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Towards Inclusive and Sustainable Rural Transformation in Sub-Sahara Africa

Final Report

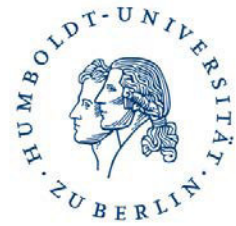
Erik Engel, Simone Rettberg, Theo Rauch, Susanne Neubert, Daniela Richter, Margitta Minah, Christian Berg

In collaboration with:

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The Centre for Rural Development (SLE) is affiliated with the Albrecht Daniel Thaer Institute for Agricultural and Horticultural Sciences within the Faculty of Life Sciences at Humboldt Universität zu Berlin. Its work focuses on four strands of education and research: international cooperation for sustainable development offered as a post-master's degree course, training courses for international specialists in the field of international cooperation, applied research, and consultancy services for universities and organisations.

The views and opinions expressed in this Discussion Paper are those of the authors and do not necessarily reflect the official positions of the BMZ.

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Preface

In 2014, the German Federal Ministry for Economic Cooperation and Development (BMZ), under the initiative of Minister Gerd Müller, passed the special initiative One World, No Hunger. Given a special focus on Africa, the initiative sets out to bundle and expand activities towards food security, rural development and agriculture development. Through this focus, the BMZ intends to make a significant contribution towards eradicating global hunger and malnutrition, a topic that is high on the Post-2015 Development Agenda.

The special initiative focuses on six fields of action, one of which is Structural Transformation in Rural Areas. The BMZ has commissioned the Centre for Rural Development (SLE), Humboldt Universität zu Berlin, to directly contribute to this field of action by conducting research on rural transformation processes, with a particular focus on Sub-Saharan Africa. Against this background, the objective of the research project Towards a Socially Inclusive and Environmentally Sustainable Rural Transformation in Africa is to identify strategies, instruments and measures that will help to forge more socially inclusive and sustainable rural transformations in Sub-Saharan Africa.

Three case countries/regions have been selected which, together, cover a broad diversity of different sub-Saharan countries and regions in terms of their socio-economic and biogeographic characteristics. Mining-based economies like Zambia are contrasted to agro-based economies like Benin. Regions characterised by smallholder crop cultivation (Zambia, Benin) are contrasted with pastoralist regions (arid and semi-arid regions in Ethiopia). Remote and sparsely populated regions are analysed as well as central and densely populated rural areas. Individual country analyses have been complemented by three technical reports on trade and migration. The final report at hand provides a concluding analysis, based on the following series of publications, listed in chronological order:

Rauch, T.; Beckmann, G.; Neubert, S.; Rettberg, S. (2016). *Rural Transformation in Sub-Saharan Africa: Conceptual Study* (SLE Discussion Paper 01/2016). Berlin: SLE.

Berg, C.; Beckmann, G.; Schelchen, A. (2016). *Scenario Building for Development Cooperation: Methods Paper* (SLE Discussion Paper 02/2016). Berlin: SLE.

Steinbrink, M. (2017). *Translokale Livelihoods und ländlicher Strukturwandel in Subsahara Afrika* (SLE Discussion Paper 01/ 2017). Berlin: SLE.

Engel, E.; Richter, D.; Schüring, J. (2017). *Benin: Towards Inclusive and Sustainable Rural Transformation. Country Study* (SLE Discussion Paper 02/2017). Berlin: SLE.

Rettberg, S.; Beckmann, G.; Minah, M.; Schelchen, A. (2017). *Ethiopia's Arid and Semi-Arid Lowlands: Towards an inclusive and sustainable rural transformation. Country Study* (SLE Discussion Paper 03/2017). Berlin: SLE.

Üllenberg, A.; Minah, M.; Rauch, T.; Richter, D. (2017). *Zambia: Towards Inclusive and Sustainable Rural Transformation. Country Study* (SLE Discussion Paper 04/2017). Berlin: SLE.

Lohnert, B. (2017). *Migration and the Rural–urban Transition in Sub-Saharan Africa* (SLE Discussion Paper 05/ 2017). Berlin: SLE.

Agbahey, J.; Grethe, H.; Bradford, H.; Negeri, S.L. (2017). *Trade Policies in Sub-Saharan Africa: Consistency with Domestic Policies and Implications for Sustainable and Inclusive Agricultural Development* (SLE Discussion Paper 06/ 2017). Berlin: SLE.

Where possible, the present report will refer to the individual publications, which can then be consulted to gain in-depth knowledge regarding a variety of rural transformation processes and related technical questions. We invite all readers to request the series of publications from SLE.

Acknowledgements

We would like to thank the German Federal Ministry for Economic Cooperation and Development (BMZ) for tendering this research project and putting renewed attention on the topic of rural transformation in Sub-Saharan Africa. In this regard, we express our gratitude to Dr. Peter Krahl (Division 105), and Ms. Annelene Bremer (Special Initiative One World-No Hunger) for their support. We are also thankful to the German Embassies as well as GIZ country offices in Zambia, Benin and Ethiopia for logistical support received.

Furthermore, this research would not have been possible without the contributions of the local experts in Zambia, Benin und Ethiopia who participated in the workshops and developed the scenarios for their countries/regions. In addition, our thanks go to the specialists, politicians and practitioners in the three case countries who acted as interview partners in the sub-regions. Thank you for welcoming us, your openness, literature recommendations as well as critical thoughts and support in the field.

Special thanks also go to Prof. Dr. Herbert Grethe and Johanes Agbahey and their team (Humboldt Universität zu Berlin), Prof. Dr. Beate Lohnert (University of Bayreuth) and Dr. Malte Steinbrink (University of Osnabrück) for their expert studies on trade policies, job creation and translocal livelihoods, respectively. Your contributions have complemented the expertise of the SLE research group very well.

Finally, the authors would also like to thank all the great minds and hands that agreed to logistically support (Georg Holfelder and Johannes Leimbach), translate, proof-read and format the studies in various languages. Thank you very much for your attention to detail and patience, which helped us in finalising the publications.

Abstract

The present study summarises the findings, conclusions and recommendations of the research project “Towards a Socially Inclusive and Environmentally Sustainable Rural Transformation in Africa”. The purpose of the study is to describe current trends of rural transformation in Sub-Saharan Africa and their social and environmental impacts, assess the factors influencing these trends, develop realistic scenarios for smallholder farming systems and pastoral production systems, and derive strategic orientations in order to work towards these scenarios.

The results of a literature review, analysis of macro data and country case studies reveal that rural regions in Sub-Saharan Africa characterised by smallholder farming systems are experiencing slow, hesitant and at best partial transformation processes, whereas rural regions dominated by pastoral production systems are witnessing strong transformations, but with negative social and environmental impacts. All processes observed differ sharply from historical rural transformation processes observed in Europe and the emerging economies in East Asia.

All business-as-usual scenarios appear to be neither socially inclusive nor oriented towards environmental sustainability and, hence, represent a worst-case scenario for rural transformation. They are influenced foremost by stiff international competition for labour-intensive processing and manufacturing industries, difficult international trade policies aggravated by a strong urban bias, inconclusive national transformation and rural development or agricultural policies, insufficient and inadequate agricultural services as a result of state and market failures, and inappropriate education and skills development policies. Last but not least, high population densities (Benin) entail severe negative environmental effects, whereas low population densities (Zambia) provide neither sufficient pressure nor incentives for intensification of existing farming or pastoral systems.

Working towards a socially inclusive and environmentally sustainable rural transformation in Sub-Saharan Africa requires, from our perspective, an environmentally sustainable intensification of agriculture and pastoralism and agricultural diversification; the creation of non-agricultural/pastoral employment, livelihood diversification and skills; and improved rural governance with regard to, for example, implementation of policies, decentralised financial services, and land tenure.

Key Words

Rural development; rural transformation; agriculture; smallholders; pastoralists; multi- and trans-local livelihoods; urbanisation; youth employment; social inclusion; environmental sustainability; sustainable intensification; natural resource management; scenarios

Summary

Inspired by the typical European pattern of structural transformation, rural transformation is usually understood as a transition from rural-agricultural to urban-industrial (or service) societies, going along with declining shares of agriculture in Gross Domestic Product (GDP) and employment, with urbanisation and increasing agricultural productivity and farm sizes. However, to capture the full range of transformation processes in present-day societies of the Global South, this understanding is arguably too narrow and does not appear to be completely appropriate for Africa.

For the research reported on below, rural transformation is rather understood as a long-term process of change of fundamental characteristics of the economies and livelihoods of people in rural areas, taking transformations of the wider socio-economic system within they are situated into account.

Key indicators used here to describe rural transformation processes fall within the realm of major changes of income sources and employment, land use and tenure systems, forms of migration and settlement, and forms of social organisation. Measured against these indicators, our findings show that, all in all:

Rural regions characterised by smallholder farming systems are experiencing slow, hesitant and at best partial transformation processes, whereas rural regions dominated by pastoral production systems are witnessing strong transformations, with negative social and environmental impacts. All processes observed differ sharply from historical rural transformation processes observed in Europe and the emerging economies in East Asia. What the transformations in the three selected countries/regions of Zambia, Benin and the lowlands of Ethiopia and, as evidence from the literature on other countries allows us to conclude, many countries of sub-Saharan Africa have in common is:

- first, a slow shift towards non-agricultural employment, along with continuing increases of agricultural population (due to generally high population growth);
- second, limited and only partial increases of agricultural (including livestock) productivity per hectare combined with decreases of productivity per labour unit, along with selective increases of the degree of market-integration of smallholders;
- third, lack of positive or strongly fluctuating dynamics in non-agricultural sectors, resulting in precarious low-productivity income opportunities for the vast majority of the growing labour force;
- fourth, a perpetuation or even increase of diversified rural–urban livelihood systems (trans-local livelihoods), based upon a mix of subsistence cultivation, market-oriented farming and urban income opportunities to cope with precarious situations in any single sector and to substitute formal social security systems for non-productive family members; and, last but not least,

- value changes towards more “urban” lifestyles driven by intensified rural–urban exchanges, media, Information and Communication Technology (ICT) and increasingly mobile populations.

The major differences observed within this general pattern in the three case countries/regions are as follows:

- While the urbanisation process in mining-based economies (Zambia) is characterised by sharp oscillations depending on world market prices for raw materials, this process takes a steadier path in agriculture-based economies such as Benin or Ethiopia.
- The transformation processes tend to be faster in densely populated, peri-urban and market-linked central regions (like southern Benin, Line-of-Rail Provinces in Zambia, highlands in Ethiopia) than in remote and sparsely populated regions. The opposite is true when the remote region is considered an area of specific opportunities and interest to government, as is the case in the arid and semi-arid lands (ASAL) regions of Ethiopia.
- Pastoralist livelihoods are experiencing stronger political transformation pressure as a result of policies aimed at sedentarisation. As alternative options for pastoralists are limited and the natural resource base for pastoralism is being forcefully reduced, these policies have been resulting in a destructive and selective transformation process.

The observed processes in all of the surveyed areas are not socially inclusive – on the contrary, they tend to exacerbate unequal access to resources and power and to specifically disfavour certain segments within the population. At the same time, they are not oriented towards environmental sustainability, as they increase pressure on natural resources due to the expansion of un-adapted cultivation practices, still-increasing conversion of forests and wetlands, and a lack of significant broad-based conservation management measures. Hence, current trends (business-as-usual scenarios) represent a worst-case scenario of rural transformation, characterised by environmental deterioration, social exclusion, poverty and hunger, resulting in increased rural flight, joblessness in the cities as well as international migration of increasing populations.

The most important factors influencing the sluggish dynamics of most of the transformation processes appear to include

- stiff international competition for labour-intensive processing and manufacturing industries within globalised free-market economies, hindering creation of non-agricultural income and employment opportunities (e.g. China and South Africa in Zambia, Nigeria in Benin);
- several decades of low agricultural prices until 2007, embedded in difficult international trade policies and aggravated by a powerful urban bias, which is still strong in all case countries;

- inconclusive national transformation and rural development or agricultural policies;
- insufficient and inadequate agricultural services as a result of state and market failures;
- inappropriate education and skills development policies, especially regarding relevant practical skills for responding to (limited) economic opportunities when they do arise;
- high population densities, such as in Benin, accompanied by severe degradation of agricultural soils and soil erosion, inadequate replacement of nutrients in soil (soil mining) and increasing water scarcity and deforestation as well as loss of agro-biodiversity and biodiversity in general; and
- low population densities along with relative abundance of natural resources, such as in Zambia, enabling extensive growth paths but neither providing pressure nor incentives for intensification of existing farming/pastoral systems while, at the same time, basing agricultural activities on soil mining, meaning not accompanying them with adequate soil conservation measures to fully replace nutrients or conserve organic matter in the soils.

A vision for a socially more inclusive rural transformation would need to challenge particular forms of political rule as well as market mechanisms which contribute to reduced resource access for rural inhabitants without providing them with alternatives for secure livelihoods. The imperative for economic growth and commercialisation inherent in many contemporary policies for rural transformation needs to avoid exclusionary trade-offs in the form of loss of existential resource entitlements (land, pastures, water, financial resources, knowledge and skills) as well as loss of access to commodity and labour markets for smallholders and pastoralists and tendencies towards “adverse incorporation”.

A vision for an environmentally more sustainable rural transformation needs to recognize the tight interdependencies between human land use and production patterns and natural resources. It requires the sustainable management of natural resources, understood as use patterns which meet the basic needs of current generations without destroying or degrading the natural environment so that resource needs of future generations can be met. This is expected to unlock economic potentials for smallholders and pastoralists, contributing to food sovereignty and livelihood security in the long run.

The optimistic scenario for Zambia and Benin in 2030 envisions a situation in which access to social and economic, public and private services for people living in rural regions will have been significantly improved. Based on this assumption, the education level will rise and natural resources will be used more productively and sustainably. Agriculture will be intensified and diversified, the combination of which will increase productivity and, thus, the incomes of small-scale farmers while reducing vulnerability and environmental degradation. Based on higher agricultural productivity and especially the service provision of knowledge, skills and electrification, rural non-farm jobs will be created, mainly by rural agro-industrialisation. Rural areas will become more attractive and rural–urban

migration will slow down, making municipal planning easier. This will also reduce regional disparities in terms of non-farm employment opportunities and access to commodities and services. Value chain development, paying special attention to employment in rural development, and developing capacities especially targeting youth and women, will foster social inclusion. Resilience will be high due to better adapted production systems and an overall increase in production and income. Simultaneously, urban centres will face less population pressure, and urban planning and infrastructure development will be able to keep pace with still ongoing but slowed-down population growth. In this more conducive environment, entrepreneurship can evolve more easily and create employment opportunities for urban youth.

The optimistic scenario for rural transformation in Ethiopia's ASAL region in 2030 envisions a situation of improved resilience to deal with natural hazards and climate change, political recognition and voice, and increased food security among the pastoral population. In this scenario, pastoralism will have regained its productivity so that it remains the economic foundation, with livestock sales providing the major source of income for most of the rural population. Mobile pastoralism will have gained official recognition as an economically efficient production system with significant environmental value for the integrity of the dryland ecosystems. Against this background, major communal rangelands and migration routes will be legally protected and rehabilitated. While some (members of) households keep on moving with their livestock, many pastoralists will have settled, as they will become involved in diversified trans-local livelihood systems with strong rural-urban linkages. Due to increasingly diversified livelihood portfolios (including small-scale agriculture, activities along the livestock value chain, etc.) overall resilience will have improved. More children, especially girls, will have access to different forms of education (formal, alternative). In sum, pastoralists will have reduced their dependency on food and cash transfers and regained assets for subsistence production, while a small share will profitably participate in commercial markets. Social assistance programs will nevertheless continue to play a role in supporting the poorest segments of the population.

Strategies to work towards these positive scenarios need to consider existing limits and opportunities related to

- (environmentally) sustainable intensification of agriculture and pastoralism and agricultural diversification (e.g. climate insecurity, international competition and free trade, or readiness to innovate);
- non-agricultural/pastoral employment / livelihood diversification and skills (e.g. adequacy of education systems, labour absorption capacities, or chances and risks of sedentarisation of pastoralists); and
- rural governance (e.g. implementation of policies, decentralised financial services, or land tenure).

A strategic course of action towards a socially more inclusive and environmentally more sustainable rural transformation in sub-Saharan Africa will require political will to promote or direct rural transformation in a more inclusive and sustainable direction, a willingness to implement respective political agendas and strategies and to finance them, and favourable global framework conditions related, for example, to climate change and world markets.

The research findings presented here have enabled formulation of the following basic conclusions and recommendations to national decision-makers and donor agencies:

1. Rural transformation cannot be driven but be stimulated and shaped by government and donor interventions, albeit depending on a range of social, technological and global economic factors beyond state control.
2. Sub-Saharan Africa needs rural transformation in order to overcome poverty and hunger. Business as usual is no way to overcome rural poverty.
3. Rural transformation needs to be embedded in a wider process of structural transformation, based on two supporting columns: a) sustainable ecological intensification and diversification of agriculture and b) creating non-agricultural employment and income opportunities in urban *and* rural regions.
4. For the agricultural and livestock sectors, such transformation requires sustainable intensification accompanied by diversification and soil and water conservation practices (within and beyond the current production systems).
5. To become environmentally sustainable, agricultural/livestock intensification needs to be locally adapted to changing climatic conditions, soil fertility and water conserving requirements, the need of minimising expensive external as well as carbon and foreign exchange dependent inputs, and rising, competing demands on natural resources and increasing land use conflicts (foremost between pastoralists and farmers).
6. To become socially inclusive, agricultural and livestock intensification needs to be as labour-intensive as feasible but certainly still productive and target-group specific by considering the – differentiated – intensification potentials of *all* small-scale farmers, herders, forest users etc.
7. Focussed steps towards mechanisation are absolutely necessary for sustainable and socially inclusive intensification, especially where sustainable intensification practices are too labour-intensive and, thus, tend to exclude resource poor households that suffer from seasonal labour bottlenecks.
8. Inclusive access is the key to socially inclusive and environmentally sustainable rural transformation. This applies to access for men and women and all groups and ethnicities of a society to economic services (inputs, veterinary services, knowledge, financial services), social services (health, education, water supply, sanitation), markets, infrastructure, and natural resources.

9. Smallholder and pastoralist organisations or cooperatives are the key to inclusive and better access to inputs and services as well as to better governance. Only when they are organised can rural smallholders and herders take advantage of economies of scale, use more efficient production techniques, market more profitably, have the capacity to contribute towards more inclusive access from their side, and demand greater transparency, accountability and responsiveness from state agencies.
10. Labour-intensive and productive as well as viable non-farm income and employment opportunities need to be identified with due consideration being given to the competitive international environment, even in the fields of agro-industries along agricultural/livestock/forest product value chains and non-tradeable commodities (e.g. repair services, construction, building materials, culture-related niche products, tourism-related services).
11. Labour-intensive and productive non-farm opportunities require complementary trade and investment policies as well as appropriate skills development policies and programmes targeted towards capacities related to identified economic opportunities.
12. All interventions need to be designed in a context-specific manner, based on the "do no harm" principle. This requires proper assessment of specific contexts, including local and trans-local livelihood systems, natural resources, and markets and value chains.

This strategic orientation is in line with the principle of "leaving no one behind". The analysis presented here has shown that most of the poor households and individuals in the case study countries have underutilised potentials and can, thus, take up new opportunities. However, taking continuing population growth, weak or absent social security systems, and challenges and limitations of natural resources and globalised markets as well as global environmental changes (and related uncertainties) into account, trans-local livelihood systems with their inbuilt flexibility and resilience may remain a necessity from a mid-term perspective. But hopefully, from a longer-term perspective, they can become less of a last resort and, rather, develop further as a way of securing income and prosperity on a significantly higher and less vulnerable level.

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Abbreviations

ADLI	Agricultural Development Led Industrialisation
ASAL	Arid and Semi-Arid Land
BMZ	German Federal Ministry for Economic Cooperation and Development
GDP	Gross Domestic Product
ICT	Information and Communication Technology
RT	Rural Transformation
SADC	Southern African Development Community
SLE	Centre for Rural Development
SSA	Sub-Saharan Africa

1 Introduction

Rural transformation, understood as a long-term process of change of fundamental characteristics of the economies and livelihoods of people in rural areas, is influenced by a broad range of factors, including market and ecosystem dynamics, national politics and local capacity for action. Such trends towards multidimensional change are marked by different trajectories and patterns within various countries and geo-ecological regions.

Focusing in the first step on the three selected countries Benin, Ethiopia and Zambia resulted in a country-specific description of long term trends and an analysis of its main driving forces and underlying causes. Similarities and differences have then been identified and general conclusions drawn for the whole region of Sub-Saharan Africa (SSA). Specific conditions of the research countries such as resource based economic growth have been taken into consideration limiting to a certain extent the scope of generalisation (see chapter 2).

Using a tailor-made scenario-building technique, possible rural transformation scenarios for the medium-term-future (year 2030) in the three countries – in Ethiopia the focus was on the arid and semi-arid lands (ASAL) region – were developed by experts from policy level, science, civil society, and private sector. They describe an optimistic scenario by changing the main influencing factors in a positive but still realistic way (see chapter 3). Special attention is given to the questions a) how to use natural resources more efficiently and sustainably and b) how to ensure social inclusion especially of the rural poor.

Chapter 4 elaborates recommendations for national policy and decision-makers to influence rural transformation towards more sustainability and social inclusion. They are based on the analysis of influencing factors of rural transformation and the positive scenarios for 2030. These recommendations are of a general nature and require transformation into specific strategies and measures and adaptation to the specific national and local context.

2 Rural transformation in Sub-Saharan Africa

Rural transformation (RT) is a long-term process of change of fundamental characteristics of the economies and people's livelihoods in rural areas (see sub-section 2.1). It can follow different trajectories, and empirical evidence has shown that Sub-Saharan African countries have taken different pathways than the ones followed by European and emerging countries (see sub-section 2.4). Deducing from a broad literature review and the three country studies undertaken for this report, it seems that rural transformation processes in Sub-Saharan Africa have generally been modest, hesitant and partial (see sub-section 2.2), usually marked by the following common characteristics:

- partial but limited increases of agricultural and livestock productivity, combined with simultaneous decreases of labour productivity and selective increases in degrees of market integration of smallholders;
- perpetuation of diversified rural–urban livelihood systems dependent on subsistence cultivation, market-oriented farming and urban income opportunities;
- a slow shift towards non-agricultural employment, along with continually increasing agricultural population;
- lack of consistent positive dynamics in non-agricultural sectors, resulting in un- and underemployment as well as precarious low-productivity income opportunities for a growing labour force; and
- value changes towards more “urban” lifestyles, driven by greater rural–urban exchange, media, information and communication technology (ICT) and increasing mobility of the population.

At the same time, these dynamics appear to be neither socially inclusive nor environmentally sustainable (see sub-section 2.3):

- Efforts to reduce poverty have been partially successful. However, the widespread urban bias of political action has resulted in faster improvement for urbanites than for rural populations and further increased the gap between urban and rural spheres.
- Positive impacts towards greater inclusion have emanated from increased coverage for social services (health, education) as well as from efforts towards closing the gender gap which, nevertheless, continues to dominate gender relationships.
- In specific cases, ongoing processes can exacerbate social stratification and incur increasing social differentiation and exclusion.
- All of the three surveyed countries have exhibited negative impacts in terms of natural resources, as soils, pastures, forests and water bodies are experiencing different intensities of ongoing degradation.

In this chapter, we provide the framework for and evidence from field studies in the three selected countries regarding ongoing dynamics and driving forces of rural transformation, based upon which we draw conclusions regarding the dynamics of change in SSA and compare them to historical processes elsewhere in the world.

2.1 Analytical framework for examining structural and rural transformation

2.1.1 Definitions

From a socio-economic perspective, structural transformation can be understood as a profound long-term change of the essential features of human existence, of the ways in which people work and live. Structural transformation of an entire society involves a multi-dimensional long-term process of interrelated changes in economic, technical, demographic, socio-cultural, political/institutional and ecological variables. Changes of the economic sources of livelihoods may accompany technological changes or changes in habitats, family systems or relationships between humans and nature (Rauch, Beckmann, Neubert, Rettberg, 2016, p. 3)¹.

Rural Transformation (RT) is understood as a long-term process of changing fundamental characteristics of the economies and livelihoods of people in rural areas, in light of transformations of the wider socio-economic.

Structural transformation depends on a wide range of influencing factors (drivers) that may promote or prevent change, such as global market dynamics (e.g. oil prices), ecosystem dynamics (e.g. climate change), national politics and institutions (e.g. state control versus market regulation) and local people's agency (their responses to framework conditions). Consequently, analysis of factors influencing transformation requires a multi-level approach.

Structural transformation is hardly ever a uniform process that affects all sections of a society in the same way and is usually differentiated according to regions and social classes. More often than not, it is a differentiating or even excluding process, with losers and winners. Thus, although national economies and whole societies are usually the focus of structural transformation analyses, they also need to be differentiated by region and social category.

Rural transformation is usually part of a wider process of structural transformation in a society. Fundamental changes in rural economy and society tend to be embedded in macro-level processes, including increasing market integration, land reform legislation

1 The present report draws most of its inspiration from the country studies on Zambia, Benin and the ASAL regions of Ethiopia as well as the concept and method papers written within this research project. The three in-depth studies are based on empirical evidence and broad literature reviews, the sources of which (interviews, workshops or literature) are cited here. A complete list of sources used can be found in the respective publications. The research for this document was further substantiated by three reports on a) trans-local livelihoods and rural transformation in sub-Saharan Africa (Steinbrink, 2017); b) migration and the rural-urban transition in sub-Saharan Africa (Lohnert, 2017); and c) trade policies in sub-Saharan Africa (Agbahey et. al, 2017).

or technological innovations, such as ICT or biotechnology. Rural transformation is frequently understood as a transition from rural-agricultural to urban-industrial (or service) societies, accompanied by declining shares of agriculture in gross domestic product (GDP) and employment along with urbanisation and increasing agricultural productivity and farm sizes. We argue that this understanding – which is oriented towards the typical European pattern of structural transformation – is too narrow to capture the full range of transformation processes in present-day societies of the Global South (see sub-section 2.5). Instead, rural transformation, as a fundamental change in rural economy and society, may include shifts from subsistence to commercial farming, changes from extensive forms of shifting cultivation to intensive forms of permanent cultivation, from pastoralism to agro-pastoral livelihoods, transformation from individual smallholder farming to forms of cooperative farming or vice versa, or it may (as in the case of Zambia) even be part of a sectoral shift from a mining-dependent economy to a more diversified one, with an increasing share of agricultural value-added.

