| **Institution:** |
| Open University |
| **Unit of Assessment:** |
| C22 - Anthropology and Development Studies |
| **1. Unit context and structure, research and impact strategy** |

1.1 Unit context and vision

International Development at the Open University (ID@OU) researches development, in both the Global South and the Global North. It does so by drawing on expertise from a wide range of disciplines to engage with development issues linked to global processes of social, economic, political and technological change. ID@OU has made research and impact contributions in three core areas: science technology and innovation; Asian drivers in African development; and equity, health and human wellbeing. Our approach emphasises theoretical and empirical research as a co-productive and interdisciplinary endeavour that engages directly with research beneficiaries and users at community, national, international and global levels. This approach has been supported by a major 5-year OU investment in the Strategic Area of International Development and Inclusive Innovation (SRA IDII). ID@OU is headquartered in Development Policy and Practice (DPP) and encompasses 27 research active staff from Economics, Engineering and Innovation, the Innogen Institute and the cross-faculty Innovation, Knowledge and Development Centre (IKD).

Knowledge exchange (KE) is fundamental to the OU's central mission to be 'open to people, places, methods and ideas.' This mission is operationalised through ID@OU's systematic approach to delivering research impact. We design research in collaboration with stakeholders, working from their needs to develop research outputs with impact (e.g., workshops; internships; press and policymaker briefings; advisory group meetings; and long-term working relationships with major partners), and we map categories of stakeholders against expected outputs and opportunities for benefit. Fundamental is a commitment to capacity building, which is done through the development of co-productive processes, data production and management, and the evaluation of impact. Our impact rests on five strategic approaches: public engagement; in-country and regional partnerships; work with international policymakers and networks; firms and business associations; practitioners and professional services.

1.2 Research strategy

Research in international development during the current assessment period has been based on the strategic aims for research and impact outlined in REF2014 to:

- establish the Innogen Institute as the institutional base for our work in **science, technology, innovation and development** and collaborate with other groups in the UK and globally to develop new research strengths in sustainable innovation systems and methods, as well as deepen evolutionary approaches with a focus on global health, governance and industrial innovation;
- extend our **Asian drivers in African development** research trajectory to focus on inclusive innovation and understand the nature of Chinese financed and built infrastructure, moving beyond China's impact on Africa to consider its effects in Europe;
- consolidate our work on **equity, health and human wellbeing** to: utilise OU innovation and health system expertise to address the challenges of assessing the extent to which innovation systems generate inequitable development; analyse the role of public action in health system restructuring; generate synergies for inclusive development by bridging the gap between industrial and social policies; and generate new indicators and evidence of human wellbeing by building on our capabilities measurement research.

REF 2014 recognised ID@OU's '…*overall quality of the outputs, and the strength of many of the findings reported, and it judged their significance to lie in their policy orientation and value to policy users.'* The three existing research areas have now deepened and expanded to contribute to a fourth interlocking research area of **theory-building and the development of new methodologies**. Since REF 2014, we have achieved our research and impact objectives in the

core areas and developed new themes that are extending our profile of research interests and evolving our capacities.

Science, technology, innovation and development
The significance of our research in science, technology, innovation and development has been the setting of an ambitious policy and practice agenda for establishing inclusive innovation systems for development in the Global North and Global South. We are expanding and shaping research and policy agendas nationally, internationally and globally through collaborations and partnerships that integrate knowledge and expertise between the Global North and South (**Mackintosh, Mohan, Srinivas, Cross, Berardi**). ID@OU continues to make the case for the crucial role of innovation systems research in international development, while at the same time championing inclusive innovation and development within academic and policy communities and pioneering analysis of science and technology in development (**Wield, Robbins, Kale**). We have produced new knowledge showing that innovation and social justice can go hand in hand. The more just and inclusive the forms of innovation, the more positive and legitimate the development outcomes (**Papaioannou, Levidow**). We have theorised principles of access and openness in new technologies from the bottom up, involving scientists, innovators, policymakers, regulators, citizens and advocacy groups.

