Green Jobs for Youth in a Just Food Systems Transition in Africa





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Introduction

It has been nearly a decade since the Paris Agreement was adopted and the call for a "greening" of economies through a process of low carbon transition (LCT) has never been louder. Climate change is seen as one of the most pressing issues of our time and is acknowledged as a 'threat multiplier' that exacerbates existing inequalities, especially those of vulnerable communities belonging to the Global majority. Despite having contributed the least to global warming, Africa remains the most vulnerable continent to climate change impacts. In 2022, more than 110 million people on the continent were directly affected by weather, climate and water-related hazards, causing more than US\$ 8.5 billion in economic damages (WMO, 2023). Projections are that climate-related hazards will continue to increase in severity with increasing global warming levels (IPCC, 2021).

Food systems in Africa are deeply vulnerable to climate change impacts and climate change poses severe threats to farmers across the continent (Omotoso, 2023). At the same time, food systems are also one of the largest contributors to greenhouse gas (GHG) emissions (Tubiello et al., 2021), and are the single largest cause of the global biodiversity crisis (Benton et al., 2021). While the sector is commonly recognised as critical for the achievement of a low carbon transition, research on the mechanics of a low carbon transition in agro-industries is however still sparse compared to research into the energy transition (Hebinck, Klerkx et al., 2021; Kaljonen, 2023). Moreover, solutions are often of a technical and scientific nature and lack specific focus on the social and political dynamics and implications of a transition process on vulnerable communities (Clapp et al., 2018).

A low carbon transition of food systems in Africa takes place in the context of persistent levels of food insecurity and malnutrition. In 2022, 738.9 million people globally faced hunger and 3.1 billion lacked access to healthy diets (FAO, 2024) many of which were on the African continent. Moreover, food systems are characterised by grave power asymmetries that reproduce deep social inequalities and injustices, as reflected by low wages and precarious work in agro-industries and a steep divide between smallholder farmers and large integrated farms (Anderson and Rivera-Ferre, 2021; Lowder et al., 2021).

These inequities are even more pronounced for Africa's youth. While the share of youth employment in agriculture has been declining steadily, the sector remains the main employer of youth in sub-Saharan Africa. Nearly 60 percent of youth employment was in the agricultural sector in 2021, the highest share of all regions (ILO, 2024). Around 88 percent of the world's 1.2 billion young people (aged 15 to 24 years) live in LMICs, predominantly in rural areas and spend on average more than half of their working time on farming (IFAD, 2019). More than one in five of them are not in employment, education or training (NEET), with girls being more likely to be unemployed than boys. Youth are also more likely to work in less secure, often informal, lower-wage employment with limited legal rights, social protection or representation (ILO, 2019). The lack of productive and decent jobs remains the largest labour market challenge for young people in Sub-Saharan Africa (ILO, 2024)

Given the deep social inequalities in the food system, its detrimental ecological impacts, and its extensive vulnerabilities to climate change, there is a growing consensus of the need for a food system transformation that both achieves environmental sustainability while also creating equitable livelihoods, decent work and nutritious diets for all. To support this

ambition, the concept of a *just transition* is gaining traction in development programmes and policies, which entails a transformation that goes beyond traditional market-centred approaches towards a focus on systemic change and social justice.

However, when it comes to a just food systems transition there is still no consensus for whom this justice should be realised, and how it should be enacted. Government policy provides little direction on what kind of outcomes a just transition in our food system should engender, or indeed what constitutes a transition that can be classified as 'just' by the breadth of constituencies affected (Bennie, Suliman & Bowman, 2023). On top of that, there is also a risk that climate change mitigation aimed at achieving stringent climate goals could negatively affect food access and food security (Akimoto et al. 2012; Fujimori et al. 2019; Hasegawa et al. 2018) and that marginalised groups such as youth and women will be left behind in the process. Consequently, there is a clear need for a holistic perspective on food systems transition that takes into account the various implications of an LCT in agriculture, specifically for youth and other vulnerable communities. An African and youth-centred just transition is therefore key as it provides just transition pathways to build resilience in food systems in socially just and environmentally sustainable ways. The creation of green and decent jobs for youth and skills development are seen as priorities of a just transition as it equips young people both not only for the current economy but also for the future of work (Lijfering et al., 2024).

The purpose of the 2024-2025 INCLUDE research programme is to analyse the drivers and barriers of a just food systems transition in Africa from a political economy and youth employment perspective. In this regard, the research programme commissions case study research in selected African countries, to support a contextualised understanding of just transitions, taking into account the social and political context at international, national and local levels. Synthesising the outcomes of the case studies, the research programme aims to identify strategies to minimise negative externalities associated with the low-carbon transition in Africa. Furthermore, it will identify strategies to include vulnerable communities left behind and to incentivise youth to pursue and drive economic opportunities in the agricultural sector. This will lead to recommendations for policy and practice on how to create an enabling environment for youth in a just food systems transition.

To support these objectives, this foundation paper synthesises existing research related to a food systems transition in Africa, highlighting the opportunities and barriers for youth. This will lead to an analytical framework and research questions to support case study research. The paper consists of three interrelated parts that zoom into various aspects of a just food systems transition. Part 1 conceptualises the different elements of justice that are relevant in a just food systems transition, while part 2 looks at different transition approaches. Part 3 takes the vantage point of youth, looking at the drivers and barriers for green jobs for youth resulting from a food systems transition. Combining the insights from these diverse aspects, we present the research agenda for the case study research. But first, we zoom in on the main theoretical frames and lenses that guide the research programme.

Conceptual framework & methodology

To explore the opportunities for youth in a just food systems transition in Africa, the research programme proposes a conceptual framework that integrates three key theoretical lenses:

1) inclusive development, 2) political economy and 3) food systems. Applying the framework allows the research to take a holistic perspective on just food transitions that both supports systems thinking and contextualisation of findings. This section elaborates on the three lenses and how these apply to just food systems transitions.

Inclusive development

The research programme applies an inclusive development lens as the main frame to approach this topic. Inclusive development is about ensuring that more people benefit from economic growth and development and ensuring that "no one is left behind". It aims to reduce poverty and inequality, in both income and non-income dimensions, assuring meaningful participation of and benefits for vulnerable groups in development processes (INCLUDE, 2023). Inclusive development is key to advancing the Sustainable Development Goals (SDG) Agenda. Moreover, a distinction between inclusive development processes (how decisions are made and who is included in that process) and outcomes (how prosperity is distributed and shared among a population and why) must be made (INCLUDE, 2013; Islam, 2019; Rocha Menocal, 2017).

However, within inclusive development discourse, much ambiguity still exists about what is 'inclusive', whose rights prevail and who should take responsibility? (INCLUDE, 2023). Therefore, inclusive development needs elaboration with a perspective on human rights and justice (economic, social, environmental/climate) acknowledging that injustices undermine equal opportunities and equity in development. (Gupta and Vegelin 2023). The INCLUDE research programme aims to examine these issues from the vantage point of youth, as they both bear the brunt of an unequal food system and are the most vulnerable to climate change impacts.

Political economy perspective

While the need for an inclusive, just transition is becoming increasingly apparent, the policy pathways for achieving such a vision are often highly contested, and the enabling conditions for implementation are frequently absent (Resnick et al., 2023). Moreover, transformation implicitly requires reforms that depart from the status quo, which will generate resistance from those groups that stand to lose the most. According to Hochstetler, a just transition is as such actually a series of political economy transitions, with different interest structures that should generate the participation of diverse actors and institutions of state and society (Hochstetler, 2020).