Consequently, *Rural Transformation (RT) is understood here as a long-term process of change of fundamental characteristics of the economies and livelihoods of people in rural areas, taking transformations of the wider socio-economic system into account (ibid, p.5).* According to this definition, RT is more than a new term for rural development, which is generally understood having to do with improvement of living conditions of people living in rural regions. Rural development is typically geared towards “more and better”: more income, improved food security, better access to safe drinking water. Meanwhile, RT is rather more about making things “different”: different income sources, ways of living, technologies, forms of land use or institutions. Rural development may happen within existing structures (e.g. improvements within a certain cropping system by introduction of new varieties). But there may be cases where existing structures are hindering improvement, where a more fundamental change – transformation – is required to open opportunities for development.

Accordingly, structural transformation is not a goal in and of itself. It may or may not be necessary in a specific historical situation to achieve overarching goals like sustainable development, for example. Consequently, the aim of this research project has not been to identify ways and means of promoting RT as such but, rather, to find out

- a) what kinds of RT processes are taking place in sub-Saharan Africa;
- b) what factors within particular countries impede RT as such as well as a socially more inclusive and environmentally more sustainable RT; and
- c) how impeding factors could be altered and ongoing processes be oriented towards more social inclusion and environmental sustainability.

2.1.2 Indicators for rural transformation

The mainstream debate on structural and rural transformation has largely been based on the pattern of industrialised (and some emerging) economies (Oehmke et al., 2016, p. 3). As argued above, however, this understanding of RT harbours the risk of neglecting ongoing changes in SSA. A wider, more holistic understanding of RT requires indicators going beyond the set commonly applied to describe the European pattern, in order to capture the rich variety of processes taking place in regions such as SSA, including increasing market integration of smallholder agriculture or shifts from extensive to (semi-)permanent farming or ranching systems.

Indicators for rural transformation must permit identification of long-term changes in the fundamental features of the ways people in rural areas live and act economically, considering their embeddedness in wider multi-scalar and multi-dimensional dynamics. Key questions for the specification of these indicators are:

- What are fundamental features of the lives and economic actions of rural populations and (how) do they change over time?
- How can these features/variables be measured and/or described?

Methodologically, we at first have taken the step of defining variables for structural transformation processes. These variables are intended to reflect the fundamental features of socio-economic change regarding, generally, the role of rural areas within the wider economy and society and, more specifically, of the rural economy and society itself. The variables fall within the realm of indicating major changes of

- income sources and employment (e.g. sources of food and cash income, employment patterns and macro-economic dynamics);
- land use and tenure systems (e.g. productivity, farming systems, access to land);
- forms of migration and settlement (e.g. directions of migration, urbanisation rates, demographics);
- forms of social organisation (e.g. producers' organisations, contract-based production, value changes, livelihoods, gender relations, and decision making/ social capital).

Within these variables, a number of key- and sub-indicators can enable detailed analysis of the nuances of societal processes, with some capturing countrywide, macro-level processes (e.g. employment per sector) and others reflecting corresponding local changes related to the livelihood systems of people and households (e.g. farming systems, value change).

While most indicators are quantitative in nature, some of the ones we have applied require a more descriptive, qualitative approach. Numbers should ideally be complemented by qualitative descriptions and analysis, as statistical bases can often be weak or contradictory and methods for collecting and analysing quantitative data change over

In order to capture the rich variety of processes taking place, such as increasing market-integration of smallholder agriculture or shifts from extensive to (semi-)permanent farming, a wider understanding of rural transformation in SSA requires indicators going beyond the set commonly applied to describe the European pattern.

time. Table 1 shows selected indicators and their dynamics within the three surveyed regions.

2.2 Transformation processes in Sub-Saharan Africa

Our research in the three selected countries has revealed only modest, hesitant and partial dynamics of rural transformation, with some striking similarities. Here, “modest” dynamics refer to low levels of change at a slow pace; “hesitant” means that processes are ambiguous, as they get underway but then stall, are interrupted, or even regress; “partial” means that the dynamics only affect specific population segments, regions and/or sectors or components of peoples’ livelihoods.

Overall, this does not appear to be a linear transformation process, as other dynamics and structures are counteracting the dynamics of change, such as persistent reliance on the copper sector in Zambia. However, pastoralism in the arid and semi-arid (low-)lands of Ethiopia, inhabited by about 10% of the country’s overall population, seems to be undergoing a more rapid transformation process, accompanied by severe negative social and environmental impacts. More specifically:

Zambia and Benin show modest, hesitant and partial rural transformation dynamics, with some striking similarities. Meanwhile, pastoralism in the arid and semi-arid lowlands of Ethiopia is undergoing a more rapid transformation process, with severe negative social and environmental impacts.

- Zambia exhibits a persistent copper-dependent mono-structure, with punctual transformation processes towards commercial agricultural production, but only in specific regions (mainly within the Central Province). The agricultural sector indicates only a slight increase of productivity, which is still at a low level in absolute terms (Üllenberg et. al 2017, p. 45). Urbanisation rates are stagnating/oscillating, migration is taking place along trans-local and multi-local patterns on a temporary basis. Regional differences remain relevant for all observed trends.
- Transformation in Benin is characterised by jobless GDP growth, with generally persistent slowly diversifying production structures in both agriculture and non-farm income sources. This is accompanied by slowly increasing market access due to improved road infrastructure, e.g. for vegetables, staples, and fruit. In the agricultural sector, we note increases of productivity (yield/ha) for selected crops (e.g. cereals) and decreases for others (e.g. cotton). Overall productivity remains low when compared to other world regions (Engel et.al 2017, p. 33), and farms sizes remain predominantly smaller than 4 ha. Urbanisation trends are leading to the growth of secondary towns, with mostly precarious and informal jobs available. Rural–rural migration is also increasing, as a consequence of intensified multi-local and trans-local livelihood systems.
- The ASAL regions of Ethiopia have been experiencing a policy-driven change from mobile pastoralism towards more sedentary, diversified livelihood systems, partly including irrigated farming (maize, sugar cane), accompanied by major changes in land tenure, impoverishment and growing food insecurity for the majority of the rural population, mainly pastoralists excluded from this diversification process (Rettberg et. al 2017, p. 52). In this context, small and medium towns are growing, as destitute

pastoralists, resource-poor labour migrants from highland regions, and youth move there.

A look at the specific indicators introduced in section 2.1 reveals similarities and differences between the case studies. Manifestations of these indicators per country or research region are discussed in more detail in subsequent paragraphs, with the country studies conducted by the research team serving as the main points of reference for the evidence presented.

Table 1: Directions of change in key indicators for rural transformation in Zambia, Benin, and Ethiopia²

Key indicators		Sub-indicators	Zambia	Benin	ASAL / Eth	Details
A: Income sources	Sources of food and cash income	Share of subsistence production	→	→	↘	Relevant but stagnating
		Market production	↗	↗	↗	Low but growing, commercialisation still concentrates on a few crops but increasingly diversifying; ASAL/Eth: promotion of cash crops in prime pasture area
		Diversification of income sources / also off agriculture	↗	↗	↑	Slowly increasing, used as a coping strategy, does not lead to “stepping up”
		Share of informal paid labour (total labour)	↗	↗	↗	In Zambia and Benin, approx. 90% – slightly above SSA average
		Public transfers	↗	↗	↑	Food aid, social security schemes
		Private transfers (remittances, social safety nets)	↗	↗	↗	From abroad and internal
	Employment	Employment in agricultural / in the pastoral sector	→	→	→	In Benin, high (~40%) but slowly decreasing; in Zambia, low but stagnating
		Non-farm (self)-employment	↗	↗	↗	Limited but increasing opportunities, partly due to better market access and growth of secondary towns
		Underemployment rate / employment opportunities for “better qualified”	→	≈	↗	Generally high underemployment rate (e.g. Benin 54%); in Zambia, oscillating with copper prices and subsequent dynamics; in ASAL/Eth, due to drop-outs from pastoralism
	GDP	Total GDP	↗	↗	↗	“Jobless growth” mainly driven by dynamics in a few sectors; in ASAL/Eth, strong overall growth but uneven regional distribution
		Agricultural contribution to GDP	↘	↘	↘	In Benin and ASAL/Eth high but decreasing; in Zambia lower because of the high importance of the mining sector

² Where available, indicators for Ethiopia describe the situation in the ASAL regions. Some data, e.g. GDP, was available only at the aggregate national level.

Key indicators		Sub-indicators	Zambia	Benin	ASAL / Eth	Details
B: Forms of land use and land tenure	Productivity	Crops: tonnes per hectare (ha)	↗	↗	↘	Depending on crops – productivity/ha growing for most cereals (e.g. maize), decreasing for other crops (e.g. Benin cotton) or stagnating (e.g. Benin sweet potato); in ASAL/Eth, decreasing livestock productivity (milk, meat)
		Labour: total factor productivity ³	↘	↘	↘	For most crops, stagnating or increasing, when more inputs (often subsidised) are applied (notably, maize in Zambia)
	Farming systems / Cropping patterns	Diversity of crop production	↗	↗	↗	For risk reduction, thanks to better marketing opportunities
		Utilisation of tractors	→	↗	↗	In Benin hardly used (note: outdated data); in ASAL/Eth, for large-scale cash-crop cultivation (no use among agro-pastoralists); in Zambia, still very low level
		Application of inputs (fertilizer, seeds, pesticides)	↗	↗	→	Increasingly accessible but heavily subsidised through (often) inefficient government schemes and low quality
		Intensity of pasture use (animals/ ha over time)	↗	n.a.	↗	Reduction (conversion of dry-season pastures) or redirection (climate change) of mobility, leading to higher stocking rates
		Farm and / or herd sizes per household	→	→	↘	90% < 4ha in Benin, with regional differences; larger in Zambia due to more land availability; herds difficult to quantify but trend towards smaller herds/ household in ASAL/Eth
		Land used for crop production	↗	↗	↑	Expansion of cultivated area in order to increase overall production and balance out decreasing soil productivity; in ASAL/Eth: crop cultivation as a new and increasing sector
	Access to land	Changes in land tenure systems, privatisation and enclosures	↗	↗	↑	In Benin and Zambia, mainly near cities, along major roads, in areas favourable to agriculture; in ASAL/Eth broad trends of privatisation of prime dry-season pasture for cash-crop production; common land increasingly privatised

³ For Benin, this is measured as total factor productivity (including fertilizer, phytosanitary products, improved/purchased seeds or water applied, plus labour); for Zambia and ASAL/Ethiopia, labour productivity is the measure.

Key indicators		Sub-indicators	Zambia	Benin	ASAL / Eth	Details
C: Forms of mi- gra- tion	Migration	Rural-urban	➔	⚡	⬆	Saturated urban centres in Southern Benin; push towards urbanisation and sedentarisation in ASAL/Eth; secondary towns increasingly urbanised
		Rural-rural	↗	↗	↗	Increasingly mobile, in search of better conditions for production and labour migration; in-migration from densely populated highlands being promoted in ASAL/Eth
		Trans-locality and/or multi-locality patterns	↗	↗	↗	Increasingly necessary to find strategies for coping with limited options in each location (precarious labour, low productivity, climate variability); promotes "urbanisation" of rural lifestyles through closer linkages between locales
	Urbanisation	Urbanisation rate	↗	↗	↗	Saturated centres in southern Benin, leading to urbanisation of secondary towns
	Demo- graphics	Birth rate	⬇	⬇	⬇	Very slowly decreasing; according to projections, will remain above three for coming decades

Key indicators			Sub-indicators			Zambia	Benin	ASAL / Eth	Details								
D: Forms of so- cial orga- nisa- tion	Value changes	Adoption of behaviour labelled “Western Lifestyle” or “urban mimicry”				↗	↗	↗	Favoured by migration, media and communication technology								
		Importance of nuclear family				↗	↗	?	Extended families slowly losing overall importance; nuclear families and family networks remain relevant for multi- and trans-local livelihoods; ambiguous trend								
	Gender relations	Improvement of women’s status				↗	↗	↗	gender roles still very clearly demarcated but slow improvement through more economic participation which often results in doubled burden for women								
		Gender gap in access to education/ school drop outs				➔	?	➔	Despite all efforts, gender gaps persist								
	Decision making	Role of formal (governmental) decision making structures (at the expense of traditional authorities)				➔	↗	↑	Traditional authorities still play a relevant role in all countries; however, in ASAL/Eth and Zambia, formal structures are gaining authority; in ASAL/Eth stratification of society; changing significance of “social capital” as formal (state) structures increasingly penetrate pastoral society								
Legend:	↑	Rapid increase		↗	Slow increase	➔	Stagnation		⚡	Oscillation		↘	Slow decrease	?	No information	n.a.	Not applicable
Source: own compilation																	

2.2.1 Income sources

The agricultural sector, including livestock, fishing and forestry, continues to contribute an important share of GDP: 32.5% in Benin and 40% in Ethiopia in 2013, though a much smaller share in Zambia, where it amounted to 9% that year (see Figure 1). Across the three countries, the contribution of the agricultural sector to GDP is shrinking slowly, while the service sector is slowly increasing or stabilising its majority share⁴. However, the primary sector continues to employ about half the population in Zambia (56%) and Benin (42.7%) and around 78% in Ethiopia in 2013.

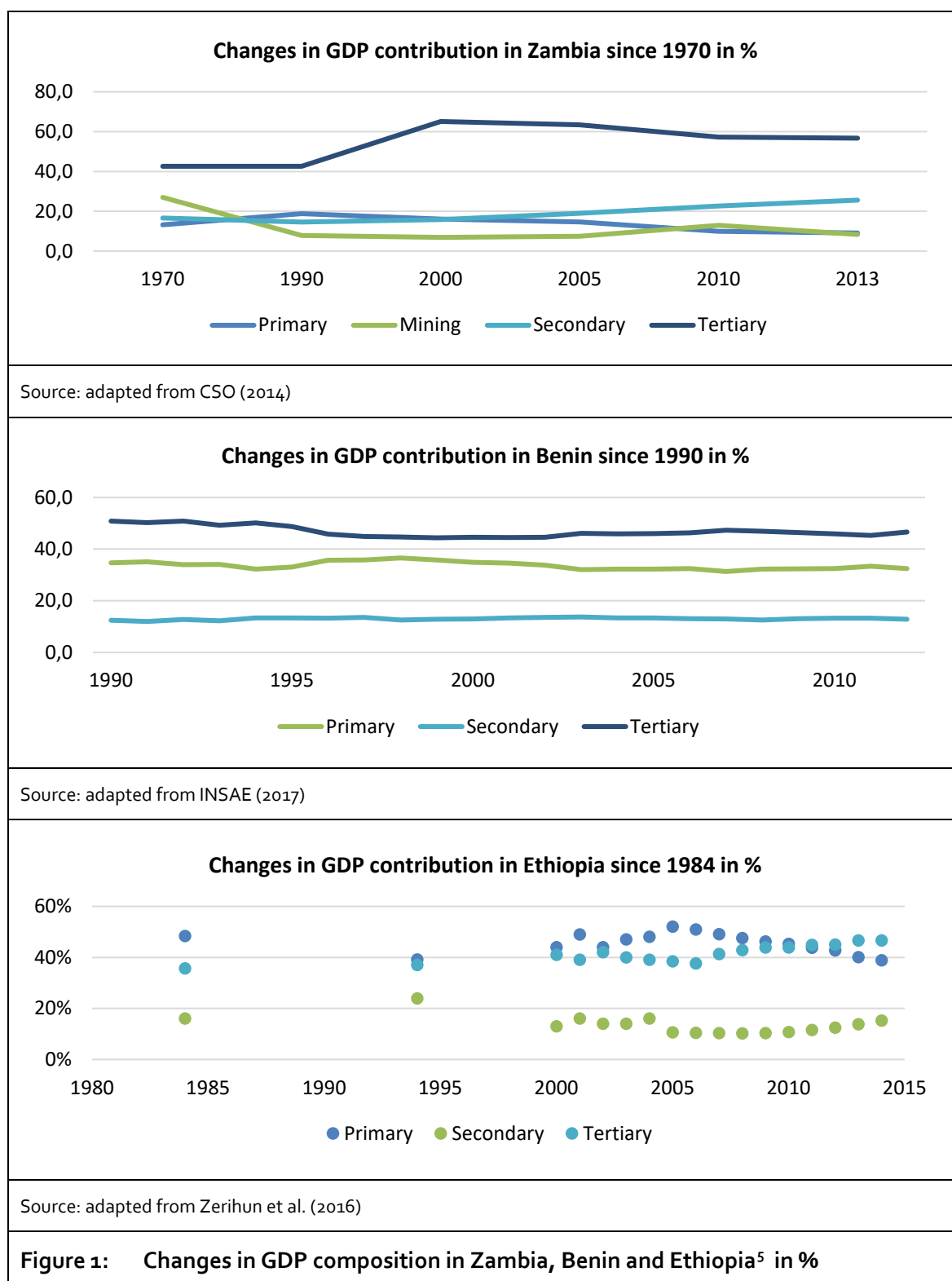
The contribution of the agricultural sector to GDP is shrinking slowly, while the service sector is slowly increasing or stabilising its share. However, the primary sector continues to employ about half or more of the population.

The share of the secondary sector contribution to GDP is growing slowly in Zambia, attributed to a boom in construction, which has tripled its share to GDP since 2000 to 13.8% in 2013. The contribution of mining to Zambian GDP varies strongly: it fell from 27% in 1970 to a low of 6.9% in 2000 but doubled again its share by 2010, before declining again to 8.3% in 2013 (CSO, 2014). In Benin, the contribution of the secondary sector has been stagnating at around 12% since the 1990s (INSAE, 2017). In Ethiopia, the share of the secondary sector is growing slowly, mainly due to dynamics in the construction sub-sector, whereas the share of industrial manufacturing has been stagnating at 5% (Rettberg et al., 2017, p. 28).

Financial efforts by the governments dedicated to strengthening the agricultural sector vary (World Bank, cited in Lohnert (2017, p. 29):

- After increasing its investment seriously in 2014, Zambia spent around 9% of its national budget in 2015 on agriculture and ranks among the top 10 countries in agriculture spending as a share of government expenditures. However, approximately 75% of this money is used for subsidies to maintain its maize-focused agricultural development strategy.
- Benin exhibits fluctuating agricultural spending rates that have never exceeded 8% since 1999 and have stabilised at around 6% since 2013, meaning that it has not been fulfilling the government's commitment to the Maputo Declaration.
- In Ethiopia, the government has consistently invested in the agricultural sector, achieving its Comprehensive Africa Agriculture Development Programme (CAADP) growth target and spending over 10% of national budget on agriculture, in accordance with the Maputo Declaration.

4 In Benin and Ethiopia, total services contributed 46% and 47%, respectively, to national GDP in 2013. In Zambia, it is stabilising at around 55%, after having reached a peak at 65% in 2000. Interestingly, the share of public services to the overall share of the service sector differs: while it used to be at 15% in all surveyed countries in 2000, it has remained there in Zambia (CSO, 2014), decreased in Benin to 10% in 2013 (INSAE, 2017) and decreased sharply in Ethiopia to 5% in 2014 (Zerihun et al., 2016).



5 The primary sector includes agriculture, livestock, fisheries, and hunting; the secondary sector includes (industrial) manufacturing, construction and energy; mining is listed separately in Zambia, in Ethiopia and Benin it is included in the secondary sector, though it is of little overall significance; the tertiary sector includes commercial and non-commercial services. For the share of non-commercial services, see footnote 4.

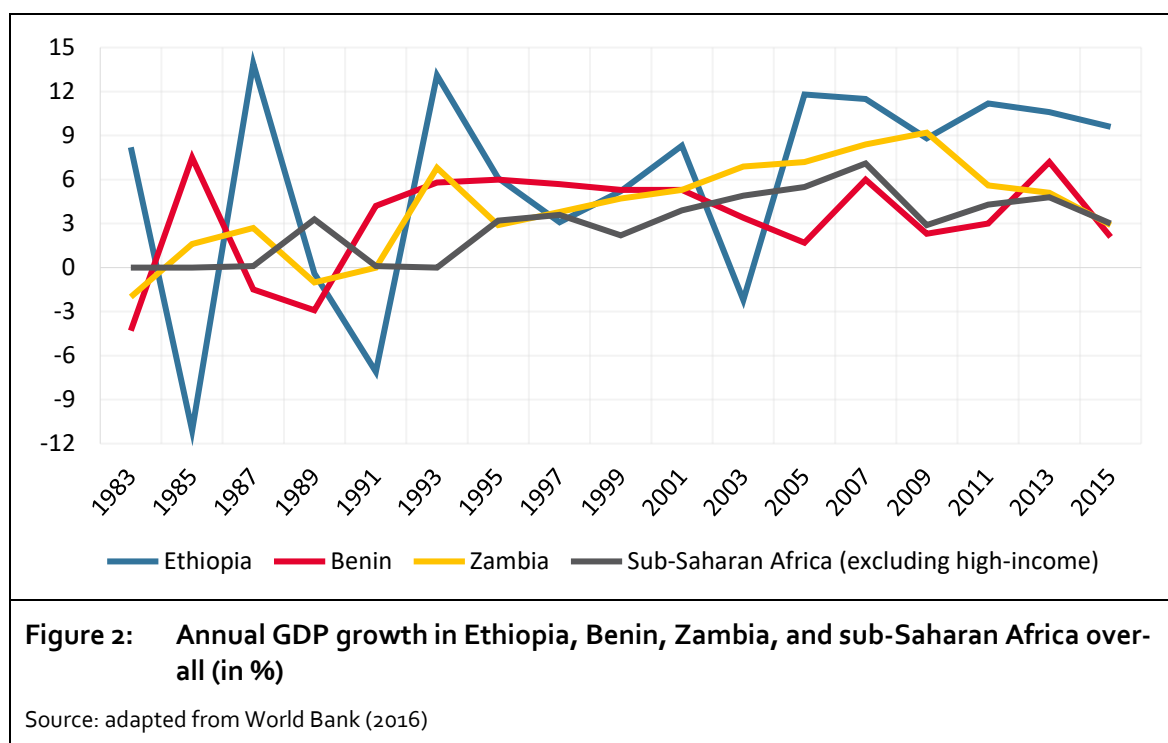
All three countries have experienced GDP growth which has not however been accompanied by appropriate job creation:

All studied countries are experiencing GDP growth, though it is not being accompanied by appropriate job creation.

- Zambia has experienced constant GDP growth since 1991, but at varying rates of between 3.2% and 9.2%, and is still strongly linked to the mining sector, which has a high share in foreign exchange and thus great importance as a multiplier for the urban economy. Growth fluctuates strongly according to changing copper prices (Üllenberg et al., 2017, p. 30).
- In Benin, GDP growth has also been constant since 1991, though at rates varying widely between 1.7% and 7.2%. It is mainly driven by the expansion of the Port of Cotonou, which serves as a transport hub for the entire West African region (Engel et al., 2017, p. 33).
- Ethiopia has undergone the strongest oscillations in GDP growth: from -7.1% in 1991 to +13.2% in 1993. Drivers here are the construction and service sectors. Agricultural growth and improvements in food security have been unevenly distributed within the rural areas of Ethiopia and have not benefitted the peripheral ASAL regions, inhabited mainly by pastoralists (Rettberg et al., 2017, p. 48).

The output of the agricultural sector in the three case studies has grown erratically, due to the high dependence of the sector on volatile weather conditions. Nevertheless, the three countries have experienced strongly increasing food production over time – mainly driven by agricultural land expansion and, to a lesser degree, by yield growth of specific crops benefitting from special government attention and subsidies (e.g. maize in Zambia).

Increased food production is mainly driven by agricultural land expansion.



Sources of income in all three countries are becoming increasingly diversified. This does not appear, however, to be an outcome of economic growth and increasing opportunities but rather an adaptation strategy to cope with limited and varying agricultural income opportunities and precarious non-farm labour. New sources of income are mostly complementary; the essential importance of subsistence production has remained constant in all countries, and it is often maintained while additional income-generating activities are sought. Better road, transport and communication networks have been facilitating this expansion of trans-local and multi-local livelihood strategies. Following the logic of multi-local livelihoods, migrants have been trying to maintain their right to agricultural and/or pasture land in their home villages. There are also, however, people who, discouraged by low rates of agricultural productivity, are abandoning agriculture and permanently migrating to the cities.

Sources of income are becoming increasingly diversified. Yet this is mainly an adaptation strategy to cope with limited and varying agricultural income opportunities and precarious non-farm labour, rather than an outcome of economic growth.

- Among the case studies, the trend towards diversification is strongest in the ASAL regions of Ethiopia, mainly because the economy there was formerly very much dominated by pastoralism. This pattern is now changing, due to investment in cash-crop cultivation and subsequent in-migration from the highlands, growth of towns (with job opportunities in e.g. construction) and loss of pastures, which is forcing many small herders to drop out of pastoral production systems. Therefore, the share of subsistence production is slowly declining.

The share of market production is also increasing across the studied countries and regions.

- Zambia's market production consists predominantly of maize and strongly depends on government interventions, such as subsidised input packs that make its

production possible and attractive, while domestic urban markets for food products are dominated by South African supermarkets and imports.

- In Benin, such growth is due to improvements in infrastructure, which have fostered market access as well as an increased domestic demand for diverse products, from staples to vegetables. Cotton, however, remains the main export crop. Regional markets continue to be underexploited, due to the weak competitiveness of Beninese products and an often-prohibitive trans-border trade regime.
- In Ethiopia, growing national and international markets for meat have mainly benefited richer herders, traders and service providers. Meanwhile, poorer pastoral households have mostly been excluded from market production, as they first need to build up herds before engaging in market operations but can rarely mobilise the capital to do so.

Employment in all three countries is marked by an increase in mostly informal non-farm employment. However, population growth has been outpacing the creation of job opportunities; as modern manufacturing and service sectors are decreasingly labour intensive, formal employment opportunities therein have been growing at a much lower rate than the labour force. High rates of under- and unemployment are, consequently, a common feature across the studied regions.

Employment opportunities are generally precarious and found within informal non-farm sectors. Meanwhile, population growth is outpacing the creation of job opportunities.

- In Zambia, out of the more than 200,000 young and often unskilled workers entering the labour force per year, less than 10% actually find formal employment, and only 7.8% of the total working age population is formally employed. Employment opportunities fluctuate with economic growth – driven by copper prices – and are usually found in urban areas, mostly in construction and services rather than in manufacturing (Üllenberg et al., 2017, pp. 16–18).
- This also applies to Benin, where some of the most common employment options include *zemidjan* (mototaxi) driver, house maid or petty trade in urban areas and the processing of farm products in rural areas – often complementary to agricultural activities. The labour market continues to be marked by high rates of underemployment (55.8%), 94.3% of which informal (Engel et al., 2017, pp. 37–39).
- In the ASAL region of Ethiopia, the major groups taking up non-pastoral employment include skilled and un-skilled youth and impoverished pastoralists. The sale of firewood and charcoal is rising, as is low-paid wage labour (e.g. contract herding, daily labour on farms and construction sites) and petty trade (e.g. coffee shops managed by women) (Rettberg et al., 2017, p. 54).

