Table 6: Interactions between Firm and Networking by Cluster Location

	Keko		Buguruni-Malapa		Mbezi Beach kwa Komba		Total	
	N	%	N	%	N	%	N	%
Purchase of raw materials	27	11.34	16	13.91	12	10.53	55	11.78
Inter-firm sales	49	20.59	10	8.70	27	23.68	86	18.42
Subcontracting	49	20.59	9	7.83	12	10.53	70	14.99
Lending machinery	29	12.18	20	17.39	17	14.91	66	14.13
Marketing furniture products	21	8.82	16	13.91	8	7.02	45	9.64
Training workers	16	6.72	18	15.65	17	14.91	51	10.92
Purchase of inputs	15	6.30	9	7.83	10	8.77	34	7.28
Product development	23	9.66	12	10.43	7	6.14	42	8.99
Others (e.g. competition)	9	3.78	5	4.35	4	3.51	18	3.85
Total	**238**	**100.00**	**115**	**100.00**	**114**	**100.00**	**467**	**100.00**

Source: *Survey data, 2010 (multiple response)*

Despite the recorded growth of firms, poor infrastructure within the furniture industrial clusters (28.2 per cent) was reported as a key challenge to growth. Other factors, like insufficient supplies of wood and timber (17.9 per cent), cheap imported furniture products (12.8 per cent), and low levels of basic business management skills (12 per cent) were among the other key challenges constraining their growth. In addition, some 6.8 per cent of the respondents cited challenges posed by obsolete and inappropriate technology for furniture processing, which results in low-quality furniture. Other challenges, such as the lack of branding and poor product marketing, cumbersome tender regulations, and the fact that government procurement decisions prefer attractive imported and non-durable furniture, were reported as severely constraining furniture firm growth (see Table 7).

In spite of these challenges, micro and small furniture-manufacturing firms in the study sites have survived over time. Moreover, a few firms have even produced relatively good quality furniture products in the face of intensified competition following import liberalisation. What, then, have been the sources for the relative success of the cluster-based furniture firms? Evidence from this paper suggests that the survival of furniture manufacturing firms and their production lie in the nature of their organisation, most notably agglomeration economies generated by clustering. It is also important to note that even with government efforts aimed at developing and nurturing the manufacturing sector in the country, a number of pressing challenges still exist. Therefore, based on facts and cluster-specific circumstances at the firm level, there is a need to rethink the current initiatives.

Table 7: Challenges Faced by Furniture Enterprises by Cluster Location

	Keko (%)	Mbezi Beach kwa Komba (%)	Buguruni-Malapa (%)	Total (%)
Low level of basic business management skills	14.0	5.7	15.6	12.0
Poor infrastructure in the furniture clusters	24.0	25.7	37.5	28.2
Insufficient raw materials (e.g. wood/timber)	22.0	14.3	15.6	17.9
Cheap imported furniture products	12.0	20	6.3	12.8
Limited access to credit	6.0	14.3	3.1	7.7
Electricity (high cost and erratic availability)	8.0	5.7	3.1	6.0
Poor quality of furniture products	6.0	2.9	12.5	6.8
Limited domestic market	8.0	11.4	6.3	8.5
Total	**100**	**100**	**100**	**100**

Source: *Survey data, 2010*

Bibliography

Akoten J., Sonobe, T. and K. Otsuka. (2007). Growth Process of Informal Enterprises in Sub-Saharan Africa: A Case Study of a *Jua Kali* Cluster in Nairobi. Tokyo: Foundation for Advanced Studies on International Development (FASID).

Daniels, L., D. C. Mead, and M. Musinga. (1995). Employment and Income in Micro and Small Enterprises. Research Paper 26. Nairobi: K-REP.

Diyamett, B. D. (2009). Building Systems of Innovation in an African Setting: The Cluster Initiative Development Approach. *African Journal of Science, Technology Innovation and Development*, 1(1), 167-189.

Estudillo, J. P. and K. Otsuka. (1999). Green Revolution, Human Capital and Off-Farm Employment: Changing Sources of Income among Farm Households in Central Luzon, 1966-94. *Economic Development and Cultural Change*, 47(3), 497-523.

