

BUILDING A COMPETITIVE AND SOCIALLY INCLUSIVE LOCAL PHARMACEUTICAL MANUFACTURING IN WEST AFRICA

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BUILDING A COMPETITIVE AND SOCIALLY INCLUSIVE LOCAL PHARMACEUTICAL MANUFACTURING IN WEST AFRICA

Strategies for Human Resource Development for the Sector

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EXECUTIVE SUMMARY

This policy brief arises from a study commissioned by the Scinnovent Centre and undertaken by ACTS under the auspices of the Science Granting Councils Initiative (SGCI).

The study focused on building competitive and socially inclusive local pharmaceutical industries in West Africa and addressed five issues: affordability, human resources, research and development, intellectual property and technology transfer.

This policy brief presents findings on the human resource situation for the pharmaceutical sector in West Africa. The policy brief explains the current situation and what can be done in terms of training, linking with diaspora, collaboration and partnership with Asian countries and building synergy within ECOWAS to address the human resource requirements for the sector in West Africa.

INTRODUCTION

Many African countries, through their development plans, have prioritised access to affordable healthcare services. However, the realisation of these aspirations has been constrained due to the high costs of imported medicines, which not only increase the health burden but also have negative implications on access and affordability of medicines. Affordability is important since up to 90% of the population purchases medicines through out-of-pocket payments.

As a result, many African countries have started initiatives to promote local pharmaceutical manufacturing, to address the issue of high costs of imported medicines and to tap on additional benefits that local pharmaceutical industries can bring, such as creation of employment opportunities, technology and skills transfer and enhancing intra-Africa trade.

This has led to the establishment of about 172 local pharmaceutical firms in

the Economic Community of West African States (ECOWAS) region. Nigeria is leading with 120 firms, followed by Ghana with 37 firms, while Senegal and Cote D'ivoire have five firms each. Benin, Burkina Faso, Cape Verde and Guinea Conakry have one firm each.

However, there are several bottlenecks experienced by the sector, along its value chain (access to inputs, manufacturing, and marketing). These include: (a) Access to raw material- over 90% of the inputs for local pharmaceutical manufacturing are imported i.e. active pharmaceutical ingredients (APIs); packaging materials, as well as other inputs that are not manufactured in the region.

(b) Shortage of skilled labour- the human resource challenge is not only on the number of pharmacists and other professionals but also on their limited or lack of industrial pharmaceutical knowledge and skills.

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(c) Expensive pharmaceutical manufacturing equipment and technologies- the bulk of the pharmaceutical manufacturing equipment are imported, and therefore expensive.

(d) Low investment in pharmaceutical R&D in the region.

(e) Limited utilisation of Trade-Related Aspects of Intellectual Property Rights (TRIPS) Flexibilities.

(f) Medicines regulations in the ECOWAS region, member states have in place basic legal frameworks for the regulation and control of the manufacture, distribution and utilisation of medicines for human use. A review of the systems (Anglophone and Francophone) showed that medicine regulation is still problematic, due to weak infrastructure, weak enforcement power, and inadequate human resource capacity, amongst others.

The medicines regulatory sector is also faced with the problems of poor motivation and low retention of staff; high levels of counterfeit and illicit medicines and lack of harmonisation of medicines regulation. There are also differences in the requirements for medicines registration in member countries;

(g) Accessing market- the local manufacturers have problems with procurement of pharmaceutical products by public agencies is usually based on the quoted price, with a tendency to select the lowest bidder. This normally favours international pharmaceutical agencies over local industries due to the low production costs of the former. Furthermore, all donor and development partners funded procurement of essential medicines requires that supplier should have WHO's product prequalification.

This policy brief focuses on unpacking the issue of inadequate human resources that can support the growth

of local pharmaceutical firms in West Africa. It documents the following:

a. The current human resource situation in the pharmaceutical firms in each of the nine countries of West Africa and how the coping strategies the firms have adopted.

b. The role played by the national universities and other training institutions in each of the countries to address the human resources challenge.

c. The role the West African in the diaspora can play to provide the required human resources expertise in the pharmaceutical firms.

d. The extent collaboration with countries from Asian countries can help to support the sector, by documenting success stories and lessons learned from other countries.

e. The extent countries in the region with more developed pharmaceutical sector, such as, Nigeria and Ghana can help other West African countries to develop their local pharmaceutical industries

APPROACH AND RESULTS

The required information was obtained through desk study, interviews, and stakeholder's consultations, in five ECOWAS countries (Nigeria, Ghana, Cote d'Ivoire, Senegal, and Togo) undertaken by five national consultants, who were contracted in each of these countries. In addition, a scoping desk study was undertaken on Mali, Guinea Conakry, Cape Verde and Benin.