2.2.2 Land use and land tenure

Zambia and Benin have experienced slightly increasing crop productivity (kilogram per hectare) since the 1960s. However, this is not true for all crops (e.g. cotton productivity declined in Benin) and, despite all efforts, overall productivity remains low compared to

Despite productivity increases for many crops, overall productivity remains low, and labour productivity is decreasing.

global averages⁶. Yield increases have partly been driven by – and are thus dependent on – public investment in fertilizer (e.g. maize in Zambia). All three case study countries are marked by a decreasing, or at best stagnating, labour and/or total factor productivity⁷.

- Zambia's agricultural value added per worker declined from USD 862 in 1982 to USD 517 in 2014, due to price volatility for agricultural products (Üllenberg et al., 2017, p. 24). Maize production exhibited increased productivity per ha between 2005 and 2015, mainly thanks to subsidised fertiliser programmes, but remain on a low absolute level of 2.5 tons per hectare, compared to e.g. between 3 and 4 metric tons per hectare (2012) in Thailand, Mexico or South Africa (Ragasa et al., 2014).
- Benin experienced a 10% decline in total factor productivity between 1983 and 2008, though farmers have been able to increase productivity per ha for some specific crops since the late 1990s (e.g. tomatoes and pineapple). According to national sources, yields for other crops stagnated or – as in the case of cotton, its main export product – decreased (Engel et al., 2017, pp. 31–34). In general, yields are quite low, with the maize yield, for example, being at 1.4 metric tons per hectare in 2015 (INSAE, n.d.), compared to the already relatively low figure of 2.5 metric tons per ha in Zambia (cf. next paragraph).
- In the ASAL regions, figures on herd productivity are difficult to generate, but all evidence points towards decreasing meat and milk productivity per animal and per hectare of pasture.

Productivity remains low despite considerable efforts since the 1960s to increase it. While yields for most crops have indeed increased over the past decades, statistical data indicate that such increases have partly slowed down or even turned into decreases over the past ten years (INSAE, 2010). The picture on productivity is even bleaker when taking into account labour or inputs invested, as labour and/or total factor productivity – the benefit gained from an activity – is decreasing. The low productivity itself can be a result of a plurality of factors, but decrease of soil fertility due to production techniques compacting soil structures and reducing soil organic matter and nutrient load, difficult access to quality inputs and lack of incentives for intensified production due to low producer prices have certainly been contributing to it.

The low productivity of these countries appears to be one of the main causes of migration in search of alternative or additional income sources, thus contributing decisively to poverty-driven transformation processes.

In all three countries, agriculture is characterised by the use of low amounts and few kinds of external inputs. Although average fertiliser use over the period 2002 to 2013 ranged between 5 kg/ha (Benin) and 32 kg/ha (Zambia) of nutrients, the minimal required level for SSA countries has been estimated at 50 kg/ha (Agbahey et al., 2017, p. 14). Instead,

6 Available statistics are, unfortunately, inconsistent. For example, figures on yield increase, e.g. for maize, the main staple crop in Benin, differ when consulting national statistics (INSAE, 2010, n.d.) and Faostat statistics. Faostat statistics are far more positive, showing a more or less continuous increase since the 1960s, while INSAE data reports stagnating yields between 1998 and 2003, then a strong decline in productivity and very slow recovery, though only to lower levels of productivity than at the beginning of the millennium.

7 Total factor productivity (TFP) is the ratio between total output (crop and livestock products) to total production inputs (land, labour, capital, and materials). A low TFP implies that less output is gained from a constant amount of resources used in the production process (IFPRI, 2015).

agriculture in the case-study countries relies mainly on manpower, with low levels of mechanisation and irrigation (ibid, p. 19)⁸. In Benin and in Zambia, inputs are subsidised by the state for the main staple or market crops (maize in Zambia) or the main export product (cotton in Benin). Residues of the fertilisers given to subsidised crops are then also (end-)used by the crops cultivated subsequently on the same plots. For maize, we see a selective and temporary intensification of production via the application of mineral fertiliser.

- Zambia is the only country with comparatively substantial use of machines in the agricultural sector, due to the history of colonial large-scale farming (Agbahey et al., 2017, p. 18). This use is, however, concentrated in a few geographical locations and holds true only on some commercial farms, mainly in Central Province.
- In Benin, the amount of agricultural inputs as well as tractors in use is far lower than the SSA average (see footnote 8). Limited investment in productive inputs can be the result of lack of accessibility to these inputs and/or market incentives to invest in them. The lack of productive inputs hinders intensification and accelerates productivity decrease. The tractor plant inaugurated under president Yayi in 2015 has so far failed to facilitate broader access to adapted mechanisation (Vidjingninou, 2016).
- Low-input agro pastoral systems dominate Ethiopia's ASAL regions, which are based on extensive use of rangelands and apply little additional fodder or veterinary services. Intensive and high-input agricultural schemes are currently expanding in more humid regions, formerly used as dry-season pastures, often with government support.

Intensification of production mainly occurs in densely populated regions, where higher market demand provides the incentive: average yields tend to increase significantly as soon as market production is possible and attractive and can be facilitated (as is the case for maize in Zambia) by subsidised improved varieties and inputs. Nevertheless, the growth of agricultural production in all countries is mainly still based on the conversion of land for cultivation (Byerlee et al., 2014, p. 94): in order to maintain or increase production, uncultivated land is increasingly taken under cultivation, fallow periods are shortened and agricultural land use is increasing.

Intensification of production mainly happens in densely populated regions, where higher market demand provides the incentive. Average yields tend to increase significantly as soon as market production becomes possible and attractive.

- The availability of such uncultivated land for agricultural expansion in many regions of Zambia and some areas of Benin has been reducing pressure to intensify agricultural systems.
- In the ASAL regions of Ethiopia, land-use change is mainly driven by governmental conversion of dry-season rangeland for crop production and the promotion of voluntary resettlement and agro-pastoralism in river basins.

8 Mechanisation: Less than 1 tractor/km² in Benin, 14 tractors/km² in Zambia, compared to a world average of 155 tractors/km²; Irrigation: in Benin, less than 0.3% of agricultural land is irrigated (2008), in Ethiopia, less than 0.5% (2011) (World Bank, 2016)

It should be noted here that uncultivated land, even where it is still abundant, plays a relevant role for biodiversity, (micro)-climate and water balance. Expansion into such lands through conversion, while it seems the “easiest available option”, is therefore risky in the long run, as it does affect natural resources which are also – but not exclusively – necessary for agricultural production. Altogether, it can be said that higher pressure is being exerted on natural resources due to continuing low and generally declining agricultural productivity (see sub-section 2.3).

Small farms remain the dominant farm size in Benin and Zambia⁹. In Ethiopia’s lowlands, herd sizes per capita (due to the increasing population) as well as absolute cattle numbers have significantly declined in the last decades (Rettberg et al., 2017, p. 31).

Small farms with slowly diversifying production remain the dominant farm size. In Ethiopia’s lowlands, herd sizes per capita and absolute cattle numbers have significantly declined.

Diversification in agricultural production in Zambia and Benin is still low, albeit slowly increasing in some regions. The slow pace of the diversification process appears to be mainly due to one-sided agricultural policies promoting and subsidising the cultivation of maize in Zambia and cotton in Benin, as mentioned above. Country-specific changes include the following:

- Zambia is undergoing a selective diversification towards cassava, sunflower and soy bean (Üllenberg et al., 2017, p. 23), joining the cash crops cotton, tobacco and sugar, which have been cultivated for several decades now. In central locations, horticultural production is growing.
- In Benin, production is slowly diversifying, both for markets and for home consumption. The cultivation of market crops besides cotton (maize, cassava), aquaculture, the rearing of small rodents as well as horticulture are expanding activities (Engel et al., 2017, p. 33). However, promotion of diversification as a stated strategic axis of Benin’s agricultural policy is not being pursued.
- In Ethiopia’s ASAL regions, most pastoralists have diversified their livelihoods in order to fill widening gaps in food and income. Households combine various activities, out of which the sale of livestock and livestock products – especially milk – present the dominant and most remunerative source of income for poor as well as better-off households. Where access to water is possible, pastoralists are increasingly planting crops under irrigation, and there is currently a transition towards subsistence-oriented agro-pastoralism, cultivating mostly maize and sorghum (Rettberg et al., 2017, p. 34).
- In contrast to the other two countries, where agricultural policy hampers diversification, regional macro-economic diversification is being actively incentivised by the Ethiopian government in the ASAL regions, including the promotion of cash-

⁹ Benin (2013): 50% of farms are below 2 ha, 80% below 4 ha (République du Bénin, 2014); In Zambia (2012), more than 60% of land is cultivated by small scale farmers (below 5 ha). However, there is a trend towards more ‘emergent’ farms (5 – 20 ha) with a more commercial orientation: they have increased tenfold between 2001 – 2012 to over 200.000 farm units (Jayne et al., 2014)

crop cultivation along river plains in combination with resettlement programmes to provide labour for the fields created.

Despite having very different population densities, access to land especially in prime areas is increasingly contested in all the countries.

Despite very different population densities, access to land – especially in prime areas – is increasingly contested in all three countries.

- Although Zambia has abundant land, it is experiencing a spatially selective scarcity in densely populated, high-potential and central areas. There is, consequently, a trend towards increase of private land titles in these areas.
- Land market and land speculation, especially around cities and along roads, are an increasing phenomenon in Benin. A new land code is currently being rolled out aimed at curtailing such speculation away from agriculture; its implementation is still to be monitored. A danger of resource-poor farmers losing or selling their land for short-term benefits and, thus, falling deeper into the poverty trap is inherent to this kind of land market development.
- The Ethiopian lowlands are experiencing increasing privatisation and enclosure of collectively used pastures. This fragmentation of rangelands is due to the expansion of irrigated agriculture and mining activities. In most cases, governmental land appropriation for large-scale plantations (sugar cane, cotton) has taken place without significant compensation to local clans who claim customary ownership of the land. Land is increasingly becoming a commodity and communal pastures are being turned into private and exclusive goods. In this process, pastoralists are being more and more pushed onto less productive land.

2.2.3 Forms of migration

Increase of trans-local livelihoods is a phenomenon common to all three case studies. These are flexible systems, based on diverse localities and activities and requiring functioning social networks, that are participated in to generate income for households. In the observed trans-local systems, single family members often migrate in search of labour opportunities while maintaining close relationships with their families at the place of origin (Steinbrink, 2017, p. 7). The trans-local pattern stands in contrast to the reportedly decreasing relevance of extended families. Migration to cities in search of income opportunities is often temporary and circular; re-migration occurs frequently, generally in response to changes in consumer or producer prices for food. Rural–urban linkages remain strong (and in ASAL areas they are growing), as remittances and transfers from urban migrants to places of origin complement agricultural production there, whereas rural family relatives often take care of children and the elderly. Internal remittances are a key characteristic of trans-local livelihoods. Internal money transfers are a significant ingredient of family incomes, mainly for poor rural populations: up to 25% of rural financial income is sourced from remittances, and between 20 and 40% of rural families receive regular financial transfers (Steinbrink, 2017, p. 17).

Trans-local livelihoods, in search of income opportunities and marked by temporal and circular migration patterns, are increasingly important as a coping mechanism for current socio-economic developments.

All case areas are experiencing rural–urban migration. Such out-migration does not, however, seem to add up to a “rural exodus”, as it is often seasonal – when opportunities

are abundant – or temporary – so long as jobs are available in new locations. Furthermore, some household members do remain behind, and population growth in rural areas remains elevated.

- In Zambia, migration is strongly related to copper prices: during copper boom periods, rural out-migration increases, whereas during copper recessions, migration flows turn around and many people return to the countryside.
- Benin – amongst the earliest urbanized regions on the continent – has a persistent though non-linear level of rural out-migration. The country's urbanised and densely populated south has been experiencing saturation of major cities and a redirection of migration flows, with an accompanying growth of satellite and secondary towns.
- Despite general urbanisation trends in Ethiopia, the country remains the African state with the greatest share of rural population. The ASAL regions are the only areas experiencing increasing rural–urban migration, due to sedentarisation of impoverished pastoralists as well as to an influx of refugees from Eritrea and Somalia and labour migrants from highland areas.

Migration and gender exhibits differing patterns among the three countries:

- Youth are the main group of migrants for rural–urban migration everywhere, and it is mainly the active and innovative segment of the rural population that migrates (Steinbrink, 2017, p. 22).
- In general, migration in Zambia and Benin is becoming more female (Lohnert, 2017, pp. 19, 44).
- In the sedentarisation patterns reigning in the ASAL region, it is usually women and children who stay behind while men either herd or look for paid labour in the city.
- Zambia also has the peculiar case of retired functionaries often re-migrating to rural areas, often with some accumulated capital for investment in agriculture.

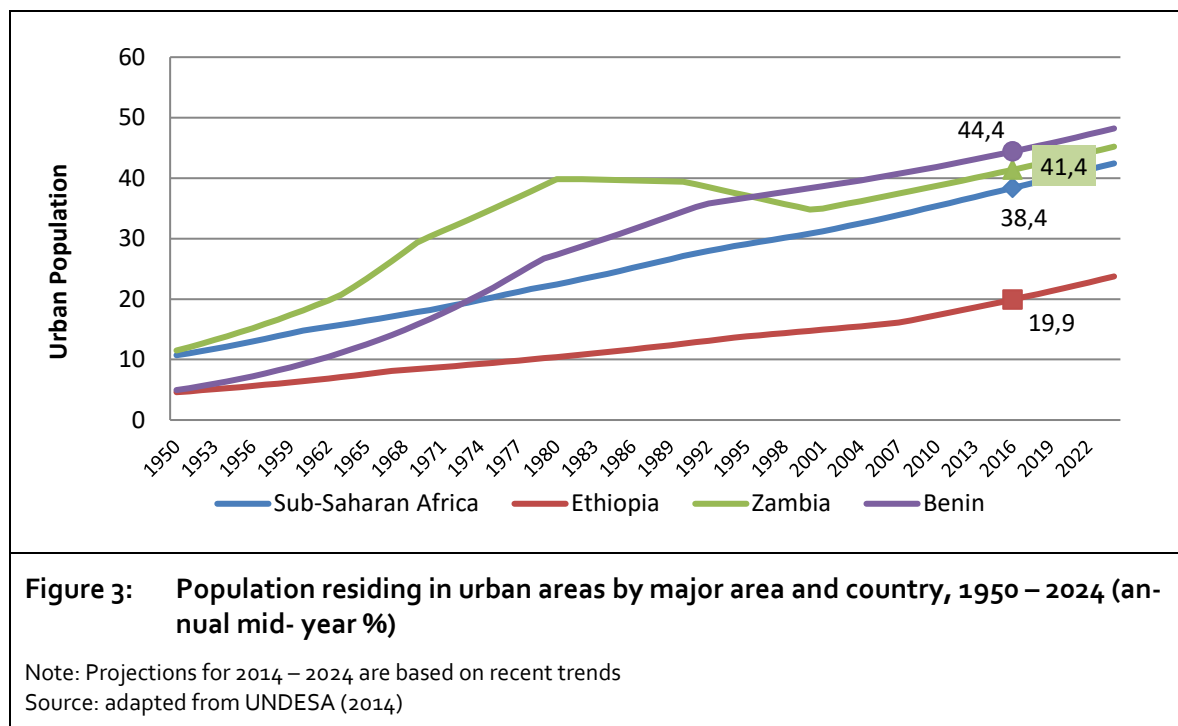
All three countries are also experiencing increased rural–rural migration, mostly due to movements towards higher-potential areas: either modest increases in dynamics for those seeking marginally better agricultural conditions, as in Zambia and Benin, or a strong increase in the form of inter-regional migration from highland areas or cross-border migration from neighbouring countries in the ASAL regions.

International out-migration and remittances from abroad play very different roles for the three case study countries:

- In 2010, Zambia had 185,800 emigrants, amounting to 1.4% of the population. It received increasing remittances in the noughties but also witnessed increasing outward remittance flows as well.
- In 2010, around 530,000 Beninese or 5.8% of the population were emigrants, with the top destination being Nigeria for temporary labour migration. Working there for

several months brings enough savings to buy important assets, e.g. motor bikes or electronic devices. Emigrants further work in the trade sector, importing products such as gasoline or electrical appliances. Remittances are playing an increasingly significant role for the national economy: for 2004 to 2008, for example, they were almost twice as high as cotton export earnings.

- International out-migration is relatively low in Ethiopia, as only about 384,000 people (or 6% of total population) left the country in 2013. Due to the influx of refugees from neighbouring countries (in the ASAL regions mainly from Somalia and Eritrea), Ethiopia receives more migrants than it emits. There are far fewer Afar than Somali people in the diaspora of Europe or the US and, consequently, remittances to Afars in Ethiopia play a negligible role compared to Somalis living there.



2.2.4 Forms of social organisation

Social and cultural value changes have been observed in the rural areas of all three surveyed countries, mainly driven by increasing penetration of media, ICT and growing links between urban and rural spheres. This increased availability of information is not only changing lifestyles and values but also facilitating information exchange about and during migration, thus consolidating trans-local patterns over longer distances (Steinbrink, 2017, pp. 7, 9, 42). This process has taken a number of different forms:

- In Zambia, it is expressed via increasingly westernised consumption patterns, e.g. the popularity of “western” fast-food (pizza, hamburgers) among the middle classes.

Value changes towards more urban lifestyles and a decreasing gender gap are evident in all rural areas surveyed, mainly driven by increasing penetration of media, ICT and growing links between urban and rural spheres.

- In Benin, the comparable process is termed “social mimicry”, meaning that urban lifestyles are increasingly mimicked in rural areas, including styles of dress and language codes as well as gender relations and relationships amongst age groups.
- In Benin and Zambia, the nuclear family is increasingly gaining relevance, compared to the former significance of the extended family. Simultaneously, the above-described trans-local livelihoods are becoming more and more common, relying on networks along the lines of kinship or region of origin. How these two potentially contradictory trends will interact in the future remains to be seen.
- In the ASAL regions, education was not seen as important when pastoralism was still flourishing. Nowadays, though, the perceived value of education has become high. ICT is also increasingly gaining importance, thereby altering lives and values and, in the long run, probably promoting livelihood systems away from mobile pastoralism and traditional social systems by increasing information about alternative options, when better economic and social opportunities open up.

Along with changes in production structures and socio-cultural values, the role of women in households as well as society as a whole is being altered. On one hand, a “feminisation of agriculture” is taking place, as a consequence of increasing – mostly male – migration to urban areas (Steinbrink, 2017, p. 32). On the other hand, the increasing participation of single women in migration patterns is slowly altering the role of women, leading towards their having greater empowerment (ibid, p. 30).

- In Zambia and Benin, an increasing number of young girls are migrating to towns to work as housemaids for the local middle and/or upper classes. When returning to the countryside, they enjoy a higher status than their rural counterparts. However, despite all government efforts, there is a persisting gender gap in education, as girls’ dropout rates are still markedly higher than for boys. Gender inequality also persists with continued strong dominance of men in public positions and higher employment levels.
- In Ethiopia’s ASAL regions, women are the ones mainly involved in non-pastoral income generating activities. Their economic status has thus improved – especially where they contribute to income and food security by managing irrigated fields and growing horticultural crops or maize – but their workload is also increasing. Women living near towns are becoming more and more aware of their rights and are starting to speak up in the public sphere.

Decision making structures are also changing.

- In Zambia, the mandates and responsibilities of chiefs and ministries are increasingly overlapping, and the role of government in land governance is being strengthened by recent land legislation.
- In Benin, the decentralization process is partly delegating decision-making power to lower administrative levels but without appropriate financial means, however. A

formal system has widely replaced traditional authorities, even if the latter continue to be attributed considerable social capital.

- In the ASAL regions of Ethiopia, a system of dual loyalty is appearing: beside commitment to customary institutions and governance structures, people are increasingly being confronted with governmental regulations and offices in the context of decentralisation.

Many people in Benin and Zambia continue to rely on traditional methods for healing, and sorcery and witchcraft continue to influence peoples' decisions and actions, thus indicating a certain degree of persistence of more traditional beliefs and power systems.

2.2.5 Summary of major socio-economic trends in sub-Saharan Africa

The socio-economic processes in the three surveyed countries appear to bear sufficient similarities to speak of a specific SSA rural transformation process: marked by slow, hesitant and partial structural changes, with trajectories differing strongly from the European model (see sub-section 2.5). This statement seems to hold true despite the distinctions observed due to ongoing changes in the ASAL regions of Ethiopia, mainly affecting pastoral livelihoods. The main common features that we project to be SSA-wide include the following:

- Persisting low agricultural and livestock productivity is decreasing the attractiveness of rural labour, especially for educated youth. Low levels of productivity persist, despite relevant yield increases for certain crops and under specific subsidised conditions. Although for certain crops yields per ha have increased significantly since the 1960s, such increases have generally lagged behind increases in other parts of the world. While yields per ha may have increased for some crops, productivity per labour input or for the sum of inputs invested has decreased across crops and survey regions. Low productivity thus decreases benefits for rural populations and has been pushing people to search for alternative income sources.
- Failure of non-agricultural economic dynamics to create sufficient jobs for growing populations has resulted in high numbers of small-scale farmers and a persistent reliance on subsistence farming, which remains crucial for food security and incomes for most rural dwellers and, thus, continues to be of great importance for these national economies.
- Increasingly diverse livelihood paths are being pursued, based on multi- and trans-locality, as a consequence of precarious income options, be it in agriculture or non-farm sectors. This increasing mobility is being facilitated by improved ICT and road networks and is frequently being accompanied by socio-cultural value changes and reorientation.
- Growth of urban centres and secondary towns is taking place, fuelled by slowly developing market options for diversifying agricultural production and processing of primary products and by (often precarious) employment options in construction and

Features of the slow, hesitant and modest rural transformation processes taking place include persistently low agricultural and livestock productivity, failure to create sufficient non-farm employment opportunities, increasingly diverse livelihoods based on trans-locality, growth of secondary towns and changing values.

the service sector. Along with these tendencies towards urbanisation, social services and infrastructure are increasingly penetrating formerly purely rural and remote regions.

- Increased mobility and improved ICT are contributing towards changing value systems towards more “urban” lifestyles and consumption patterns. Cohesion among extended families is partly eroding, and gender relations are slowly changing, with the gender gap slowly decreasing in terms of a variety of social indicators (e.g. education) and increasingly female mobility.

These features can most probably be generalised for other SSA countries more broadly, albeit at different velocities and intensities, depending on regional specificities including location, climate, demography, production history, integration into the world market as well as the political visions and power to implement of decision makers. Such differing velocities and intensities appear to be influenced by:

- Specific orientations of national economies can constitute accelerating or hindering factors to structural change. The transformation processes in Zambia, with its mining-based economy, thus respond in part to different dynamics than the still agriculture-based economies of Benin and Ethiopia, as the former is influenced by oscillations in the mining sector, depending strongly on global economic processes.
- A clear political vision and the means to implement it can accelerate or trigger transformation processes. The rapid transformation of the formerly mainly pastoral society of the ASAL regions of Ethiopia, previously characterised by high mobility and low stratification, towards a more sedentary, stratified agro-pastoral society has resulted from government’s policies disregarding local lifestyles for the benefit of its vision for national development.
- Remoteness and corresponding pressures, obstacles and opportunities:
 - In Benin and Zambia, changes appear to be occurring faster in central, densely populated areas – where pressure to innovate is higher, information is more available and opportunities are more abundant – than in remote and often sparsely populated ones.
 - In Ethiopia, meanwhile, the dynamics of RT are strongest in the remote and peripheral ASAL regions, which constitute an area of special interest to the government, as they are perceived by decision makers as underused territory.

Projected SSA-wide features are likely to develop at different intensities and velocities, depending on the specific orientations of national economies, the political visions of decision makers and their capacities to implement them as well as on geographical features and the obstacles and potential they entail.

The social and environmental impacts of these trends will be analysed in the following section.

2.3 Social and environmental impacts of current trends

Rural transformation is usually associated with changes in the distribution of economic, environmental, socio-cultural and political-institutional resources. The social consequences of observed trends, especially for vulnerable groups, can be assessed by analysing related processes of inclusion or exclusion. Social inclusion refers to the capabilities and structural conditions of a person or a social group to participate in political, economic, social and legal practices in a given society, with attention being directed less to situations and more on processes, looking at how inclusive/exclusive the effects of RT are over time (see chapter 3).

Many of the current processes taking place in rural areas in SSA are contributing towards changed patterns of settlement and land use, thus exerting varying pressure on natural resources, including water, soil, forests, ecosystems and biodiversity. Environmental sustainability is interpreted here according to the definition of sustainable development of the World Commission on Environment and Development (WCED, 1986): "Sustainable development is a process for meeting human development goals while sustaining the ability of natural systems to continue to provide the natural resources and eco-system services upon which the economy and society depend".

All of the processes described here need to be discussed by taking numerous links and interdependencies with other factors into consideration. The approach taken here has thus applied a holistic nexus analysis in seeking to capture socio-economic driving forces, different levels of actors involved and various social and environmental impacts.

In addition to the similarities mentioned at the end of the preceding section, we suggest that, for the following reasons, none of the processes observed in the three case study countries are either socially inclusive or environmentally sustainable:

- The socio-economic impacts of the partial and sluggish transformation processes taking place in Zambia are not inclusive, as regional differences are being exacerbated. The densely populated, highly urbanised, well-equipped and comparatively wealthy Line-of-Rail provinces have favourable market opportunities. Meanwhile, the remote regions, characterised by high transport costs and low local demand, continue to exhibit reduced competitiveness on external markets. Infrastructure development has contributed towards closing this gap somewhat and, according to statistics, the share of small scale farmers with access to markets and inputs has increased dramatically (Üllenberg et al., 2017, p. 67). However, region of origin continues to define access to the benefits of socio-economic developments and participation in the social and economic processes of the country. Current trends have not yet severely affected environmental sustainability. However, the impacts of climate change as well as of increasing pressure on resources is leading to increasing resource scarcity in the more intensively exploited regions. In combination with non-adapted farming practices, this is threatening opportunities for commercial farming in the lower-rainfall areas in the south. Yet, in the remote regions, land and forest resources are still readily available and easily accessible.

Rural transformation is associated with changes in the distribution of economic, environmental, socio-cultural and political-institutional resources. Social consequences of observed trends are assessed here by analysing related processes of inclusion or exclusion, whereas environmental impacts are analysed with reference to the sustainability paradigm.

None of the processes observed appear to be socially inclusive or ecologically sustainable, with negative social and environmental impacts being strongest in the ASAL regions of Ethiopia.