Estudillo, J. P., Otsuka, K. and Y. Sawada. (2009). *Rural Poverty and Income Dynamics in Asia and Africa. Routledge Studies in Development Economics. Routledge Studies in Development Economics.* Great Britain: Routledge.

Hayami, Y. and Y. Godo. (2005). *Development Economics: From the Poverty to the Wealth of Nations*, 3rd edition. New York: Oxford University Press.

Hinh T. D., et al., (2012). Light Manufacturing in Africa: Targeted Policies to Enhance Private Investment and Create Jobs. Washington, DC: The World Bank.

Kristiansen, S. and A. R. Mbwambo. (2003). Survival of cottage industries in Africa: The case of clustering and social networks in Tanzanian garment industries. *Journal of Contemporary African Studies*, 21(3), 365–382.

Kweka, P. J. (2006). Reducing Poverty through Sustainable Industrial Growth: Opportunities and Obstacles for Tanzania. Paper Presented at the AID. Dar es Salaam.

Maliti, E. and R. Mnenwa. (2008). The Role of Small Businesses in Poverty Alleviation: The Case of Dar es Salaam, Tanzania. Research Report 08.2, Dar es Salaam: REPOA.

Marshall, A. (1920). *Principles of Economics: An Introductory Volume*. New York: Macmillan.

McCormick, D. (1999). African Enterprise Clusters and Industrialisation: Theory and Reality. *World Development*, 27(9), 1531-1552.

Murphy, T. J. (2007). The Challenge of Upgrading in African Industries: Socio-Spatial Factors and the Urban Environment in Mwanza. *World Development*, 35(10), 1754–1778.

Musonda, F. M., C. N. Adeya and B. O. Abiola. (2008). Handicraft and Furniture Clusters in Tanzania. In *Knowledge, Technology and Cluster Based-Growth in Africa*, ed. D. Z. Zeng, Pg. 77-86. Washington, DC: World Bank Institute.

Musonda, F. M. (2007). Small and micro enterprise clusters in Tanzania: Can they generate industrial dynamism? In *Industrial clusters and innovation systems in Africa: Institutions, markets and policy*, eds., B. Oyelaran-Oyeyinka and D. McCormick, Pg. 81-99. Hong Kong: United Nations University Press.

Nadvi, K. and S. Barrientos. (2004). Industrial Clusters and Poverty Reduction. Vienna: United Nations Industrial Development Organization.

National Bureau of Statistics. (2009). Household Budget Survey of 2007. Government Printer. Dar es Salaam.

Otsuka, K. and T. Sonobe. (2006). Development of Industrial Clusters: East Asia Experience and New Development Strategy for Africa. Tokyo: Foundation for Advanced Studies on International Development (FASID).

Sonobe, T. and K. Otsuka. (2011). *Cluster-Based Industrial Development: A Comparative Study of Asia and Africa*. Basingstroke: Palgrave Macmillan.

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Repoa Brief

Growth of Micro and Small, Cluster-Based Furniture-Manufacturing Firms and their Implications for Poverty Reduction in Tanzania

By Edwin Paul Mhede

Introduction

Poverty is still one of the most daunting challenges facing Africa in general and Tanzania in particular, as evident from the difficulties in piecing together pro-poor development policies. This brief summarises the findings of a 2010 study conducted in Keko, Buguruni-Malapa, and Mbezi Beach kwa Komba industrial clusters, Dar es Salaam, that explored the growth of cluster-based, micro and small furniture-manufacturing firms and their implications for poverty reduction among firm owners and workers. The study finds that cluster-based production is a key to cultivating pro-poor development policies. Results reveal that on average the furniture manufacturing firms in the studied clusters grew, as did real payments to the firm owners and workers. The analysis shows that real values of payments to the firm owners and workers have positive implications for poverty reduction, as the values placed the firm owners and workers above the basic and food poverty lines for Tanzania in general and Dar es Salaam in particular. Consistent with the literature on agglomeration economics, which describes the costs and benefits of firm clustering, the current study also demonstrates that firms themselves benefit from clustering, and firm owners are aware of the importance of being in clusters. The firm owners acknowledge the clusters as being catalysts for firm growth because the cluster arrangements allow firms to co-operate with each other. At the same time, insufficient business management skills, poor infrastructure within the industrial clusters, technological backwardness, limited access of credit, and poor product quality continue to constrain the growth of furniture firms. Thus, these findings show that policies should look to enhance management skills among firm managers, construct and promote industrial clusters and marketplaces, and provide low-interest loans to innovative enterprises.