In addition to national/in-country studies, comparative country studies were also used to document the differences and similarities in approaches between Anglophone and Francophone countries on some of the issues. Benchmarking studies were also undertaken targeting India, China, Brazil, Morocco and Ethiopia, to identify some best practices. The national consultants prepared national

reports that were moderated during a three-day experience sharing amongst the five consultants in Abidjan, Cote d'Ivoire. The main findings of this study are outline below:

The current status of human resources situation in the pharmaceutical industries in the nine countries is inadequate

The current HR situation of the LPPs⁸ in West Africa is quite precarious. There is a mixture of small proportion of local and plenty of Indian technologists manning the sector in the region. Companies in the pharmaceutical manufacturing sector and their Indian partners mostly source for industrial pharmacists from India under individual efforts. In Ghana for example, there are about 50⁹ local pharmacists in the industry that account for only 1.9% of total pharmacists registered with the Pharmaceutical Society of Ghana (PSGH)¹⁰ out of about 2,682¹¹.

Similarly, in Togo, Indians or Chinese hold almost all the technical positions in the four LPPs in the country while Togolese hold the position of superintendent (Table 1). The same picture is found in Senegal, where local pharmacists do not have a strong representation in the five pharmaceutical industries; accounting for only 22% of the total number of senior staff.

This situation is attributed to three factors: in-adequate training by local universities; brain drain; and terms and conditions in LPPs. First is that the pharmaceutical sector requires specialised skills in pharmaceutical production identification, formulation, production and trials, which in most cases can only be provided at post graduate level¹². Second, brain drain is another great challenge facing the

⁸Local Pharmaceutical Industries (LPPs)

⁹Dr Sam Gaizer, Chairman IPA

¹⁰Pharmaceutical Society of Ghana

¹¹PSGH 2019 AGM Magazine

¹²This is discussed in details in the next section

Table 1: Holders of management position in LPM in Togo

MANUFACTURER	SHAREHOLDER	TECHNICAL MANAGER	TYPE OF FACTORY
GGIA	Togolese	Togolese	Local production
DO PHARMA	Togolese	Indians	Local production
SPRUKFIELD	Indians	Indians	Local production
TONGMEI	Chinese	Chinese	Reconditioning

availability of skilled personnel in the pharmaceutical industry.

A recent survey on the financial cost of medical personnel, pharmacists inclusive, emigrating from sub-Saharan Africa revealed that many medical personnel from these countries are, in fact, working in the United Kingdom, Australia, Canada and the United States. Various parties estimate the actual numbers to be in the thousands.

The estimated loss of return on investment for these West African countries is almost US\$2.17bn while the net gain for the developed countries to which they emigrated was placed at US\$4.55bn (Mills et al., 2011). Finally, many young pharmacists who enter the sector do not stay long enough because they do not find it attractive enough.

The role played by universities and training institutions to address the HR challenge for the sector

Local universities and training institutions are involved in the training of pharmacists, scientists and technologies for the pharmaceutical sector, but the level of preparedness of the graduates from the local institutions to support the unique and specialised skills requirements for the sector is inadequate as briefly described here below:

a. Ghana: universities such as Kwame Nkrumah University of Science and Technology (KNUST)¹³, University of Ghana (UG)¹⁴, and University of Development Studies (UDS)¹⁵ are involved with the training of pharmacists, engineers and other scientists for the sector. There are also some other training institutions

that train technicians for the sector, including some of the polytechnics, which are now universities.

It is only KNUST that train students at undergraduate and postgraduate levels in Pharmaceutical Technology. KNUST offers an MSc Pharm Tech Programme, which is designed with industry in mind. It is expected that the industry will sponsor their employees for this program. In 2019, the content of the Pharmaceutical Technology Programme¹⁶ was reviewed and submitted to the National Accreditation Board (NAB) for accreditation.

b. Nigeria: Nigeria has 21 universities that offer training in pharmacy at undergraduate and some at both undergraduate and postgraduate levels. These include University of Benin, University of Ibadan, Obafemi Awolowo University, University of Port-Harcourt and University of Nigeria. In 1989, the National University Commission (NUC) of Nigeria approved minimum standards of five-year training curriculum for Pharmacy.

However, the six to seven years Pharm Doctor Programme remains the current global best standard for sustainable training of people who will handle a critical aspect of a nation’s health care delivery system. The pharmacy curriculum has been expanded to handle the challenges from the clinical and industrial angles. One of such moves is the introduction of the Doctor of Pharmacy Programme (Pharm.D) initiated by the University of Benin, Benin City, Nigeria.

c. Côte d’Ivoire: Similarly in Cote d’Ivoire, there are several universities that offer training in medicine. These include; Felix Houphouet Boigny Universite; Universite d’Abobo-Adjame and Ecole de medicine. However, only Felix Houphouet Boigny Universite offers training in pharmacy. Since its creation in 1977, the Pharmaceutical and Biological Sciences Faculty has trained more than 1,500 pharmacists.