- In Benin, the ongoing hesitant RT processes are not, from our perspective, socially inclusive either. Poorer small-scale farmers are being increasingly disadvantaged in terms of access to inputs for production and diversification and are, consequently, being excluded from ongoing innovation processes. Such farmers must, then, revert to trans-local livelihoods to minimize risks, which does not allow them to move upwards, as no adequate economic alternatives exist for poor urban settlers. Regional figures for the multi-dimensional poverty index show that differences between regions continue to be marked. Persistence of the gender gap in education and representation in higher positions in the economy and politics equally indicate that ongoing trends are not very socially inclusive. As natural resources are being exploited beyond what seem to be their capacities to regenerate, these ongoing processes cannot be said to be environmentally sustainable. The central feature of unsustainable practices in this context is continuing expansion of agricultural land to respond to declining soil fertility and an increasing need to maintain and increase overall agricultural production. Deforestation and a resulting loss of biodiversity are accompanying these processes, and low productivity is being exacerbated by ever less predictable rainfalls, increasingly threatening rain-fed crop cultivation. Water in and around cities as well as air in the congested urban centres are exhibiting signs of pollution.
- The profound, multi-dimensional changes that have been taking place in the ASAL regions of Ethiopia – especially in terms of land use and land tenure – can be framed as a process of “transformation with negative impacts” for the pastoral population (comprising about 10% of the total Ethiopian population) and the environment. The pastoral population, whose traditional livelihood system is considered “backward” by governmental stakeholders, is to be included within the Ethiopian project of agricultural modernisation – a project in which mobile pastoralist livelihood systems have no place. Increasing social stratification and monetisation are some indicators of such integration into the Ethiopian state project. This process is also linked to deepening economic marginalisation of a majority of the population of these regions, as their economic basis is being eroded. Improvements in political representation (i.e. decentralisation) do not seem to have borne any fruit so far, due to lack of legitimacy and accountability of local political decision makers. In addition, infrastructural investments are often not suited to local demands. The process has also been incurring severe environmentally unsustainable impacts, tightly linked to the loss of accessible dry season grazing areas, which increases stocking rates on less productive areas. The quality of pastures (species diversity, vegetation cover) is diminishing on a large scale, especially due to a vicious circle of increasing rangeland fragmentation and degradation. Consequently, the ecological integrity of arid and

semi-arid regions is currently severely at risk, representing an existential threat for rural inhabitants¹⁰.

The table below provides an overview of the preceding discussion of impacts of the on-going transition processes taking place in the three case study countries.

10 Decreasing opportunities to pursue historical mobile pastoral production systems have also been reported for the group of the Peulh in Benin (called "Fulbe" in anglophone SSA), as the northern rangelands they have used are being degraded due to shifting climate patterns, the southern rangelands are increasingly being used for crop cultivation, and migration corridors are not being maintained, leading to conflict (Engel et al., 2017, p. 47).

Table 2: Overview of social and environmental impacts of ongoing transition processes in Zambia, Benin and ASAL/Ethiopia

	Impacts on social inclusion	Impacts on environmental sustainability
Positive	Zambia	
	+ Decreasing poverty rates	
	Benin	
	+ Improved access to social services + Improved status of out-migrating women + Asset-based poverty decreasing (but slower decrease for women)	
	ASAL/Ethiopia	
	+ Increased bargaining and decision-making power for women	
Negative	Zambia	
	- Increasing disparity, between remote and central regions/emerging and marginal small-scale farmers - Poverty rates and food insecurity in rural areas constant - Increasing land speculation in higher-potential areas - Increasing disparities in urban areas between business people and precarious informally employed - Gini coefficient high at 55.62 (2010 – 10 th most unequal income distribution worldwide). It is increasing since 2002 but. Inequality remains high mainly because of predominant economic reliance on the mining sector	- Soil degradation - Forest reduction
	Benin	
	- Increasing number of people in precarious conditions in cities - No upward mobility through informal self-employment - Unequal access to land (e.g. for women and less well-educated persons) - The very poor are tempted to sell their land due to land speculation - Increasing risk of social conflict (over scarce land resources) between farmers and. farmers or farmers and. pastoralists - GINI index and thus income inequalities increasing since 2002: at 43.44 in 2011, it was 48 th most unequal economy (compared to 70 th most unequal in 2003)	- Soil fertility and productivity decreasing as consequence of constant soil mining - Increasing pressure on land leads to exploitation of natural resources - Increasing deforestation - Rising pollution in urban centres
	ASAL/Ethiopia	
	- Social stratification between wealthy commercialised livestock owners and impoverished pastoralists - Increasing number of drop-outs leads to considerable () - Out-)migration - Rising land use conflicts - Social disorientation (crisis of legitimacy) - GINI index increasing: at 33.17 in 2010, relatively low for Ethiopia as a whole (106 th rank in global comparison)	- Degradation of pastures - Salinisation of agricultural land - Increasing deforestation - Spread of invasive plant species
Source: own compilation		

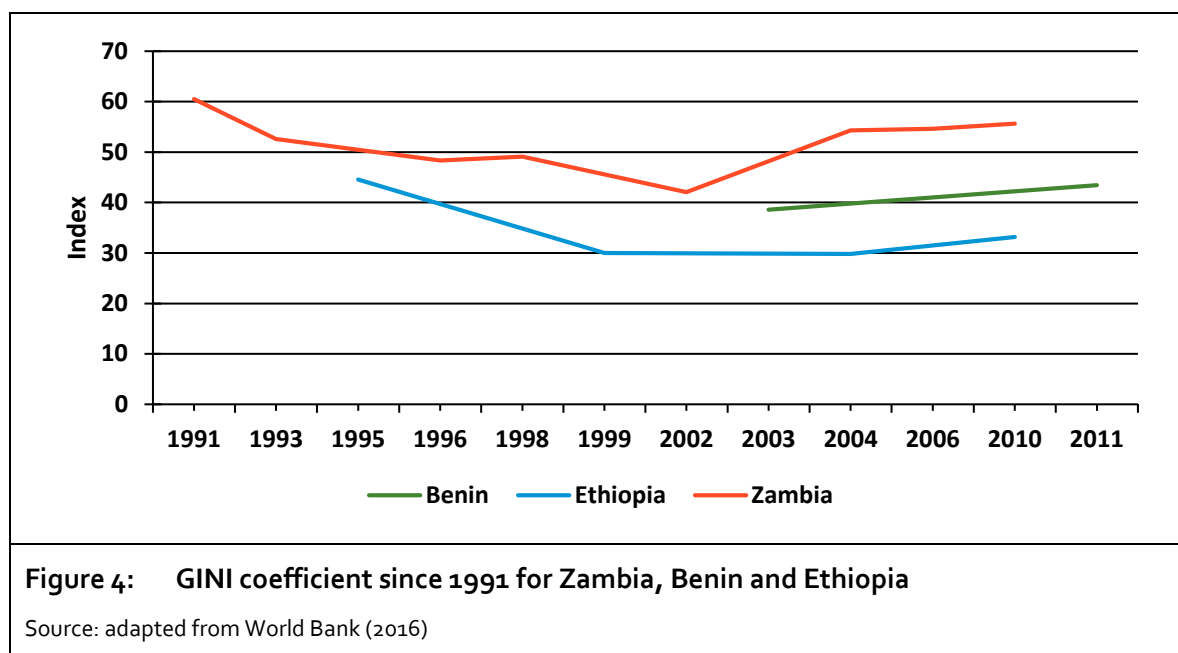
All three regions exhibit negative impacts on environmental sustainability: soil, pasture and forest degradation are the predominating impacts of currently applied production methods. Positive impacts towards more inclusion are emanating from increased coverage of social services (e.g. health, education) as well as from efforts towards closing the gender gap, which nevertheless continues to dominate gender relationships. Efforts to reduce poverty have been partially positive in Zambia and Benin; however, the widespread urban bias of political action has resulted in faster improvement for urban than for rural populations, thus further increasing the gap between urban and rural spheres. These emerging or expanding gaps are reflected in overall growing income and wealth disparities measured by the GINI index (Figure 4). Land issues, related to land use conflicts or land tenure insecurity, are an increasing phenomenon, mainly in the more densely populated or the most economically attractive areas.

Socially exclusive impacts can be generalised as follows:

- Dynamic developments in these countries – driven by investment, extension services, market opportunities, infrastructure development – generally have strong regional foci, and more remote or geo-climatically disfavoured regions are increasingly lagging behind.
- Population segments within each country are being economically and socially excluded (e.g. pastoralists in Ethiopia, resource-poor farmers in Zambia and Benin), as they are increasingly disfavoured in accessing means of production. This happens either deliberately (e.g. mobile pastoralism is not part of the transformation agenda in Ethiopia) or by default (e.g. the poor benefit least from innovation and diversification, as they have the least means to invest in all three countries/regions).
- Generally speaking, the gender gap is slowly closing, even if government efforts have not succeeded in reducing it significantly. Some improving socio-economic indicators (e.g. declining asset-based poverty in Benin) are, however, improving faster for men than for women, and growing opportunities for women often result in a “double burden” for them.
- Economic alternatives to agriculture continue to be limited in all countries, due to insufficient generation of non-farm employment, and resource-poor agricultural producers and pastoralists are disproportionately disfavoured, as they generally have less access to inputs and, therefore, have lower capacities to increase or diversify their agricultural production than the better off. They also own less assets, are less mobile, and often poorly educated. This limits their chances to non-farm employment and disadvantages them in the quest for multiple livelihood opportunities.
- Unequal access to land, tenure insecurity and/or contested use rights appear to be contributing to a rising risk of conflict in Benin and the ASAL regions. In Ethiopia’s lowlands, these conflicts are closely related to processes of fragmentation and privatisation of communal pastures as well as land appropriation by the state and foreign investors.

Failure to generate sufficient non-farm labour and increase agricultural labour productivity of small-scale farmers and herders is limiting inclusive growth in all three countries.

The slow but continuous rise of the GINI index in these three countries since 2002 (after its decline in the 1990s in all three countries) indicates that income and wealth are increasingly more concentrated. According to World Bank poverty indicators (World Bank, 2016), Zambia has become more unequal since 2002 and is now ranked the 10th most unequally distributed economy out of 154 countries worldwide. Wealth and income distribution in Benin are also increasingly unequal: with an index of 43 in 2011, the country ranked 48th compared to 70th in 2003. Ethiopia ranks 104th and, thus, seems to have a comparatively low level of inequality in terms of wealth and income distribution. However, the increasing marginalisation of the ASAL region and its population is not reflected in this country-wide indicator.



The environmental impacts of the ongoing socio-economic transition processes portrayed here can be summarised as a more or less acute deterioration of natural resources, due to increasingly unsustainable production practices characterised by a mix of simplified traditional and quite inadequate conventional farm practices. By and large, the study countries' economies, whether they are quickly or sluggishly transforming, depend on overexploitation of natural resources. The process of soil mining is exemplary for other natural resources: nutrients are not returned to the soil and, as neither legumes nor green manure or organic or mineral fertilisers are applied in adequate quantities, soil is exposed to erosion, as soil structure is degraded and its organic matter depleted.

This overexploitation of natural resources can be driven by government policies, as is the case in the ASAL regions of Ethiopia, where cash-crop cultivation is now being promoted on land formerly used for extensive pastoralism, which had allowed time for regeneration and did not interfere with the water table or soil salinity. Or it can be the result of weak governance, as in Benin, where efforts to strengthen and diversify agricultural production are not living up to their rhetoric. The main feature here is expansion of crop production

Ongoing socio-economic processes – including increasingly unsustainable production methods, characterised by a mix of simplified traditional and inadequate conventional farm practices – are leading to more or less acute deterioration of natural resources in all three countries.

into bush, forest or pastoral land, land use change which cannot per se be labelled unsustainable, as Zambia, for example, still harbours vast resources of uncultivated arable land. However, land use change should respect certain features of natural resource management (e.g. corridors for biodiversity protection and sustainable utilisation, islands of unaltered vegetation to maintain diversity and allow for natural regeneration, soil fertility management, soil structure and other measures for erosion protection, water table maintenance) if it is not to develop into degradation beyond repair. Expansion of agricultural land to compensate for loss of soil fertility (Benin, Zambia) and to increase agricultural output (Ethiopia, Benin, Zambia) are major contributors to deforestation.

2.4 The most important factors influencing rural transformation

This section examines the factors that we believe are influencing the social and economic transition dynamics described above and will need to be considered when future transformation processes are to be shaped, as they can promote or retard desired as well as undesired processes. We distinguish between global factors, mainly the state of world market integration; national factors, mainly economic and agricultural policy and governance; and regional factors, such as population density, services. Environmental factors will also be discussed.

On a global level, all case study countries are open and integrated economies and are, thus, affected by global influences, market integration and trade dynamics such as the following:

- Zambia's integration into the world economy is clearly a reflection of the development of copper prices. Since the colonial era, the country has been characterised by a high degree of world market integration, as a provider of raw materials and an importer of manufactured products. During copper price boom periods, there was no felt need to diversify the economy. Additionally, the Zambian Kwacha was revalued, making imported commodities cheaper and non-mineral export products less competitive. As a result, the Zambian economy has been extremely vulnerable to price volatility. During copper price recessions, economic crises have been accompanied by high rates of indebtedness and, consequently, insufficient resources have been available for the promotion of diversification or intensification. All countries are subject to fluctuating world market prices for food or other primary products. When prices for a country's main export products (Benin: cotton, Ethiopia: coffee and livestock) decline, currency generation is affected and imported goods become more expensive. This, in turn, translates into higher consumer prices and can contribute to the outbreak of food crises, as was the case in 2008.
- In Benin, the dependency on cotton and structural problems arising from it have created an incentive to draft a strategy for a diversified production to move towards self-sufficiency in food production. However, implementation has lagged far behind expectations (see below).

On a global level, integration into the world economy, with its strong influence on the generation of currency, national purchasing power and satisfaction of national demand, is decisive for transformation processes in SSA.

- The ASAL regions, on the other hand, have been subjected to increasing exploitation of natural resources, driven by the Ethiopian strategy of Agricultural Development Led Industrialisation (ADLI). While resulting in impressive growth, this strategy lacks an even distribution mechanism for the benefits thereof, strongly degrades natural resources and fuels internal conflicts.

Stiff international competition in the fields of food production and textiles have been partly impeding economic diversification in these three countries in the following ways:

- In Zambia, the textile sector has not been able to compete with cheap imports of Chinese textiles and European second-hand textiles. Today, due to regional free trade agreements like the Southern African Development Community (SADC), South African supermarket chains and products are flooding the domestic market, creating high entry barriers for domestic products.
- In Benin, up until today, domestic products have been reported to be of lower quality, yet more expensive, than imports. Domestic rice, for example, is costlier than the imported – and not as tasty. As local cotton is exported after ginning, a textile sector has not developed that can be competitive on the open global market. In addition, the Nigerian market strongly influences the Beninese economy, as Nigeria is the main market for Benin's palm oil and its sole provider of fuel. It is also the largest importer of goods traded through Benin's Port of Cotonou and provides employment opportunities for migrating Beninese. Thus, fluctuations of the Nigerian currency (Naira) have direct repercussions on overall Beninese purchasing power.
- The ASAL regions of Ethiopia are directly subject to political forces beyond national boundaries. Contested geopolitical claims and the competing nationalist ideologies of Ethiopia, Eritrea and Somalia have long turned the border regions of Afar and Somali into spaces of insecurity. As a consequence, the peripheral lowlands have become highly militarised, thus altering internal conflicts as well (see below).

Competition from old industrialised countries, emerging economies and regional economic powers poses enormous challenges for the development of economic sectors and non-farm employment in SSA.

On the national level, overall economic policy – and especially important here, agricultural policy – and its implementation are the decisive factors that can push or hold back transformation.

- As explained above, the Zambian government has not directed its economic policy towards diversification. Services for small-scale farmers have been highly focussed on maize production, based on subsidised inputs only for maize cultivation, to boost staple food production and, at the very least, to achieve national food self-sufficiency. Donor-led structural adjustment programmes have stabilised the economy rather than transforming it, as they have not invested in sectors relevant for its transformation. While national policies have adjusted services to the rapidly growing Zambian population and stabilised the overall socio-economic situation, they have failed to overcome the non-competitive mono-structured economy.
- Benin also exhibits such a one-sided focus in its practical agricultural policy on cotton as the main export product. As mentioned above, the government did adopt a

On the national level, overall economic policy and, in particular, agricultural policy and its implementation are the decisive factors that push or hold back transformation.

strategy for re-launching the agricultural sector (Plan Stratégique de Relance du Secteur Agricole) in 2011, a scheme that was elaborated with the participation of farmer's organisations amongst others. It aims at improving the performance of the agricultural sector through diversification via improved services, inputs and mechanisation and facilitated market access. The strategy has been said to be very well formulated and intended but, so far, has not at all been properly implemented. While some improvements in diversification of production, expansion of processing of agricultural products and market access close to urban centres has taken place, they have not been sufficient to substantially transform large-scale economic structures.

- In Ethiopia, the Agricultural Development Led Industrialisation (ADLI) demonstrated a highland-based agricultural bias, assuming that smallholder agriculture needs to be developed first to facilitate demand for industrial commodities and inputs for industrialisation, and the economic value of rangelands and pastoralism tends to be greatly underestimated by political stakeholders on both the national and regional levels. Policies thus fail to support mobile pastoralism, as it has been mainly conceived as an economically inefficient production system in need of transformation towards settled forms of agro-pastoralism. Due to a combination of decentralisation, policy and politics, specific matters related to the ASAL regions as well as their specific contextual conditions have very low chances of being seriously addressed at the level of policy formulation.

The case studies presented here also reveal that an important factor at the regional level is how population density and corresponding access to economic and institutional resources can impede access to productive capacities and inputs.

- Zambia's huge size and sparse population have led to long distances between areas of human settlement and/or economic activity, resulting in high infrastructural development costs as well as reduced competitiveness, especially for the remote rural regions. This is a serious constraint for diversification through rural development. However, in a conducive economic and political environment, the rapid spread of mobile phones and the slowly progressing dissemination of regenerative energy in rural areas might facilitate quicker integration of these remote economies.
- In Benin, we see slow new developments due to increasing population density in the south and centre, generated by natural growth and migration, and increased mobility through an overall improved road network and slowly increasing market integration. These developments appear to be supporting a slight diversification trend in the agro-food sector but are highly spatially selective and are occurring exclusively around urban centres. While services that were formerly only to be found in rural areas slowly spread to rural areas and peri-urban areas become more and more attractive, the rural–urban service gap widens.
- The ASAL regions have been experiencing high in-migration due, on the one hand, to inter-regional migration from the highlands and to conflicts in the neighbouring

On the regional level, population density also influences transformation: either holding it back due to too-great distances in sparsely populated areas or spurring transformation in (over)crowded areas, often with an urban bias.

Eritrea and Somalia on the other. This is leading to rapid urbanisation with accompanying resource degradation and fierce competition over employment. In the Afar region, for example, in-migration has resulted in a dominance of non-Afar people in the urban economy and in newly created farm jobs, while pastoralists, lacking agricultural skills and qualifications, are further marginalised and become even poorer.

Another regional factor in Zambia that has been hampering achievement of a more dynamic transformation process is the persisting low quality of education and skills, despite considerable investment in the expansion of the educational system. Additionally, there is a strong mismatch between the types of education provided and the requirements of the labour market. Similar is the situation in Benin: while access to education has been improved, quality is still low and so are the reputations of school education and teachers, especially in rural areas. The learning of skills, however, would likely be decisive for being able to successfully respond to any economic opportunities and incentives arising in the future.

Policies regarding education and skills training are decisive for developing capacities required to successfully respond to economic opportunities and incentives.

In the Ethiopian ASAL region, there is another special factor that has been decisive for shaping transformation: conflict. On the one hand, the lack of legitimacy and accountability of the current and past regimes and, at the same time, a long legacy of governmental prejudices and misunderstandings concerning the pastoral economy and culture have been the main factors for the exclusion of pastoralists from mainstream development, leading to a structural transformation with broad negative impacts. On the other hand, violent conflict in the form of mutual raiding between pastoral groups in order to build up livestock herds has to a certain degree been influencing the pastoral economy. In combination with the militarisation of the lowlands mentioned above, large expanses of productive but insecure rangelands have been turned into no-go areas, resulting in overcrowding of animals in more secure areas.

The availability of natural resources is another factor influencing rural transformation in the case study countries.

- In Zambia, the abundance of natural resources has actually been a retarding factor, as in the past there did not seem to be any need for intensification of agricultural production or other resource-based rural activities. Resource pressure in favourable areas in combination with increasing climate variability can, however, change that in the future¹¹.
- In Benin, rapid degradation of resources and poor management of water, especially in the densely-populated areas, in combination with climate variability that is affecting the rain-fed agriculture and pastoralist economy, has led to increased rural-rural migration towards the centre, with accompanying soil degradation and low

Natural resource scarcity and weather variability due to climate change can act as incentives for sustainable intensification or trigger migration and, thus, kick start or speed up transformation processes, whereas abundance of resources seems rather to discourage intensification.

¹¹ There are, however, examples demonstrating that this does not happen automatically, such as in Malawi, where a densely populated and resource-scarce country did not result in intensification of agricultural production.

agricultural productivity. On the other hand, this has triggered incentives for increases in income diversification, such as through processing.

- In the ASAL regions, the rapid degradation of resources is fostering transformation, as more and more pastoralists are being forced to settle due to decreasing productivity. Resource degradation caused by unsustainable production practices is being exacerbated by the effects of climate change, which is increasing aridity and thus further decreasing capacity for natural regeneration of pastures.

In short, these three countries have experienced different pressures to transform, guided by different political visions:

- Zambia has neither felt strong pressure towards structural transformation nor, taking the country's locational disadvantages within an increasingly competitive market environment and a long period of low producer prices into account, have there been strong incentives to change. Within such a constellation, a truly visionary policy and strong governance for its implementation would have been required to follow the hard route of transformation by making Zambia's farmers and manufacturing industries internationally more competitive.
- In Benin, meanwhile, there has been pressure towards intensification and diversification. Visionary policies have been formulated, and the course for transformation is theoretically set. However, strong governance for implementation has been lacking. Transformation there so far can, thus, at best be described as sluggish.
- In Ethiopia, the fierce implementation of a one-sided visionary policy, combined with a long legacy of governmental prejudices and misunderstandings concerning the pastoral economy and culture, set in an overall environment of conflict, has promoted an unsustainable and highly exclusive transformation of pastoralist livelihoods.

A variety of factors are decisive for transformation in SSA as a whole:

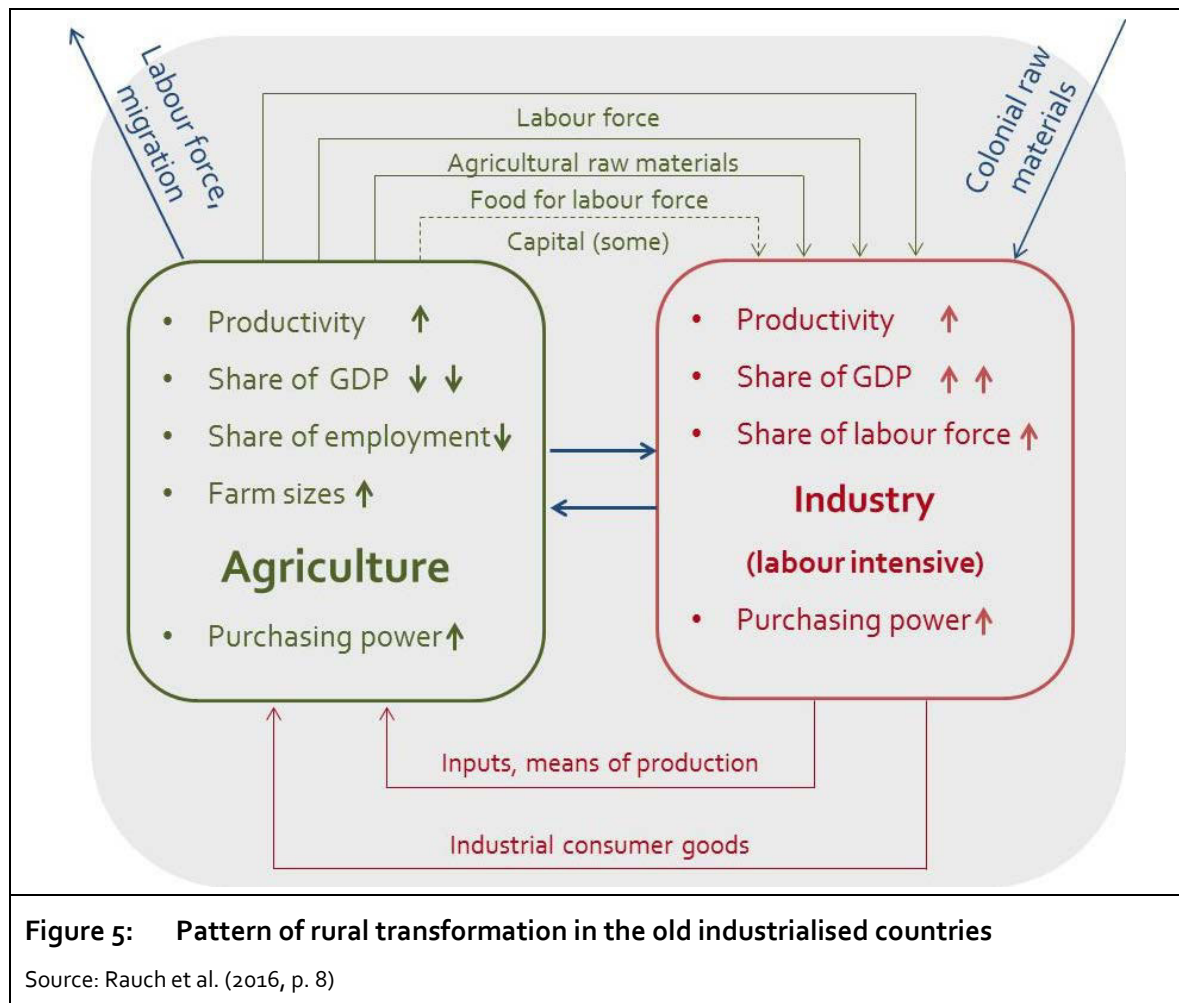
- On the global level, integration in the world economy and its influences on the generation of currency, national purchasing power and satisfaction of national demand are key. Competition from old industrialised countries, emerging economies and regional economic powers (e.g. South Africa, Nigeria) pose enormous challenges for the development of economic sectors and non-farm employment in the rest of SSA.
- On the national level, a visionary policy is needed for transformation of the agricultural sector and for productive employment in processing industries and efficient services, combined with strong governance for its implementation.
- Also on the national level, policies regarding education and skills, decisive for responding to economic opportunities and incentives, are a necessity.

- On the regional level, population density influences transformation: either holding it back due to overly long distances in sparsely populated areas, leaving the population without access to necessary markets, products and services, *or* spurring transformation in (over)crowded areas, often with an urban bias.
- Natural resource scarcity and weather variability in the course of climate change can set incentives for sustainable intensification or trigger migration and thus kick start or speed up transformation processes. An abundance of resources can, however, rather discourage intensification.
- in addition to these points, transformation can trigger or accelerate conflicts over resources, as the example of the ASAL regions of Ethiopia shows; simultaneously, conflicts can contribute towards or exacerbate ongoing transformation processes.