Although increasingly recognized as a crucial part of LCT, the political economy of transitions is still a vastly understudied area and the knowledge base on interactions between national and global political economies is still thin (Boateng et al., 2023). A political economy analysis can help explain why 'good' industrial and inclusive policies often fail to achieve their intended outcomes, why ineffective policies (or exclusive policies) can persist, and why potentially effective inclusive policies are not adopted or, when adopted, not fully or effectively implemented (World Bank, 2017). A better connection also needs to be made between economic and social exclusion approaches and issues of political participation (INCLUDE, 2023). Examining power dynamics and more importantly, power asymmetries in the food system is therefore a crucial part of a just food system transition, understanding the implications of the transition on multiple levels in the food system; from the international to national and community levels.

Food system transitions are disruptive by nature, transforming the materiality of food systems and land-use systems while undermining entrenched economic interests and political institutions along the way. Food systems transitions are inherently political as there are various competing interests at play. The need to address food insecurity and nutrition by increasing agricultural yields and market access on the one hand and on the other, making food systems more climate smart, resilient and sustainable on the other can prove to be a difficult balancing act for African governments. This challenge often results in trade-offs and suboptimal solutions. In pursuing such potentially environmentally suboptimal strategies, countries may nevertheless address important development needs and stimulate a trajectory to decarbonisation (ECDPM: 2024). The challenge for African food systems is to balance these short and long-term horizons, navigating transformation in terms of social resilience and political feasibility.

Food systems

The term food system refers to the complex web of actors and processes involved in the production, processing, distribution, preparation and consumption of food, and the outputs of these activities, including socio-economic and environmental outcomes (HLPE, 2017). Food systems operate at multiple scales where the local level is influenced by national, regional, and international policy and national food systems' architectures are influenced by local and international practices. When looking at a food system one can therefore distinguish between the processes and implications at various scale levels: from a farmer's yard to the global food market, and every link in between (WUR, 2020). Food systems also interact with other systems, such as health, energy and trade and are greatly affected by climate change.

Food systems in Africa are characterised by grave inequalities, which include issues such as unequal production and ownership structures, inequalities in consumption and nutrition and high rates of exploitation and precarity of workers (Bennie, Suliman & Bowman, 2023). Hence, there is a great need and call for a transformation towards sustainable food systems, which are defined as a system that ensures food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition of future generations are not compromised" (HLPE, 2017). Transforming food systems as such does not just mean making food systems themselves more sustainable, but also means increasing the transformative capacity of actors and institutions within the system to make the change more inclusive. It is therefore imperative that a just food systems transition addresses gender- and youth-specific barriers and ensures women's and youth's access to decent work and sustainable livelihoods in the food system and beyond.

Combining these various dimensions, the INCLUDE research programme applies a multi-dimensional understanding of justice in food system transitions by integrating a political economy and inclusive development perspective and examining how power imbalances in the food system influence the opportunities and barriers for youth in a just and inclusive food systems transition.

PART 1: What do we mean by a *just* food systems transition?

In climate and development discourse, the concept of a just transition is often positioned as a novel approach to tackle climate change, inequality and an opportunity to create decent work in the green economy. Despite its current popularity, the conceptualisation of a just transition is not new. The term originates from the North American labour movement in the 1970s and 1980s where it was used to protect workers in polluting industries whose livelihoods were jeopardised by environmental policy (Wilgosh, et al., 2022). As the Just Transition movement evolved and expanded into climate and energy, it shifted in focus from polluting industries to greenhouse gases and renewable energy promotion, while workers remained a central concern. 2015 marked a pivotal moment in this paradigm shift when the Just Transition Agenda was adopted into the preamble of the Paris Agreement (UNFCCC, 2015), and the ILO "Guidelines for a just transition" (ILO, 2015).

Despite this central recognition in climate action, there is no consensus on an all-encompassing definition of a just transition and various conceptualisations of the types of justice that are contained within are used. Within food systems transitions there are four main elements of justice considered to be part of a just transition 1). Distributive, 2). Procedural, 3). Recognition 4) Restorative justice. The section below will briefly elaborate on each of these and relate these to a just food systems transition.

Distributive justice

Distributive justice is concerned with the fair allocation of the costs and benefits resulting from a process of transition. On one level, this requires the design of effective policies and regulatory mechanisms that minimise distributional trade-offs, compensate losers, inclusively adapt existing industries, and support innovation, and job creation in, and expansion of, more ecologically sustainable activities (Bennie, Suliman & Bowman, 2023). On a deeper level, it considers the full range of distributional consequences of climate change and decarbonization processes, from concerns over quality and equality of employment in sustainable sectors to unequal access to affordable renewable energy services and other benefits of transition (Bennie, Suliman & Bowman, 2023; Abram, et al., 2022). In food systems, this aspect of justice emphasizes the distribution of risks and benefits associated with large scale changes in the agri-food system, in particular the distribution of access to and security of healthy and nutritious food, land, income, employment, ecosystem services etc. Distributive justice in a food systems transition also concerns the resilience of farmers and food supply chains towards shocks and job quality in terms of fair payment and working conditions (Tribaldos & Kortetmäki, 2023).

Procedural justice

The second dimension of justice constitutes procedural justice, which relates to the extent to which decision-making processes are sufficiently transparent, inclusive, and provide a fair opportunity for different voices to be heard. Procedural justice is based on the premise that a just outcome can only emerge out of an inclusive process. It focuses on facilitating an inclusive decision-making and implementation process, with particular attention on enabling and empowering vulnerable and oft-neglected stakeholders to participate. Analysing justice

in the context of energy transitions, Jenkins et al. (2016) put forward three mechanisms of inclusion that influence procedural justice in just transitions: local knowledge mobilization, information disclosure and institutional representation. Mobilizing local knowledge implies that "the inclusion of knowledge, discourse and stories in our decisions can make a significant impact on policies" (Jenkins et al., 2016: 178). Full information disclosure, e.g. by the leadership of a political decision-making process, facilitates meaningful participation and engagement. And finally, it concerns representation of diverse perspectives in institutions, regarding gender and ethnic minorities in governing bodies (Jenkins et al., 2016).

This justice principle is often lacking in decision-making processes, and where it does appear, it tends to be insufficient or misaligned (TIPS, 2022). Engaging a plurality of perspectives – in particular, those of marginalized communities and those most affected by policy decisions- is key to ensuring social equity and broad societal buy-in transition processes (Abram, 2023). In food systems transitions, this concerns people's right to actively participate in determining their own food system. In this regard, the mobilization of local knowledge relates to the inclusion of all stakeholders of food systems, in particular those who had difficulty accessing decision-making processes in the past due to power disparities. This principle requires special attention in light of a lack of transparency in many agricultural commodity chains, hindering greater sustainability (Gardner et al., 2019), and increasing power imbalances in food systems (Clapp et al., 2017; Tribaldos & Kortetmäki, 2023).

Recognition justice

A critical, but still under-researched aspect of a just food systems transition is recognition justice (Kaljonen, et al., 2023). Recognition justice focuses on socio-cultural equality and the recognition of vulnerable groups as legitimate knowledge holders and agents of change. Recognizing the importance of contextual and relational drivers of (in)justice is the starting point of a just transition approach as the impacts of a food systems transformation will be experienced differently by different groups. Recognition justice acknowledges that a low-carbon transition may in some cases exacerbate, rather than eradicate existing inequalities along gender, class, and ethnic lines. Sensitivity to the socioeconomic realities and lived experiences of different social groups is therefore critical in just transition policies as it makes apparent the multiple articulations of sustainability, showing that there is no single, linear roadmap towards decarbonization (Abram et al., 2022).

An important part of recognition justice in a food systems transition relates to gender disparities and intersectionality. In current food systems, African women are particularly vulnerable to precarity and exploitation. Due to their limited access to education, and household and childcare responsibilities, women are more likely to work in the informal sector, which offers fewer stable jobs and lower wages (Chakma, Rigg, & Ramsay, 2022). Socio-cultural norms and unequal access to economic assets, such as land and credit, further hinder women's full participation in economic life. Gender justice, specifically looking at opportunities and barriers for young girls is therefore an important part of a just food systems transition. Finally, recognition of intergenerational justice is important as future generations will be most impacted by climate change and food system choices that are being made now. Moreover, considering the imperative of creating employment opportunities

for the rapidly growing workforce, any just transition approach should have a youth focus at heart.

