

Institution: The Open University		
Unit of Assessment: C22 Anthropology and Development Studies		
Title of case study: Local manufacturing for inclusive health care in Africa		
Period when the underpinning research was undertaken: 2006-2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Maureen Mackintosh Geoffrey Banda	Professor of Economics Research Fellow in Finance, Innovation & Development	1993 – present 2013 - 2014
Julius Mugwagwa	Lecturer in Development Studies	2008 - 2017
Theo Papaioannou	Professor of Politics, Innovation and Development	2005 - present
Dinar Kale	Senior Lecturer in International Development and Innovation	2007 – present
Roberto Simonetti Charlotte Cross	Senior Lecturer in Economics Lecturer in International Development	1994 - present 2016 – present
Cristina Santos Norman Clark	Lecturer in Economics Professor of Innovation Systems and Development (now Emeritus)	2006 – present 2006- 2013
Period when the claimed impact occurred: 2014 - July 2020		
Is this case study continued from a case study submitted in 2014? No		
1. Summary of the impact		
<p>Internationally leading Open University research on local health-related manufacturing in Africa and its implications for inclusive health care has had wide impacts on national, multilateral and philanthropic policy and professional practice by the following categories of stakeholder, with type of impact:</p> <ul style="list-style-type: none"> • <i>Local health sector manufacturers and manufacturing associations:</i> provision of evidence to strengthen their arguments for policy support for manufacturing development in East Africa; • <i>East African health and industrial policy makers:</i> evidence cited, from project policy briefs, to support pharmaceutical manufacturing policy in the Tanzanian <i>Second Five-Year Development Plan</i> (2016), and Tanzanian Ministerial interventions at East African Community (EAC) level; • <i>UN bodies:</i> UNIDO, UNCTAD, Unitaaid and WHO: policy influence through UN consultancies, invitations to present evidence for policy, expert evidence for UNIDO manufacturing consultations and policy advice, citations in UN policy documents; • <i>European development aid:</i> influenced thinking of German Ministry for Development Cooperation on industrial influence on inclusive health care, including their support for the Pharmaceutical Manufacturing Plan of Action for East Africa; • <i>International NGOs:-</i> contributions by invitation to policy shaping by <i>Médicins sans Frontières</i> and the Access to Medicines Index; citations in NGO policy documents. 		
2. Underpinning research		
<p>A series of externally funded research projects and consultancies since 2006 [G1-G4] have cumulatively built up an influential body of evidence on the benefits of local manufacturing of pharmaceuticals and other health supplies for health care quality and access to medicines and care in East Africa, in synergy with local industrial development. The ongoing policy-focused research programme uniquely combines analysis of low-income country health care systems with a corresponding investigation into local manufacturing capacity and the scope for synergies in linking industrialisation and development. The findings link huge unmet needs for essential medicines and supplies to the scope for locally based manufacturers to serve</p>		

domestic health markets much more effectively [O1], a topic which is now high profile because of the current pandemic.

The Open University (OU) team is led by **Mackintosh**, and includes Simonetti, Kale, Santos, **Papaioannou** and Cross (all current OU staff) as well as **Banda**, **Mugwagwa** and **Clark** (previous OU staff), and long-term Visiting OU Fellows: Paula Tibandebage and Smita Srinivas. The research has traced, both internationally and locally in East Africa, manufacturing capabilities, supply chains, procurement processes, market structures and availability, price and access to supplies for health care. The projects, in Tanzania and Kenya with strong Indian collaboration, have cumulatively built up an international network of African, Indian and other scholars with policy influence, who are working to strengthen industrial-health synergies in Africa. A widely read book [O1] drew on this network to bring together wider evidence on the developmental impact of health-industrial synergies.