2.5 African, Asian and European Rural Transformation

As many debates about structural and rural transformation in SSA refer to the historical transformation processes in the early industrialising European and the newly industrialising East-Asian countries, it seems worthwhile to compare the patterns and contexts of those transformation processes with the trends and global contextual conditions found in present-day Africa.

Considering the structural changes that have taken place in Europe, beginning already in the late 18th century in the United Kingdom and still ongoing, rural transformation and industrialisation have always been tightly interlinked processes, with increases in agricultural productivity being derived from land reforms, capital investment and technological advancement. This has paved the way for industrial development by releasing not only the necessary labour force but also agricultural raw materials for industrial processing and foodstuffs for the growing number of industrial workers. In addition, capital accumulated on the basis of agricultural surplus has frequently been invested in the industrial sector. At the same time, rapidly growing industrial production, including services, has ensured the provision of equipment, productive inputs, knowledge and industrial consumer goods to further raise agricultural productivity and supply the agricultural labour force (Timmer, 2009).



Around this reciprocal process, debate has evolved regarding to what extent its point of departure lay in agricultural progress or in industrialisation. Without entering the specifics of that debate, the European experience tends to suggest that agricultural and industrial development need to go hand in hand, irrespective of the starting point. It is however noteworthy that the high labour intensity of industrial production in 19th century Europe resulted in a high absorption capacity for the released agricultural labour force.

It is necessary to analyse briefly the historical context of the European process before engaging in a debate over different models for any structural and rural transformation processes. Without looking into the details of different countries, three significant differences regarding the contextual factors in 19th century Europe and present-day SSA need to be highlighted:

1. Transformation in Europe started within a framework of protected national economies, in contrast to the globalised market economy that sets the macro-economic framework for African nations today. While countries like Germany or France took their opportunity to protect their labour-intensive manufacturing industries against their more advanced British competitors, that path is blocked for African governments under free market conditions.

2. Overseas countries such as the United States or Australia offered open gates for migrant workers from Europe, thus reducing pressures on national labour markets for service provision. Meanwhile, Africans today wishing to migrate face high barriers if they want to find employment in Europe, North America or other attractive economies.
3. While the old industrial countries had the advantage of unlimited access to raw materials from their colonies, African countries in the age of globalisation do have the (potential) advantage of access to advanced technologies, including related know how, and better access to dynamic, though highly competitive, global markets. Thus, they are less dependent on national-industry outlays and supplies.

Irrespective of the specific nature of the global economic context – which we have only outlined here in very rough strokes – it can be confidently stated that the socio-economic and politico-historic context for SSA today differs considerably from that of the early industrialising countries in Europe. Consequently, the European pattern of structural and rural transformation cannot be regarded as the only model for transformation processes in SSA in the 21st century.

The socio-economic and politico-historic context for Sub-Saharan Africa today differs considerably from that of the early industrialising countries and from that of the emerging economies of East Asia.

The structural transformation processes in the newly industrialising countries in East Asia took a similar path as the European. In the course of their catching-up process, since the 1970s South Korea and China have also seen a tight link between rural development and industrialisation. Not unlike the situation for 19th century continental Europe vis-à-vis England, labour-intensive industrialisation in these countries was shielded at the outset by protectionist policies against the more competitive older industrial nations. China opened its market only as late as 2003 by joining the World Trade Organization (WTO), when its industries were already strong enough to face global competition. Hence, the emerging East Asian economies have been essentially no different from the European pattern in as much as RT has been accompanied by a labour-intensive process of industrialisation. In their case, however, contrary to mainland European patterns, foreign trade relations, meaning here access to export markets for industrial products and to technology imports, played a key role from the outset (see Figure 5), while opportunities for massive out-migration have been more limited.

Against this historical background, the ongoing structural transformation process in SSA today can be characterised as sluggish at best. This holds true not only in comparison to European and East Asian industrialised countries, but equally as well against indicators such as share of agricultural income sources, share of subsistence production, agricultural productivity or farm size development. Most of SSA is experiencing a gradual shift from primarily farm-based to more diversified multi-local livelihood systems, with a growing share of urban-generated income sources. As the backbone for these systems, subsistence production is being kept alive, as is the right to land in home villages. These flexible rural–urban livelihood systems are a result of insufficient and highly vulnerable income opportunities from farming, on the one side, and equally marginal and unsafe income and employment opportunities in urban areas, on the other. As SSA countries have remained in a situation of dependency on agricultural and/or mineral raw materials,

Rural transformation in SSA is characterised by a gradual shift from primarily farm-based to more diversified multi-local livelihood systems, with a growing share of urban-generated income sources.

the share of agricultural/rural vis-à-vis non-agricultural/urban income sources tends to vary with changes of world market prices for these raw materials.

Considering future perspectives for structural and rural transformation in SSA, it needs to be kept in mind that it is quite a different context compared to the European and Asian industrialised countries. The chances for a labour-intensive industrialisation process (or immense growth of an equally labour-intensive service sector) that could absorb the growing labour force and offer viable and reliable income and employment opportunities are much more limited in a globalised free-market economy than they once were for the East Asian emerging economies. Instead, other opportunities may arise for a transformation within the rural/agricultural sectors, as a result of growing global demand for agricultural products. The challenge for promotion of a socially inclusive and environmentally sustainable transformation process within this highly competitive context will be to identify labour-intensive economic opportunities within and outside of agriculture that have a fair chance at becoming internationally competitive and that are well adjusted to changing environmental conditions (see chapter 3).

The chances for successful development of a labour-intensive industrialisation process or immense growth of an equally labour-intensive service sector are limited in a globalised free-market economy.

2.6 In a nutshell: Rural transformation in Sub-Saharan Africa

The three case studies being reported on here were selected so as to cover a broad diversity of different countries and regions with regard to their socio-economic structural characteristics. A mining-based economy like Zambia, for example, has been compared with an agro-based economy such as Benin. Regions characterised by smallholder crop cultivation (Zambia, Benin) have been contrasted with pastoralist regions (ASAL in Ethiopia). Remote and sparsely populated regions have been analysed as well as central and densely populated rural areas.

Measured against the major indicators of rural transformation, the rural regions studied here that are characterised by smallholder cropping systems are experiencing slow, hesitant and at best partial transformation processes, whereas the rural regions dominated by pastoral production systems are undergoing a strong transformation with negative social and environmental impacts. All processes observed differ sharply from historical rural transformation processes observed in Europe and the emerging economies in Asia. What the three countries/regions have in common is:

- a slow shift towards non-agricultural employment, accompanied by continually increasing agricultural population;
- limited and only partial increases of agricultural (including livestock) productivity – if any at all –with selective increases in the degree of market integration of smallholders;
- lack of positive or strongly fluctuating dynamics in non-agricultural sectors, resulting in precarious low-productivity income opportunities for the vast majority of the growing labour force;

- perpetuation of diversified rural–urban livelihood systems, relying on a mix of subsistence cultivation, market-oriented farming and urban income opportunities to cope with precarious situations in any single sector; and
- socio-cultural value changes towards more “urban” lifestyles, driven by intensified urban–rural exchanges, media, ICT and the increased mobility of the population.

The major differences observed within this general pattern are as follows:

- While the urbanisation process in mining-based economies (Zambia) is characterised by sharp oscillations, depending on world market prices for raw materials, that process seems to be taking a steadier path in agriculture-based economies like Benin or Ethiopia.
- The transformation processes tend to be more rapid in densely populated, peri-urban and market-linked central regions (e.g. southern Benin, Line-of-Rail Provinces in Zambia, highlands in Ethiopia) than in remote and sparsely populated regions. The opposite appears to be true when a remote region is considered an area of specific opportunities and interest by the government, as is the case in the ASAL regions of Ethiopia.
- Pastoralist livelihoods have been experiencing stronger political transformation pressure as a result of policies aimed at sedentarisation. As alternative options for pastoralists are limited and the natural resource base for pastoralism is being forcefully reduced, these policies are resulting in a destructive and selective transformation process.

As we have argued, the observed processes in the surveyed areas are not socially inclusive – on the contrary, they are tending to exacerbate unequal access to resources and power and to specifically disfavour certain segments within the population. They are equally not oriented towards environmental sustainability, as they are increasing pressure on resources due to the expansion of un-adapted cultivation practices, the conversion of forests and wetlands and lack of conservational management measures.

From our perspective, the most important factors influencing the sluggish dynamics of most of the transformation processes reported on here include:

- stiff international competition for labour-intensive processing and manufacturing industries within globalised free-market economies, hindering creation of non-agricultural income and employment opportunities (e.g. China and South Africa in Zambia, Nigeria in Benin);
- several decades of low agricultural prices until 2007;
- inconclusive national transformation and rural development policies;
- insufficient and inadequate agricultural services as a result of state and market failures;

- inappropriate education and skills development policies, especially in terms of relevant practical skills for responding to generally limited arising economic opportunities; and
- low population densities combined with relative abundance of natural resources, allowing extensive growth paths that have neither provided pressure nor incentives for intensification of farming and pastoral systems.

In our view, the case studies cover a broad range of conditions characteristic for many countries of SSA. Supported by evidence from the literature on other countries, we conclude that our results can be generalised for other countries on the sub-continent: SSA is marked by modest, hesitant and partial transformation dynamics. These are a combined result of limited market opportunities, absence of strong transformation pressures and incentives, lack of clear transformation policies, and defunct government services for the majority of smallholders and pastoralists. Nevertheless, the (still selective) positive dynamics of densely populated market-linked regions, continued increase of population densities and the expectation of mid-term increase of world market prices for agricultural products provide reasons to expect accelerating transformation dynamics in the future.

The challenge for promotion of a socially inclusive and ecologically sustainable transformation is to identify labour-intensive economic opportunities within and outside agriculture that have a fair chance to become internationally competitive and are well adjusted to changing environmental conditions.

3 Towards socially inclusive and environmentally sustainable structural transformation in Sub-Saharan Africa

This chapter provides what we see as an optimistic vision for socially inclusive and environmentally sustainable rural transformation in SSA up to 2030. As such, it assumes that the ongoing, mostly sluggish and often neither inclusive nor sustainable, trends presented in the previous chapter can be promoted or (re)directed in a more inclusive and sustainable direction. Building on qualitative narratives developed during participatory stakeholder workshops on scenario building for rural transformation in Lusaka/Zambia, Cotonou/Benin and Addis Ababa/Ethiopia, the chapter presents several optimistic scenarios for smallholder and pastoralist production systems (see sub-sections 3.1.1 and 3.1.2) and discusses opportunities for limits to their realisation (see sub-section 3.2).

Social exclusion and inclusion are relational concepts which refer to specific social relationships and distributional patterns of privilege and disadvantage. Exclusion is related to the multi-dimensional aspects of poverty and marginalisation, whereas the strategic objective of social inclusion, as promoted in this study, refers to enhanced capabilities and structural conditions of individuals or social groups to participate in a society in political, economic, social and legal terms. A more inclusive form of rural transformation would, therefore, entail a shift from present social patterns of inclusion and exclusion towards more equal patterns of resource entitlement, economic opportunities (e.g. access to employment, productive resources, education and health care), participation and political rights as well as political and cultural recognition. A vision for a more inclusive rural transformation in SSA needs to challenge particular forms of political rule as well as market mechanisms which have been contributing towards reduced resource access for rural inhabitants without providing them with alternatives for secure livelihoods. Accordingly, the imperative for economic growth and commercialisation inherent in many contemporary policies for rural transformation in SSA must avoid exclusionary trade-offs in the form of loss of existential resource entitlements (land, pastures, water, financial resources, knowledge and skills) as well as loss of access to commodity and labour markets for smallholders and pastoralists as well as tendencies towards adverse incorporation of affected social groups into new or planned socio-economic structures¹².

A more inclusive rural transformation would entail a shift of social patterns towards more equal patterns of resource entitlement, economic opportunity, participation and political rights as well as political and cultural recognition.

12 Especially for marginalised regions and people like pastoralists, inclusion bears the risk of adverse incorporation. One should be careful assuming that inclusion is always a good thing while exclusion is bad, and that inclusion is always desired by the excluded. Some people may even opt to be excluded, as it allows them to define their own values and priorities (Devereux, 2010; Kabeer, 2000).

While taking into account these caveats regarding an inclusive transformation process, the optimistic vision for 2030 also recognizes the tight interdependencies between human land use and production patterns and natural resources. An inclusive transformation also needs to have a strong environmental component, as the poorest often depend upon local resources (soil, forests, fish, water) and are vulnerable to land, water and fish grabbing. Therefore, the well-being of rural inhabitants, particularly in a context of increasing population density and rising need for cash income, is closely related to continual investment in the maintenance of ecosystem services. A long-term inclusive transformation requires the sustainable management of natural resources, understood as use patterns which seek to meet the basic needs of current generations without destroying or degrading the natural environment so that resource needs of future generations can also be met (WCED, 1986). Such an approach is expected to unlock economic potentials for smallholders and pastoralists while simultaneously contributing towards their food sovereignty and livelihood security in the long run.

A long-term inclusive transformation requires sustainable management of natural resources, as the poorest often depend upon them. This implies a use pattern which can meet the basic needs of current generations without destroying or degrading the natural environment so that resource needs of future generations can be met.

3.1 Scenario 2030: An optimistic vision for rural transformation

The qualitative scenarios outlined below are narratives describing optimistic best-case scenarios in which rural transformation dynamics can be unlocked, where necessary for abolishing extreme poverty and vulnerability, and/or shaped in more inclusive and sustainable ways up through the year 2030. They were mainly developed by participants of the scenario-building workshops that we conducted in 2015/16, complemented with data from interviews and the relevant literature.

Moving towards these optimistic scenarios is likely to require substantial strategic shifts (see chapter 4) as, against the background of ongoing trends (see chapter 2), the most probable scenarios ("business-as-usual") point towards a future with little substantial change for the better, if not even worse. Instead, the scenarios presented below assume that ongoing trends linked to processes of exclusion and inequality could be halted or converted, mainly through strategic changes in the fields of rural governance, agricultural intensification/diversification and creation of non-pastoral/non-farm employment in a context of more inclusive macro-economic conditions for trade and investments (see chapter 4).

3.1.1 Scenario 2030: Smallholder farming systems

The optimistic scenario for Zambia and Benin in 2030 envisions a situation in which access to social and economic, public and private services for people living in rural regions has significantly improved. Based on this, education levels will rise and natural resources will be used more productively and sustainably. Agriculture will be intensified and diversified, which in turn will increase productivity and, thus, the incomes of small-scale farmers while also reducing socio-economic vulnerability and environmental degradation. Based on higher levels of production and especially service provision of knowledge, skills and electrification, rural non-farm jobs will be created, mainly through rural agro-industrialisation. Rural areas will become more attractive and, consequently, rural–urban migration will slow down, making municipal planning easier. It will also reduce regional disparities in terms of non-farm employment opportunities and access to commodities and services. Value-chain development will pay special attention to rural employment and increasing capacities, especially targeting youth and women to foster social inclusion. Resilience will be high, due to better-adapted production systems and overall increases in production and income. Simultaneously, urban centres will face less population pressure such that urban planning and infrastructure development can keep pace with ongoing but slowed-down population growth. In this more conducive environment, entrepreneurship can evolve more easily and create employment opportunities for urban youth. Major aspects of the optimistic scenario are explored in the following.

The optimistic scenario for countries with a dominance of smallholder farms envisions a situation in which access to social and economic, public and private services for people living in rural regions has significantly improved. It is characterised by sustainable agricultural intensification and diversification, improved access to markets and basic services and increased non-farm employment.

Sustainable agricultural intensification

- Within the optimistic scenario, the heart of rural transformation processes in both countries is sustainable agricultural intensification, including sub-sectors such as forestry and fisheries, combined with diversification of agricultural products, away from the overemphasis on maize in Zambia and cotton in Benin. The focus lies on providing forms of produce that are being demanded by growing sectors of the population with higher incomes to spend, especially in urban centres.
- Increased rural incomes confirm the solvency and eligibility of producers to financing institutions, who then adapt their offers to the needs of agricultural producers and rural entrepreneurs, offering improved networks of banks, mobile banking services as well as saving and credit groups. Interest rates decrease, collateral demands are less challenging, and loan cycles correspond to crop cycles. A wider segment of the population thus has access to microfinance. In combination with improved extension services, such as through capacity development and incorporation of innovative research and development, investments in mechanisation or irrigation infrastructure are not a privilege of emergent farmers anymore.
- Higher productivity in combination with improved infrastructure results in improved market access for large segments of the population. On the one hand, households have surplus production per hectare to sell and the scale effect reduces transportation costs per unit, especially when farmers are organised. On the other

hand, mobilisation of resources due to greater income or access to loans decreases the obligation to sell during unfavourable conditions (e.g. at peak time, when prices are lowest), thus facilitating more informed and strategic market decisions – provided central storage facilities are maintained and further developed to prevent post-harvest losses. Staple food prices remain stable and, thus, enable access to sufficient and quality foodstuffs for the more deprived urban population segments.

- Improvements in soil fertility and broad-based access to inputs have translated into higher productivity and economic wealth. Higher productivity and levels of income reduce farmer vulnerability against climatic shocks. This can lead to reduction in workload, which is especially important for women and the elderly.

Access to services, infrastructure, non-farm employment

- Development of market and transport infrastructure reduces transaction costs in terms of transport, communication and bargaining – for remote farmers as well. In contrast to the high costs of road infrastructure, the cost reductions of mobile phones and the future cost reduction potentials of solar energy offer wide scope for decentralised and, therefore, accessible supply systems.
- Via access to energy that also extends to remote areas, every village has a hospital, school and local administration connected to the grid, even though not every household necessarily has access to energy. However, this overall better access to energy fosters health and education supply and agro-food processing.
- Better health and educational services are less expensive, more available in remote areas and come along with information campaigns to make access more socially inclusive, raising health and educational levels in both countries, with special attention paid to rural areas as well as women and girls, to reduce urban–rural and gender gaps. With better knowledge and skills, small-scale farmers manage soils differently and apply improved technologies, helping towards higher productivity. People wanting to drop out of agriculture or diversify their income sources can learn adequate practical skills that match demands on the job market.
- Based on higher levels of production, value chain development, improved service provision of knowledge/skills and electricity, rural non-farm jobs are created, mainly in rural agro-industry. Agricultural value chains are better developed and processing plants for agricultural products create jobs in rural areas. Value chain development can also create low-skilled jobs in rural areas, providing primary or extra income sources, thus empowering people who do not normally work in agriculture.

Sustainable use of natural resources

- Unsustainable practices of agricultural resource use are reduced: natural resources (such as soils, pastures, water, forests) are used in a more sustainable manner, due

to increased technical capacities and knowledge to apply more sustainable and climate-smart techniques. These are coupled with greater environmental awareness and increased tenure security among all actors.

- Measures to restore degraded land enhance soil structure, moisture conservation capacity and contents of soil organic matter. More fertile land is thus available, taking pressure off the land market. In turn, overall migration is reduced, as land is less degraded and less people are forced to sell or leave it.
- Although wood and charcoal still remain the most important sources of domestic energy in rural households, investments in clean energy by the private and public sectors, including public–private partnerships, increase as does electricity production.

Rural governance

- A necessary requirement for this scenario to become true is improved governance and law enforcement. The needs of different livelihoods are taken into account, which implies more diverse and institutionalised local community-based organisations and more participation in governance. More segments of the population are empowered and have a political voice to demand accountability.
- Organisation of farmers and entrepreneurs leads to a strengthening of capacities among producers and other actors along important value chains, including small rural agro-dealers. Membership costs, upfront payments and other administrative or social barriers are broken down. Therefore, the rural population can exert more pressure on agricultural policy and rural governance, making it more inclusive.
- An inclusive land tenure system increases tenure security and encourages investment to conserve the productivity of land in the long term. Traditional systems were not per se inclusive, as they usually favoured certain clans or rich and powerful actors and often discriminated against women and youth. Already formulated or new land codes and referring laws are reinforced, disseminated and executed; their compliance is under control.

The optimistic scenario, presented in detail above, focuses exclusively on rural areas, but it should be kept in mind that such a positive rural transformation hinges decisively on the capacity of the urban economy to provide labour opportunities for a larger proportion of the growing population. Also, the scenario does not refer to the macro-economic environment, such as competitiveness of processing activities or development of global markets and price levels for agricultural products or copper, which will influence the viability of investments into the intensification and diversification of farming. These will be analysed in sub-section 3.2. This optimistic scenario also does not consider the current trend towards large-scale land acquisitions or the Growth Corridor Initiative. These developments may bring along improved infrastructure, farm and non-farm employment

Positive rural transformation hinges decisively on the capacity of the urban economy to provide labour opportunities for a larger proportion of the growing population.

opportunities, but they also entail the risk of major dispossession of smallholders. Strategic recommendations would need to consider the macro-economic framework as well as the national political framework in their analysis, in order to avoid wishful thinking.

3.1.2 Scenario 2030: Pastoral production systems

The optimistic scenario for rural transformation in Ethiopia's ASAL region in 2030 describes a situation of improved resilience to deal with natural hazards and climate change, political recognition and voice, and increased food security among the pastoral population. In this scenario, pastoralism will have regained its productivity so that it remains the economic foundation, with livestock sales providing the major source of income for most of the rural population. Mobile pastoralism will gain official recognition as an economically efficient production system with significant environmental value for the integrity of dryland ecosystems. Against this background, major communal rangelands and migration routes will be legally protected and rehabilitated. While some households, or member thereof, will keep on moving with the livestock, many pastoralists will have settled, becoming involved in diversified trans-local livelihood systems with strong rural-urban linkages. Due to increasingly diversified livelihood portfolios – including small-scale agriculture and activities along the livestock value chain – overall resilience will have improved. More children, especially girls, will have access to different forms of formal and alternative education.

In an optimistic scenario for pastoral production systems, pastoralists have improved resilience to deal with natural hazards and climate change, as pastoralism has regained its productivity. It is also better recognized politically, and pastoralists are more food secure.

In sum, pastoralists will have reduced their dependency on food and cash transfers and regained assets for subsistence production, while a small share will profitably participate in commercial markets. Social assistance programs will, nevertheless, continue to play a role in supporting the poorest segments of the population. The following paragraphs describe this scenario in more detail.

A productive and diversified pastoral economy

- In regions which cannot be used otherwise due to environmental restrictions, pastoralism remains the economic foundation for the majority of the rural population and provides the major base for subsistence food production, even though the share of people actively following their livestock has been reduced. Mobile pastoralists benefit from an increased supply of basic services adapted to their needs, improved veterinary health provision and extensive use of ICT. In areas where irrigation is possible, small-scale irrigation agriculture is one pillar in diversified complementary trans-local livelihoods, pursued by settled segments of the clans who grow mainly food crops and fodder for household subsistence and sale on local markets.
- The extensive pastoral land management system has been carefully intensified, in the sense of an optimisation of a diverse range of environmental and economic benefits. This intensification recognizes that environmental conditions do not allow for industrialized livestock production where rangelands mainly represent holding grounds for commercially-fattened stock. Targeted improvements in feed, veterinary health and natural resource management and formally protected

extensive grazing opportunities have increased pastoral productivity so that the extent of chronic food insecurity has diminished.

- Pastoralists are integrated into expanding urban markets and livestock value chains. A strong livestock sector “generate[s] incomes and economic multipliers for a large segment of the non-pastoral sector and create demand for a range of town-based products and services” (Little, 2013, p. 248). At the same time, the majority of pastoral households are characterized by a highly-diversified livelihood portfolio. Urban, non-pastoral / farm incomes within diversified pastoral economies play an important buffer role during times of drought. While formal employment continues to be rare in 2030, pastoralists increasingly engage in small and medium enterprises.
- Sedentarisation has increased due to lack of non-pastoral income opportunities in rural areas and governmental incentives (water provision, health, education, access to markets) in permanent settlements. With increasing resilience and established rural–urban linkages, more pastoralists can take well-informed decisions based on labour market opportunities.
- The majority of related pastoral clan-groups has a diverse, complementary livelihood portfolio – including pastoralism, small-scale agriculture, and wage labour within livestock-related livestock value chains – which increases their collective resilience for dealing with recurrent droughts which have become more intense (increased rainfall variability) in the context of climate change.

Education and skills for alternative livelihoods

- Significant improvements in access to and quality of education (formal, informal, Technical Vocational Education and Training (TVET)) have translated into increasing opportunities for decent employment in the non-pastoral, urban sector. Women have benefitted most and are expected to contribute towards a viable diversified economy. Higher levels of education among women translate into slight decreases in fertility rates.
- Urban poverty and unemployment decline, as the gap between employment demand and supply has narrowed. Improved quality of Technical Vocational Education and Training (TVET) institutes increases local capacity to find employment in new industrial zones (mining sector, light manufacturing industry, garment and leather industry).
- Governance of urban settlements is guided by well-targeted economic development plans that consider key growth sectors and development needs and that are aligned with appropriate labour strategies. Especially young pastoralists take advantage of this.

Sustainable use of natural resources

- There is increased rehabilitation of degraded natural resources and subsequent improvement of pasture productivity, due to improved implementation of policies on natural resource management and legal protection of communal land rights. Communal dry season pastures, which are currently overgrown by *Prosopis Juliflora* or not yet converted to farmland, have been rehabilitated and are legally protected, recognising customary land rights.
- Invasive species management has become a priority issue within natural resource management in ASAL regions and is well established in institutional structures with coherent policies, sufficient funding, clear mandates, regular risk assessments and spatially differentiated strategies, based on the extent of areas invaded and dominant species.
- As pastoral mobility plays a key role for a sustainable and productive pastoral economy under conditions of high climate insecurity, livestock routes are legally protected through adapted tenure systems. Secured access to land in combination with financing methods leads to adoption of more sustainable land use practices and, subsequently, higher productivity of pastures.

Accountable and legitimate rural governance

- The accountability, commitment and legitimacy of political representatives have all increased, and interventions are based on the aspirations of local communities, who now participate in decision-making processes, including community-led development. Strengthened customary institutions are recognized by the government and are major stakeholders in decision-making processes. They cooperate with governmental institutions and include previously excluded groups, such as women.
- Management and regulation of rangelands is shared equally between state and customary authorities, building on a common development vision for pastoral areas. The government is aware of the value of livestock and mobile pastoralism and recognises diversity in pastoral areas. It actively supports various development pathways for different segments of the pastoral population which take into account socio-spatial differences and build upon local knowledge, available resources and skills (UN OCHA-PCI, 2007)¹³.
- The efficiency of conflict prevention/resolution and management of communal rangelands has increased due to context-specific institutional transformations which have emerged from a dialogue process (stakeholder learning forums) between civil,

¹³ UN-OCHA (2007) identified four different future pathways among pastoralists, depending on differences in resource and market access: Commercialisation/export trade, added value diversification, traditional mobile pastoralism and exits/alternative livelihoods.

customary and governmental institutions. Previous, partly violent, land use conflicts have calmed down.

3.2 Limits and opportunities of the optimistic scenarios

In order to develop strategic recommendations that can be said to be grounded on realistic assumptions concerning major influential developments that might be beyond direct influence, we need to assess the limits and opportunities offered by the above-described optimistic scenarios.