Details of the conceptual framework, description of study sites, sample sizes, response rates, and approaches to data analysis can be found in the main report available at http://www.repoa.or.tz/documents/REPOA_RESEARCH_REPORT.pdf

Key messages

- Policies should look to enhance management skills among firm managers, construct and promote industrial clusters and marketplaces, and provide low-interest loans to innovative enterprises.
- Investing in strengthening the managerial capacity of firm managers should be provided as a means for allowing firms to absorb technological and managerial knowledge and to strengthen the marketability of products produced by enterprises.

- Constructing and promoting industrial clusters and marketplaces through investments in key infrastructure, such as roads, electricity, water, and communication systems, is important for industrial development.
- The government should trigger industrial clustering processes deliberately as part of its industrialisation strategy, especially when market mechanisms fail to do so.
- Providing low-interest loans to innovative enterprises that demonstrate the ability to allocate such loans to truly pro-poor and profitable industrial investment projects.

Current Policy Option

As a vital component to socioeconomic transportation, facilitating industrial development is similarly vital for sustaining pro-poor development in low-income countries in general and Tanzania in particular. Notwithstanding the progress made in policy research on industrial clusters,[1] efforts to analyse the growth of clustered manufacturing firms and growth implications for poverty reduction have been relatively absent throughout much of the literature on clusters (Nadvi and Barrientos, 2004). Therefore, the present study focuses on the potential economic gains from clustering and the ways in which clustering enhances growth, with the assumption that such growth translates into rising levels of employment and income and improvements in the living conditions and standards faced by firm owners and workers.

The research here is even more relevant in light of Tanzania's tireless struggle during the last several decades to realise pro-poor development by facilitating growth in various economic arenas. This is evidenced by the enactment of several sectoral policies which over the years continued to give top priority to economic growth and poverty reduction. Yet traditional policy options tend to rely on development within the agriculture sector as central engine for reducing poverty for the majority of Tanzanians. For example, according to the experience of the Asian Green Revolution (which can be equated to Kilimo Kwanza of Tanzania), expansion of agriculture production through technological progress significantly enhances food supply, but not employment opportunities. Other studies show that even though the majority of the poor in low-income countries live in rural areas, poverty is alleviated primarily through increases in non-farm rather farm incomes. In Tanzania, despite sizable efforts made so far, including government support in the agriculture sector, widespread and persistent poverty still remains (see Table 1) and is one of the most serious challenges facing the country today.

Table 1: Changes in Poverty Incidence in Tanzania (per cent)

	Food Poverty Line			Basic Needs Poverty Line		
	1991	2001	2007	1991	2001	2007
DAR ES SALAAM	13.6	7.5	7.4	28.1	17.6	16.4
OTHER URBAN AREAS	15.0	13.2	12.9	28.7	25.8	24.1
RURAL AREAS	23.1	20.4	18.4	40.8	38.7	37.6
TANZANIA MAINLAND	21.6	18.7	16.6	38.6	35.7	33.6

Source: *Household Budget Survey 2007 (National Bureau of Statistics, 2009)*

The current study therefore proposes a relatively new way of addressing poverty reduction in Tanzania, with the view that reducing poverty requires creating ample employment opportunities for the poor. Developing cluster-based, labour-intensive industries is the key to these opportunities, as agriculture can provide only limited employment opportunities and the service sector can only become a leader in the later stage of economic development.[2] Indeed, micro, small, and medium manufacturing enterprises (MSMEs) offer good examples of firm clustering and incipient entry points for pro-poor industrial development in Tanzania. Moreover, benefits from information spillovers, the division and specialisation of labour in intermediate inputs and services, and the development of markets for special skills show that industrial clusters are even more crucial for pro-poor industrial development.

1 See Diyamett 2009; Murphy 2007; Komba and Diyamett 2008; Kristiansen and Mbwambo 2003; Musonda 2007; Musonda, Adeya, and Abiola 2008),

2 The service sector cannot be an engine for growth in low-income countries because major innovations in this sector are knowledge-intensive and labour-saving, which are not appropriate for unskilled, labour-abundant, low-wage economies like Tanzania.

