

# ENHANCING RESEARCH CAPACITY IN AFRICA: A SWOT ANALYSIS OF THE INTERNATIONAL DOCTORATE IN GLOBAL HEALTH

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## Introduction

Improving skills for conducting and managing health research is an important instrument for strengthening health systems in the global South (Lahiff et al., 2012). One means of building research capacity in low-income countries is engaging in doctoral training for young scientists. Collaborative PhD programmes between African universities and Northern institutions, with an enhanced role for the African institution, may be a promising way forward (Colebunders, 2012).

The International Doctorate in Global Health (Indigo) is an innovative programme, launched in 2009 and coordinated by the Centre for Global Health at Trinity College, Dublin, with partners from Africa, Europe and North America. The programme partners are the Mailman School of Public Health at Columbia University, Harvard Medical School and Queen's University Belfast with four universities in sub-Saharan Africa: Addis Ababa (Ethiopia), Ibadan (Nigeria), Makerere (Uganda) and College of Medicine (Malawi). The programme also works collaboratively with South Africa's Human Sciences Research Council's (HSRC) Social Aspects of HIV/AIDS and Health (SAHA) group and the Council on Health Research for Development (COHRED), based in Geneva, and Trinity College Dublin (TCD).

The Indigo model provides an opportunity for students from diverse backgrounds to study at leading universities and to conduct research in Africa with an international panel of supervisors. Indigo focuses on using social science to strengthen health systems and is open to all types of clinicians, management and policy practitioners, and academic researchers from any part of the world. It aims to produce leaders in global health research, policy and practice. The programme emerged from the widely recognised need for health system research strengthening in Africa (Lahiff et al., 2010).

There are currently twelve students enrolled in the programme – the first cohort of four students was admitted in September 2009, with a further eight students admitted in 2010. Six of the current twelve students are funded by Irish Aid bursaries to African students, and six are funded from other

sources (two African, one Canadian, one from the United States, one Finnish and one Irish).

The purpose of the current research was a mid-term review to determine the strengths, weaknesses, opportunities and threats for the Indigo programme from the perspectives of the partners, students, supervisors and the project management team. This article draws upon the research findings and suggests that the reflections and experiences of a broad range of stakeholders will not only facilitate direct programmatic learning, but also inform models of partnership in health research capacity building more generally.

## **Methodology**

The research study targeted engagement of all participants in the Indigo programme. Overall, 43 semi-structured interviews were conducted over a three month period with twenty members of the partner organisations, four supervisors, twelve students, four programme management (PM) team and three advisors from the global North. Of the 36 respondents (not including the PM which were all from the North) 23 were from the global South and 13 from the North, of whom 23 were male and 13 female.

Data collection was gathered through a semi-structured interview methodology which was used to understand participants' experiences with the project. The study sought to capture as much information about respondents' perceptions of the structure/management of the programme; its strengths, challenges and lessons learnt. Questions included items such as 'what do you believe are the greatest strengths of Indigo?'; 'what do you believe are the greatest challenges for Indigo?'; 'what are the greatest threats facing Indigo?', 'what opportunities does Indigo have?'; and 'can you share any specific ideas you may have for future programme development?'

Data was password-protected and anonymised by giving each participant a unique code with letters indicating the programme group abbreviation and numbers corresponding to the sequence of interviews within the group. Table 1 lists respondents' codes and group affiliations. The data was analysed using thematic analysis and emergent themes, which were independently identified by two or more researchers. The themes were used to inform a SWOT analysis for the programme. A SWOT framework is generally used to systematically characterise a particular situation with regards to its internal strengths and weakness, as well as its external opportunities and threats (Schroeder et al., 2010). The reporting of themes that follows is supported by illustrative quotations.

