

## The Effectiveness of Networks in Seed Potato Sector Development in sub-Saharan Africa

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### *Objective:*

The SustUpscaling project, funded by the Food & Business Knowledge Platform in the Netherlands, was launched on 1 February 2017 to assess the value of a clustering approach to understanding sustainable upscaling performance. The clustering approach refers to the method of assessing different combinations of influences that are capable of generating the same outcome. It was piloted in the seed potato sector in Kenya and Ethiopia. The main objective of the project was to understand the drivers of sustainable upscaling (environmental, economic and social outcomes) by Dutch firms in agribusiness by modelling the impact of firm networks (diversity of partners, strength of ties, governance of knowledge exchange) and institutional conditions (value chain structure for sourcing, farming systems, regulation and legislation) in value chain clusters.



### *Novel findings:*

The unique clustering method used in the project demonstrates the significance of considering the impact of multiple factors *in combination* on the outcome of sustainable upscaling. More often than not, research in this area draws on qualitative case studies that offer anecdotal evidence. Although these investigations capture contextual information, they fall short of managing complexity as the number of respondents in a case study increases and of generalisability to other settings. An approach that both respects context-specific information and aims for generalisability is that of clustering.

The clustering method was applied in a stepwise process as follows.

- i. The identification and measurement of institutional quality, which in this project related to the availability and accessibility of inputs, labour, capital and the strength of the regulatory environment,
- ii. The identification and measurement of network connections between public and private actors in the production of seed potatoes, and
- iii. The analysis of the combined influence of institutional quality and network ties on sustainable upscaling.

An assessment of the combined influence of multiple factors is what tends to be overlooked in agribusiness studies. Our clustering approach shows, first, that seed producers are able to achieve high yields and profits when either labour and capital market quality *or* the quality of labour and policy environment is ensured. Network connections to diverse and large number of public and private actors do not make a difference on this impact. Only when the quality of institutions improves do network connections work in complementary ways, enhancing efficiency and synergy, for higher yields and profits.



The insight into when institutions and networks matter for performance is valuable. Local governments expect significant innovation activity from foreign investors to further economic and social development. However, foreign investors cannot contribute effectively unless an effective institutional infrastructure (e.g. research institutes and regulatory systems) has been developed by local governments. This insight is corroborated by the Dutch breeders in our project, who point to the need for the quality of and the capacity for implementation and enforcement of regulations to be improved in Kenya and Ethiopia for the private sector to operate safely. They, in particular, highlight the need to strengthen the local regulatory environment prior to any efforts by the private and public sector to cluster in the seed potato sector.

*“In fact, the report confirms our experiences we have in these countries; development of the potato sector is going very slowly due to bureaucracy, poor infrastructure (network, roads, knowledge, finance, management), lack of inputs (agro chemicals, fertilizers) and cold storages, but also the absent of support to the farmers from governmental bodies. Many projects, started and supported by NGOs or other organizations, fall back as soon these organizations are withdrawing because they were not build sustainable: which means that projects are not ending up in a commercial feasible setting. Providing high quality seed potatoes and/or introduction of new varieties is just one link in the potato chain we can improve but it needs a total management approach to make the business successful.” (Stet Holland B.V., 6 Sept 2017)*

*“The potato clusters in Kenya and Ethiopia both have to deal with non-supportive institutions. In Ethiopia, we can say it is valid for the entire institutional setting. In Kenya, the non- cooperative attitude is in a limited, but crucial part (Kephis*

*management). In fact, this obstacle makes all other aspects of negligible importance.” (NAO, 15 Sept 2017)*

*“The report is good. I would like to see a recommendation to be made about the need to strengthen the public sector, in particular the governments in Kenya and Ethiopia. These governments should be helped by the Dutch government to set up internally consistent certification systems, effective regulations for phytosanitary registration and variety protection. There needs to be an enhancement of both quality and quantity in the capacity for testing and inspection. This applies to both local seeds and imported seeds. Only when the public sector is improved can the private sector safely work within.” (Agrico, 19 Sept 2017)*

The second insight from the project is the nature of the network connections that support sustainable upscaling. For any cluster to generate economic and social impact, there should be a balanced approach to partnering with public and private actors. This balance was better attained in Kenya than in Ethiopia. For instance, the highest number of connections in material exchange in Kenya was with input suppliers and private breeders. Information and service (nonmaterial) exchange occurred mostly among the NGOs, input suppliers and farmers. In contrast, the connections of farmers were mostly with the government and NGOs in material exchange in Ethiopia. The significant role of the government and NGOs was also evident in the provision of information and services. It is also worth noting that there were hardly any connections to credit issuers or sources of capital, pointing to a lack of an integrated approach to sector development.



### **Recommendations:**

Given the significance of labour and capital market quality in the generation of high yields and profits, it is essential for farmers to gain access to financial services. The involvement of banks and microfinance institutions have proven to stimulate entire value chains in other sectors such as honey production and the processing of soybeans into milk in the region. However, for financial institutions to be convinced of the value of their commitment to sector development, they need to be assured that farmers operate as commercial businesses. This suggests that efforts to impart farmers with the best agricultural methods should be complemented with training in strategic planning and record keeping to help farmers improve the management of productivity.

The introduction of clusters requires effective institutions. Efforts to foster multi-stakeholder platforms or public-private partnerships in (non)material exchange cannot be sustained in the long term without efforts to help local governments develop effectively-functioning institutions.

***Reflection on the clustering approach:***

Our approach combined interviews and survey data collection techniques with a wide-range of stakeholders over a five-week period each in Kenya and Ethiopia. Local partners were briefed on the data collection tools so that everyone in the field was on a par in his/her understanding of the research questions.

The technique did not reveal when different types of networks in various institutional settings stimulate high yields and profits. The sample of farmers in Kenya (23) was not large enough to conduct a separate analysis of sectoral performance in Kenya and Ethiopia. Future researchers are advised to spend longer time in the field to gather the views of at least 46 seed producers in each country for a comparative analysis. They are also recommended to sample a range of highly diverse countries in the same sector. As our report highlights, Ethiopia did not differ radically from Kenya in farmer perceptions of institutional quality. Investigating the impact of clusters in institutionally more vs. less developed regions such as Northern and Southern Africa versus Eastern Africa would offer the sample diversity needed to explicate the types of networks needed in particular institutional contexts for high performance.



The full report can be accessed at the following site.

<http://www.ru.nl/nsm/imr/vm/effectiveness-networks-seed-potato-sector/>

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