3.2.1 Smallholder Farming

Potential for sustainable agricultural intensification and diversification

Increasing resource scarcity: In spite of still-existing potential for extension of total agricultural area used (abundant land resources in Zambia; patches of land available in Benin), this is not likely to be sufficient under conditions of rapidly growing population and increasing degradation and loss of fertile areas. Due to these constraints to raising production based on area extension, there are currently strong incentives for the promotion of intensification, which can benefit from abundant water availability in both countries. There is also some potential to intensify productivity through currently hardly applied soil fertility and water conserving techniques.

There is a potential to intensify productivity through soil fertility and water conserving techniques that are currently hardly applied. Rising demand for food products is an opportunity for the development of value chains.

Rising demand for food products: The rising demand of a growing urban middle class in primary and secondary towns as well as increasing global demand for agricultural products provide opportunities for better development of value chains. There is also demand for super foods, orphan crops, marketing of high-value crops in remote regions, but production of these crops is often constrained by high production costs (energy, labour), transaction costs and inefficient technologies which reduce the competitiveness of local products (Benin).

Dependence on world markets: As in many other raw material-based sub-Saharan economies, dependence on raw material prices is a constraining factor for the transformation of the economy. In Zambia, strong dependence on world copper markets makes the mono-structured economy highly sensitive to global market price fluctuations, constraining needed diversification and sustainable intensification¹⁴. During times of booming prices, there are no incentives for diversification, while during times of crisis, financial resources for the promotion of diversification are insufficient. Unless world market prices for agricultural products and raw materials increase in the long-run, there will be no incentive for increased agricultural surplus production or for investments into sustainable agricultural intensification.

¹⁴ For the economy of Benin, cotton plays a similar role, contributing 44% of the total national export value in 2015 (tradingeconomics, 2015).

International competition and free trade: Diversification of the economy is also blocked by the strong presence of international competitors, such as the competitive advantages of South African food products in Zambia, reinforced by the control of value chains by South African supermarket companies. Opportunities for emerging local producers to access domestic markets and develop their own products, industries and value chains are extremely limited under conditions of regional free-trade agreements.

Regional markets as both opportunity and risk: Regional markets and regional agreements can represent opportunities for producers and workers. The Nigerian market, for example, is the major destination for Benin's palm oil, and Nigeria's labour market is highly attractive for young Beninese, as it provides more and better-paid income opportunities. These chances and opportunities cannot, however, be taken for granted, as demand from Nigeria fluctuates with the performance of the Nigerian economy. Thus, in times of a weak Naira and low purchasing power, producers and workers in Benin remain without their usual markets. The abundance of fossil fuels in Nigeria also provides a chance to obtain energy carriers and services from this national neighbour. However, here too, dependency on one provider alone makes Benin's national economy vulnerable to shocks.

Spread of new technologies: The rapid spread of information and communication technologies marks a growing potential for the provision of extension services and better price information, even in remote areas. Also, diversification can benefit from modern technologies, such as with the recently piloted E-voucher system in Zambia. While improved communication and energy-generating technologies can help to facilitate a socially inclusive and environmentally sustainable transformation, even in remote rural areas, transport infrastructure will most likely continue to be a constraining factor for a market-oriented transformation of the economy in those regions. High costs for road construction and maintenance will hinder a full-scale opening up of sparsely populated remote regions, where it seems to be more promising to adjust methods of resource utilisation to given transport costs.

Reluctance to innovate: Nevertheless, the willingness of farmers to innovate is not always certain, as most innovations bear considerable risks. Various countries like Benin face a long history of mismanagement (e.g. scandals in microfinance) and corruption (e.g. forestry sector) which has eroded trust and willingness to innovate. Experience with volatile government support programmes – including brief support for the cultivation of rice in Benin and the subsequent abolishment of that programme before farmers could reap the benefits – reduces willingness to respond to campaigns and invest in new crops and/or techniques/technologies promoted by outsiders.

Context-specific assets: The geographic location of some countries in SSA can provide context-specific opportunities for trade. The small coastal state of Benin, with its already existing infrastructure (port, roads, rehabilitation of railway) and recent reforms to ease border and business procedures, appears predestined to become a major trading hub in West Africa.

The challenge for SSA nations is to identify productive and competitive processing and other value-adding opportunities which are at the same time labour-intensive.

Potential for non-agricultural employment and skills

International competition: Regarding opportunities for non-farm employment in Zambia, stiff international competition, especially over food products (South Africa) and textiles (China), has been discouraging efforts to diversify the economy in the absence of possibilities to protect the emergence of labour-intensive, mass-employment-generating local industries. The challenge is to identify productive and competitive processing and other value-adding opportunities which are at the same time labour-intensive. At present, non-farm employment is mostly in precarious, low-skilled jobs, and jobs within the agricultural value chain do not comprise the majority and actually are often dependant on external support. In Benin, even a dynamic development such as the extension of the Port of has not created permanent and safe employment for many, as automatisisation and mechanisation have reduced the number of direct employees needed.

The challenge for SSA nations is to identify productive and competitive processing and other value-adding opportunities which are at the same time labour-intensive.

Deficits of education systems: There are insufficient job opportunities for the well-trained youth, and frustration is rising. Participants have highlighted that higher education in SSA is often not sufficiently practical enough to prepare students for the labour market. Strong regional disparities between central and remote areas in terms of access to and quality of basic education will also remain a constraint for achieving a more inclusive transformation.

Rural governance for inclusive service access and agricultural intensification

Lack of implementation of policies: The existence of well-designed agricultural strategies and policy papers to promote sustainable, diversified agricultural growth along value chains and create employment opportunities, points towards the fact that decision makers are informed about the need to change. Such knowledge – concerning, for example, the importance of preserving natural resources – often exists at all levels of governance, including among local populations. However, implementation of strategies and utilisation of such knowledge is often constrained by lack of political will and insufficient budget allocation.

Implementation of strategies and utilization of knowledge in SSA is often constrained by lack of political will and inadequate budget allocation.

Decentralisation: Decentralisation policies have been implemented for over a decade in many countries of SSA. Although the process is still contested and incomplete, and although many central governments have been trying to maintain their authority over budgets, some municipalities and regions have managed to strengthen their positions and autonomy with regard to planning and implementation.

Land tenure: The new land code in Benin can contribute towards more inclusive development dynamics, if it manages to protect the property of smallholder farmers from speculation by urbanites. The very existence of the new land code suggests that the necessity to provide security of land tenure has been recognised. But the impact of such

new instruments needs to be monitored closely in order to close loopholes and to ensure that they do not have unintended negative impacts.

Organisations of rural producers: Existing farmers' organisations and networks operating from the local to the national level provide opportunities for the representation of farmers' interests at all levels of decision making. Stable multi-party systems and regular elections also provide opportunities to opt for "change".

Decentralised financial services: Similarly, financial services have become more readily available, even in more remote regions (e.g. through "mobile money"). While the potential of these decentralised financial services has not yet been fully exploited, as specific products for farmers are still missing, the expanding financial network is contributing towards slowly reducing the rural–urban gap.

The challenge of demographic growth: Government-induced improvements in social services are being outweighed by population growth and high dependency rates, but increasing population density may also represent opportunities. It can be a driver of viable market integration, as it decreases per capita transaction costs in remote areas, and provides incentives for intensification of production.

3.2.2 Pastoral livelihoods in arid and semi-arid areas

Potential for sustainable intensification of pastoralism

Climate insecurity and remoteness: Climate insecurity and highly erratic rainfall (temporally and spatially) limit the potential for sustainable agricultural and pastoral intensification in arid and semi-arid areas, as industrial livestock production is not feasible under such conditions. Extensive forms of livestock herding have proved themselves to be the ecologically best-adapted land use system under these circumstances. The general remoteness of dryland areas, coupled with little infrastructure and low population densities, also results in high transaction costs.

Increasing land scarcity: The increasing scarcity of productive key pastures under conditions of land dispossession, degradation and population growth is a major constraint for extensive pastoralism, which has created an urgent need for the protection of remaining grazing lands, diversification of livelihood systems, and sustainable intensification of pastoralism, which is likely to increase the productivity of pastures and subsequently of livestock.

Increasing demand for livestock products: Increasing demand for livestock products on domestic and global markets can provide opportunities for an intensification of pastoralism. But it is mostly the better-off pastoralists and traders who benefit from increased production of livestock and increasing international demand. In Ethiopia, stiff formal regulations on cross-border trade prevent the majority of pastoralists from benefitting from international trade. At the same time, many pastoralists are currently not in a position to engage in growing markets, as they lack a sufficient number of animals and depend on food and cash transfers.

Extensive forms of livestock herding have proved to be the ecologically best-adapted land use system in arid and semi-arid areas. Given increasing land scarcity, increased productivity of pastures is a precondition for sustainable intensification. Rising demand for livestock products presents an important opportunity.

Unused potential for pastoral inputs: Various possibilities for sustainable (agro-) pastoral intensification do exist, including improved provision of inputs like veterinary healthcare, fodder, and water. But the effect of such services is limited by the capacity of service providers, restrictions on private-sector participation, transaction costs in service delivery and provision at affordable prices. Also, it depends on whether or not pastoralists with smaller herds will also gain increased access to national and international market chains. Existing trade barriers and unfavourable conditions for informal cross-border trade might jeopardise the optimistic scenario outlined above, as the currently prevailing focus on export trade and commercialisation of livestock production risks leaving large sections of impoverished herders behind.

New ITC technologies: Increasing network cover for mobile phones and internet is creating additional opportunities for improved access to information concerning market prices, rainfall and pasture conditions so that decisions for marketing and herd movements can be facilitated.

Potential for non-pastoral employment and livelihood diversification

Limited labour absorption capacities: Under conditions of continuing population growth, a growing number of youth and impoverished herders leaving the pastoral sector and limited out-migration, it is assumed that a major future challenge will be the creation of additional non-pastoral employment opportunities. Even under the conditions of the optimistic scenario, with a productive and sustainable pastoralism based on enhanced mobility, improved pasture quality, strengthened governance and diversification, labour absorption capacities within pastoralism and agriculture are limited.

Creation of additional non-pastoral employment opportunities remains a major future challenge.

Irrigation potentials: Opportunities for a shift towards settled forms of agro-pastoralism are ample, due to strong governmental incentives, potential for small-scale irrigation and increasing interest among pastoralists to diversify their economy. Nevertheless, labour absorption capacities are limited, given that only limited areas are ecologically suitable for irrigated farming. Agro-pastoralism is also limited by the fact that trade-offs and land use conflicts with pastoralism need to be avoided. But the relative abundance of agricultural land, low population densities and unused irrigation potentials do provide opportunities for agro-pastoralism. Yet, not all irrigable areas can be converted into farmland, as these provide highly important dry-season grazing areas.

Sedentarisation: Increasing sedentarisation is improving conditions for the provision of public services, which is a major problem in the sparsely populated remote areas. But it entails environmental risks for pasture quality and productivity in areas surrounding urban settlements as well as a risk of increasing economic marginalisation. Most of the new settlers are destitute pastoralists, experts in their domain of extensive livestock herding, but with very little formal education and knowledge about agriculture, trading, and the like. They generally lack capacities to compete with people from other, less marginalised regions on labour markets for urban-industrial wage labour. Therefore, mismatch between employment demand and supply is not only a quantitative but also a qualitative problem.

Demand for education: The currently increasing demand for education and different skills can promote self-employment among pastoralists and make them competitive on urban and rural labour markets. But opportunities for labour-intensive processing industries along livestock and agricultural value chains and the establishment of small and medium-sized enterprises need to be enhanced. The degree to which this can be achieved can be affected by creating a conducive business environment to promote private investments along the livestock value chain as well as in up- and downward industries.

Rural governance

Increasing recognition of the value of pastoralism: The sustainability of any external, long-term investment in pastoralist areas is likely to crucially depend on a supportive governance structure which leaves space for mutual learning processes and balanced negotiation between state institutions and rural inhabitants concerning future pathways for transformation. There seem to be growing opportunities for a more inclusive pastoral development based on enhanced international recognition of its economic value and its provision of environmental services, as indicated by recent UN resolutions and shifts in the national policy environment.

Prevailing misperceptions regarding pastoralism: Nevertheless, pastoralism is still constrained by certain harmful narratives (received wisdom), with massive implications at the policy level. The economic and political marginalisation of pastoralists builds on very powerful discourses concerning the a) economic and cultural “backwardness” of pastoralists, b) lack of pastoral productivity compared with other forms of land use and c) environmentally destructive land management (“tragedy of the commons”). Also, mobile pastoralists are often perceived as a security threat to the state, resulting in detrimental security policies, especially as pastoral regions are mostly dominated by Muslim populations.

Focus on commercialisation and export-trade: The state’s lack of knowledge regarding pastoral production and livelihood systems and one-sided approach towards modernisation and commercialisation of livestock production are major constraints on inclusive, pro-poor development. The inclusion of marginalised groups into exclusionary structures which are shaped by inherent structural inequalities (adverse incorporation) cannot be realistically expected to promote empowerment or more equal resource distribution. Instead, inclusion on disadvantageous terms is likely to only perpetuate chronic poverty (Hickey, du Toit, 2007).

Conflict: Pastoral habitats are often peripheral areas where state sovereignty is contested by various groups. Conflict between segmentary groups of pastoralists and the state has been a characteristic element of social relations in the era of nation-building. Violent conflict may become an increasing constraint on any kind of intervention in the future, if policies prevail which dispossess large segments of pastoralists without providing them with meaningful economic alternatives, as then the number of unemployed male youth will increase and social disparities and frustration are sure to rise.

A more inclusive pastoral development process must overcome prevailing misperceptions among government stakeholders in Ethiopia and build upon the currently enhanced international recognition of the economic value of pastoralism and its provision of environmental services.

4 Strategic Recommendations for Policy and Decision Makers

4.1 Malleability of rural transformation

In principle, the optimistic scenarios for smallholder farming systems and pastoral production systems described in Chapter 3 represent what we believe to be a very positive but still plausible future for rural transformation in sub-Saharan Africa by 2030, assuming that conducive strategic pathways are followed by responsible policymakers. The scenarios have largely been developed by groups of Beninese, Ethiopian and Zambian experts from different backgrounds (government, civil society, academia, private sector), recognising the need for realistic envisioning and the given time horizon of 15 years (until 2030). This, we believe, has allowed for a sufficiently long-term view of the future without losing track of near-term requirements for action.

Our research findings have enabled the formulation of a number of basic recommendations for a strategic course of action towards a socially more inclusive and environmentally more sustainable rural transformation in sub-Saharan Africa (see sub-section 4.2). The implementation of these recommendations will require political will to promote or direct rural transformation in a more inclusive and sustainable direction, a willingness to implement respective political agendas and strategies, a willingness to finance such implementation, and favourable global framework conditions related, for example, to climate change and world markets.

Shaping rural transformation towards more inclusiveness and sustainability requires a political willingness to finance implementation of appropriate political agendas and strategies combined with favourable global framework conditions.

Political will

In the United Nations' declaration "Transforming our world: The 2030 Agenda for Sustainable Development", the 193 signing heads of state and government and high-level representatives committed themselves to (UN, 2015, p. 3)

- "achieving sustainable development in its three dimensions – economic, social, and environmental – in a balanced and integrated manner[...];
- build just and inclusive societies and to ensure the lasting protection of the planet and its natural resources [...];
- create conditions for sustainable, inclusive and sustained economic growth, shared prosperity and decent work for all, taking into account different levels of national development and capacities".

Subsequent declarations, policies and legislation of many national governments in sub-Saharan Africa, including the three case study countries, largely align with this international agenda, thus providing important political framework conditions for a socially more inclusive and environmentally more sustainable rural transformation.

Willingness to implement

Pursuing a pathway towards more inclusive and sustainable rural transformation requires a translation of respective political will into sector policies and strategies for agriculture, environment, industries, trade, technology and innovation, employment and labour market, land rights, welfare, infrastructure, and education. The concrete design of such policies needs to consider and guide not only necessary incentives, access rights and capacities for desired change but also the direction of change: socially inclusive or exclusive, environmentally sustainable or unsustainable. But it seems that most countries in Sub-Saharan Africa still lack required implementation strategies and programmes to achieve the goals outlined by the UN for 2030.

Willingness to finance

Implementation of strategies and programmes that can shape rural transformation in a socially inclusive and environmentally sustainable way requires considerable financial resources. Their availability depends not only on the readiness of partner countries, finance institutions and private investors to provide external financial support but also on the financial capacities and priorities of national governments, which in turn depend on a variety of factors, such as economic growth rates, export earnings, tax revenues, business climate, and accountability.

Friendly global framework conditions

Last but not least, global framework conditions related to climate change, world market prices for agrarian and non-agrarian products, technological developments, international power structures and other conditions that cannot be influenced by national governments, need to favour or at least not obstruct efforts towards a socially more inclusive and environmentally more sustainable rural transformation in Sub-Saharan Africa.

4.2 Conclusions and policy recommendations regarding Rural Transformation in SSA

The following conclusions and recommendations are directed at national governments and the international (donor) community in general, including the BMZ. They fall within the realm of two basic starting positions:

- Where a socially exclusive and environmentally unsustainable rural transformation is taking place or emerging (e.g. in the ASAL regions of Ethiopia), decisions should be taken towards reversal.
- Where a required rural transformation is missing or too sluggish – because business as usual would have negative social and environmental effects – decisions should be taken towards acceleration and orientation towards inclusiveness and sustainability (e.g. in Benin and Zambia).

1. **Rural transformation cannot be driven but can be stimulated and shaped by government and donor interventions.** Transformation processes are subject to a number of influencing factors that fall under the responsibility of national government interventions and the realm of development cooperation. Nevertheless, it also depends on a range of social, technological and global economic factors beyond state control.
2. **Sub-Saharan Africa needs rural transformation in order to overcome poverty and hunger.** Zambia, Benin and Ethiopia, like most other economies of Sub-Saharan Africa are still contained in economic structures characterised by dependency on mineral and agricultural raw materials and very low agricultural productivity levels. Taking unavoidably increasing population growth rates and increasing global demand for agricultural products and other rural resources (energy, water, environmental) into account, existing problems cannot be resolved and rising needs cannot be met without fundamental changes of the socio-economic system, meaning structural transformation. Business as usual is no way to overcome rural poverty – this is what the scenario workshops in all three case study countries have clearly indicated. This is also true for regions that are presently undergoing a rather disruptive – socially exclusive and environmentally unsustainable – transformation process, such as the ASAL regions in Ethiopia.
3. **Rural transformation needs to be embedded in a wider process of structural transformation.** There are underutilised potentials for increasing agricultural productivity in all three case study countries as well as in most of SSA, which can likely be stimulated by rising local, regional and global demand for agricultural/rural products. Nevertheless, given the rising rural populations in these countries, the present scope for sustainable agricultural intensification and diversification is most probably too limited to cater to those living in poverty now and for the masses of young people entering the labour market year by year. Consequently, each strategy intended to stimulate or shape transformation needs to be based on two fundamental principles:
 - a) sustainable agricultural intensification and diversification and
 - b) creating non-agricultural employment and income opportunities in rural and urban regions.
4. **For the agricultural and livestock sectors, such transformation requires sustainable intensification accompanied by diversification** within and beyond current production systems. Taking increasing population densities and rising demand into account, and assuming a mid-term trend of rising demand for rural products, there is no escape from the need for increasing area and natural resource utilisation and increasing productivity in most places, whether it is for crop cultivation, forest utilisation (e.g. charcoal burning), mobile herding or fisheries. At the same time, this intensification needs to be accompanied by diversification of production systems in order

to arrive at sustainable and more resilient patterns that are, at the same time, better adjusted regarding seasonal labour requirements.

5. **To become environmentally sustainable**, agricultural and livestock intensification needs to be locally adapted to
 - a) changing climatic conditions, considering adaptation and mitigation requirements;
 - b) soil fertility requirements, including sustainable water utilisation;
 - c) the need for minimising external as well as carbon- and foreign exchange-dependent inputs; and
 - d) rising, competing demands on natural resources and increasing land use conflicts.

A sustainable intensification of pastoral production systems in arid and semi-arid regions can and should also entail continuation of sustainable, flexible and extensive land management practices¹⁵. Instead of replacing extensive with intensive land use systems and risking negative trade-offs for pastoralists, the challenge in dryland environments is to increase productivity and reduce vulnerability by enhancing both the extent and the intensity of the agricultural system.

6. **To become socially inclusive** agricultural and livestock intensification needs to be
 - a) as labour-intensive as feasible, in order to absorb as much of the increasing labour force as possible, while still being sufficiently productive and
 - b) target group-specific by considering the – differentiated – intensification potentials of all small-scale farmers, herders, forest users and other relevant groups, including those considered to be marginal and vulnerable due to their limited resources, those relying highly on subsistence production due to limited market access and those less competitive due to their peripheral locations.

While for some target groups intensification may result in more successful market integration, for others it may result in reduced food insecurity or increased soil fertility and water productivity based on adapted soil conservation measures. For all of them, however, it should mean higher outcomes per natural resource input.

7. **Focussed steps towards mechanisation are necessary for sustainable and socially inclusive intensification** where sustainable intensification practices are too labour-intensive and thus tend to exclude resource-poor households that suffer from seasonal labour bottlenecks. It is crucial, however, to carefully distinguish in each case

15 Intensification of the existing systems of extensive pastoralism, which operate on a landscape level, refers to increased inputs per unit area aimed at an optimisation of a diverse range of environmental and economic benefits. "Below a certain level of extensity the vulnerability of the pastoralist system may increase to the point of it no longer being viable" (Robinson et al., 2015, p. 38).

between means of mechanisation that help to overcome bottlenecks, thereby reducing unnecessary labour and thus liberating it towards more profitable activities, and those which tend to replace labour without providing income alternatives.

8. **Inclusive access is the key to socially inclusive and environmentally sustainable rural transformation.** This applies to access for men and women to economic services (inputs, veterinary services, knowledge, financial services), social services (health, education, water supply and sanitation), markets, infrastructure and natural resources. While many of these services may be accessible from private providers for the better-off and for commercial products, most of the resource-poor and more remote rural households are still cut off from many of these services. In addition, services required for introduction of sustainable practices (such as soil and water conservation) tend to fall under the domain of public goods and are usually not provided by private businesses. Consequently, they need to be financed and governed by state agencies, though they may also be provided by private supply shops, depending on state outreach to peripheral areas. At bottom, they will all depend on improved governance performance.
9. **Smallholder and pastoralist organisations or cooperatives are key to inclusive access and better governance.** Rural smallholders usually are too small to qualify for economically viable and institutionally feasible individual access, in particular if they live in remote places. Furthermore, individual rural smallholders are not powerful enough to lobby effectively for access to needed services or resources. As a consequence, they tend to be excluded and suffer most from poor governance and the widespread urban bias of governance. Only if organised can rural smallholders and herders have the capacity to contribute towards more inclusive access from their side, enabling them to demand more transparency, accountability and responsiveness from state agencies and, thus, contributing to improved governance. The formation of socially inclusive and easily accessible producer groups, however, is a tremendous task that needs to be taken over by empowerment-oriented non-governmental organisations with due support from donor agencies.
10. **Labour-intensive and productive as well as viable non-farm income and employment opportunities need to be identified with due consideration of the competitive international environment.** Appropriate opportunities, particularly for the youth, are likely to be found in the fields of
 - a) agro-industries along agricultural, livestock, and forest product value chains and
 - b) non-tradeable commodities, i.e. commodities and services that are not subject to international competition (e.g. repair, construction, building materials, culture-related niche products, tourism related services).

In such areas, we want to underline that it is important to focus on new fields for business rather than replacing existing trades and jobs.

11. **Labour-intensive non-farm opportunities require complementary trade and investment policies as well as appropriate skills-development policies.** It is very likely that with existing national and international trade policies, the range of labour-intensive economic opportunities available to the case countries will be too limited to create jobs to a significant extent (e.g. by establishing competitive dairy, meat-processing or vegetable- or fruit-based processing industries in Zambia). Consequently, promotion of such industries needs to go hand in hand with using and extending policy space for protecting those sectors in a focused manner. The same applies to skills development: While a general improvement of the education level may be a long-term and general goal, we hold that specific skills development programmes and training programs targeted towards capacities related to identified economic opportunities can help to make effective use of such opportunities in the short run.
12. **All interventions need to be designed in a context-specific manner.** This requires proper assessment of each specific context, including local livelihood systems, natural resources, and markets and value chains.

We suggest that the strategic orientation that has been proposed here is in line with the Sustainable Development Goals' (SDG) principle of "leaving no one behind". The analysis laid out in this report has, from our point of view, sufficiently demonstrated that most of the poor households and individuals in the rural areas of the case study countries of Zambia, Benin and Ethiopia currently have underutilised potentials that could be guided towards taking up new opportunities, if given access to necessary services. Regarding urbanisation and migration, the proposed strategy is neither directed towards promoting nor reducing rural–urban migration. Reliable, productive and rewarding income opportunities need to be sought at both ends of the rural–urban continuum, taking continuing population growth as well as the existing challenges and limitations of natural resources, globalised markets and global environmental changes into account. Considering these limitations and the uncertainties of climatic, market and political conditions, trans-local livelihood systems – with their inbuilt flexibility and resilience – may remain a necessity from a mid-term perspective, but hopefully at a significantly higher and less vulnerable level.

5 Literature

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6 Annex

Annex 1. Summary of inclusive and sustainable rural transformation in Zambia

Despite extensive research into rural development in sub-Saharan Africa, little is known about structural transformation¹⁶ in rural areas on the continent. Zambia was chosen as one of three case study countries¹⁷ in order to identify and to analyse rural transformation processes and their main influencing forces aiming at defining strategies and measures to influence such processes towards social inclusiveness and environmental sustainability until 2030¹⁸.

Zambia shows a persisting copper-dependent mono-structure with selective transformation processes towards commercial agricultural production in specific regions. It thus follows a very different trajectory than historical transformation processes in Europe or East Asia – it is neither characterized by increasing agricultural productivity and depopulation of rural areas, nor by an increasing share of industry for Gross Domestic Product (GDP) or employment, and neither by declining birth rates.

1. Trends

Macro-economic

After going through economic crises from 1975 to 2002, due to low world market prices for copper and poor economic governance, the Zambian economy experienced high growth rates between 2002 and 2013 with copper prices and a boom in the privatized copper industry. While this period of economic growth resulted in a boom of the urban economy, in particular in the construction and services sectors, it did not provide sufficient employment opportunities for the rapidly growing labour force. So, its impact on poverty reduction remained limited.

Facing the structural challenge of diversifying the copper-dependent economy, rural/structural transformation in Zambia has been sluggish at best. There was a modest decline in the share of agriculture in GDP and employment, along with increasing shares

¹⁶ Rural transformation is understood as a long-term, multidimensional process of change affecting the basic livelihoods characteristics of people in rural regions, taking into account their interaction with societal and global dynamics (Rauch et al., 2016).