Restorative justice

This final element of justice highlights the need to compensate for harms done not only to individuals or communities but also to the environment and the climate (Tschersich and Kok, 2022). While originally construed as a way to compensate for job losses associated with transitions from fossil to renewable energy (McCauley and Heffron, 2018), it is now more broadly understood, intending to repair damages and redress historical injustices (Whitfield et al., 2021) and to avoid negative externalities resulting from a process of transitions (McCauley and Heffron, 2018). Within the context of food system transitions, this includes not only material reparations for social or environmental damages, but also has a relational focus on restoring trust and social cohesion in the transition process by bringing different stakeholders together (Tschersich and Kok, 2022).

A multidimensional political economy perspective on justice

While having distinctly different foci, the different dimensions of justice described above are strongly linked and supporting a just transition requires a holistic approach that takes into account the multidimensional nature of justice in food systems transition. As these various aspects of justice highlight, a food systems transition is also inherently political as different actors hold different values, beliefs and interests around different food system outcomes, and will prioritize among them and work toward them differently (Béné et al. 2019). Moreover, power asymmetries in the food system influence policy discussions and decision-making, determining 'whose voice counts' and who sets the agenda for a just food systems transition. Enabling just food systems transitions will as such require both local and globally coordinated policy interventions aimed at democratizing agri-food markets and their governance, in particular dismantling global market and power concentration, which have been identified as major causes of lock-in to the current industrial agricultural system (Tschersich and Kok, 2022).

Fundamentally, a just food systems transition therefore requires a rethinking of power dynamics, governance mechanisms and ownership structures towards more equitable approaches. This includes the emergence of new narratives and inclusion in the shaping of agro-food policies by those that are often pushed to the margins. One group that has been structurally excluded in policy discussions and decision-making is African youth, who are regularly referenced by policymakers in the context of low-carbon transition processes, but whose stake in the just transition is yet to be meaningfully realised. As they both bear the brunt of historical injustices and are the custodians of the continent's future, the principle of intergenerational justice is at the core of the most commonly used definition of sustainable development namely, "[development that] meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987, article 27). It is therefore essential to prepare youth not only for employment today but invest in an inclusive transition that equips youth with the skills and knowledge for the future of work.

In the next sections, we zoom in on different food system transition approaches and how a low carbon transition may pose challenges and provide job opportunities for youth in Africa.

PART 2: What are different approaches guiding a just food systems transition?

Globally, the net benefits of achieving a food system transformation are worth 5 to 10 trillion USD a year (Ruggeri Laderchi et al., 2024). Depending on the interplay of drivers and barriers and the influence of divergent strategies to implement the food systems transformations, future scenarios will pose various opportunities and challenges for different groups and play out on different levels (FAO, 2022). International, regional, national and local level actors in Africa need to develop and implement food systems transition approaches that aim to create positive impacts for the environment and to secure people's livelihoods, taking into account the capacities of different key actors and societal groups.

The concept of green jobs emerges as potential solutions to the multiplex challenges of climate change, poverty alleviation and inequality reduction, while also enabling African countries to create decent jobs for unemployed youth. The transition of food systems, however, will likely spark the creation but also the loss of jobs in different sectors. Zooming in on the most prominent approaches to guide food systems transformations and creating a sustainable agricultural sector, from the international to the local level, this chapter explores to what extent they explicitly aim to achieve positive change in youth employment outcomes. This is done by linking the proposed youth employment outcomes to the four types of justice mentioned in the analytical framework, as well as reviewing to what extent they include multidimensional political economy considerations.

International commitments to include youth voices in decision-making

International commitments to champion sustainable and globally just food systems are on the rise and explicitly mention youth as a factor that impacts efforts to transform Africa and global food systems, as evident in the AU Common Position on Food Systems presented at the 2021 UNFSS (NEPAD, 2021). It states that youth should be attracted to and meaningfully engaged in the transformation, which requires mainstreaming youth in policies that will ultimately affect their economic prospects, future employment outcomes and the environment in which they live.

Therefore, established youth networks should form a unified consortium of African youth-led organizations in agriculture and climate change through which policy negotiations at the continental level can be accessed and addressed (ibid.). This will foster youth inclusion and participation in decision-making, creating an enabling environment for young people to be an integral part of the development of policies that can address the diverse needs and unique identities of all young people (Mpungose, 2020). However, the AU position paper also emphasizes collective ownership, control and accountability of youth to take part in the execution and implementation of these policies, as well as in the monitoring and evaluation processes (NEPAD, 2021).

Noteworthy, the process leading up to the UNFSS included elements of procedural justice by engaging and consulting youth through UNFSS Independent Dialogues, an online youth consultation by UNFSS and the World Food Forum, and giving the space to youth organizations conducting their own consultations and reporting back, such as Kitchen Connection's Table Talks and through the Act4Food Actions 4 Change open voting for global youth actions (UNFS Coordination Hub, 2021).

This consultation process culminated in the Youth Declaration on Food Systems
Transformation, which represented a synthesis of the efforts of youth organizations. Next to
their own commitments to action, advocacy and empowerment, they collectively identify
critical priorities and call for leadership by governments, corporations and other stakeholders
in the food system transformation. Amongst others, they demand an institutionalized
platform after the United Nations Food Systems Summit, where all youth and youth
organizations working to transform food systems can come together and meaningfully
engage in the collective empowerment and decision-making processes (ibid.).

While the African vision was comprehensive and the objective of the summit ambitious - "create system change towards sustainable food systems in a participatory and globally just way" (UNFSS, 2021), critics argue that despite the Summit's transformative aspirations, voices advocating for regenerative practices and justice were drowned out by dominant, extractive narratives (Tanzer, et al., 2022). Consequently, the summit's outcomes were more about business as usual than bringing about real change (ibid.). Furthermore, invoking the distributional justice dimension, Dr. Apollos Nwafor - Vice President, Policy and State Capability at AGRA - pointed out during the Food Systems Summit that a political economy approach needs to be taken to assess who is to benefit and lose from the transformation and why (Africa Food Systems Forum, 2023).

Recognizing youth's pivotal role in driving national transformations

International coordination requires understanding domestic factors influencing reform agendas and aligning policies with existing state capacities (Resnick et al., 2023). While a systemic analysis and holistic approaches should be a starting point for guiding the just transition, it will in practice depend to a large extent on strategies and policies that will be designed and implemented (or ignored) by sovereign entities and by the behaviour of all the other relevant agents (FAO, 2022).

At the 2021 UNFSS, African heads of State and 20 ministers presented their national pathways for food systems transformation, which are a result of national dialogues to review progress and identify successes, enduring bottlenecks and priorities. The National Food Systems Transformation Pathways (NFSTPs) contain country-specific priorities for stakeholders working in food systems – across the public and private sector, and civil society – to make food systems more sustainable, equitable and resilient, for better production, better nutrition, a better environment and a better life (Africa Food Systems Forum, 2023). Generally speaking, increased investment in rural transformation, reducing food loss and waste, empowering vulnerable populations like youth and women, expanding social protection programmes and building resilient value chains, are essential to ensuring successful food systems transformation (UN, 2023).

Aligning with the recognition justice dimension, many African NFSTPs recognize youth and Africa's demographic dividend as an important driver of the food systems change, while a well-functioning food system will also increase the economic prospects of young people through the creation of employment and entrepreneurship opportunities. Specifically, the NFSTPs, like Nigeria's "Pathways to Food Systems Transformation: A Call to Action", refer to youth-led entrepreneurship in agriculture which can promote innovative business models in the agri value chain and regenerative farming practices.

