



Bioenergies and employment dynamics in food processing SMEs in West Africa

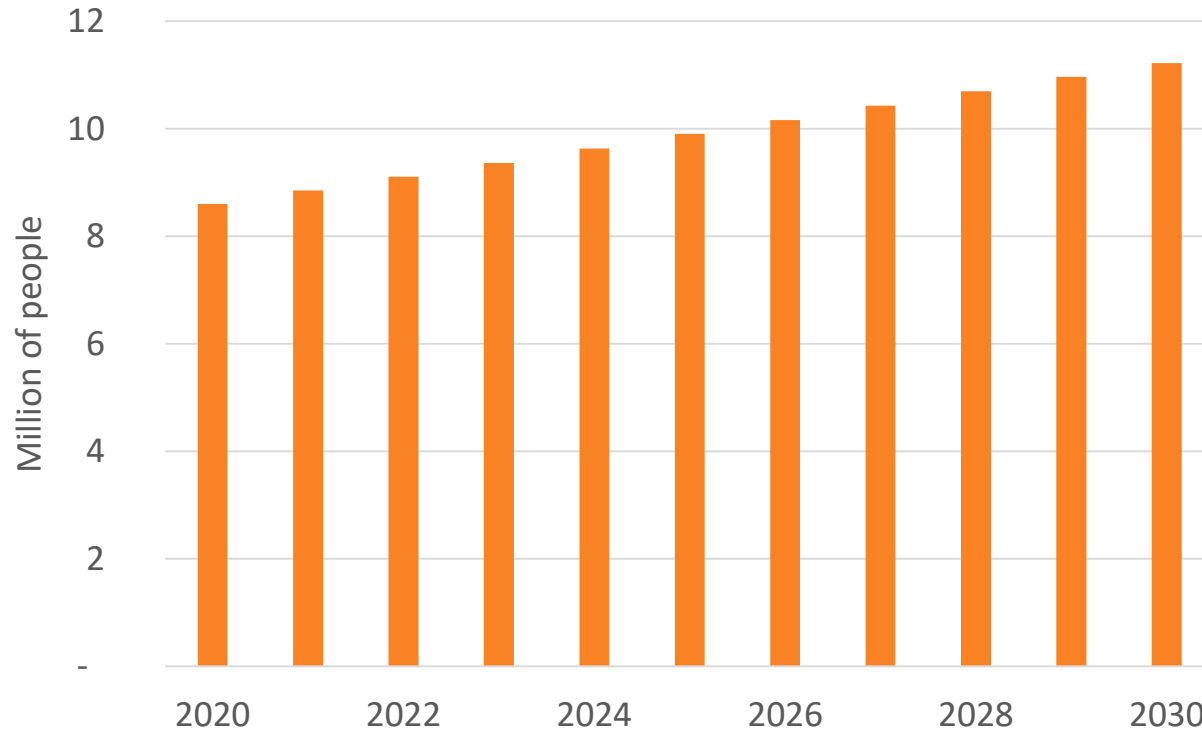


1st Agrinatura conference, Cork, 18th May 2022

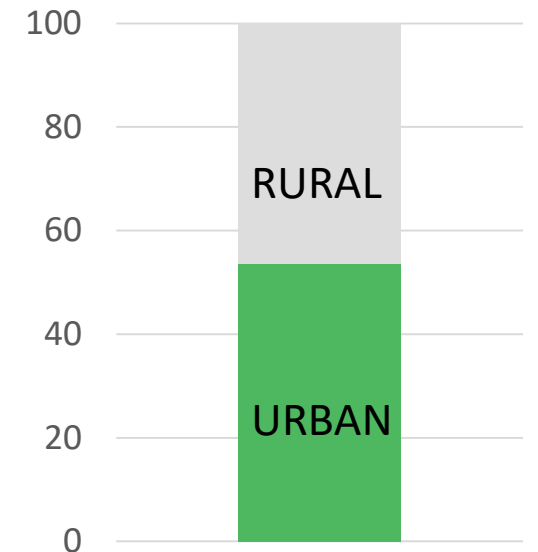


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The employment challenge in West Africa