This research underpins the impacts listed below by providing evidence of:

- Locally produced medicines reaching rural and remote areas in East Africa more effectively than imports [O4];
- Extensive opportunities to combine better health care with industrial development [O1, O2];
- The key strengths and weaknesses of domestic supply chain linkages, and external pressures that tend to disaggregate them [O3];
- The core challenges faced by locally based firms in upgrading production systems to achieve and sustain international competitiveness [O1];
- Which existing policies support or undermine health-industrial synergies [O2];
- The health security dangers for Africa from very heavy reliance on Indian suppliers [O2, O6];
- The crucial role of industry associations in shaping regulatory environments [O5];
- How local health and procurement systems can reshape themselves to use local suppliers effectively to address population needs [O1, O3].

Working with manufacturers and health policy actors, the OU team has analysed the scope for increasing local pharmaceutical production in Africa through national, regional and international policy changes, and identified conditions for synergies between local manufacturing and health sector improvement and access. Internationally, they have contributed strongly to a shift from questioning 'whether' local production of pharmaceuticals and related supplies was desirable in Africa to a concentration on 'how' this can be done in such a way as to benefit both industrial growth and the move towards Universal Health Coverage (UHC).

3. References to the research

Five articles in high quality peer reviewed journals, from research supported by external grant funding, and one open-access book - very widely read.

O1. Mackintosh, M., Banda, G., Tibandebage, P., Wamae, W. (eds.) (2016) Making Medicines in Africa: The Political Economy of Industrializing for Local Health. Palgrave Macmillan Open. (Downloaded 79,000 times from publisher's site).
URL: <https://link.springer.com/book/10.1007%2F978-1-137-54647-0>

O2. Mackintosh, M., Mugwagwa, J., Banda, G., Tunguhole, J., Tibandebage, P., Wangwe, S., and Karimi Njeru, M. (2018) Health-industry linkages for local health: reframing policies for African health system strengthening. *Health Policy and Planning* 33(4): 602–610. URL: <https://doi.org/10.1093/heapol/czy022>

O3. Mackintosh, M., Tibandebage, P., Karimi Njeru, M., Kariuki Kungu, J., Israel, C., and Mujinja, P.G.M. (2018b) Rethinking health sector procurement as developmental linkages in East Africa. *Social Science and Medicine* 200: 182-189.
URL: <https://doi.org/10.1016/j.socscimed.2018.01.008>

O4. Mujinja, P.G.M., Mackintosh, M., Justin-Temu, M., and Wuyts, M. (2014) Local production of pharmaceuticals in Africa and access to essential medicines: 'urban bias' in access to imported medicines in Tanzania and its policy implications. *Globalization and Health*,

10(12).

URL: <https://globalizationandhealth.biomedcentral.com/articles/10.1186/1744-8603-10-12>

- O5. Papaioannou, T., Watkins, A., Mugwagwa, J., and Kale, D. (2016) To Lobby or to Partner? Investigating the Shifting Political Strategies of Biopharmaceutical Industry Associations in Innovation Systems of South Africa and India. World Development 78: 66-79. URL: <https://doi.org/10.1016/j.worlddev.2015.10.017>**
- O6. Chaudhuri, S., Mackintosh, M., and Mujinja, P.G.M. (2010) Indian generics producers, access to essential medicines and local production in Africa: an argument with reference to Tanzania. The European Journal of Development Research 22(4): 451-468. URL: <https://doi.org/10.1057/ejdr.2010.27>**

Four major research grants, the most recent ongoing:

- G1. Mackintosh.** 'Non-governmental action to improve access by the poor to good quality essential medicines'; ESRC (2006-2008) GBP165,327.
- G2. Mackintosh** 'Industrial productivity, health sector performance and policy synergies for inclusive growth: a study in Tanzania and Kenya'. DfID/ESRC, (2012-2015) GBP561,721.
- G3. Papaioannou** 'Unpacking the Role of Industry Associations in Diffusion and Governance of Health Innovations in Developing Countries' Leverhulme, (2013-2015) GBP142,196.
- G4. Mackintosh** 'How to link industrial and social innovation for inclusive development: lessons from tackling cancer care in Africa.' GCRF/ESRC Inclusive Societies, (2018-2021) GBP699,515.