The Nigerian example includes other more concrete youth considerations such as:

- developing and nationally using finance and insurance services for small-scale youth producers and processors;
- supporting food systems-related technical/vocational training and business grant programmes for vulnerable youths;
- increasing opportunities for agriculture tertiary students to gain on-field experiences
- reforming the land tenure system for easy land access for youths
- facilitating youths' access to food production and processing settlements, agricultural inputs, technical assistance, financing, insurance, and services provided by the state and federal government
- creating physical spaces and schedules for farmers, especially youths and women, to sell their product (Govt. of Nigeria, 2023).

The international commitments and national pathways demand sound policies to support the sustainable transformation of the agrifood system and address climate change, through an inclusive governance approach, where young men and women are equally involved in decision-making processes. While NFSTPs serve to align parties on a broad strategic level to focus their efforts on youth inclusions in value chains and capacity-building, concrete strategies that have clear deliverables, which governments and everyone else can be held accountable for, are still largely missing. This also includes strategies to promote decent youth employment. Nevertheless, government programs are currently being developed, rolled out and existing agricultural support policies adjusted (see Box. 1).

Box 1. Agricultural support policies

Government support for agriculture aims to protect farmers' incomes, ensure food availability, and promote productivity. Agricultural support policies, including input subsidies, have significantly boosted global food production, especially staple crops, reducing hunger and poverty. However, concerns arise regarding their compatibility with sustainable, healthy, and inclusive food systems, and regarding their efficiency, yielding only a fraction of the investment returns (Gautam et al., 2022). Reforms are imperative, with increasing emphasis on repurposing existing support to incentivize producers and consumers towards sustainable practices, instead of rearranging or removing current support programmes, or applying environmental conditionality to the support, as these strategies might imply lower yields for farmers and reduced food supply (ibid.).

While some policies promote staple crops, they often neglect dietary diversity and can be regressive, benefiting wealthier farmers and raising food costs for poorer consumers (Resnick et al., 2023). In addition, high-income countries' farmers benefit from substantial government assistance, while low-income countries face heavy export taxes, resulting in global overproduction and price suppression (ibid.). Since the links between local and international value chains are

influenced a great deal by international policies and regulatory frameworks, it is necessary to analyse the impact of regulatory frameworks and sustainability policies on food systems both locally and internationally - specifically in relation to trade.

Recent studies have shown that simply eliminating all existing support would not greatly reduce GHG emissions, but would depress farm incomes, increase poverty, and increase the cost of healthy diets (Searchinger et al. 2020; FAO, UNDP, and UNEP 2021). Therefore, international discourse, including at the 2021 UNFSS and during the climate discussions at COP28, which included food for the first time on the agenda, has shifted to how existing support might be repurposed to create better incentives for producers and consumers (Shirley, Deme & Onyango, 2023). Repurposing subsidies towards initiatives like agricultural R&D and rural infrastructure improvements could generate mutually beneficial outcomes for individuals, the environment, and economic prosperity (Resnick et al., 2023).

Restorative value chain and market system development

The aforementioned approaches advocate for awareness creation of youth's role in driving the food systems transformation and youth inclusion in decision-making processes. They are however still relatively vague in proposing concrete strategies to compensate for and avoid harm done to individuals, communities and the environment as well as how youth can benefit from a restructuring of the food system. Beyond government programmes that aim to promote youth participation and safeguard youth's livelihoods in subsistence farming, which remains the largest "employer" of the agri sector, the private sector plays a pivotal role in creating decent economic opportunities through scaling promising innovative and sustainable business models.

What we call the market system approach in transforming food systems embraces increasing agricultural productivity and efficient value chains as necessary factors to avoid food shortages, raise rural incomes and reduce the cost of healthy diets (Gautam et al., 2022). Including some elements of restorative justice, the market systems approach in the agricultural sector leverages existing local commercial, public and civil systems for farm-to-market service delivery (USAID, 2014). The key to creating a sustainable food system is to introduce incentives that stimulate local actors to invest their own capital and labor to upgrade services without creating a dependency on donor resources, and without donor projects introducing parallel structures.

In the case of public private partnerships (PPPs), public funding can catalyse private investment to reach common objectives, like developing agricultural value chains, promoting the uptake of agricultural innovations and technology, upgrading market infrastructure, and providing business development services to farmers and small enterprises (FAO, 2016). Private partners provide capital and expertise, while public partners contribute investments, land access, research, and regulations like environmental standards to ensure fair competition (Ruggeri Laderchi et al., 2024). This can be done, for example, through providing an accelerator or an incubator for innovations, or by using blended finance instruments to de-risk private investment in food system projects (ibid.). There are concerns that PPPs may amplify the already substantial influence of corporations on food systems. Nevertheless, they can also enhance public resources by improving operational efficiencies

and reducing costs, particularly when they are designed with full transparency, accountability, and trustworthiness (Fanzo et al. 2020).

Adopting a value chain perspective to boost agricultural productivity requires examining agricultural services beyond mere production. Policy interventions in processing value chains can accelerate changes and trigger related shifts in other parts of the food system, exerting significant influence due to their leverage on other sectors (Lenton et al., 2022). Despite this, policies aimed at reshaping food systems have seldom focused on distribution in food value chains (Ruggeri Laderchi et al., 2024). Integrating small producers into modern value chains through enhanced digital information systems can improve market access, reduce post-harvest losses, track provenance, and provide affordable inputs, credit, and crop insurance (ibid.).

This market-centered approach to environmental sustainability prioritizes markets and economic efficiency, often relying on technology as the solution to ecological challenges, a strategy criticized as a "technofix" (Borras et al., 2022). This perspective tends to emphasize technological solutions like efficient feeds for livestock, genetically modified crops for drought resistance, and digital technologies for agricultural practices, reinforcing markets for proprietary products and benefiting private sector-held technologies (Bennie, Suliman & Bowman, 2023). While some proponents advocate for voluntary private sector initiatives, others suggest proactive market regulation, such as through carbon taxes, to incentivize sustainable practices. This neoliberal approach extends to food security, framing it primarily in terms of production efficiency and output scale, with key actors being the private sector and dominant agro-industry entities, leaving underlying agrarian, social, and economic issues unaddressed (ibid.). These critical stances therefore argue for closer attention to distributional justice.

An example of the market- and technology-centered approach is the concept of sustainable intensification, which argues for increased productivity on less land through technological means, particularly in the face of population growth and climate change. Initially associated with agroecology principles (see Box 2.), sustainable intensification has been co-opted by powerful corporate interests within the global food system, promoting privately held technologies as the route to sustainability (Clap et al., 2018; Borras et al., 2022). This appropriation of sustainable intensification has drawn criticism for perpetuating the industrial food system and prioritizing corporate profitability over transformative change. How this exacerbates existing inequalities in the food system, and how to increase the sovereignty of local food value chains in the face of powerful multinational interests, is further explained in the next section.

Box 2. Sustainable agricultural practices

Green solutions in agriculture encompass a spectrum of practices, including crop diversification to increase resilience to climate related shocks, agricultural technology (AgTech), emission reduction, for example through agroforestry and, most notably, climate-smart agriculture (CSA) (Lijfering & Lacey, 2022).

On the more technology-focused and market-centred side of the spectrum, **AgTech** is a form of technological innovation, encompassing information and communication

technology, agricultural biochemistry, innovative farming techniques, automation, and smart logistics (Krishnan et al., 2020). It has a high disruption potential to deliver increased equity, expand digital capacities and increase the quality and quantity of jobs, through increased agricultural productivity in capital and labour, value addition, regional trade and cohesion, skills acquisition and formalisation of jobs, opportunities for youth and women, and redistribution of value (ibid.).