The Biological and Pharmaceutical Sciences Faculty of Côte d’Ivoire is the only school officially dedicated to the training of pharmacists. It does not have a highly specialised training programme for the pharmaceutical industry. Those trained are not specialised in the Pharmaceutical Industry and therefore the sector is full of pharmacists with some understanding in pharmaceutical manufacturing acquired during their university training but are not specialised to lead and operate a pharmaceutical industry.

d. Senegal: In Senegal Dakar University Cheikh Anta Diop (UCAD) is currently the only university with a faculty of pharmacy. A second faculty is being built at Thies in western Senegal. UCAD has four training and specialisations and among them master’s degree programmes in industrial drug development; herbal medicine and cosmetology; pharmaceutical sciences.

¹³Kwame Nkrumah University of Science and Technology

¹⁴University of Ghana

¹⁵University of Development Studies

¹⁶Prof. Marcel Bayor, Head, Pharmaceutics, KNUST

Common challenges to pharmacy training from all these countries include:

- a. Limited postgraduate programmes focusing on pharmaceutical industries
- b. Limited hands-on training opportunities at the universities
- c. Limited practical exposures in the industry
- d. Lack of mini industries that universities can use for practical training

The role of West African in the diaspora to support HR for the sector

Currently there is little contribution of the West African citizens in the diaspora in providing technical support to the local pharmaceutical industries. This is mainly due to lack of a policy framework to engage them for the sector. For example, in Ghana, there is no formal engagement with the Ghanaians in the diaspora to date except through the Private Health Sector Policy of 2013.

This policy shows how the private sector, in general, can be engaged with the Ghana health system through investments. However, Ghana is in the process of drafting a Diasporian Policy and an abridged form was introduced during the Ghana Diaspora Celebration and Homecoming Summit 2019, 3-5 July in Accra. Such a policy which also exists in Zambia¹⁷, Kenya¹⁸, and Ireland¹⁹ will harness broadly all the potentials of the Ghanaian diaspora in a systematic framework for national development including LPP.

Similarly, the Ivorian diaspora represents an important and useful financial power for local populations living in Côte d'Ivoire. In addition to its financial contribution, the diaspora also represents a pool of human resources, skills and know-how that can contribute to economic development, including through job creation. However, lack of policy has limited their contributions to the other sectors.

Secondly, apart from Nigeria and Ghana, the remaining West African countries have few local industries and therefore job opportunities that can attract people in the diaspora are limited. Senegal and Cote d'Ivoire have five industries each, Togo has four industries while Mali, Cape Verde, Burkina Faso and Benin have only one each.

The pharmaceutical industries in Senegal are not numerous and consequently the offer is much lower than the demand. The industries are also not attractive in terms of innovative products, infrastructures so that the Senegalese diaspora is not incentivized enough to return to Senegal. However, like Rwanda in 2009, a Senegalese Diaspora policy should be established.

The policy could be the guiding framework that sets out how authorities wish to see the Senegalese diaspora contributing and being integrated into the national development of the pharmaceutical sector. Knowledge and skills can be transferred through capacity building programmes, mobility based approach to help mobilise competencies acquired by the diaspora for the benefit of regional development. Short term volunteering programmes to reverse brain drain by encouraging nationals to provide their expertise on consultancy services²⁰ are also to be explored.

Role of Asian Countries, Successes and Lessons Learnt

The Asian countries are key players in the pharmaceutical industries in West Africa and through strategy collaboration at regional level they can support the promotion of local industries through capacity building and technology transfer. India, China and Bangladesh are the main sources of large imports of medicines into West Africa.

They are also the main sources of pharmaceutical packaging materials

and excipients. There are already some activities taking place in terms of collaboration which are positive, as illustrated here below:

a. In Mali, a company called Human well Healthcare, a Chinese pharmaceutical group opened its first plant on the continent, in Mali, in early 2015. Covering an area of 69,000 m², the plant employs more than 200 Malians. This was as a result of the Chinese Government pledge to invest \$60 billion to support the continent's development at the Forum on China-Africa Cooperation in Johannesburg in December 2015. Cooperation on health was one of the priorities of the meeting, and China encouraged its companies to support African pharmaceutical production to facilitate access to medicines exclusively to investment projects in Africa. All have received training in modern pharmaceutical production techniques.

b. In Senegal, there are no Indian and Chinese pharmaceutical industries. However, with a strong win-win partnership and agreement their presence could promote the transfer of technology, generate jobs, limit imports and therefore facilitate access to medicines. Another opportunity for collaboration is where local industries currently in Senegal could purchase bulk generic products from these countries and make the secondary packaging.

c. In Togo, Asian technicians are already working with manufacturers in Togo. The next stage is to elevate the cooperation to an institutional level. That will enable the training of many national technicians and make the cooperation more fruitful.