4. Details of the impact

This body of research addresses the problem of access to supplies and medicines in Africa and the extent to which local manufacturing improvement can assist. The issue is now very high profile, as the Covid-19 pandemic generates nationally protective responses across the globe. The OU research group and its international network were early leaders in researching and shaping this policy field, in a manner now recognised as prescient, resulting in the following policy and practitioner impacts (organised by type of stakeholder and influence).

(i) Local health sector manufacturers and manufacturing associations (practitioner impact)

In Eastern and Southern Africa, the OU research was utilised “*to really fill the gaps*” in advocacy papers concerning incentives for local manufacturing, and that expertise has been “*practically very useful*” in “*meetings where we had manufacturers and politicians together*”, as an African pharmaceutical manufacturer and head of a regional manufacturers association [C1] confirmed in 2020. He further commented that without that expertise, “*the quality of our arguments would be less [...] we really would not have picked up the policy coherence*” requirement “*because we don't think that way*”. Two EAC officials supported by German development cooperation [C1] also confirmed in 2020 that the research “*inspired the justification which we wrote for the EAC pharmaceutical bill*”. This justification was requested by “*many high level decisionmakers [...] secretary generals of the EAC*” and was written “*based very strongly*” on this research. The officials also confirmed that the research has “*inspired the lobby and advocacy work of FEAPAM [Federation of East African Pharmaceutical Manufacturers' Associations]*”; the “*strong impact [...] provided a coherent narrative on local production of pharmaceuticals*” in relation to work on the East African Regional Pharmaceutical Manufacturing Plan of Action [C1]. Routes to these policy impacts have centrally involved the local research teams, for example, a presentation by Wangwe to the 1st East Africa Manufacturing Business Summit (Uganda 2015), where participants indicated messages were taken seriously because they came from independent research [C1]. The project book *Making Medicines in Africa*, launched by invitation at the Africa Pharmaceutical Summit East, March 2016, has been very widely downloaded (now over 79,000 downloads) and is “*extensively quoted by authors across Africa regarding local production*” [C1].

(ii) East African health and industrial policy makers (national policy influence)

National policy impact in Tanzania is evidenced by the use of text and findings from our Policy Briefs on reversing manufacturing decline in the Tanzanian *Second Five-Year Development Plan (2016)* [C2] in support of a decision to prioritise pharmaceutical manufacturing development; that commitment was followed by a sharp increase in budgeted government funding for purchase of medicines, recognising the local synergies identified. Government members requested summary findings from the research team to feed into that document [C2]. The route to this striking national impact was through the close involvement of Tanzanian research team members in policy-oriented research design; involving policy makers in research question identification; and through workshops for mutual feedback between senior policy makers and the research team leading, for example to citation of the team's findings by the Deputy Permanent Secretary of the Ministry of Industry and Trade in Tanzania at an EAC workshop in September 2015 [C2]. The research team also contributed on request detailed policy recommendations in June 2015 to a high-level task force chaired by COSTECH (which manages scientific research in Tanzania); while a 3-day UNCTAD-COSTECH workshop in Tanzania November 2015 on industry-health links included an invited presentation from the team. At EAC level, the "justification" for an EAC Pharmaceutical Bill, discussed in the Ugandan parliament in May 2020 was "inspired" by the research evidence [C1].