**Table 1: Group Affiliation and Respondent Codes**

Group	Codes
Partners	MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8, MP9, MP10, MP11, MP12, MP13, MP14, MP15, MP16, MP17, MP18, MP19, MP20
Students	MST1, MST2, MST3, MST4, MST5, MST6, MST7, MST8, MST9, MST10, MST11, MST12
Supervisors	MS1, MS2, MS3, MS4
Programme Management and Advisors	EA1, EA2, EA3, EA4, EA5, EA6, EA7

## Findings

### *Programme Strengths*

Various categories of strengths were identified: it was seen as collaborative in nature, involving partners with diverse experiences that add value to students, and also strengthen the joint supervisory model and application of locally relevant research. The structure of the programme was seen to broaden the students' academic focus and networks and have an important influence on their future career. As one partner suggested:

“I think it is a very exciting programme in that it brings together a number of institutions, and I think each institution has something to bring to the table regarding PhD training” (MP3).

Another programme strength highlighted is its multidisciplinary focus and exposure to different learning environments. The partnership structure was perceived to be a useful mechanism to build research infrastructure in partner institutions in the South:

“I think Indigo was a very brave experiment and I think it's probably going to bear great fruit, you know, and from a ideological perspective

I think Indigo is so inclusive that it's really to be cherished, you know. It's - I think it's ideologically an excellent programme" (EA1).

The sandwich nature of the programme which encourages research within the student's context was seen as discouraging brain drain and the programme was seen to support capacity strengthening:

"We don't determine for them what kind of research, you know, what the research priorities should be. They determine from their universities what are their research priorities, and that is what the students pursue" (MP3).

The co-supervision arrangements broaden the experience of both supervisors and students: there is professional development of supervisors through various methods including the Indigo Summer School; professional development of staff; the interdisciplinary nature which adds to students/supervisors experiences and knowledge; promotion of research between junior and senior staff, the Indigo summer modules on systematic reviews, case studies in global health delivery and NVivo and the practical learning through student's internship with the Human Science Research Council in South Africa:

"I talk about the strength; strength is capacity building, especially in this health, especially for Makerere and the School of Psychology. We are bottom heavy, I think 70% of our staff are all teaching assistant lecturers and we don't have senior staff members and you cannot be senior staff without a PhD so we see this research as a very great opportunity to train our staff" (MP5).

The programme design and variety of choice of modules was seen as good. The flexible nature of the programme for non Irish Aid bursary students was also highlighted. The high quality of students participating in the programme and the programme's ability to attract and recruit additional students not funded under the Irish Aid/HEA grant was another strength highlighted. Indigo provides a platform for these additional students to seek and secure funding from other governments, civil societies, philanthropy, private organisations and NGOs.

### ***Programme Weaknesses***

Several categories of weaknesses were identified. The first is the challenge posed by different partner institutes within the programme. The lack of appropriate

governance arrangements in TCD was identified as a problem because the Indigo project is nested within a larger institutional funded project. As one respondent suggested ‘although the Centre for Global Health runs the programme, the finances are managed elsewhere and that makes it incredibly difficult’ (MP4).

Apart from internal administrative and political issues in Trinity, administrative challenges between Trinity and some of the Southern and Northern partners was another weakness cited by most partners and by the project management team. The partnership structure was perceived as strong with widespread consultation before decisions are taken but partners observed that sometimes such decisions are reversed by Trinity citing administrative and donor requirements: ‘I mean, I think the differences in terms of administrative requirements within the different institutions have been quite difficult at times’ (MP4).

Another weakness identified is Trinity’s inability to institute a joint degree with each of the four partner universities, leading to questions about the genuineness/authenticity and equity of the partnerships. The awarding of a joint degree was intended to bolster the attraction, credibility and status to the African universities’ PhDs and allow students to gain an internationally recognised doctorate through their own university. It was also intended to benefit TCD by broadening and deepening its portfolio of global health research. Moreover, weaknesses were identified in regard to the logistics of managing the different partners and establishing good communication and effective working relationships between supervisors in different parts of the world: ‘The logistics of managing that number of partners, you know, the movements, the budget support, I think, for students, student stipends, that kind of thing’ (EA3).

