Regional Network for Drugs and Diagnostics Innovation exemplified by ANDI

Background Paper for Executive Board

The global strategy and plan of action on public health, innovation and intellectual property (GSPOA) aims to promote new thinking on innovation and access to medicines. It also seeks to provide a medium-term framework for securing an enhanced and sustainable basis for needs driven essential health research and development relevant to diseases which disproportionately affect developing countries. The establishment of formalized product R&D innovation networks, operating under regional governance structures and management could provide a time-efficient, cost-effective and inclusive approach to achieving this critical objective. Since the GSPOA was agreed in 2008 the concept of regional innovation networks has been developed. It has been most significantly advanced within Africa, for which a detailed business plan has been developed. Preliminary discussions are under way on the development of regional networks in Asia and in Latin America.

African Network for Drugs and Diagnostics Innovation (ANDI)

A business plan¹ for a first-ever African owned and managed innovation fund to finance drugs and diagnostics research, namely the African Network for Drug and Diagnostics Innovation (ANDI) has been developed by a series of partners, notably WHO through TDR, AFRO and EMRO, the African Development Bank, the European Union and several national African institutions. The organizations have worked through a task force composed of heads of African research institutions, policy makers, Africans in the Diaspora, and international and multilateral organizations. Two major pan-African meetings have been held with technical experts to discuss and get consensus on how the initiative can best be undertaken, the first hosted in collaboration with the Nigerian government in October 2008 and the second hosted in collaboration with the South African government in October 2009². Discussions are now under way to formally establish ANDI with an African-led governance structure under the auspices of the African Development Bank in 2010, and to operationally launch the initiative with a set of well defined projects in 2011.

The strategic business plan's development involved multiple consultative discussions, analyses and over 170 stakeholder interviews. The plan calls for a US $ 600 million endowment fund in Africa that can complement other, more classical, donations to generate a sustainable income of up to US $30 million annually to support African health product innovation including a portfolio of 15 network projects, capacity building and support for infrastructural development. Discussions are under way with the African Development Bank to host this fund. ANDI aims to partner, fund and coordinate research through the creation of portfolio of collaborative project networks and partnerships. It will also advocate for more investment for research to be done throughout Africa and will build capability, including IP management capability, that supports sustainable and local

pharmaceutical research and development for enhanced access to medicines. Recent discussions with various stakeholders has also emphasized the need for ANDI to remain open to include research for a broad range of products, including drugs, diagnostics, vaccines and medical devices. They have also stressed the need for downstream research to strengthen and support health systems.

ANDI will have a small, expert and professional secretariat, with five sub-regional hubs. The sub-regional model mirrors the existence of the sub-regional political / economic entities in Africa and will be supported by a strong sub-regional representation in the governing board of ANDI.

ANDI has been developed under the umbrella of the GSPOA. It is well aligned with the AU commitment, as expressed through African Ministerial Conferences on Science and Technology (AMCOST), to spend 1% of GDP on research and development across the science, technology and innovation sector. In developing ANDI there has been significant contact and collaboration with ministries of science and technology as well as ministries of health. A fully functional ANDI will promote research for health and will promote and facilitate the use of resources from the science, technology and innovation sectors on health.

The rationale and need for an organized network for innovation such as ANDI to be established in Africa have been articulated in the strategic business plan, and there are several reasons to believe that such a network, once established, can deliver innovation. Some of the key arguments in support of this are presented below.

An analysis of scientific publications from 2004-2008 illustrates the partnering activities of African institutions and demonstrates the potential value of an African-based network. For HIV and malaria biomedical research the top 20 institutions working in or with Africa were identified and the collaborative links of the African institutions mapped. The results, shown in figure 2, demonstrate that the vast majority of African institutional collaboration is with external institutions in the USA and Europe. This extra-continental collaboration in itself is not a bad thing, but there is an obvious need to further strengthen intra-African collaboration. By complementing existing activities with a strengthened intra-African collaboration, African innovation capacity can be better developed
Africa currently accounts for about 1% of global research output in biomedical research, but the basis for developing a stronger capacity for innovation in Africa exists. This is illustrated both by academic output, including clinical trial capacity, and manufacturing capabilities. Figure 3 demonstrates that basic innovation capabilities exist, but also highlights the uneven geographic nature of those capabilities. By generating sub-regional hubs for a pan African network, and by linking this to a governance structure that has strong sub-regional representation, it is anticipated that ANDI will help leverage technology transfer and capacity building from the stronger sub-regional institutions to weaker sub-regional institutions. One of ANDI's key objectives is to create networks and synergies between African institutions that strengthen South-South and North-South collaborations.

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3 Manuscript submitted
It is expected that a functional organization located in Africa, owned, managed and
governed by African institutions, implementing product R&D and ensuring sustainable
access to new drugs and diagnostics innovations will help fill a number of gaps. First, a
lack of investment in product R&D within Africa and externally; secondly, a lack of
collaboration among African scientists and between the African public and private sector;
and third, a lack of awareness of the link between research and economic development.

Funds have been secured, including from the EU, to support the initial establishment of
regional networks including ANDI. However further resources are needed to
operationalise ANDI. Next steps for the establishment of ANDI include: (i) the formal
establishment of a governance structure; (ii) the selection of host sites for the regional
and sub-regional offices; (iii) the selection and establishment of an initial set of projects
and technological support platforms; (iv) recruitment of staff. It is anticipated that these
milestones will be achieved by mid to end of 2011.

Figure 4, below, highlights the current planned resource requirements for ANDI over the
next 6 years, both in terms of annual running costs and the size of endowment anticipated
to facilitate delivery of those resources. Figure 5 illustrates the planned organizational
structure of ANDI.

ANDI has been greeted with great enthusiasm by technical organizations and institutions,
both within Africa and the diaspora. Work is now under way to further discuss and
promote implementation of the business plan with political and funding organizations.
Initial responses have been positive.
Other Regional Innovation Networks

Presentation and discussion of the ANDI concept at global research conferences has led to a strong interest being expressed by experts and institutions in Asia and Latin America for a similar mechanism to be developed within their regions. It is acknowledged that the nature of such networks may differ significantly from that of Africa, depending on regional needs and circumstance. However, the principle of promoting intra-regional networking under local governance and management remains constant.

Some initial discussions have taken place and preliminary funding has been made available, including from the EU, to further explore these possibilities. The hope is that the regional networks, once established, can support broader South-South collaboration (see Figure 6).

Figure 6

A wide interest has been expressed by several stakeholder groups for an Asian network and some preliminary mapping of innovation centers is under way in China, India and several Asian countries. A Chinese network held its first meeting in October 2009 and is under further development with the aim of linking into a broader Asian network.

Preliminary meetings have also been held through PAHO and TDR to discuss the development of a regional network in Latin America.

Future updates on developments for all these regional initiatives will be made available for WHO's governing bodies under the auspices of the Global Strategy and Plan of Action on Public Health, Innovation and Intellectual Property.

4 www.asiandi.org/china