For pro-poor industrial development in Tanzania, a deliberate pro-poor manufacturing sector revolution and pragmatic manufacturing strategies that prioritise firm-level growth are needed. The revolution should be centred on identifying specific manufacturing development needs, challenges and opportunities, and logical investments into areas where the greatest pro-poor impact can be achieved. Sub-sector and locational differences between industrial clusters are apparently not taken into consideration when designing current programmes for pro-poor manufacturing growth.

This is most likely due to the shortage of information regarding the positive externalities that clustering creates for sector growth and poverty reduction. In light of this shortage, the current study analyses industrial clustering in relation to firm growth and poverty implications among firm owners and workers. The research seeks to improve industrial policies and strategies that accelerate firm growth, as well as to analyse the implication that clustering has for poverty reduction at cluster levels.

Summary of Key Findings

To explore whether clustered firms grew over time, quantitative growth indicators, such as real average values of annual sales, manufacturing value added (MVA), employment figures, payments to owners, salaries or wages for workers, among others, are analysed. The study also examines firm growth and its implications for poverty reduction, the method of firm interactions within the clusters, and challenges constraining firm growth.

As indicated in Table 2 below, furniture manufacturing firms on average recorded positive growth in MVA, suggesting that the firms themselves grew over the entire period of analysis. A comparison across different clusters, however, reveals that the Keko furniture cluster recorded greater value added than the other two clusters. Proximity to Dar es Salaam city centre, where customer contact is considerably higher and a long-time history in the furniture-making business prevails, were cited by the respondents as key reasons for the relatively higher MVA growth rates for Keko.

Since employment growth matters for poverty reduction, the study analyses the ability of furniture firms to generate employment opportunities in the study sites. The average number of workers in the first year of business operation was recorded at 3.02 workers (see Table 3). Towards the end of 2009, the firms still retained about the same average number of employees (at 3.41 workers). In the one-year period from the base year to 2005, the firms managed to increase their employment levels by an average of 34.61 per cent.

The lack of increase in employment numbers throughout the timeframe of the study might be attributed to the fact that recruitment is one of the largest long-term investments made by these entrepreneurs. This statement appears congruent with growth data reported by Daniels, Mead, and Musinga (1995, 57), who found very little employment growth among firms in labour-intensive manufacturing sectors, such as furniture production.

Table 2: Real Average Manufacturing Value Added (MVA)

Year	Keko		Mbezi Beach kwa Komba		Bugurumi-Malapa		Total	
	MVA (TZS)	Growth (%)	MVA (TZS)	Growth (%)	MVA (TZS)	Growth (%)	MVA (TZS)	Growth (%)
2009	13,044,595.31	8.43	8,990,476.47	0.17	9,459,062.50	-0.04	10,498,044.76	3.37
2007	12,030,600.00	8.67	8,975,500.00	6.94	9,462,736.84	2.31	10,156,278.95	6.12
2005	11,070,428.57	8.55	8,393,000.00	6.16	9,249,433.33	9.10	9,570,953.97	8.02
First Year	10,198,195.65	-	7,905,806.45	-	8,478,077.42	-	8,860,693.17	-
N	**50**		**35**		**32**		**117**	

Source: *Survey data, 2010*

Table 3: Average Number of Employees per Firm and Employment Growth

Employment in	Keko		Mbezi Beach kwa Komba		Bugurumi-Malapa		Total	
	Mean	Change (%)	Mean	Change (%)	Mean	Change (%)	Mean	Change (%)
First Year	3.06	-	2.68	-	3.31	-	3.02	-
Year 2005	3.69	20.66	3.47	29.79	5.10	53.96	4.06	34.61
Year 2007	3.17	-14.24	3.29	-5.41	4.92	-3.59	3.72	-8.51
Year 2009	3.11	-1.90	2.97	-9.68	4.32	-12.08	3.41	-8.16
N	**50**		**35**		**32**		**117**	

Source: *Survey data, 2010*

Growth of firms in terms of payments to their owners were poverty implicative. As illustrated in Table 4, this is because payments to the firm owners were recorded at an average of TZS 1,309,134.25 annually, equal to an average of TZS 109,094.52 per month. Importantly, the value of payments grew throughout the entire period of study, from TZS 1,075,593.15 in the first year to 1,531,990.74 in 2009. These payments were above the estimated food and basic needs poverty lines for the Dar es Salaam region and the national average.[3]

In an effort to confirm whether enterprise clustering should be included in the policy menu, the current study examines a number of factors related to the growth of cluster-based furniture-manufacturing firms.