Another issue highlighted was the relatively expensive nature of the model and the significant cost involved in administering the project: ‘Well, I think the fundamental difficulty, which is not in some senses a fault, it’s just a challenge, is that the programme is inherently complicated and quite high-cost’ (MS1). The non-availability of funds to achieve earlier stated objectives such as supervisory meetings and annual Indigo workshops and, even when funds were available, they were not at times used effectively to meet the programmatic goals:

“How are we going to do this joint research and publications when we don’t have enough money? So this is becoming a challenge, I think. We might end up, or Indigo might run out if we don’t organise this so

we are already 2 years into the project and no workshop has been done except the ones we had in TCD last year” (MP5).

The fourth category of weakness identified was the difficulty for students to retain focus on individual research proposals during a sometimes hectic first year spread across three continents. Related to this is that some students work part-time in their universities while undertaking their PhD. The co-supervision arrangement, which allows a student a maximum of four supervisors both from the North and the South, sometimes resulted in communication difficulties attributed to the high student mobility and the fact that supervisors were in different physical locations. In addition, it was reported that supervisors lacked knowledge of each other’s disciplines which was described as having the potential to ‘penalise’ the student. Furthermore, supervisory roles in the South as in the North are often voluntary. Therefore there is little incentive to engage. One student suggested that ‘I think one of the challenges is being able to work closely and at the same rate with all the supervisors’ (MS1).

### *Programme Opportunities*

In relation to opportunities, two primary categories were identified. The first category focuses on the emphasis on PhD training and the need to develop research leaders in the South:

“So what you are doing, what this project’s doing, fits in quite well with the aspirations of Makerere University to increase its capacity in PhD training and create researchers for the future. What we’re looking at now, at the next generation of African academics, and the people who are training at PhD level are the people who are going to be the next generation of African academics” (MP3).

Evidence of political will in the South and enthusiasm from the North to support postgraduate training was seen as an opportunity. As a student said: ‘I think there is good political will in the South especially and also in the North there is real support, the political environment, the institutional support is all there’ (MP5).

The current focus on the need to build a strong global health network within the Southern region and beyond was another opportunity highlighted.

“A South-South collaboration should be promoted. I believe the South should be given a chance to do and to build and foster



collaborations. It would be great to learn from Indigo how a South-South experience [can deepen]" (MP11).

The second category of opportunity is the plan to transfer the administrative leadership of the programme from TCD to Makerere University in Uganda. This has been discussed and agreed between Indigo partners but is dependent on further funding.

### ***Programme Threats***

Two primary categories of threats to the programme were identified. The first category focuses on securing additional funding for the sustainability of the programme in the current economic climate. Also mentioned is the inadequate research infrastructure and non conducive research environment in the South. There has always been the concern about the sustainability of the programme without the support of Irish Aid. The second major threat concerned the continuing participation of both the Southern and the Northern partners. The administrative transfer of the programme to the South may mean that the Northern partners may be less willing to participate. It was suggested that some of the Southern partners are also involved in several other partnerships and see the proper maintenance and active contribution to these partnerships as vital:

“I think what we’ve had is a good start-up, but the real test of the model will be when it’s African-led, will places like TCD and Harvard and Columbia and all the rest of it still want to be on board when Makerere is driving it?” (MP8).

The governance structure of the participating universities and the challenge of building equitable partnerships under such structures were also seen as a threat.

“The challenges we have are institutional because our universities don’t change their characters overnight. So when you want to introduce a concept of joint degrees to go through senate, to go through council, to go through the boards, there can be a challenge” (MP3).

### **Limitations of the Research**

This evaluation was carried out during the third year of the Indigo programme which has not yet graduated any of the PhD students who are on a four-year programme. Therefore this is a mid-term evaluation of the first phase of the Indigo programme. Further evaluation will be needed as students and

supervisors progress through the programme to assess its true impact, however it would be remiss both for this programme and for research capacity building more generally, not to try and identify and share such learning with some of the students already completing three years of it.

It is also important to acknowledge that the researchers who conducted the interviews described above may have been seen as ‘donors’ by some of the African partners participating in the project due to the fundamental power imbalance/hierarchy that inevitably exists to some degree since Trinity is the lead partner and administrator of the programme. This may have influenced participants’ responses, but on the other hand allows the researchers to have a more acute understanding of the issues being described. This research was therefore necessarily subjective and subject to real-world influences, but was very much undertaken in the spirit of action research, where the people who can make changes are engaged in the research process (Coghlan and McAuliffe, 2003).