¹⁷ The other countries were Benin and Ethiopia, selected to reflect the diversity of situations on the continent.

¹⁸ The team conducted a scenario workshop with 27 participants from ministries, civil society, researchers, and the private sector. This workshop developed different scenarios of rural transformation in Benin until 2030. The results of the workshop were underpinned, strengthened and enhanced (USE) in a subsequent phase of 109 expert interviews and Focus Group Discussions in two provinces – selected for their different agro-ecological and socio-economic conditions, and further validated and substantiated with literature studies.

of services and construction. But there was neither a broad based and dynamic development of the country's rich agricultural resources, nor were there successful approaches to creating productive and reliable income opportunities outside the agricultural sector. Agriculture continues to provide the basis of survival for the majority of the growing population, but – with the exception of a few dynamic subsectors in central locations – did not develop in such a way that the majority of rural people can escape from poverty and food insecurity. Manufacturing industries failed to provide non-farm job opportunities because most of them were not competitive after having been exposed to global competition through trade liberalisation.

Agricultural sector

A trend towards increasing involvement of smallholders in market-oriented farming could be observed during the last three to four decades, but in particular after 2005. This was primarily based on the increasingly large labour force using more of the available agricultural land and partly by a selective process of intensification using high yield hybrid maize varieties with mineral fertiliser application. This trend, however, depends on market and service conditions and related government policies, such as fertiliser subsidies (see section on “drivers” below). Only the growth of the large-scale commercial farming sector in central regions can be regarded as a sign of transformation.

Within that overall trend, the following changes of the specific indicators for rural transformation were observed after 1970:

- The number of farms and of people engaged in farming has been increasing in Zambia. The rural areas are absorbing a high share of the population growth.
- Agricultural production has been growing roughly in line with the growth rate of the Zambian population. Zambia has turned from a staple food (maize) deficit to a surplus country in recent years.
- The growth of agricultural output is mostly going along with an expansion of cultivated land and an increasing number of agricultural labourers.
- The contribution of the agricultural sector to the GDP is strongly fluctuating, depending on the value added for the copper mining sector (which is extremely volatile, depending on fluctuating copper prices and values added within the mining companies).
- Generally, land is still available, although not in every region, leading already to rural-rural migration in some areas. However, with growing numbers of farmers, and the leasing of land to foreign and national investors, pressure on land and forests is increasing, especially on prime sites or around urban centres.
- Most smallholder households tend to maintain subsistence production. But their engagement in market-oriented production is increasing (though with fluctuations depending on market conditions).

- Agricultural productivity is still very low, e.g. for maize it is about 2-3 tonnes/ha, which is far below the potential. It has so far been possible to expand production by using available land and the growing labour force. Yields tended to increase in periods when cash crop production was made attractive by offering access to subsidized inputs and safe market outlets.
- The structure of farm sizes has slowly changed over the past ten years: the share of very small farmers (< 2 ha) has decreased and the number of emergent and commercial farmers has increased. But this increase is mostly due not to expanding small-scale farmers, but to citizens/pensioners who invest their earnings from urban income sources in agriculture.
- The expansion of cultivated land together with insufficient/simplified conventional production methods is leading to increasing pressure on natural resources, especially forests and soils. The dissemination of sustainable farming methods, such as Conservation Farming, is hampered by labour shortages and financial constraints as well as the lack of soil rippers (which can be used instead of ploughs in order to prevent erosion).
- Though diversification of farming by involvement of small-scale farmers in value chains such as cotton, sugar and tobacco has made some progress, with roughly 300,000 participating farmers (approximately 25% of the farm households), the sector is still dominated by maize production. This is a consequence of state interventions in favour of national staple food security.

Non-Agricultural Sectors

The mining sector is still the engine of the Zambian economy, despite low and declining share in national employment and GDP. It contributes more than 80% of foreign exchange earnings. Business volumes of other sectors such as construction, services and trade (and consequently the state revenues) depend to a large degree on mining revenues and therefore on the world market price for copper. Moreover, the exchange rate of the Zambian Kwacha and with it the import capacity of the country increased with rising copper prices. On the other hand, exports in sectors other than mining, e.g. agricultural products are getting more expensive and less competitive.

After an attempt at import-substituting industrialisation (protected by high import duties) in the two decades after independence, the period since 1990 has been characterised by de-industrialisation, indicated by declining shares of the manufacturing sector in GDP and employment, due to lack of competitiveness of Zambian industries within a globalising economy.

The share of the service sectors in GDP and employment has increased considerably since 1990. Most of that increase reflects the expansion of informal economic activities. As most of these informal employment opportunities are unproductive as a result of abundant labour supply, the shift in favour of the service sector cannot be considered as an indication of structural transformation. The dynamics in large sections of the service

sector tend to depend on aggregate demand, i.e. economic growth, which fluctuates with copper revenues. A real diversification of the economic basis away from the mining sector has not taken place.

Population and migration dynamics

The share of urban population in Zambia in 2015 was slightly above 40% and hence nearly at the same level as in 1980. This, however, is not to be seen as a symptom of stagnation, but as a result of strong fluctuations in rural–urban population movements. People moved to towns and cities during the 1960s and 70s and again after 2003, when high copper prices resulted in boom periods of the urban economy. But they preferred to stay in or move back to rural areas, when low copper prices resulted in a decline of urban income opportunities. Regarding rural transformation, the urbanisation processes are therefore rather related to economic cycles than structural in nature.

To a high degree, rural-urban migration in Zambia is part of diversified rural-urban livelihood systems rather than representing a genuine urbanisation trend. People tend to move between rural and urban areas responding to changing opportunities in labour demand and supply. The prices for agricultural products, especially for the major staples maize and maize flour, also play an important role. Households tend to split their economic activities between vulnerable low productivity farming and vulnerable low productivity non-farm activities, thereby keeping themselves in a position to flexibly adjust to a volatile economic environment. If at all, one can identify a negative structural transformation resulting in a move towards even less productive activities.

As long as urban income opportunities depend to a high degree on fluctuating world market prices for copper and as long as so many of these opportunities are informal and precarious, urbanisation in Zambia will be fragile. The agricultural sector will continue to function as a buffer, because land and water resources are still available in most parts country.

Natural Resource Management

According to the expansion of agriculture, there was a slow and unsteady transformation of **natural resource management** systems regarding agricultural and forestry resources. More of the abundant rural natural resources were used by a fast-growing number of users without major and broad-based changes of resource utilisation technologies. This resulted in soil and forest degradation in the more densely populated areas.

- **Soil fertility** is managed in the remote and sparsely populated regions by fallow periods, which have been steadily shortened over time or in the more densely populated agricultural zones by the continuous application of nitrogen fertiliser. In some of the very remote areas (e.g. North-Western Province) there has been a gradual transformation over the past five decades from shifting cultivation to a semi-permanent cultivation system.
- **Water:** Small-scale crop cultivation for staple food crops relies on rain-fed agriculture with only a limited number of farmers practising improved soil and water

conservation techniques (such as conservation agriculture). This is certainly a result of a situation of high water availability and sufficient rainfall in many areas.

- Though Zambia is still blessed by seemingly abundant **forest resources**, the forest cover has declined from 75% of the total land area in 1970 to 66% at present, which corresponds to an annual deforestation rate of 0.3% (current estimates: 0.3 to 0.6%). In addition, qualitative degradation by selective cutting is a huge problem in Zambia. The main causes for deforestation are wood extraction for charcoal production, uncontrolled commercial exploitation of high value species for export, and agricultural expansion.
- **Climate change** already has significant negative impacts on Zambian agriculture. Climate variability will further increase, while water availability will decrease as a result of rising temperatures and changing precipitation patterns, especially in Southern Province. The challenges (and new opportunities) for farmers will vary from place to place and from crop to crop. Thus, climate change is likely to become a driver for rural transformation in the future.

Altogether, the abundance of natural resources in Zambia gave most resource users the chance to continue resource utilisation without intensifying their resource management methods or technologies. Nevertheless, natural resources became increasingly scarce in densely populated areas in the proximity of urban centres. There, the traditional extensive management practices became less and less sustainable, resulting in resource degradation and depletion.

Regional differentiation of trends

The dynamics and the path of structural transformation depend on the availability of natural resources and on market opportunities for agricultural products and urban job opportunities. Accordingly, one can distinguish:

- Central regions with suitable precipitation patterns for agriculture and a relatively high population pressure with favourable incentives towards intensification and diversification of agriculture (i.e. Central Province, parts of Eastern Province).
- Central low rainfall regions with increasing pressure towards more drought tolerant agriculture and irrigation.
- Remote areas with sufficient rainfall, but with little population pressure and limited incentives towards transformation.
- Remote low rainfall areas with high pressure towards intensified and resilient forms of subsistence farming and/or towards out-migration.

2. Influencing Factors ("drivers")

Asked to name the most important factors influencing rural transformation directly, the participants of the **scenario workshop** identified the following factors:

- access to water, energy, financial services, agricultural inputs and practical knowledge and skills;
- health status;
- prices for agricultural products;
- youth empowerment (including employment);
- sustainable use of agricultural resources;
- smallholder productivity;

Distinguishing between more “active” and more “passive” variables, factors related to access to services and resources as well as producer prices were concentrated on the active side. In contrast, the variables such as agricultural productivity, sustainable natural resource management and youth empowerment/employment are grouped as passive factors.

By aggregation of factors and by inclusion of factors influencing rural/structural transformation indirectly, the following factors have been further analysed:

- international markets, with special consideration of world market prices for Zambian agricultural and mineral resources and the competitive environment for non-agricultural employment opportunities;
- national policies with special consideration of access to services and natural resources;
- infrastructure development with special focus on transport, communications, and electricity;
- education and skills development;
- availability of natural resources.

It is a combination of these interrelated factors, rather than one single key factor, which hampered structural transformation in Zambia.

International markets: The single most important factor preventing structural transformation was probably the self-perpetuating dependency of the country on the fluctuating world market prices for copper. When the copper price was high (e.g. 1965–74 and 2003–13), there was an economic boom and thus no incentive for transformation. Moreover, the exchange rate of the Zambian Kwacha increased with the consequence that imported commodities became cheaper and non-mineral export products became less competitive on international markets. When the copper price was low, the need for diversification and structural transformation was generally recognised and the exchange rate became more favourable for local producers, but there were no financial resources for transformation. Furthermore, a long period of low world market prices for agricultural

commodities with global surplus production did not create incentives for increasing agricultural surplus production and productivity until 2005. Regarding the opportunities for non-farm employment, stiff international competition, especially for food products (South Africa) and textiles (China) discouraged efforts to diversify the economy in the absence of possibilities to protect the emergence of labour-intensive local industries generating mass-employment.

National politics and access to services and natural resources: Within that global economic environment, the Zambian government's policies did not show any serious attempts to diversify the economy. Services for small-scale farmers were focussed on maize production based on subsidised inputs and assured sales at fixed prices. Efforts to capacitate small-scale farmers to diversify, to cope better with the challenges of soil degradation and climate change and to meet the increasing urban demand for food products other than staples were limited. The donor-led "structural adjustment programmes" initiated in the 1990s as a response to the economic crisis did not aim at structural transformation, but rather the stabilisation of the economy. Privatisation and market-orientation did not work in favour of transformation either, as private investors tended to take immediate market chances in the trade and service sectors (such as water supply, trading companies) taking over existing state ventures, rather than investing in new sectors. While policies were more or less successful in adjusting social and economic services to the demands of a fast-growing population, thereby achieving self-sufficiency in staple food supplies and stabilising the socio-economic situation, they failed to transform the vulnerable and non-competitive mono-structured economy.

Infrastructure development: Long transport distances in the still sparsely populated country result in high infrastructure development costs, poor market access, and reduced competitiveness especially for the remote rural regions – a serious constraint on diversification through rural development. Accessibility will probably continue to remain a challenge for an increased market integration of the peripheral rural regions in Zambia. Nevertheless, the fast spread of mobile phones and the slowly progressing dissemination of regenerative energy in rural areas are presently reducing locational disadvantages and are opening new opportunities for local processing and for improving market access for competitive local products.

Educational levels and professional skills have not improved in quality despite considerable investments in the expansion of the educational system. While primary school enrolment rates are close to 100%, quality of teaching is poor and drop-out rates are high. Moreover, there is a mismatch between the type of education provided and the actual requirements of the local context and the labour market, in particular regarding vocational training. While skills were not a major constraint on structural transformation in the past, given the lack of market opportunities and the policy framework, they definitely represent a stumbling block for structural transformation in future. Young Zambians are not well prepared to cope with new challenges or to make use of opportunities in a changing economic environment. As poor quality of teaching tends to have a multiplier effect regarding the qualification of future teachers, trainers and advisors, these deficiencies face a high risk of being perpetuated.

The **abundance of natural resources** has been a retarding factor for structural transformation through intensification of agriculture and other resource-based rural activities. The increasing scarcity and degradation of these resources in many locations might become a driving factor for rural transformation in future. As shown by the experiences in other countries characterised by high rural population densities and resource scarcity (e.g. neighbouring Malawi), this is an important, but definitely not a sufficient condition for a change towards sustainably intensified agricultural production systems.

Conclusion regarding the role of influencing factors: Due to its wealth in minerals and agricultural land Zambia has neither felt a strong pressure towards structural/rural transformation nor were there strong incentives, taking into account the locational disadvantages within an increasingly competitive market environment and a long period of low agricultural producer prices. In such a constellation, a really visionary policy and strong governance for its implementation would have been required to take the hard route of transformation by making Zambia's farmers and manufacturing industries internationally competitive. However, this has not been the case.

3. Strategies

Scenarios elaborated in the workshop: The workshop participants developed two different scenarios for the expected future of rural regions in Zambia in 2030. One scenario was based on the assumption that things will go on as they did in the past ("business as usual scenario") and this scenario is also judged as the most probable. The more optimistic, but still realistic scenario was based on the assumption that all necessary efforts will be undertaken to improve things in line with the Zambian government's "Vision 2030":

The **"business as usual" scenario** does not anticipate any major changes. Within a growing population, increasingly erratic rainfall and unchanged markets for copper and agricultural products, the scenario expects only gradual improvements regarding market integration of agriculture, along with some trends of natural resource degradation and increasing social differentiation within the farming and the urban population. There is no expectation, however, that "business as usual" would result in a dramatic deterioration for the poorer sections. The scenario will definitely not result in a transformation of Zambia's mineral dependent economic structure, neither by a socially inclusive and environmentally sustainable intensification of agriculture nor by a significant increase in urban income opportunities for the additional young labour force.

The **"optimistic scenario"**, guided by the principles of social inclusiveness and sustainability, envisages a situation with better and socially inclusive access to necessary social and economic, public and private services for people living in rural regions. Based on better service access, in particular regarding skills and education for the youth, natural resources will be used more productively and more sustainably, agriculture will be diversified and will thereby meet increasing urban demand. In addition, the youth will get better access to jobs created by rural industrialisation (mainly agro-industries) based on rural electrification. This scenario would imply a significant structural transformation of the Zambian economy through agro-ecological intensification and more diversified agricultural production systems. It would be accompanied by small type agro-processing

industries based on rural electrification, skill development for the youth and value chain development. It is based on the assumption of improved governance ensuring better public and private services for everybody, with a special focus on young people.

Our **strategy guidelines** for promoting an environmentally sustainable and socially inclusive structural rural transformation process in Zambia consider the “optimistic scenario”. They go, however, beyond the rural focus by including necessary transformation processes in the urban industrial sectors and by considering the wider economic and policy framework as outlined in the set of influencing factors above. The strategy guidelines include a problem statement, a vision, a strategic framework including strategy components, external factors to be considered and the proposed fields for strategic interventions. It is well understood that these strategy guidelines cannot be used as a blueprint for programme planning, but need to be specified and modified to suit the specific context.

Problem statement and vision: Zambia’s structural problem is its mineral dependent economic mono-structure. The Zambian economy is in need of structural transformation in terms of a diversification. In line with the Zambian Vision 2030, the vision for structural transformation is a diversification of the economy through “a strong industrial sector, a modern agricultural sector and an efficient and productive service sector”.

The envisaged transformation process should be based on **two major components**:

- **Component 1: Agricultural development**

Taking the problems of low smallholder productivity, degradation of natural resources and mono-cropping into account, agricultural development (including forestry and fisheries) needs to pursue sustainable intensification and diversification.

Sub-Component 1.1: Sustainable intensification of agriculture and the use of other rural resources (e.g. forest resources)

Sub-Component 1.2: Diversification of agriculture

- **Component 2: Off-farm income and employment opportunities**

While everybody stresses the necessity of promoting off-farm income and employment opportunities, achievements in that field are less than impressive. This has much to do with international competition and international control of value chains, in particular through international supermarkets as well as global agro-business companies. The challenge here is to identify productive and competitive processing and other value-adding opportunities which are labour-intensive. In order to create a positive net-employment effect, these activities should be innovative in the local context. For instance, they could replace imported products or services and those value-adding stages that have been located abroad, rather than replacing existing local income-generating activities by labour-saving technologies. Two major fields fit these criteria:

Sub-Component 2.1: Agro-based industries, preferably in rural areas, or value-adding activities related to existing agricultural and forestry products

Sub-Component 2.2: Labour-intensive industries and services for domestic demand

The major target group for those opportunities are the young people entering the labour market.

Both components have to come together in order to make significant steps towards the vision of providing sufficient opportunities for improving the well-being of all.

The role of external influencing factors: Experience in the past has shown that a diversification of the Zambian economy is not an easy task. External factors have to be taken into account, as they can promote or hinder the transformation process. Among the most important factors are:

- **Copper prices:** Their fluctuation may influence the incentive system and the resources for promoting transformation.
- **World market prices for agricultural products:** Unless they increase in the long-run, there will be little incentive for increased agricultural surplus production or for investments in sustainable agricultural intensification.
- **High infrastructure costs in sparsely populated remote areas:** This factor implies competitive disadvantages for transport-intensive products in those areas. These are felt more strongly if agricultural prices are low.
- **Climate change:** Adverse climatic condition will increase pressure on transformation either by adaptation (which would mean here intensification) or by migration.
- **Stiff international competition for tradable manufactured products:** This factor needs to be taken into account when identifying appropriate off-farm income and employment opportunities.

It is important to consider these factors carefully when deciding on how best to promote transformation. Investments in increasing agricultural productivity will be wasted if the market cannot absorb the surplus production at reasonable prices. And training and finance for trades which cannot compete against imports will be in vain.

Fields of strategic interventions

Access to agro-services: Providing services not only for the existing agricultural and rural production systems, but for promotion of a socially inclusive and sustainable rural transformation process cannot rely on existing private commercial services. Rather, the Zambian government must adopt responsibility for a politically-supported change process, for sustainable development, and for poverty reduction. This relates to requirements for improved governance.

Improved rural infrastructure: While improved communication and energy generating technologies can help to facilitate a socially inclusive and sustainable transformation process even in remote rural areas, transport infrastructure will probably continue to be a constraining factor for a market-oriented transformation of the economy in those regions. High road construction and maintenance costs will hinder a full-scale opening up of sparsely populated remote regions. There, it seems to be more promising to adjust the way of resource utilisation and the means of transport to given transport costs.

Quality education, practical knowledge and skills: The example of Zambia, like those of many other African countries, has shown, that investments into the quantitative extension of the school system and high enrolment rates in line with millennium goals are not sufficient to improve the outcome of the system, in particular the literacy rates and practical skills. The youth and their families will only benefit from participating in an educational system if education increases the chance to get employment. As this is not sufficiently the case anymore, the perception of the value of education is low, especially if costs are involved and if opportunity costs in terms of using the young people for farm work are high. While it is true that education is crucial for development and transformation, it is equally true that the preparedness for education depends on the development and transformation dynamics and the employment opportunities created.

Industrial and trade policy: Sustainable income and employment opportunities will not emerge as a result of hundreds of uncoordinated initiatives promoting “income generating activities”. Neither will they be a result of private investments alone. They require a distinct transformation policy and well-tailored context specific transformation strategies based on sound analysis, which aim at a targeted promotion of promising economic sub-sectors as identified in Sub-sections 2.1 and 2.2.

Governance/Policy implementation: Rather than waiting for a long-term process of improving general governance performance, the promotion of the structural transformation process needs special institutional arrangements, e.g. in the shape of well-funded and coordinated multi-stakeholder action programmes (e.g. “Green Innovation Centres”, semi-autonomous multi-stakeholder management units or focussed and labour-market demand oriented vocational training programmes). This is not in contradiction to the long-term nature of transformation processes. The role of short-term special initiatives is, to push-start the process and to identify appropriate directions and paths for that process. Once the transformation process has gained speed, such special initiatives may become redundant.

Annex 2. Summary of inclusive and sustainable rural transformation in Benin

Despite extensive research on rural development in Sub-Saharan Africa, little is known about structural transformation¹⁹ in rural areas on the continent. Benin was chosen as one of three case study countries²⁰ in order to identify and to analyse rural transformation processes and their main influencing forces aiming at defining strategies and measures to influence such processes towards social inclusiveness and environmental sustainability until 2030²¹.

The overall results of the empirical study show that rural transformation processes in Benin are sluggish, gradual and follow a very different trajectory than historical transformation processes in Europe or East Asia –they are neither characterised by increasing agricultural productivity and depopulation of rural areas, nor by an increasing share of industry for GDP or employment, nor by declining birth rates.

However, the processes observed indicate multidimensional structural changes affecting the livelihoods of rural people such as:

- a diversification of household income options via increasing multi-local livelihoods,
- the urbanisation of secondary towns due to rural-urban migration and saturation of major cities,
- increasing importance of the service sector for both GDP and employment,
- a gradual professionalisation of the agricultural sector despite overall low and decreasing agricultural productivity.

These changes tend to increase social exclusion, because the chances to benefit from them are not evenly distributed. They will also promote unsustainable use of natural resources as long as birth rates remain high while agricultural productivity remains low. The continued reliance on agriculture leads to an unsustainable utilisation of natural resources – mainly due to overexploitation and non-adapted management of soils over increasingly large areas.

19 Rural transformation is understood as a long-term, multidimensional process of change affecting the basic livelihoods characteristics of people in rural regions, taking into account their interaction with societal and global dynamics (Rauch et al., 2016).

20 The other countries were Zambia and Ethiopia, selected to reflect the diversity of situations on the continent

21 The team conducted a scenario workshop with 27 participants from ministries, civil society, researchers, and the private sector. This workshop developed different scenarios of rural transformation in Benin until 2030. The results of the workshop were underpinned, strengthened and enhanced (USE) in a subsequent phase of 109 expert interviews and focus group discussions in two provinces – selected for their different agro-ecological and socio-economic conditions, and further validated and substantiated with literature studies.

Details of the trend analysis

An analysis of trends in the rural context and their driving forces was carried out along the different dimensions of the livelihood framework: economic, political-institutional, social, and environmental. The analysis highlights that ongoing processes are characterized by both change and stagnation.

Economic dimension

Benin's GDP growth rate of around 5% has been exceeding the Sub-Saharan African average since 2012, mainly driven by the service sector (expansion of the port of Cotonou) and increased agricultural production due to increased areas of agricultural lands. This has not resulted in a relevant reduction of poverty²², or in improved employment opportunities, as is illustrated by continued high rates of under-employment (56% in 2014) and informal employment (94% in 2014). The formal industrial and manufacturing sectors remain weak, while the informal (service) economy is growing.

There is a weak trend towards a non-agricultural income diversification driven by the service sector. Its contribution to GDP has increased to over 50% (2014) and it has stabilized its position as main employer, employing 46% of the working population in 2014. However, agriculture remains strong: its GDP share has stagnated at nearly 36% since 2009; 42.7% of the working population continue to rely on the sector for occupation and income. The agricultural sector continues to be dominated by small-scale farmers: 50% cultivated less than 2 ha in 2013, and 80% less than 4 ha²³; they produce 90% of the national agricultural output.

Despite its unbroken relevance for the national economy, agriculture remains below its potential. Productivity for crops is below the average in comparable countries. Agricultural total factor productivity²⁴ is still declining: between 1983 and 2008 it fell by 10%, mainly due to decreasing soil fertility, degenerated seeds, poor water management, pests, diseases, and insufficient plant protection. Increased weather variability driven by global climate change is further aggravating crop management challenges as growing conditions become less predictable.

In contrast to the European model (where increasing productivity was one of the main factors driving structural transformation), the decreasing productivity in Benin's agriculture pushes people out of crop production as it becomes increasingly difficult to make a

22 Monetary poverty has stagnated since 2009 at around 35% and is disproportionately higher in rural areas, while asset-based poverty (e.g. houses, mobile phones, vehicles, etc.) decreased from 44% (2006) to 29% (2011).

23 Farm sizes differ by region. In the North and the centre, farms are generally bigger: in Borgou, 45% of farmers cultivate more than 4 ha, compared to less than 10% in Ouémé and Plateau.

24 Total factor productivity (TFP) is the ratio between total output (crop and livestock products) to total production inputs (land, labour, capital, and materials). A low TFP implies that less output is gained from a constant amount of resources used in the production process (IFPRI, 2015).

living. Despite a lack of formal off-farm employment, labour migration is therefore increasing. The result is precarious underemployment in urban centres, mainly affecting younger people.

On the other hand, an improved road network and increasing market integration supports a slight diversification trend in the agro-food sector (primary production and processing) and offers new economic activities in small urban centres in rural areas, like Ndali in the province of Borgou. Financial services, especially credits, are increasingly available in rural areas, but they have high interest rates (between 15-25%), collaterals perceived as excessive by farmers, and loan cycles which do not correspond to crop cycles. Credits are therefore not adapted to the needs of agricultural producers. Other services like rural electrification and access to information and communications technology (ICT) have been improving over the past 15 years. Mobile phone subscriptions increased from 7.3 to 102% (2005 – 2014). However, rural electrification and internet access remain below the Sub-Saharan average.

The integration in regional markets offers considerable potential for the Beninese economy and the rural population, e.g. through value chain development for specific agricultural products such as palm oil or pineapple. Nigeria represents a huge and important market, and regional standards and tastes are comparable to Benin and less inhibitive than standards by the European Union, for example. While the Nigerian market is already important for local producers and a relevant factor for economic dynamics, this potential is not yet fully exploited due to continuing insufficiency of infrastructure for commercialisation, sub-standard products, and harassments of traders.

Despite all limitations, the sum of trends described above contributes to a slowly increasing professionalization and commercialisation of agricultural production. They foster increasing rural-urban linkages with an improved road network and increasing multi-local livelihoods, facilitating the exchange of goods, money, people, and value systems. However, the poorer segments of the population are disadvantaged by these changes. They have less access to inputs and improved means for crop production, so that their productivity declines even faster and their options to commercialise are further inhibited. There are also strong regional disparities in local opportunities to diversify, professionalise and commercialise, as there are strong variations in infrastructure supply and energy access. The described processes are therefore not socially inclusive.