¹⁷http://www.mofa.gov.zm/?wpfb_dl=48

¹⁸<http://www.mfa.go.ke/wp-content/uploads/2016/09/Kenya-Diaspora-Policy.pdf>

¹⁹<https://www.dfa.ie/media/globalirish/global-irish-irelands-diaspora-policy.pdf>

²⁰https://www.iom.int/sites/default/files/country/EEA/info_sheet_diaspora.pdf

The role of Nigeria and Ghana in helping other West African countries develop their local pharmaceutical industries

Nigeria and Ghana, which account for over 85% of the local pharmaceutical industries in ECOWAS, have the potential to support the other countries in terms of capacity building and experience sharing. The two have had a considerable length of time with pharmaceutical manufacturing experience and this could be documented to act as a learning curve for some countries that want to venture into this industry.

The Ghana College of Pharmacist (GCPharm)²¹ could be one convenient place to offer these services. The college can be asked to document the phases of Ghana's pharmaceutical manufacturing for print and audio-visuals for training purposes. Indeed, due to the relatively advanced nature of regulation by Ghana Food and Drugs Authority (GFDA)²², Ghana can offer services in regulatory science to help train other regulators in the region by co-opting regulators from other countries for joint factory inspections, etc. to develop their capacity. United States Pharmacopeia (USP) Ghana has been offering training for regulators and Pharmaceutical Manufacturers (PM) from all over Africa in Accra, which could complement what GFDA could do. Further, USP Ghana²³ has offered its facilities to University of Ghana to complement the training of pharmacists and postgraduates.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings presented above, the following conclusions and recommendations are provided for consideration by policy makers.

1. The current status of human resources in the pharmaceutical industries in the nine countries is inadequate. This affects not only the growth of local pharmaceutical industries but also contributes to the challenges faced by the products

from these industries to get WHO certifications. Investing in developing the human resource required for the sector should be given priority, if ECOWAS has to realise its mission of enhancing the contribution of the local pharmaceutical industries to access and affordability of medicines.

2. Training of pharmacists is currently taking place in the universities and other trainings institutions in all the nine countries. However, the graduates from these universities do not have the required skills and expertise to properly fit in the local pharmaceutical industries, due to inadequate exposure in hands-on training. The following recommendations are therefore suggested:

a. In collaboration with local pharmaceutical industries, the ECOWAS governments should develop an incentive structure that can enable existing local pharmaceutical industries to offer hands-on training to postgraduate students.

b. The governments should support the numerous pharmacy training schools to have their in-house mini manufacturing units for hands-on training.

c. The Postgraduate College of Pharmacists of West Africa (in WAPCP) should be strengthened to play a key role in training pharmacists and pharmacy researchers who can possess the required expertise and meet the demand of the pharmaceutical market in the ECOWAS region.

d. To improve on quality of graduate that is fit for the pharmaceutical industries, universities should periodically review their curricula to align them with modern trends in the evolution of the pharmaceutical industry. Areas such as regulation, pharmaceutical technology, drug formulation and development, and clinical studies need to be

strengthened. Second, the regional harmonisation of the curricula of training for first, second and third cycles of pharmacy studies would lead to the production of a qualified workforce and the improvement of the practice of pharmacy.

e. Other recommendations include: creation of centres of excellence for training manufacturers for the region; establishing regional facilities for drug analysis and laboratory services since these services are expensive but are manageable through economies of scales; and creation of a specific pharmaceutical programme of long-term courses for regulators and industries in the region.

3. The contribution of diaspora to support the local pharmaceutical industries can be enhanced through the following:

a. Development of a diaspora policy to provide a framework for engagement with the sector in terms of investment, technology and skills transfer. The policy would also articulate how the ECOWAS diaspora can be integrated in the national development of the pharmaceutical sector.

b. Short term volunteering programmes to reverse the brain-drain by encouraging nationals to provide their expertise, transfer of knowhow and skills.

c. Short term consultancy services by diaspora or partnerships between local and diaspora.

d. Provide internship opportunities provided by diaspora abroad for young graduates from the region to be exposed in modern pharmaceutical production processes.

4. Collaboration and partnerships with Asian countries: India, China and Indonesia are key players in the pharmaceutical industries.

²¹<http://gcpharm.edu.gh/contact/>

²²Ghana Food and Drug Authority

²³Kwasi Boateng, USP Ghana

They are the main exporters of medicines to ECOWAS countries and pharmaceutical inputs to ECOWAS local pharmaceutical industries. Exploring partnerships and collaboration on capacity building and technology transfer that result into win-win situation is recommended.

5. Collaboration within ECOWAS: The study has shown that each of the nine countries has unique experience that they can offer to each other to support the development of the local pharmaceutical industries in the region. Through ECOWAS and WAHO, efforts should be given to developing a framework that can facilitate this.



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