### **Implications and Recommendations**

This research has allowed us to uncover some of the pragmatic and challenging issues that need to be addressed in research capacity building programmes. A multilateral initiative such as Indigo brings together people from diverse backgrounds and cultures and these differences can sometimes create strain for the partnerships. This highlights the need for partners to communicate expectations clearly and explicitly at the beginning of projects, and also perhaps to acknowledge power imbalances and their implications (MacLachlan, Carr and McAuliffe, 2010). The research has highlighted not just technical academic issues but administrative, team working and financial ones as well. Assumptions, expectations and deliverables also need to be made explicit in writing, so that the basic premises upon which the partnership is built are fully acknowledged by all and everyone is accountable to them.

This is not an easy thing to do for if complex innovative initiatives are ‘front-loaded’ with principles, practices, memoranda of understanding (MOUs), intellectual property, multiple legal contracting between partners and general ‘positioning’ (Carr, McAuliffe and MacLachlan, 1998) then this can suck the oxygen of good-will and team work upon which any such initiative is so dependant. Nonetheless, there is a need to understand and appreciate the particular needs and situations of each collaborating institution. Efforts should be made not to create feelings of superior and subordinate relationships. Decision making, regardless of sponsorship source, must largely be collective and, policy and programme content and direction must be flexible to permit



local and environmental variations, while retaining the larger programme goals and objectives.

It may be necessary for Indigo and other research capacity building programmes to consolidate around just a few research themes to make the output of the programme more coherent and to align with institutional and regional priorities for research. This will also make the programme more attractive to policy makers but may reduce the choice of research topics available to both students and supervisors. This really relates to the broader issue of whether programmes like Indigo are more focused on the process of research capacity building or the content outcomes and topics.

Research governance structures within participating institutes, especially in the coordinating (Northern) institution, Trinity College Dublin, should be addressed to help ensure equitable partnerships both internally and externally. To encourage and build lasting partnerships the possibility of awarding a joint degree should be further explored. A joint degree might encourage students and give them recognition from two prominent universities (North and South) as well as helping to build research credibility across the institutions. To strengthen the programme in the future it may be necessary to build a community of supervisors so that they feel part of the programme as a collective whole.

The next phase for the Indigo model is to transfer the administrative leadership to Africa; an opportunity to strengthen the South-South component of the collaboration. Though institutions in the South have fewer resources and perhaps less capacity, South-South collaboration is fundamental to African participation in important discussions around global health. Future projects should consider how to promote the feasibility of Southern institutions, as being the centre of gravity of collaborative projects in Africa, reinforcing the principle of parity of esteem. If Southern institutes are not capable of hosting this type of project, then barriers should be identified and addressed as a matter of priority.

It is recognised that the level of cost in the Northern universities is relatively much higher and it's certainly arguable that it may be more cost efficient to have students based in the South and to have staff visiting them from the North to deliver particular modules (Indigo Conference, 2012). However there is also a real value in student mobility and giving students the opportunity to travel to different parts of the world and to literally see global health from different perspectives, and differing positions of power and privilege.

## Conclusions

From the above findings and discussion we synthesise three broad thematic conclusions. First, research and administrative governance must be seen to be ethical and transparent; committed to fulfilling undertakings made at the outset of the programme and protected from institutional politics, particularly within the coordinating institution as problems there can reverberate throughout the programme. Second, the Indigo experience – the multiple institutional partners and countries which students visits, their multiple supervisors, the programme’s multidisciplinary and its various research themes – means that it provides a rich and stimulating learning environment. However, it is a very complex and relatively expensive programme to run. Some of these programme dimensions may need to be simplified in future.

Third, the logical next step for a programme seeking to enhance research capacity in Africa is for the programme to be coordinated from Africa with a stronger emphasis placed on South-South learning. It also requires that Northern universities have more of a satellite than a central role, helping to make the programme more cost-efficient. This transition will require further administrative and supervisory support and development initiatives in Africa.

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