Political and institutional dimension

Governance in Benin is characterised by stark disparities between the formulation of well-designed policies, strategies and plans, and the extent of their implementation. The decentralisation process, agricultural policies and changes in land legislation serve as examples.

The ongoing decentralisation process contributes to more political participation and thus enables lower administrative levels and the population to take some control of rural development. A legal framework for decentralisation exists, responsibilities and tasks are partly devolved and municipalities are theoretically largely autonomous in their decision-

making. However, financing still depends on the goodwill of the central government, and progress in decentralisation differs from sector to sector and between municipalities. Formally implemented participatory approaches lack functionality and human resources, while coordination between central government and local actors continues to be weak.

The national strategy for the agricultural sector is designed to promote professionalization and diversification in agriculture. However, as this is only partly implemented, the agricultural potential continues to be underexploited – which negatively affects rural livelihoods. Sustainable land management techniques are not comprehensively promoted or supported (e.g. soil conserving or enhancement techniques). Low and decreasing productivity coupled with the need to increase production leads to encroachment on land formerly not used for cultivation. The expansion of farmland decreases the availability of pastoral land for semi-nomadic groups (mainly Peulh) and further increases the risk of conflict between farmers and herders.

The expansion of agricultural lands, insufficient input supplies for overall agricultural production, and the strong focus on cotton for export lead to soil mining, land degradation, and exacerbate deforestation. The overall low and decreasing levels of productivity are not addressed by national policies; research and development (R&D) and extension services do not have the capacities and means to adequately support farmers and increase the outreach of input supplies. For the time being, agricultural policy on the ground therefore contributes to the deterioration of natural resources and the fragilization of the environment. As it fails to address environmentally sustainable productivity and diversification objectives, it does not respond to the income needs of a growing rural population.

Issues around land tenure and land use are increasing: Population growth and migration lead to urban sprawl and increasing land pressure (mainly in the already densely populated south). Peri-urban regions develop around major urban centres, e.g. Cotonou, Porto Novo, Parakou. Agricultural land is becoming more valuable as it becomes scarcer and some farmers, often the poor, sell their land to investors. They then find themselves without means to gain a living and are forced to move to urban centres, often ending up in informal and insecure underemployment, e.g. Zemidjan (mototaxi) drivers, or hawkers in the streets. Only a few small-scale farmers register their land because current administrative procedures are costly and demand literacy and education.

Improved regulation for better land security is so far not fully implemented. The rolling out of the new land code (adopted in 2013) offers opportunities for a more inclusive land tenure system, as it previews various safeguards against land speculation and for the protection of small-scale agricultural producers. Its implementation and impacts on the ground will need to be monitored closely by government and independent observers.

Social dimension

Demographic dynamics are marked by a continuously strong population growth. Migration patterns are varied: besides rural-urban migration, urban-urban migration also takes place. Cotonou in the department of Littoral is characterised by falling growth rates,

while neighbouring cities Abomey-Calavi and Ouidah are experiencing accelerated urbanisation. One side effect is the intensification of rural-urban relationships and a slow increase of urban infrastructure in formerly rural areas, including better access to electricity, health and education services. Rural-rural migration is also a phenomenon. Labourers from areas with less fertile soils and increasing weather variability (e.g. Atacora, Alibori) are moving temporarily or permanently to regions that are more favourable – which in consequence witness increasing pressure on their resources.

Benin shows remarkable improvements in health infrastructure and preventive health care due to efforts by government and the international community. Even in rural areas, access to safe drinking water has increased from 49% to 72% in the past 15 years, and maternal and child health have improved significantly. However, access is not inclusive: the poor transport infrastructure, persisting rural monetary poverty and socio-cultural barriers like the reliance on traditional healers and medicines all limit the use of existing health infrastructure and services in rural areas. Improvements thus remain below expectations. The same holds true in education: enrolment and completion rates in primary education improved in recent years. However, school materials are often too costly, despite the declared free education; teachers are often not paid and thus absent from school; the reputation of schools and teachers remains poor. In consequence, drop-out rates are high and attendance in secondary education continues to lag behind, especially for girls²⁵.

Despite government efforts over recent decades, rural areas in Benin face significant structural disadvantages. Access to good social services continues to be poor due to the inadequate infrastructure and difficulties in finding qualified staff willing to work in remote areas. Such disadvantages generally restrict the possibilities for socially inclusive rural transformation processes and will most likely continue to do so in the near future.

Environmental dimension

Land resources in Benin continue to be degraded for a number of reasons: the over-exploitation of soils due to missing application of fertilizers and soil conserving techniques; increasingly smaller plots (when uncultivated land is not available, the existing land is divided up among the next generation) with decreasing rotation or fallow periods in the densely populated south; tenure insecurity discouraging long-term investments in soil conservation and protection; and a lack of capacities and/or awareness for sustainable management. The degradation drives land use changes from pastures and forests land to agricultural land to maintain crop production levels.

The expansion of crop land into pastoral land reduces the availability of pastures. This process pushes the increasing degradation of the remaining grazing land due to over-

²⁵ In 2013, 83% of enrolled boys completed primary school, vs. 68% of girls; enrolment in secondary school: 55% of boys, 35% of girls.

stocking. Simultaneously, it increases the risk of conflict, as the encroachment into former pastoralist land is often done without knowledge of respect for pastoralist needs (e.g. corridors to water courses or to grazing areas).

Expansion of agricultural land is also the main driver for the ongoing deforestation. This process is exacerbated by the unabated use of charcoal as fuel. Government measures to curb unsustainable exploitation of fuelwood (reforestation programmes, control of wood transport), programmes to replace wood or charcoal as main cooking fuels or to optimize its consumption or production (improved stoves, efficient kilns) have so far not had any appreciable impact. Deforestation is accompanied by a loss of biodiversity and reduced water and soil retention capacities, thus increasing the risk of erosion and flooding.

Increasing weather variability is negatively affecting rain-fed crop production. Rainfalls in the South are shorter and less intense, while in the North they occur later and with more intensity. Generally, rainfalls are increasingly less bound to seasonality. Precipitation decreased 3.5% per decade from 1960 to 2006, strongest in the south and during the wet season. While no trend is visible concerning the ground and surface water availability, a deterioration of water quality is noted.

Environmental degradation exacerbated by climate variability negatively impacts the livelihoods of the population, particularly in the poorest regions of the country (Atacora, Alibori). The changing environmental conditions degrade the means of production (decline in soil fertility, increased erosion, less predictable availability of water) and thus decrease economic opportunities. One common coping strategy is migration, either to urban areas – with the mentioned precarious job opportunities – or to less degraded rural regions. Here, the resulting increased population density and the inappropriate cultivation techniques often practised by migrants aggravate the pressure on natural resources and infrastructure at these sites.

Taken together, the current trends force a growing number of people to migrate. Households increasingly adopt **flexible multi-local livelihood systems** to make optimum use of the limited, often precarious and seasonally fluctuating income opportunities. While ever more people start looking for non-farm income (in cities and increasingly in secondary towns), crop production for subsistence and where possible market production is upheld and diversified. These processes are the sum of individual coping strategies but they are not managed comprehensively, nor do policies (e.g. urban planning) adapt to them. They are not environmentally sustainable (because they put excessive pressure on natural resources), nor are they socially inclusive (because opportunities are not evenly distributed). This fosters a growing divide between the favoured and disfavoured segments of the population.

The workshop participants saw the continuation of trends described above as the most **realistic scenario for Benin in 2030**. They labelled it “**Wahala – catastrophic**”.

In the *wahala* scenario, bad governance persists and results in increasingly unequal access to resources, benefits, and opportunities. General economic growth brings some

off-farm employment opportunities, but these are not sufficient to absorb the job-seeking youth. Agriculture is only slowly diversifying and becoming more market oriented, while productivity is declining further. This does not make it possible for the majority of small-scale farmers to increase their resilience. Natural resources continue to deteriorate, fostering land conflicts, a situation accelerated by demographic dynamics. The sum of these processes accelerates rural-urban migration and forces the adoption of multi-local livelihoods based on various precarious income opportunities. Expected improvements in communications and the road network will facilitate mobility and support the multi-local livelihoods. Improvements in social infrastructure are continuing, but the rural-urban gap in access and quality widens.

The ongoing processes are accompanied by increasing risks of social and political tension. Overall, improvements are insufficient to keep pace with population growth. Persisting bad governance, natural resource deterioration and low agricultural productivity are main drivers of this catastrophic scenario.

An **optimistic scenario for 2030** labelled “**Alafia – happiness**” describes a best case. It is only achievable if adequate action towards social inclusion and sustainability is taken (see recommendations below). In that scenario, small-scale agriculture is professionalized (i.e. a sustainable increase of productivity, embedded in value chains) and provides better employment opportunities to a relevant part of the population in the agro-food sector. Income options in rural areas become more attractive and urbanization tendencies slow down. The slower pace of urbanisation and more consequent devolution of power to decentralized levels allow for better spatial planning and adequate infrastructure development.

Alafia is achieved thanks to the implementation of the new agricultural strategy: this facilitates improved access to agricultural inputs and advisory services that help increase the productivity of small-scale farmers and encourage the adoption of agricultural practices that enhance soil fertility (soil moisture conservation, soil organic matter enhancement etc.). The income of the rural population increases with higher productivity, which facilitates access to microfinance. A new system securing land tenure encourages investments to conserve productivity and stabilise livelihoods. This sustainable intensification along with new sources of revenue from the development of value chains (processing and regional commercialisation) reduces the direct pressure on natural resources and thus contributes to more sustainability within the ongoing transformation processes.

These improved rural livelihood options reduce rural-urban migration to major urban centres and encourage the growth of decentralized economic dynamics in secondary centres. Reduced migration and on-going decentralisation make municipal planning easier so that urbanisation happens within designed land-use plans. New developing small urban centres with infrastructure and markets help reduce the disparities between urban and rural regions in terms of non-farm income opportunities and access to commodities and services. Better services and more commodities bring along better education and, in the long run, more empowerment, thus increasing the capacities of the population to demand good governance to sustain the overall positive trends.

Recommendations

As rural transformation is a long term and complex process, tackling it means long-term engagement, addressing not only agriculture but also the whole economy, including the institutional framework. Small-scale farmers have to be targeted by proposed measures, as they will remain the main economic actors in rural Benin for years to come. It is vital to adapt any measure to the different local contexts before implementation.

In order to shape rural transformation in a more sustainable and socially inclusive way, different intervention areas for development partners have to go hand in hand and should directly contribute to one or more of the following areas:

1. A more sustainable use of natural resources with a focus on environmentally sustainable intensification of agricultural production.
 2. An increased number of off-farm opportunities for rural households aiming at increasing options to raise and diversify their income sources.
 3. Better access to public services for small-scale farmers and vulnerable groups, including access to infrastructure, information, and markets. Better information and access will contribute increased capacities of rural households to demand policy implementation.
 4. An increased degree of organisation of rural farm households in an inclusive way in order to overcome market failures in rural areas. Farmers' organisations promote capacities to participate in policy-making.
 5. Secured access to land in order to sustain livelihoods in rural areas and make rural households eligible for credits.
 6. The most critical factors for rural transformation identified by the scenario-building workshop were the sustainable management of natural resources, increased agricultural productivity, and access to financial services. Accordingly, they were chosen as the most promising entry points for concrete recommendations to orient the processes towards more inclusiveness and sustainability.
- **Sustainable increase of agricultural productivity** is the central lever to influence rural transformation in Benin. Many factors influence productivity, such as soil fertility and water, access to agricultural inputs, access to financial services, and dissemination of results from research and development. **Environmental intensification** can sustainably overcome soil fertility issues. It must be based on a broad strategy addressing different issues (e.g. soil nutrients, soil organic matter, ploughing or non-ploughing, depending on the specific soil and topographic conditions, as well as water retention capacities, erosion control, etc.) and levels (farm, extension services, input suppliers, policy makers) and should be implemented in cooperation with various partners – e.g. by pursuing a value chain approach with particular attention to disadvantaged groups. Agricultural productivity and sustainable natural resource management are closely linked (cf. 5.2).

- **Sustainable management of natural resources** is the other most important realm of intervention on farm and regional level. Efforts in this area are context-specific and should be adaptive to the state of natural resources. They require a multi-level approach. To be sustainable, all resources and their interdependencies have to be considered: soil and pasture, water, forest as well as (agro)biodiversity. Above all, the measures should be adapted to the specific natural landscape and its climatic and resource conditions. To ensure the sustainability of interventions, the local communities must be included in decision making processes and management. This fosters ownership of the resources and supports accountability for sustainable management (cf. 5.1).
- **Access to services in rural areas** – including access for the poor – is essential to enable the implementation of sustainable and socially inclusive practices in the management of natural resources and agriculture. Prerequisites for the realization of agricultural and other income generating activities are: Access to agricultural inputs (seeds, organic fertilizers and manure; where necessary mineral fertilizer and pesticides in combination with training); access to information and knowledge (e.g. about comprehensive pest management strategies, soil fertility enhancement measures, crop rotation, composting etc.); access to social services (education, health care); and access to **credit and financial services**. Decentralized financial services and appropriate financial products need to be available to farmers and innovators (for crop cultivation, agro-food processing). Expansion of the financial sector has to go hand in hand with campaigns for financial literacy and business management to prevent indebtedness. A strong control of the financial sector is compulsory (e.g. ethical standards) to reduce the risk of uncritical recruitment of customers. Besides these services, access to land and securing of land titles is of the utmost importance to foster ownership (cf. 5.3).
- In addition to the three main factors identified, we consider **accompanying measures in the non-farm sectors** as crucial for a better future (cf. 5.4.1). Off-farm income opportunities have to be created: firstly to decrease the dependency on agriculture and thus lower vulnerability to unforeseen climate-induced shocks, and secondly to create possibilities for the growing population and to provide options for diversification strategies beyond the agricultural sector. Finally, poverty is one of the main reasons for resource overexploitation – without unlocking new income sources, (unsustainable) exploitation of natural resources will serve as a fallback strategy, especially for poor rural households.
- **Better governance on all levels of intervention** is the key to the success of any intervention, as governance failures are the central obstacle to implementation of plans and programmes which overall seem well elaborated and coherent. Continued policy dialogue, capacity development for the different levels of administration and support in process monitoring to improve the efficiency of well-intended government programmes as well as strengthening of the role of civil society as advocates of the population need to accompany the specific recommendations.

Annex 3. Summary of inclusive and sustainable rural transformation in the arid and semi-arid lowlands in Ethiopia

Background

Rural areas in Ethiopia are currently facing massive environmental and socio-economic challenges which put the livelihoods of smallholders and pastoralists at risk. In spite of the Ethiopian economy showing double digit growth rates, poverty and malnourishment are still widespread, especially in rural areas of the country which are home to about 80% of the population. Among the most vulnerable regions in Ethiopia are the arid and semi-arid lowlands (ASAL) located in the peripheral border regions of the country below 1,500 m. Large parts of the population there are mobile pastoralists whose livelihood is adapted to deal with droughts and floods, which seem to be occurring with increased severity. At the same time, the peripheral ASAL regions, bordering on Kenya, Somalia, Djibouti and Eritrea, are hotspots of violent conflicts and a target area for governmental interventions to expand commercial irrigation agriculture. Within only few decades, pastoralists have become increasingly dependent on food aid, due to widespread loss of resilience, resource degradation and subsequent food insecurity. Mobile pastoralists, sedentary agro-pastoralists and commercial investors increasingly compete for land and water resources, especially in areas where irrigation agriculture is feasible. Balancing competing land use and livelihood systems while at the same time protecting natural resources remains a major challenge for the Ethiopian transformation agenda with its major focus on increased agricultural productivity and commercialization.

Against this background, this study analyses current trends and future scenarios of rural transformation in ASAL regions until 2030 in order to offer strategic recommendations for a more inclusive and sustainable transformation. The empirical cornerstone for this study was the combination of a participatory actor-centred scenario building process in Addis Ababa (February 2016) with qualitative semi-structured interviews in two selected regions of the Ethiopian lowlands, Afar and Somali. This methodological approach allowed for a triangulation of data and a socio-spatially contextualized understanding of processes of rural transformation.

Analysis of current trends

The research outcomes indicate that profound, multi-dimensional changes are currently taking place in ASAL regions, significantly altering the characteristics of the pastoral economy and livelihood system. But the current processes of intra-rural transformation, indicated by significant shifts in land use, tenure systems and settlement patterns, are neither environmentally sustainable nor socially inclusive.

Within the last decades, inadequate policies that have sought to transform rather than enhance pastoralism have severely undermined its economic viability. Guided by a policy for voluntary resettlement of pastoralists along rivers, key communal rangelands have been increasingly a) converted into irrigated farmland, and b) enclosed, fenced and pri-

vatised. Livestock mobility, the key productive strategy in arid and semi-arid environments, has been increasingly restricted in the process. The loss of accessible dry season grazing areas has increased stocking rates on less productive pastures, fostering land degradation and decreasing productivity. The ecological integrity of arid and semi-arid regions is currently severely at risk, which poses an existential threat for rural inhabitants.

Against this background, livestock productivity and herd sizes per household (especially cattle) have decreased in most areas. In a context of an increasing impoverishment and governmental incentives for sedentarisation and agro-pastoralism, new settlement patterns have emerged. More and more previously mobile pastoralists are settling, in order to diversify their income and food sources, especially through engagement in irrigated agriculture (mainly maize) and precarious employment in towns. The increasing need to generate income as well as new forms of resource allocation through changing practices of land ownership has been linked to a commodification of natural resources. Communal land is turning more and more into a tradable commodity, with only a few benefitting from the production and sale of charcoal or fodder or lease arrangements with agricultural investors. The monetisation of society signals a profound shift of social values from reciprocity and collective action towards more exclusive forms of social interaction.

In a context of dwindling pastoral resources, violent conflicts and internal displacements jeopardize regional security. Land use conflicts between the state and pastoral groups are worsening, especially in Afar Region, where in-migration of labour migrants from high-land regions to work on large-scale government sugarcane plantations has recently expanded. The current government impetus for agro-industrial development, including the commercialization of the livestock sector with a focus on export trade, entails the risk of exclusion of poorer pastoralists and rising environmental costs. The resultant conflicts are as much about economic resources as they are about political recognition and representation. In spite of the coherent decentralization process (Ethnic Federalism), local public participation hardly take place because of the local and regional dependence on central government agencies and grants, as well as the widespread political co-opting of local authorities, which have lost any legitimacy among the local population. Decentralization in Ethiopia is above all about de-concentration of resources rather than devolution of power. The crisis of political leadership and legitimacy is compounded by the weakening of customary institutions, particularly with regard to the management of natural resources and conflict.

Even though there are some improvements regarding access to transport, social infrastructure (health, education), and water supplies, the **most probable scenario for rural transformation** in 2030 shows a rather bleak picture. We see an intra-rural transformation from mobile pastoralism towards settled forms of agro-pastoralism and increasing numbers of destitute pastoralists and youths searching for employment in expanding small and medium towns within the ASAL regions. Pastures and dryland forests continue to deteriorate, especially in a context of insecure land rights and weakened customary institutions. Migration of young people looking for employment abroad is increasing, especially in Somali Region. New labour relations like contract-herding are on the rise as well, paralleled by new patterns of capitalist accumulation, an increasing dependence on

product and labour markets and a shift from a horizontally organized society with strong social capital towards a vertically stratified society where increasing parts of the population depend on large social protection programmes. Governmental development priorities as indicated in its Growth and Transformation Plan (GTP) will continue to be guided by interests to generate official revenues and employment from rural commercialization (mining, livestock export trade and plantation economies) excluding the majority of poorer pastoralists who lack capacity to engage in markets.

Major influencing factors for rural transformation

Even though continuing high population growth rates and the increasing temporal and spatial variability of rainfall have contributed to mounting pressures on natural resources and a heightened vulnerability of (agro-) pastoralists, these are not the main drivers of structural transformation. Rather, our analysis indicates that governance structures relating to land tenure, social capital and conflict have played and will play the major role for structural transformation in pastoral areas within Ethiopia. Governance relates to institutionalized modes of social cooperation to produce and implement collectively binding rules, or to provide collective goods such as public health, clean environment, social security, and infrastructure.

ASAL regions constitute economic and political frontiers where borders are porous and sovereignty is contested. They present areas of limited statehood where reciprocal networks based on social trust provide an alternative to the provision of public goods by the state. Unfortunately, the top-down rule of successive regimes has been marked by increasing efforts to destabilize and undermine customary governance structures. The partly violent conflict between the Ethiopian state, which has for centuries been ruled by highland elites from Amhara and Tigray, and segmentary socio-political entities of pastoralists who have long rejected state control, is at the root of the current economic and political crisis. A substantial proportion of the pastoral population still perceives the current Ethiopian People's Revolutionary Democratic Front (EPRDF) government as an "alien intruder" into their homeland, appropriating resources (land, oil and minerals) and undermining local livelihoods.

It is highly probable that the government will increase its efforts to consolidate power in these geo-strategically and economically important regions (transit corridors to ports for export trade, "unexploited" resources, relative land abundance compared to highlands). A key question will be how to resolve the inherent contradictions between the decentralized administrative structure which formally recognises ethnic diversity as well as the right for self-determination of nations and nationalities and the centralised developmental state model relying on an independent state bureaucracy.

Strategic recommendations

The major strategic recommendation proposed in this study points towards the necessity for a hybrid approach focussing on an intra-sectoral transformation towards diversified trans-local livelihoods in which livestock production continues to play the major role. This

approach supports various complementary pathways as pastoralists are increasingly heterogeneous. Strategic interventions should be geared to slow the rate at which poor households feel pressured to abandon livestock-keeping, while at the same time boosting the income of those who remain. This strategy builds on certain assumptions:

- a) Under conditions of continuing population growth, a major challenge will be the creation of additional non-agricultural employment opportunities. A growing number of youths and impoverished herders are leaving the pastoral sector and options for out-migration remain limited. Labour absorption capacities within pastoralism and agriculture will not be sufficient to meet the growing labour demand.
- b) Pastoralists can benefit from increased productivity of livestock and land as well as from improved conditions to engage in growing domestic and global livestock markets.

Against this background, it is recommended to direct long-term investments into the following key areas:

Governance – Customary institutions – Conflict: Major improvements in various aspects of governance at local, regional and local levels are central, especially in terms of 1) a better recognition and empowerment of customary institutions, which play an essential role for a sustainable natural resource management and conflict resolution, 2) improved land tenure security, 3) strengthened capacities and better accountability of political representatives and extension agents at local and regional levels, and 4) a differentiated and coherent policy for (mobile) pastoralism. The AU Policy Framework for Pastoralism in Africa, the first pan-African policy initiative on pastoralism, stresses the importance of an increased political commitment to pastoral development and the full integration of pastoralism in national and regional development programmes (African Union, 2010). Also a recent UN resolution (2/24) on “Combating desertification, land degradation and drought and promoting sustainable pastoralism and rangelands” (May, 2016) emphasizes that pastoral tenure security and healthy grassland and rangeland ecosystems are critical for the achievement of the Sustainable Development Goals (Agenda 2030 for Sustainable Development). Creating a political space for pastoralists to express their needs and visions and to demand their rights as citizens will be decisive for resilience building, poverty reduction, peace building and thus the socio-political stability of the country. In this regard, customary institutions should be capacitated to be legitimate and competent partner to local and regional governmental stakeholders in dialogue, consultation and negotiating new agendas for an inclusive transformation of ASAL regions. The sustainability of any external investment within the pastoral sector depends crucially on a supportive governance structure.

Sustainable pastoral intensification and livelihood diversification: A careful intensification of the extensive pastoral land management system, in the sense of an optimisation of diverse range of environmental and economic benefits, recognizes that environmental conditions do not allow for an industrialized livestock production where rangelands mainly present holding grounds for commercially-fattened stock. “Major increases in productivity could be possible within the pastoral sector, but a different interpretation

of intensification is required: one in which inputs of labour and social capital are recognised and the diversity of benefits from the system is respected” (McGahey et al., 2014, p. 35). Targeted improvements in feed, veterinary health and natural resource management have to be introduced under conditions of protected extensive grazing opportunities. Long-term investments will be necessary to strengthen the resilience of currently impoverished pastoralists and decrease their dependency on social assistance (PSNP). Natural resource management will be of the utmost importance to sustain and rehabilitate the pastoral livelihood base and to reduce the risk of land-use conflicts. A dual approach is called for: 1) the re-extensification of the production system through an integrated landscape management approach (including rangeland restoration, water harvesting), which allows for livestock mobility and improved access to dry season grazing areas, and in parallel 2) an intensification through improved provision of inputs. This intensification needs to go along with targeted support for livelihood diversification into non-pastoral activities which will increase resilience significantly.

Promotion of employment, education and skills: Future investments in education/skills should address the diverse demands of the increasing numbers of those leaving the pastoral sector involuntarily, of educated but often unemployed youths and those who remain mobile. Increasing the level of formal and alternative education especially for women and girls, building additional skills and capacities and supporting the creation of additional employment opportunities will be a major future challenge in ASAL areas currently characterized by high levels of illiteracy and strong population growth. Increasing the demand for skilled and unskilled labour on urban labour markets and improving the employment supply will be decisive for an inclusive transformation, given the limited labour opportunities within the agricultural sector. Education and skills can open up opportunities for alternative non-pastoral livelihood activities. This will also improve the political and economic bargaining power towards currently better-educated groups within Ethiopia.

Investments will increase options for livelihood diversification into non-pastoral/agricultural activities and urbanisation, a trend which will continue. It should be supported in a way that different livelihood activities inside and outside the agricultural sector complement each other and provide an enhanced buffer against the various risks that pastoralists face (droughts, floods, volatile prices, violent conflicts etc.). Support for diversification has to avoid trade-offs between different land uses, so that e.g. the introduction of irrigated small-scale farming should not undermine access to rangelands for pastoralists.

The ongoing trends and the most probable scenario for 2030 call for a strategic reorientation which needs to take account of the diversity of livelihood systems on a national level, and of heterogeneous social, economic and agro-ecological conditions within the ASAL regions. There is no blueprint intervention package suitable for all pastoral areas or pastoralism in general. The fact that pastoral societies are increasingly stratified in terms of wealth, available assets and livelihood strategies requires multi-dimensional and contextualized strategies. The failure of past interventions in lowlands had much to do with the copying of approaches from highland farming areas to lowland systems, distorted pre-conceptions about “irrational” structures of local decision-making, and a lack

of knowledge about power relations and the future aspirations of pastoralists. The creation of an institutional culture of mutual learning, respect and knowledge-sharing between state institutions and rural inhabitants has to be promoted, taking into account existing differences (e.g. mind-sets of policy-makers vs. pastoralists) and joint interests.

Finally, against the background of various inter-sectoral interdependencies of the main driving factors for rural transformation in ASAL areas, sectoral approaches are bound to fail. The coordination and cooperation between sectors will be of utmost importance to avoid contradictory objectives and interventions. A trans-sectoral, integrated and long-term effort on a landscape level is needed in order to strengthen pastoral livelihoods in a socially inclusive and environmentally sustainable way.