The results reveal that industrial clusters offer profitable interactions among enterprises (see Table 6). These interactions were appreciated by firm owners and workers, and according to their experiences, being in industrial clusters opens up

Table 4: Real Average Payments to the Firm Owners by Cluster Location

	Keko		Bugurumi-Malapa		Mbezi Beach kwa Komba		All	
	TZS	Change (%)	TZS	Change (%)	TZS	Change (%)	TZS	Change (%)
In First Year	1,393,750.00	-	1,014,939.87	-	1,104,590.91	-	1,075,593.15	-
In 2005	3,750,000.00	169.06	1,009,027.78	-0.58	1,259,230.77	14.00	1,196,328.13	11.22
In 2007	1,237,500.00	-67.00	1,269,111.11	25.78	1,695,161.29	34.62	1,432,625.00	19.75
In 2009	1,745,000.00	41.01	1,498,983.05	18.11	1,537,926.83	-9.28	1,531,990.74	6.94
Average	2,031,562.50		1,198,015.45		1,399,227.45		1,309,134.25	
N	**50**		**32**		**35**		**117**	

Source: *Survey data, 2010*

Likewise, the real wages to firm workers amounted to TZS 543,110.03 during the first year of furniture production, or TZS 45,259.17 per month. The figure increased to TZS 673,768.36 in 2009 or TZS 56,147.36 per month. As shown in Table 5, these figures were greater than the estimated food and basic needs poverty lines for Tanzania and the Dar es Salaam region, as reported in footnote 3. Interestingly, after-tax wages or salaries continued to show positive growth in all three clusters, although changes in income over time were somewhat marginal. These statistics suggest that working in the furniture clusters is worthwhile as a source of income – one that substantially exceeds the poverty line.

for agglomeration gains[4] that can rarely be obtained by manufacturing firms operating alone. Both firm owners and workers admitted that they are better off in clusters than those operating on their own, and they especially benefit from having access to shared tools, shared knowledge and skills, and shared marketing information, as well as the joint display of furniture products and collective security against damages and theft. These benefits are a likely source for the enterprise growth which took place during the period of study, as displayed in Table 6 overleaf.

Table 5: Employees' After-Tax Wages/Salaries by Cluster Location

Year	Keko		Bugurumi-Malapa		Mbezi Beach kwa Komba		All	
	Wage (TZS)	Wage Growth (%)	Wage (TZS)	Wage Growth (%)	Wage (TZS)	Wage Growth (%)	Wage (TZS)	Wage Growth (%)
2009	773,414.63	11.52	592,106.67	1.4	655,783.78	5.25	673,768.36	6.35
2007	693,533.33	17.85	583,955.22	23.31	623,054.05	9.84	633,514.20	16.65
2005	588,490.00	14.94	473,583.33	15.44	567,256.76	6.61	543,110.03	12.03
First Year	512,001.59	-	410,243.42	-	532,067.57	-	484,770.86	-
N	**50**		**32**		**35**		**117**	

Source: *Survey data, 2010*

3 The food and basic needs poverty lines for Tanzania Mainland and the Dar es Salaam region were estimated by the National Bureau of Statistics (NBS) in the Household Budget Survey of 2007. The food and basic needs poverty lines for Tanzania Mainland were TZS 10,219 and TZS 13,998 per month, respectively (adult equivalent for 28 days). For Dar es Salaam, these figures were TZS 13,098 and TZS 17,941 per month, respectively (adult equivalent for 28 days).

4 Agglomeration gains describe benefits that firms obtain by locating near each other. It relates to the idea of economies of scale and network effects. As more firms in related industries cluster together, production costs may decline because clustered firms have multiple and competing suppliers and greater levels of specialisation and division of labour. Even with the competition that prevails from having a multiplicity of firms within the same sector cluster, there may be advantages because that cluster attracts more suppliers and customers than a single firm could do on its own outside the cluster.