**+ 109
millions**



**Share of urban/rural
population in 2030**

Source: World Population
Prospects 2019

**Youth reaching working age each year between
2020 and 2030 in West African countries**

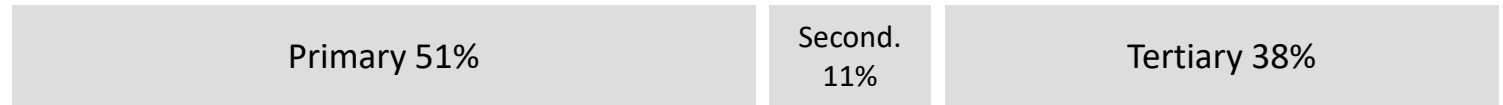
Source: World Population Prospects 2019



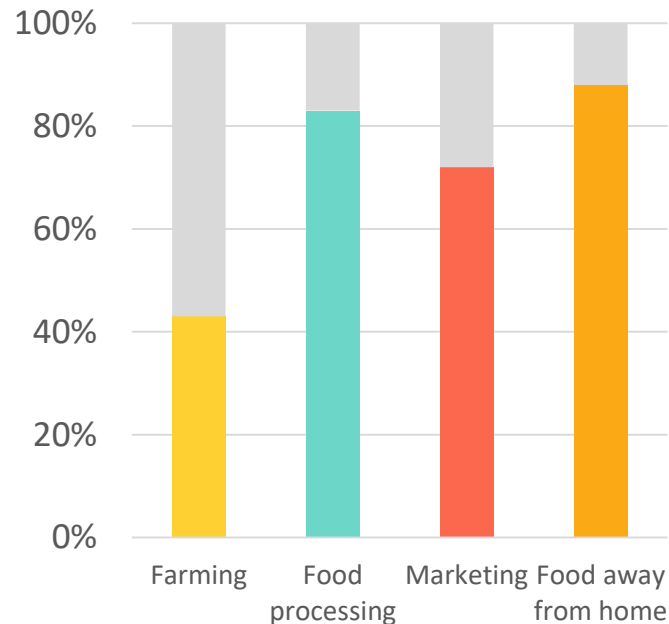
The potential of the food economy

Total employment per sector in West Africa

Source: Allen et al. 2018

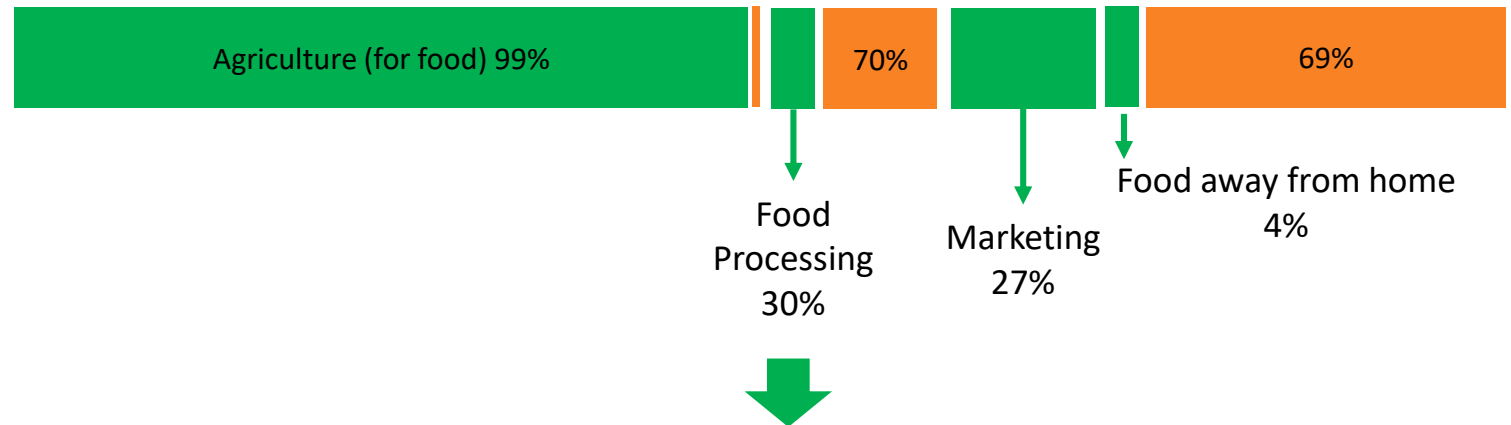


Share of women employment by segment of the the food economy in West Africa



Source: Allen et al. 2018

Total employment falling under food economy per sector



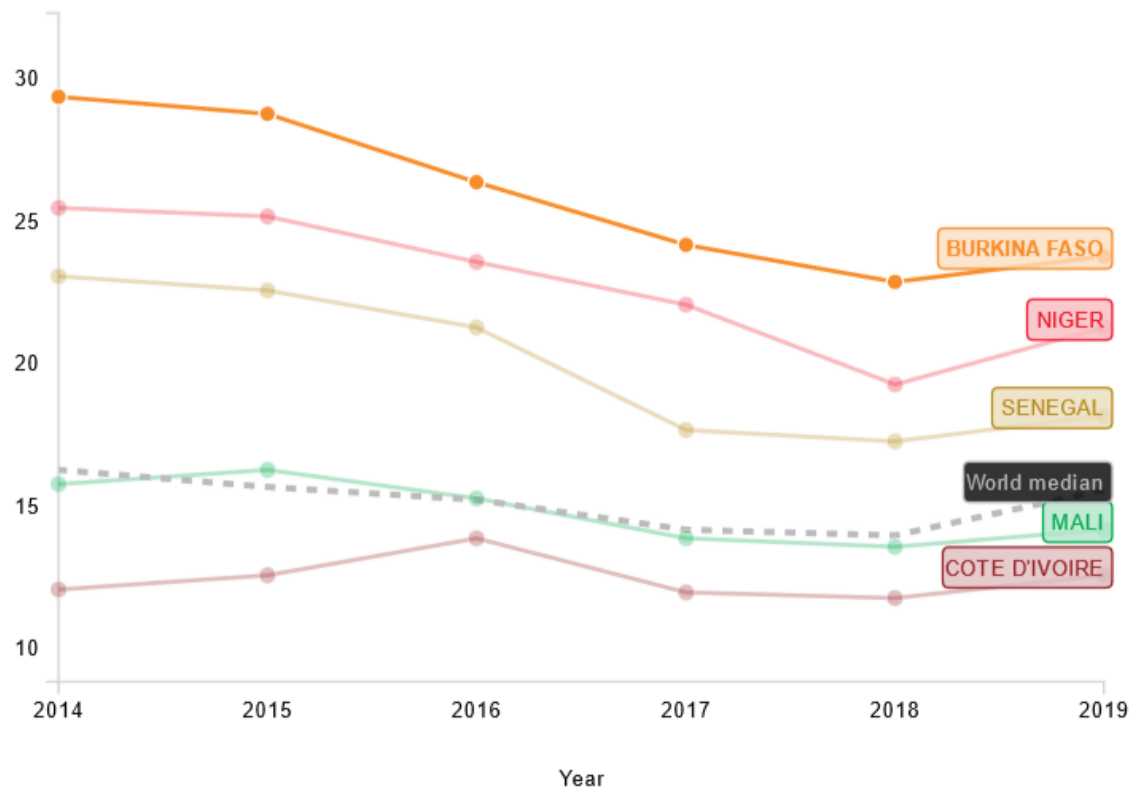
Low share but high growth rate

Potential for the generation of local added value and generation of employments in the food processing sector



Access and cost of energy for food processing SMEs

- Access to energy is costly and unreliable
 - Autonomous internal combustion engine-based systems, photovoltaic or thermal solar networks: **sporadic nature and low power output**
 - Connection to a national electric power grid: **recurrent power shortages, high price of kWh**



Getting electricity in West Africa: Price of electricity, US cents per kWh (DB16-20 methodology)

Source: World Bank



The BioStar project (2020 – 2025)

- Strengthen the development of a bioenergy sector that serves the needs of food processing SMEs
 - Testing innovative equipment
 - Promoting innovation networks for the use of renewable energies
 - Organizing a bioenergy sector
- 5 value chains: shea nuts, groundnuts, cashew, mango, rice
- 16 SMEs selected in Senegal and Burkina Faso with the development of specific energy equipments based on waste-generated energy production
- SME: individual enterprise or collective organisation