CSA developed from a concept to an implementable approach which integrates adaptation and mitigation measures to enhance agricultural resilience in the face of climate change while reducing greenhouse gas emissions. Moreover, CSA initiatives hold promise for fostering green job creation within sustainable agricultural frameworks (Lijfering & Lacey, 2022). The approach rests on three pillars: sustainably increasing agricultural productivity and incomes, adapting and building the resilience of people and agri-food systems to climate change, and reducing and/or removing greenhouse gas emissions where possible (FAO, 2021). There are a variety of case studies of CSA in practice, many of which specifically focus on smallholders, youth and women because they are particularly affected by climate change. Under action point 5 "implementing practices at field level", the FAO highlights the importance of gaining a good understanding of the diverse needs of target groups and working directly with them, for example through Farmer Field Schools, demonstration plots and information and communications technology. Furthermore, CSA practices should be based on meaningful stakeholder consultation, local knowledge and priorities and take into account the differences of socio-economic circumstances, for example, by improving social protection.

On the more restorative and nature-based side of the spectrum, **agroecology** emphasizes the interconnectedness of ecological and agricultural systems to promote sustainability, focussing on nature-based solutions that bolster food system resilience against climate change and promote circularity (WUR, 2020). In its essence, agroecology can be understood as a system of production that works with the principles of nature, recycles nutrients and resources, minimises the use of external agricultural inputs, and prioritises ecological health and human nutrition (Bennie, Suliman & Bowman, 2023). Agroecology contributes to youth employment through job growth and improved working conditions due to the creation of additional secure income opportunities with its emphasis on promoting locally embedded markets, participation of rural communities and fairness (Baum & Mechsner, 2023). Compared to other approaches, it goes beyond the proliferation of specific production techniques, embracing a combination of indigenous knowledge and formal science, as well as emphasising justice in agrarian and societal relations (Gimenez and Shattuck, 2011).

Systemic change to promote distributional justice

The previously described food systems transformation approaches mainly encompass strategies that primarily focus on increasing productivity and ecological sustainability of the agricultural sector and building the capacity of young farmers. Elements of justice are largely implicitly considered in advocating for youth inclusion in decision-making and value chain development to attract youth to the sector and ignite their innovative and entrepreneurial spirit, supported by youth-targeted interventions. Embracing a more holistic vision of the food

system transformation, the systemic change approach centres on the redistribution of property, resources, and power as a basis for building a just food system (Bennie, Suliman & Bowman, 2023).

It is increasingly recognised that for a just food systems transition, an economy-wide approach is needed, which requires consideration of the connections between and across sectors in an overall low-carbon transition (Bennie, Suliman & Bowman, 2023). The agricultural sector might be able to absorb jobs that are falling away in other sectors, and the sector itself depends on and influences other sectors, such as energy, manufacturing and retail. Moreover, nutrition, consumption, and more broadly the food system as a whole, are inevitably affected by any shifts in employment, household incomes, and cost of living (ibid.). Therefore, systemic food transformation strategies take into account the choices of different stakeholders within the agricultural sector. The FAO Strategic Framework 2022–2031, for example, identifies four "priority triggers" for transformation that comprise: 1) institutions and governance; 2) consumer awareness; 3) income and wealth distribution; and 4) innovative technologies and approaches (FAO, 2022). These are effective starting points or accelerators of transformative processes, to be activated by means of suitable strategies and policies, which are expected to mutually interact and influence important drivers of agrifood systems and thus spread impacts throughout all agrifood, socioeconomic and environmental systems to achieve desired outcomes.

Taking a more radical stance towards redistributive justice, there's a growing movement towards reconnecting producers and consumers through short food chains and local food systems. Developing local food systems is recognized for its social and economic benefits, such as promoting community cohesion, trust-building, job creation, and local economic strengthening (Bennie, Suliman & Bowman, 2023). However, local food systems have faced threats from the global restructuring of agri-food systems in the past, which led to monopolization by transnational corporations, pushing people away from food production towards urban sectors (Pimbert, 2015). Thereby, the systemic approach stands in contrast to the "modernist development paradigm", which asserts that not only the economic structure but also many areas of the social structure, from ways of thinking and living to technological structure, need to change if the main aim of development policies is to break the cycle of poverty (Karacay & Özer, 2017).

In response to the capitalist market-centred approach, advocates of deeper systemic changes call for a major overhaul of agrifood systems and policies to prioritize nutrition, human health, and environmental sustainability (Bennie, Suliman & Bowman, 2023). Given the pervasive social and power inequalities within the food system, strategies emphasize the fundamental systemic alterations required in production and consumption systems to attain a just and sustainable food system, most notably within the framework of food sovereignty.

Food sovereignty denotes the right of individuals to produce and consume food in manners that are both ecologically and culturally suitable and to shape their own food systems, countering the disproportionate influence of corporations and markets (Nyeleni Forum, 2007). The concept has been taken up by many peasant rights movements, like La Vía Campesina (see Box 3.), advocating for solidarity and grassroots solutions for fundamental,

structural reform in the food system, and includes objectives of distributive and procedural justice in production (Borras, 2023).

Due to their rejection of the capitalist and market-centred logic, most food sovereignty approaches do not include specific strategies to promote youth employment. Rather, strategies to achieve food sovereignty in practice include agrarian reforms to redistribute land to small-scale farmers, supporting seed saving and exchange programs to preserve biodiversity and farmer autonomy, and promoting local markets that prioritize direct sales from farmers to consumers (Wittman, 2011). In addition, better livelihood outcomes for youth are achieved through farmer-to-farmer training programs in agroecology, empowering communities with the knowledge and skills to implement sustainable farming practices that enhance food security and ecological resilience. The movement also engages in policy advocacy to influence national and international agricultural policies, ensuring they support smallholder farmers rather than large agribusinesses.

Box 3. La Vía Campesina: A Global Peasant Rights Movement

La Vía Campesina is an international farmers organization, formed by 182 organisations in 81 countries, and describes itself as "an international movement which coordinates peasant organizations of small and middle-scale producers, agricultural workers, rural women, and indigenous communities from Asia, Africa, America, and Europe" (La Vía Campesina, 2003). This movement challenges the industrial, corporate-driven agricultural model by promoting agroecology, a sustainable farming approach that harmonizes with natural ecosystems and local knowledge. La Via Campesina's approach emphasizes equitable access to land, seeds, and resources, ensuring that small-scale farmers, including youth, can thrive (Altieri & Toledo, 2011). By advocating for policies that support local food production and resisting the commodification of agriculture, La Via Campesina envisions a just food system transformation that not only fosters ecological sustainability but also secures dignified livelihoods for young farmers, empowering them as stewards of resilient, community-centered food systems (ibid.).

PART 3: What are the drivers and barriers for green jobs for youth in a just transition?

Next to environmental sustainability and the aim of achieving a just food system with access to nutritious food for all, each track of this green transition involves a reallocation of labour or the creation of new employment opportunities in the form of green jobs for the continent's growing youth population (Mwaura & Glover, 2021).

Creating economic opportunities for youth is a key priority of African governments, as many African countries still struggle with low-wage employment figures and a phenomenon known as "jobless growth" (Utafiti Sera, 2016). While Africa has seen some of the fastest-growing economies globally in the last decade, this growth has not been inclusive, failing to provide sufficient employment opportunities for its citizens and achieving a reduction in poverty and inequality (Filmer & Fox, 2014). This slow progress can be attributed to the nature of its growth, predominantly in capital-intensive sectors like oil, gas, and mineral extraction, rather than labor-intensive sectors such as agriculture or manufacturing (Yeboah & Flynn, 2021).

