Tanzania: Indication of a Complex Picture

While the bioeconomy discourse in the Global North seems to depoliticize the controversial policy domain of a desirable future agriculture (c.f. Section 2), this policy arena has been politicized in Tanzania for the last ten years as the brief insights from exploratory research on land-use (Section 3.1) and GMOs (Section 3.2) reveal.

The agricultural modernization paradigms within the Tanzanian agricultural discourse were originally framed in the depoliticizing 'win-win-narrative' (c.f. Engström and Hajdu 2018). At first sight, the Tanzanian discourse seems to have solidified a discourse alliance on agricultural modernization between domestic capitalists, market-friendly elements of the Tanzanian state under the previous regime of President Jakaya Kikwete (2005-2015), international donor organizations, transnational corporations, and development philanthropy such as the Bill and Melinda Gates Foundation.

However, the fuller story that is currently emerging is much more complex since the dominant narratives have faced resistance due to the emergence of new discourse alliances with heterogeneous material interests and ethical aspirations which we have been able merely to indicate in this text. The political structure in Tanzania is ambivalent. On the one hand, it exposes a strong tendency for a top-down rule that has been further intensified under the current regime. On the other hand, opportunities for deliberative participation in village assemblies as part of the Socialist legacy (c.f. Greco 2016: 25) play a not-yet-understood role for the formation of discourse coalitions and acceptance of ethical positions. Our exploration remains therefore precursory, motivating an in-depth study of the lived political experiences via which the underscore in "bio_economy" should be filled with empirical substance.



4. Summary and Future Research Directions on Bio_economy

The concept of bioeconomy as it has emerged on the policy arena in the Global North addresses issues which will substantially affect people's well-being as well as politics in the 21st century: climate change, the substitution of fossil resources, and emerging technologies from life sciences. Under the moniker "bioeconomy", policy institutions in the Global North have developed visions of a future economy according to which these technological developments should be directed towards meeting the grand societal challenges. We have argued that these visions hide the ethical controversy of the policy recommendations they entail, which contradicts the ideals of most theories of democracy, of which the deliberative ones are most obvious.

Contrary to the policy discourse in the Global North, governments in Sub-Saharan Africa have not yet jumped on the bioeconomy bandwagon (except for South Africa). Nevertheless, the policy currents that are articulated in the bioeconomy discourse of the Global North – desirable use of biotechnologies, market-oriented forms of agriculture, future food security, strategies for coping with climate change – have already become politically efficacious as we have described for the case of GMO regulations and land-use in Tanzania.

With our analysis, we disagree with scholars who identify the problem with bioeconomy discourses lying in the fact that the Global North has coined a policy concept which is ethically problematic, but which is nevertheless being imposed on the countries in the Global South as a 'win-win'. We agree that current interpretations of bioeconomy as emerged in the Global North are problematic, because they do not represent the full range of normative stances (on the fundamental goals of economy, meanings of a flourishing life, relationships to non-human beings) which are endorsed by social groups in the Global North. However, we consider this problem to be mainly one of the policy processes and power configurations in the Global North.

We argued that the observed depoliticization of bioeconomy discourses contradicts the ideals of democratic decision making. From that we inferred the claim that subdominant positions on bioeconomy should be represented in public debates – by specifying concepts of bio_economy. However, we disagree that the depoliticization of bioeconomy discourses in the Global North will be reiterated in the making of new bioeconomic realities in the Global South. To the contrary, first evidence from Tanzania on two relevant policy fields – GMOs and land-use – shows that the corresponding discourses have been politically contested.

Admittedly, the picture we have drawn in this paper is somewhat coarse. We observe that there is a broad variety of ethically justified conceptions of how the societal challenges that the bioeconomy discourse addresses should be envisioned and that they are endorsed by different social groups in the Global North and South. However, we do not yet know all of these visions, of their underlying concepts of 'good life', or of their understanding of a desirable future, especially with regard to those that are endorsed by politically sub-dominated groups. For instance, we do not know how social groups such as smallholder farmers or pastoralists in Tanzania envision creating value from life (*bios*) although the current policy debates in Tanzania suggest that they do have their own visions. If their opinions were made explicit and their underlying values were



transparently justified, this would provide opportunities for reclaiming the concept of bioeconomy for the repoliticization of the discourse on agricultural and, bringing in context, political-economic futures. We would move from bioeconomy to bio_economy.

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