Shea slurry



Rice straw
briquet



Groundnut
shell



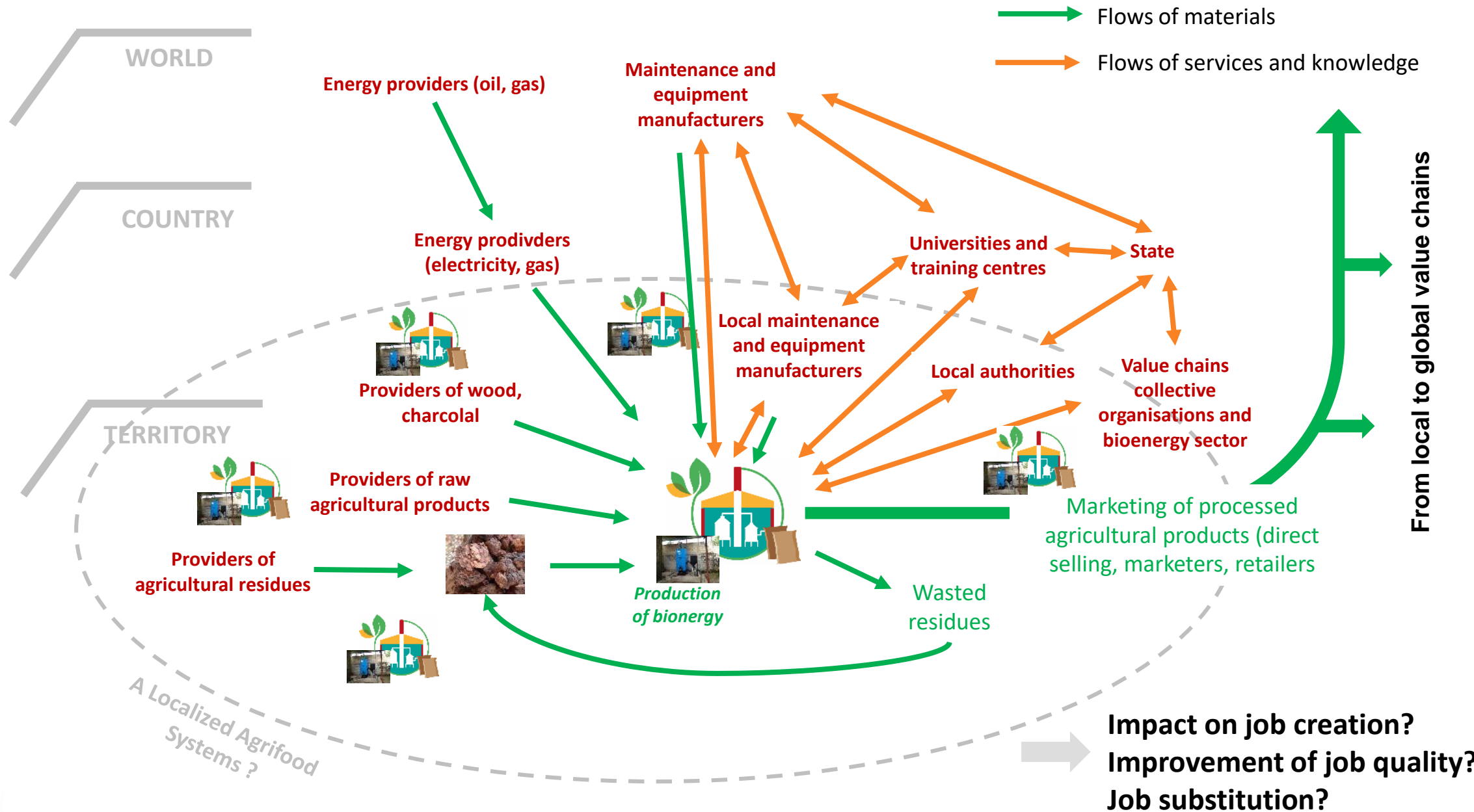
Amount of
cashew nuts



Mango
waste



The localized Agrifood Systems approach



Research questions and hypothesis

- What are the effects of the relocalization of energy inputs of SMEs on employment dynamics?
 - Does it generate new activities and destroy others?
 - What social and technical division of labour within these new activities? What type of worker status? Who works (gender and generation)? What skills required? What working conditions?
 - How do the multiple proximities (sectoral, spatial, institutional) between economic actors contribute to explain employment dynamics (job creation, construction of workers' skills, learning effects, remuneration levels, working conditions, etc.)?
- Hypothesis: The multiple proximities between actors of the localized Agrifood system influence
 - (i) the generation of jobs
 - (ii) the social relations and institutions underlying employment creation and employment quality



Methodological approach

- A comparative approach between different value chains and countries
- A counterfactual approach: with and without the project
- **First step:** a characterization and comparison of localized Agrifood Systems
 - For each SME, mapping of actors of the localized agrifood system for identifying their sectoral, spatial and institutional proximities : what do they exchange (knowledge, product, etc.), distribution of value, dependency relations, power relations, etc.
 - Participative theory of change with stakeholders
- **Second step:** impact evaluation on the quantity and quality of employments
 - SME scale: qualitative comparison
 - Household scale: quantitative comparison





Thank you for your attention

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References

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