Africa's demographic trends further exacerbate the issue. Currently, 60% of Africa's population is under 25 years old, with the youth population expected to reach 400 million in the next decade (Yeboah & Flynn, 2021). One-third of Africa's nearly 420 million youth are unemployed or discouraged, another third are in vulnerable employment, and only one in six are engaged in wage employment (AfDB, 2021). To address these challenges, Africa needs to create approximately 20 million jobs annually until 2035 to accommodate its growing workforce. However, the struggle to find work is compounded by widespread underemployment and poor working conditions (Abdychev et al., 2018).

In the light of achieving inclusive development, which emphasizes the environmental, social and relation aspects of development (Gupta, et al., 2015), youth employment creation must play a central role in the structural transformation of Africa's food systems. Currently, a significant number of young people still depend on the agricultural sector which accounts for more than half of total employment in Sub-Saharan Africa (SSA) (ILOSTAT, 2020). While agriculture remains a critical sector for employment, it is characterised by underemployment and insecure working conditions due to seasonality and low productivity (Yeboah & Flynn, 2021). These circumstances lead to youth having a negative perception of agriculture as an income-generating activity and seeking employment typically in more modern sectors and the urban (informal) economy. Therefore, it is critical to assess how to provide incentives to young people in order to change their perception towards viewing agribusiness as an attractive venture.

To mitigate youth unemployment and foster inclusive development, a just food systems transition can create new green jobs for youth by shifting towards more sustainable and labor-intensive agricultural practices, which holds the potential to absorb the growing youth labor force, reduce underemployment, and provide decent working conditions (ibid.). Furthermore, large-scale nature restoration and protection interventions can provide additional job opportunities, such as the 'Great Green Wall' initiative by the African Union for the Sahel and Sahara region which could create 10 million jobs (GCA, 2021).

On the flip side, SSA is expected to witness reductions in job opportunities in primary production, with 28 million people projected to leave jobs in agriculture, due to rising average incomes, changing consumption patterns, urbanisation and increased efficiency in the agricultural sector (FSEC, 2023). For workers this entails a need to diversify their livelihoods, combining the reliance on small plots or working as agricultural labourers with other types of activities.

Youth employment opportunities in the green economy

Nevertheless, agriculture remains the main promising sector contributing to employment creation, especially providing opportunities in rural areas (Yeboah & Flynn, 2021). In addition, the independent academic Food Systems Economics Commission highlights that food systems transformation strategies can unlock opportunities for new off-farm employment and improve working conditions in agriculture, given deliberate efforts and policy coordination that also strengthen the downstream food economy (e.g., trade, processing, and storage and its finance and infrastructure) (FSEC, 2023).

In recent literature, the concept of the "green economy" is gaining traction as a hopeful solution to reallocate resources and employment opportunities from unsustainable production systems to sustainable and regenerative ones, which is anticipated to create new green jobs in emerging value chains and sub-sectors (Mwaura & Glover, 2021). A job is considered green if it contributes substantially to protecting or restoring ecosystems and biodiversity; reducing resource consumption and inefficiency; decarbonizing the economy; and minimizing or altogether eliminating all forms of waste and pollution – while also generating and supporting the well-being of people (ibid.). Therefore, any exploration of green job potential necessitates a dual focus on creating new opportunities while enhancing the decency and quality of existing youth employment options.

In understanding the dynamics of green job creation for youth in Africa's agricultural sector, it's imperative to dissect the various factors that either facilitate or impede their employability within the green economy. This section delves into the nuanced interplay of drivers and barriers, shedding light on the complex landscape of youth employment in the context of a just food systems transition.

1. Youth aspirations

The aspirations of Africa's youth, spanning diverse geographical and socio-economic backgrounds, constitute a pivotal factor in shaping their engagement with the agricultural sector (Turolla, 2019; Datta et al., 2018). The current discourse on youth in agriculture is often marked by statements about youth's negative perception of farming, denouncing the sector as 'traditional, dirty, labour-intensive and financially unattractive' (IFAD, 2016). Factors such as generational dynamics, often entrenched in patriarchal structures, pose formidable obstacles, curtailing youths' autonomy and fostering a negative perception of farming as unattractive and unprofitable (Kapazoglou, Betke & Bolling, 2023).

While generalized assumptions about their perceptions and aspirations prove futile, due to a possible mismatch of targeted interventions, it's evident that contextual influences play a paramount role. In regions where agriculture is commercially vibrant, for example, the allure

of economic opportunities propels young individuals towards agricultural livelihoods - cultural pride, heritage associated with farming, and increased investment further amplify the attractiveness of this sector (Yeboah & Flynn, 2021). Making green jobs and related sectors more attractive to youth, therefore, is a key strategy in engaging youth in the green economy. This also includes taking a value chain perspective to look beyond the production level at processing and the provision of agricultural services to create more attractive employment opportunities, for example in technology-driven enterprises or producer cooperatives. Cooperatives can give farmers access to agricultural inputs and microfinance at lower costs and facilitate knowledge sharing among members, but they also provide jobs in inspection, packaging, food safety regimes and quality management (Rosegrant, 2023).

To ensure that the objectives and opportunities of the green economy are well-aligned with the aspirations and ambitions of youth in relation to the future of work, it is crucial to engage youth in discussions on programmes and around green job creation. Initiating dialogues and establishing inclusive governance mechanisms not only elicit valuable insights into youths' perceptions of green and decent jobs but also foster a sense of ownership and empowerment among them (Lijfering & Lacey, 2022).

2. Informal economy

The prevailing informality and the poor quality of employment in both farm and non-farm activities in Africa remains a serious concern, specifically in rural areas where youth face challenges related to unemployment, under-employment, and poverty (ILO, 2020a). They essentially earn low wages, and work under insecure, casual, unsafe and even exploitative working conditions, often with no legal forms of employment arrangements (ibid.). Hence, given the prevalence of informal employment in agriculture, tailored interventions aimed at enhancing job decency and workers' well-being assume paramount significance.

An older review of the dominant approaches to promoting green jobs indicates the propensity to undervalue or ignore the informal economy in connecting it with the green economy for sustainable development and poverty eradication (Smit & Musango, 2015). Research shows that, in the absence of formal wage jobs, youth have found innovative ways to use their capabilities in agricultural and household businesses in the informal sector (Fox et al., 2016). Because the informal sector will remain a major employer of un(der)employed youth, particularly the less skilled and less educated, there is a need for a shift in policy thinking across Africa to make concerted efforts to raise productivity also in the informal sector (ibid.).

Interventions need to support young people to navigate complex and shifting employment trajectories, taking into account the blurred lines between the formal and informal sectors. (Vale et al., 2022). Hence, further research needs to address solutions as to how the informal economy can contribute to a just food systems transformation, and how it will help provide solutions to the challenges that dominate in the informal economy (Smit & Musango, 2015).

3. Gender dynamics

It is increasingly recognised that fostering the development of inclusive supply chains requires special attention to women and other traditionally marginalized groups. Despite their vital role in food systems as agricultural producers, farm managers, processors, traders, wage workers and entrepreneurs, young women are structurally disadvantaged and their contributions are frequently unrecognised (FAO, 2022).

Although women make up 36% of the total global agriculture workforce and up to 50 percent in low-income countries (FAO, 2022), they own less than 13% of the land in Sub-Saharan Africa (World Bank Group, 2023), and the majority of the workforce is in primary processing and smallholder farming activities which is generally highly labour-intensive and characterized by low profit margins (CFPP, 2024). Moreover, compared to men, rural women tend to be more vulnerable to the impacts of climate change because of their limited mobility, limited rights, and limited access to decision making authorities, information and agricultural resources including land, inputs and extension services (Yeboah & Flynn, 2021).

As recent research shows, fostering gender inclusion can have positive impacts on the food systems' triple challenge of ensuring food security and nutrition for a growing population, supporting decent livelihoods in the food supply chain, and doing so in an environmentally sustainable way (Giner et al., 2024). Yet these positive synergies are often invisible as evidence on the role of gender in food systems transitions is missing (ibid.).