(iii) International UN bodies and donor governments (international policy influence)

This body of research has influenced UNIDO policy work since 2009. Two UNIDO officials [C3] reported that guidance from **Mackintosh** and **Banda**, research team members, "formed the backbone of the policy advice disseminated in the UNIDO guide" on incentives for pharmaceutical production in Africa, published in 2019 (no date on text) [C3]. In particular, **Mackintosh** "persuaded [the official] that market protection is a very important tool", when previously he "was quite opposed". The research "has certainly influenced what we [UNIDO] say". Without the research UNIDO "would not have the evidence base we have"; the research is "cited on regular occasions" and "has had quite a profound influence on our thinking and the way forward". "The international community is now aligned" behind the local production agenda, and this research "certainly contributed a lot to that" culminating in the joint agencies' declaration at the World Health Assembly (WHA) in 2019 [C3]. UN and other multilateral policy documents that have cited our work include UNRISD 2016 Flagship report on *Policy Innovations for Transformative Change* [C3]; the World Bank on *Creating Markets in Kenya* [C3]; and the UNDP Access and Delivery Partnership report on local pharmaceutical production in Tanzania [C3]. The unique research impact in the field is attested by the invitation to **Mackintosh** as the only academic presenting at the Ministerial-level UNCTAD-UNAIDS-African Union side-event at the World Investment Forum 2016 on pharmaceutical manufacturing. Additionally, a UNIDO official [C3] stated that the OU research programme is still "ahead of the curve" on research and policy.

A German development cooperation official [C4] stated in 2020 that she commissioned an evidence brief [C4] from the team that was "able to show that it [local manufacture of pharmaceuticals] has spin-off effects into the wider health context", including regulatory improvement and emergency preparedness. The report was presented at a WHO consultation, and the official stated that this was "very helpful" in providing evidence where previously it was "very sketchy". She further noted that WHO people are "quite sceptical" about the local production agenda, but it has now "found its way back onto the roadmap of access to medicines at the WHO". The research has helped German Development Cooperation "to communicate the wider impacts of local pharmaceutical production [...] very well".

In South Africa, a Department of Trade and Industry official [C5] attended a 2015 workshop on biopharmaceutical industry associations at the OU. She stated that this meeting facilitated a better understanding of the policy role of trade associations and generated new contacts for her work especially outside South Africa. In the UK, the project [G2] was the sole case selected in 2017 to showcase the impact of the DfID/ESRC Growth Programme to a new DfID Minister [C5]. A major follow-on project on industry-health synergies for cancer care has been funded [G4]: the

funding panel feedback recognised the scope to build on the earlier project's impact networks and pathways.

International NGOs (influence on policy thinking)

Some growing impact of this research can be evidenced on policy thinking by international NGOs. The OU team's evidence that locally produced medicines reach rural areas more effectively than imports [O4] is cited in the South Centre's report on TRIPS and medicines [C6]. **Mackintosh** was consulted in 2016 on institutional policy by *Médicins sans Frontières* (MSF), which at the time was reconsidering its role in global health policy and wished to reflect on its sources of supplies. Following the meeting, an MSF official [C6] stated that "*I think you have contributed a lot to helping people to think differently about some common assumptions in MSF*". The team was also consulted in 2017 as a stakeholder by the Access to Medicines Foundation on the methodology for their 2018 Index. A Foundation official wrote that the input on local manufacturing capacity building had been "*so valuable*" [C6].

Summary

This research has contributed strongly, as evidenced, to a major shift in policy thinking, decisions and action, and to manufacturers' involvement in that process, on the subject of health-related local manufacturing in Africa and its importance for local health care quality and access. The impact is evidenced within the private sector; at national, regional and international level; and increasingly in NGO thinking. The Covid-19 pandemic has dramatically increased recognition, among African and international stakeholders, of the importance of African industrial supply capabilities for local health care systems, and the research team is continuing to work actively in this field both in research and responding to requests for policy involvement.

5. Sources to corroborate the impact

- C1.** Report and testimonials relating to impact on Local health sector manufacturers and manufacturing associations.
- C2.** Reports and testimonials relating to impact in Tanzania.
- C3.** Reports and testimonials on impact on UN bodies.
- C4.** Reports and testimonials on impact on German government as donor.
- C5.** Testimonials and correspondence relating to impact on UK government as a donor.
- C6.** Testimonials from international NGOs on impact to policy and practice.