4. Youth agripreneurship

Another key driver for youth employment in the food systems transformation involves the agricultural sector's structural transformation from smallholder farming to agribusiness (Yami et al., 2019). The envisioned transformation necessitates the sector's modernisation through increased mechanisation and application of agricultural technologies, sustainable productivity enhancement, and a strong commercial, market-oriented focus (Wossen & Ayele, 2018).

Therefore, increasing attention is paid to stimulating entrepreneurship among youth in the agricultural sector (youth agripreneurship), as a means of harnessing opportunities present in the sector to increase its capacity to absorb a large number of youth (FAO, 2019). Initiatives aimed at stimulating youth agripreneurship underscore the role of agribusinesses in fostering decent job opportunities and building the entrepreneurial capacity of African youth (Aremu et al., 2021). Additionally, dismantling barriers, such as meeting consumer requirements and access to market information, that hinder young entrepreneurs from accessing markets for environmentally sustainable products and services is paramount (Aceleanu et al., 2015).

Youth agripreneurship initiatives and programmes increasingly promote business opportunities and capacities of youth in agroecology (see Box 2) and help to create a conducive business ecosystem for them. They consciously promote the entrepreneurial spirit of young people to facilitate the introduction of innovative and sustainable business models, such as recycling household waste into green fertilizer, and introduce youth to farming techniques that enhance soil fertility, minimize chemical inputs, and promote crop diversity.

A review of the literature shows that various types of engagement in commercial agriculture such as engagement in contract farming and out grower schemes, value chains and farmer-group type engagements (e.g. cooperatives), and work in plantations and agricultural estates can improve agricultural productivity, livelihoods and income of local populations (Yeboah & Flynn, 2021). These activities can increase youth's access to knowledge, credit, and inputs, while farmer organizations and cooperatives or other stakeholder platforms can play a pivotal role in facilitating these arrangements (Christiaensen et al., 2021). Certification schemes and sustainability standards can also improve employment outcomes, especially incomes, but results are ultimately mixed.

5. Innovation and digitalization

The adoption of digital innovations in agriculture – including drones, digital peer-to-peer platforms, mobile technologies and devices, data analytics, AI, digitally-delivered services (e.g. weather forecasts) and apps and technical apps (e.g. pest detection) – are changing agriculture and the food system. Digital technologies, such as precision farming and smart agriculture, enable agribusinesses to optimise resource use, minimise waste and increase overall efficiency, which leads to higher agricultural productivity (Africa Policy Research Institute, 2023). Because of this, countries recognize the potential benefits of digital technologies in addressing challenges such as climate change, resource scarcity and food security. As a result, there is a growing need for skilled professionals who can implement and manage these technologies, thereby offering the potential to provide green and digitally enabled jobs for more young people in agriculture.

Furthermore, investment in innovation and digitalization emerges as a promising avenue to make the agricultural sector more attractive for youth to enter, which concerns mainly (urban) educated youth who are seeking employment or entrepreneurship in the future economy as opposed to finding employment in rural areas working on farms (Christiaensen et al., 2021). Facilitating a generational transition in farming practice, from rural labour-intensive towards modern innovative practices, can augment skill levels and foster the adoption of sustainable technologies, thereby promoting a culture of innovative entrepreneurship (Mwaura & Glover, 2021). Regarding the food system transformation, the introduction of cutting-edge innovations like blockchains, improved irrigation schemes, satellites providing accurate climatic data, and or the use of smartphones and the internet, the adoption of new agricultural technologies is key to improving agricultural productivity and growth, income, food sufficiency and resilience more sustainably (Ehui, 2018).

Nonetheless, the successful uptake of agricultural innovations hinges upon their contextual appropriateness and the alignment of incentives with smallholder farmers' economic imperatives. Supporting innovation requires bundles of interventions that help translate a technological solution into viable new ways of doing things, adapted to local circumstances and supported by measures that remove barriers to adoption (FSEC, 2023). A study by the International Fund for Agricultural Development (IFAD) found that climate-smart solutions, public-private-producer partnership opportunities, peer-to-peer learning, and digital platforms provide key opportunities for engaging youth in agriculture (IFAD, 2020).

6. Education and skills mismatch

The International Labour Organization (ILO) chronicles an annual rise in the number of NEETs (Not in Education, Employment, or Training), unemployed, and underemployed youth, painting a bleak picture of stagnant labor conditions (ILO, 2020b). This stagnation hits the youth demographic the hardest, exacerbating the challenges posed by weak labor markets. Moreover, disparities between the demand and supply of skilled labor further impede the transition towards a greener economy, potentially resulting in shortages within green sectors.

Education stands out as a potent catalyst of changes in labour competition in the agriculture sector, with higher levels of education correlating with diminished inclination towards traditional agricultural pursuits (Yeboah & Flynn, 2021). However, it's noteworthy that certain segments of educated youth, endowed with resources, perceive agriculture as a lucrative domain worthy of investment (ibid.).

Measures are imperative to equip the youth workforce with the necessary skills and competencies to navigate the evolving landscape of green enterprises and associated job opportunities (Lifering & Lacey, 2021). A range of new skills can support new economic opportunities in the food system transformation, including in areas like food storage, grading, processing, and alternative energy and sustainable farming practices, such as the adoption of new crops or agroforestry (FSEC, 2023).

Investment in quality rural education, increased accessibility to training in rural areas (e.g., through distance learning), non-traditional skill-building programs, and effective agricultural extension systems will be needed (Christiaensen et al, 2021). Complementary initiatives, such as bolstering social security safety nets (e.g. insurance) to shield vulnerable groups from poverty, enhancing access to education and training in green skills, fostering gender equality, advocating for higher minimum wages, and integrating youth into decision-making and policy processes, are crucial (Lijfering & Lacey, 2021).

7. Finance

For a just transition, it is essential to promote access to finance, especially for women and young people in all segments of food systems, because both groups often face barriers that prevent access to sufficient resources needed to develop activities in terms of ambitions and potential (FSEC, 2023; Christaensen et al, 2021).

By aligning investments with climate resilience objectives, opportunities for sustainable green employment can be maximized, thereby fostering a more inclusive and resilient green economy in Africa (Lijfering & Lacey, 2022).

8. Regulatory and policy factors

As discussed in Chapter 2, a major policy driver for green employment has been the evolution of regulatory frameworks, policies and political will (including subsidies, carbon markets, tax reforms, budgeting, eco-labelling, international aid, targets and mandates, among others) (Mwaura & Glover, 2021). Initiatives such as the Decent Jobs for Youth initiative exemplify high-level commitments to youth employment, laying the groundwork for

transformative policy interventions that prioritize the needs and aspirations of Africa's burgeoning youth population (ibid.). Hence, commitments to decent youth employment, by governments, investors, development partners and other leaders at local, national and global levels, remain essential for a just food systems transition.

One particular avenue for government support to up-scaling current value chains and improve market access for youth and sustainable agricultural products is the expansion and development of the current infrastructure. Basic infrastructure such as roads, energy, as well as digital infrastructure are needed to support the development of rural-based food processing activities and the diversification of local economic opportunities (FSEC, 2023). Support for on-farm storage, the creation of warehousing infrastructure and the development of sustainable cold chains would support the shift towards greater local provision of fruits and vegetables and prevent post-harvest losses (ibid.).

Discussion

This final section brings together the key insights and identifies potential research gaps to inform the main questions and objectives for the INCLUDE 2024/2025 research agenda.

Just food systems transformations are gaining traction on the international and national agendas as multifaceted strategies in trying to achieve multiple development objectives, including greening the agricultural sector, achieving more inclusive and prosperous futures for young people and ensuring food security. However, as this foundation paper has highlighted, there is no single formula for a just food systems transition in Africa and despite recognition in programming and policy discourse, there is still no consensus on who stands to benefit from a just food systems transition, nor on how this justice should be implemented. Especially youth, who are both impacted by unequal food systems and are the most vulnerable to climate change impacts are often insufficiently engaged in discussions and decisions around food system transitions and a clear strategy for meaningful participation of youth is key. This will be particularly important in the context of the future of work where Africa's ever increasing youth workforce will need to find employment opportunities in a rapidly changing labour market.

While the literature shows there are significant opportunities for green job creation in the context of a just food systems transition, there are also challenges and systemic barriers that need to be addressed, which require a comprehensive approach. Key drivers for green job creation include advancements in sustainable farming practices, increased investment in agricultural technologies, and supportive policy frameworks. However, barriers such as youth's negative perception of agriculture, limited access to finance, inadequate training, and insufficient market linkages must be addressed to fully harness these opportunities.

The food systems transformation approaches discussed in this paper advocate for awareness creation of youth's role in driving food systems transformation and inclusion in decision-making processes. However, these approaches remain insufficiently concrete in proposing strategies to compensate for and avoid harm to individuals, communities, and the environment, as well as solutions on how youth can benefit from a restructuring of the food system. Beyond government programs promoting youth participation and safeguarding livelihoods in subsistence farming, the private sector plays a pivotal role in creating decent

economic opportunities through scaling innovative and sustainable business models. Adopting a value chain perspective to boost agricultural productivity requires examining agricultural services and manufacturing beyond mere production. Policy interventions in processing value chains can accelerate changes and trigger related shifts in other parts of the food system, exerting significant influence due to their leverage on other sectors. Ensuring an inclusive transition that puts youth in the driver's seat of modernising and reshaping the agricultural sector necessitates integrating small producers and youth-led agribusinesses into modern value chains.

Promoting entrepreneurship among young people is crucial, as it empowers young individuals to engage in agriculture not just as subsistence farming, but as a viable business venture. Additionally, fostering a culture of innovation and entrepreneurship among youth can lead to the development of new agribusiness models that are both sustainable and profitable. This approach necessitates a shift in perspective, viewing agriculture not merely as a means of survival but as a dynamic and profitable industry. Integrating modern agricultural techniques, such as precision farming, agroecology, and the use of digital technologies, can increase productivity while minimizing environmental impact. Furthermore, addressing the social and cultural barriers that deter youth from pursuing careers in agriculture is essential. Promoting positive narratives around farming, highlighting successful young entrepreneurs, and providing mentorship opportunities can help change perceptions and attract more young people to the sector.

Moreover, although increasingly recognized as a crucial part of the food systems transformation the political economy of transitions is still a vastly understudied area and the knowledge base on interactions between national and global political economies is still thin. International and regional trade agreements such as the African Continental Free Trade Area (AfCFTA) Agreement and the AU 2003 Maputo Declaration on Agriculture and Food Security (NEPAD, 2003) significantly shape the international landscape of food systems transformation. It is important to align national policies to these international frameworks and trade agreements in ways that are responsive to local needs and fosters greater local ownership (Manduna & Fundira, 2022). Although the AfCTFA is still new, there is evidence that a shift to green growth strategies, including sustainable utilization of Africa's vast bio-diversity resources, can have a positive impact on employment (United Nations Development Programme, 2020). In this way, the AfCFTA can serve as an entry point for working with African policymakers and the private sector to enhance green value chains, climate adapted agriculture and other sectors that are pivotal to Africa's green transition.

Moreover, environmental regulations and climate policies initiated under the United Nations Framework Convention on Climate Change (UNFCCC) such as the Nationally Determined Contributions (NDCs) that determine national actions for climate mitigation and adaptation and National Adaptation Plans (NAP) influence how policies aimed at facilitating a just food systems transformation relate to and take shape in the context of broader climate action. Also on national and local level, there are important political economy dynamics at play that determine the extent a transition strategy can drive long-term change in the face of trade-offs and countervailing forces. Creating a better understanding of the interplay of these political dynamics at various levels is therefore crucial to ensure an inclusive food systems transition.

Bringing these various dimensions together, the INCLUDE 2024/2025 research programme aims to facilitate case study research to support a contextualised understanding of the drivers and barriers of a just food systems transition in Africa, including a political economy and youth employment perspective. Synthesising the outcomes of the case studies, the research programme aims to identify strategies to minimise negative externalities associated with the low-carbon transition in Africa and ways to include vulnerable communities left behind. This will lead to recommendations for policy and practice on how to create an enabling environment for youth in a just food systems transition.

Research agenda

Main objectives

In light of the information found through conducting this background literature scan, the main goals of this research programme are:

- 1. Analyse the drivers and barriers of a just food system transition in Africa from a political economy perspective.
- 2. Identify strategies how the low-carbon transition can provide opportunities for vulnerable communities, in particular for youth and women while minimising negative externalities resulting from the transition.
- 3. Supporting a contextualised understanding of just transitions, taking into account the social and political context at international, national and local levels.

Key elements of the research should include (based on MoFA Feedback):

- 1. Provide a comprehensive understanding of a "just transition" in the context of a food systems framework.
- 2. Employ a political economy lens that centres the perspective of local and marginalised communities when identifying the potential of different low-carbon initiatives and growth sectors for youth employment.
- 3. Include the perception of young people regarding "the promise of green jobs", also from a critical attitude of the African continent towards 'greening the economy'.
- 4. A focus on digitalisation and bridging the digital divide by identifying opportunities of digital technologies to accelerate the green transition in Africa.
- Analyse regulatory frameworks that support or hinder the twin transition in Africa and assess the effectiveness of policies aimed at promoting renewable energy deployment, fostering digital innovation, and ensuring inclusive growth and social equity.

Research questions

Main research question:

What are the **main drivers and (systemic) barriers** for youth employment in a just food systems transition?

Sub-questions:

1. How can a just food systems transition contribute to green jobs for youth in Africa?

- a. What are different approaches to transforming food systems and how do they lead to green jobs and affect existing jobs in agrifood value chains?
- b. What are the different types of green jobs created in agrifood value chains as a result of a food system transformation?
- c. What are the barriers for young people to access green jobs?
- d. What are examples of strategies to mitigate negative externalities such as job losses in the transition process?
- 2. How do national and international **institutional and regulatory frameworks** shape opportunities for young people in the food systems transformation?
 - a. What are opportunities and barriers within national policy frameworks in facilitating a just food systems transition that creates economic opportunities for young people?
 - b. How are international policy frameworks, such as the European Green deal, trade agreements such as the AfCTA and environmental regulations affecting global value chains, in particular for African MSMEs accessing regional and international markets?
- 3. How are the different **justice dimensions** captured in national efforts to transform the food system?
 - a. What strategies can be employed to bridge the rural-urban divide to ensure the benefits of a food systems transformation are distributed equitably among different segments of society?
 - b. Which strategies can create a level playing field for MSMEs against dominating agricultural industries and large integrated farms?
 - c. How can young people and their different perspectives be meaningfully engaged in policy discussions and decision-making regarding food systems transformation?
 - d. How can the efforts and roles of different actors in developing value chains be coordinated in a way that ensures autonomy and self-sufficiency of local MSMEs and cooperative societies?
- 4. How can food systems transition strategies in Africa take advantage of the **proliferation of digital technologies** to accelerate economic opportunities and safeguard the livelihoods of young people?
 - a. How does the digital (skills and literacy) divide impact inclusive participation in Africa's green economy, particularly for marginalized, rural communities?
- 5. How do gender disparities impact access to opportunities in green agriculture?
 - a. What are the barriers that young women face when accessing green jobs in agrifood value chains?
 - b. What are strategies for promoting gender equality and young women's empowerment in the transition to a just food system?

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