The Innogen Institute, a collaboration with the University of Edinburgh (UoE), encompasses key academics (**Papaioannou, Kale, Wield, Robbins, Parris**) who bring together science and technology studies and social sciences disciplines. These academics continue to drive research on systemic and institutional aspects of innovation, governance and regulation in the life sciences. Comparative work on biopharmaceutical industry associations in India and South Africa demonstrates the important role of these intermediaries in innovation systems and their historical evolution from lobbying organisations into partnering organisations that negotiate with governments and other public actors to create new technological and developmental trajectories (**Papaioannou, Kale**). Our research on medical devices and governance of new medical technologies evidences the importance of regulation in Argentina and India (**Kale**) for enabling innovation in developmental contexts. We have also conceptualised multiple knowledge interactions in the life sciences **(Wield)** and identified patterns of learning which lead to technological upgrading and growth of the pharmaceutical industry in the Global North and Global South **(Parris).** Our systemic approach to adaptive governance has also delivered a critical framework of scenario praxis and viability of social-ecological systems (**Ison, Berardi, Collins, Lane, Reynolds**).

This research, together with our lead role in inclusive innovation and development (**Papaioannou, Levidow**), has brought major insights into emerging models of grassroots and frugal innovation. We are also one of the first groups nationally to research the relationship between engineering and development (**Robbins**). Our research on agriculture and agro-ecological practices in post-communist economies and in Brazil (**Lombardozzi, Levidow**), as well as our analyses of transatlantic and transpacific agri-food trade (**Mitchell, Newman**) reveal diverse societal agendas underlying innovation trajectories and regulatory regimes in both the Global South and Global North.

Also falling under the governance umbrella, is research that focuses on global security and local civil society. Research topics within this area range from road safety in Africa (**Lamont**) to the role of global NGOs in advocacy and activism for bridging indigenous and scientific knowledge in South America (**Berardi**), and the analysis of ethical approaches to using space technologies for development (**Marino**). Our research has also focused on community policing in Tanzania and local politics, as well as on transitional justice in conflict regions such as Burundi and Rwanda. Findings not only demonstrate the cost of community policing, offering alternative models of security provision (**Cross**), but also the power of narratives in transitional justice reports by international organisations (**Jamar**).

Asian drivers in Africa development
Our research in this area focuses on understanding China's global development strategy beyond Sub-Saharan Africa and identifying the implications for Europe. In REF 2014, the OU declared an intention to extend research on the impact of Rising Powers, such as China on Sub-Saharan Africa and beyond (**Mohan**, **Lampert, Chiyemura**). This work, enabled by the OU's £2.5M investment in SRA IDII, moved into a dynamic research phase that combines theory and concepts from geography and political economy to analyse Chinese expatriate management and knowledge exchange, and China's status as a new oil producer in the politics of countries such as Ghana (**Shipman**). In addition, a new €2.5M ERC Advanced grant (2020-25) investment focuses on the rise of China and its effects in Europe (**Mohan**). Our work has also examined the impact on East-South development by Chinese migrants in Africa (**Lampert**, **Mohan**). The theme of migration is emerging from our notion of global development and investigates the impact of migration and diaspora on the economy and society of developing and developed countries, as well as on state and citizenship (**Kale and Srinivas**).

Equity, health and human wellbeing
Our research in this area has provided new theoretical and empirical insights into how human wellbeing can be improved through strengthening health systems in the Global North and Global South and meeting the demands of equity and social justice. In REF 2014, we submitted a body of work based on equity-related empirical investigation and conceptual analysis of low-income country (LIC) medicines markets, pharmaceuticals production, access to medicines and equity-related implications of innovation in low-income health systems. In addition, we continued to operationalise Amartya Sen's theory of capabilities for the measurement of human wellbeing, creating methods for analysis of low- and middle-income (LMIC) country contexts. Our REF 2014 field-based research in health systems and industrial policy has been developed strategically into new areas, such as local production of medicines and state procurement in Africa and Asia, including with the African Vaccine Manufacturing Initiative, and the importance of public action for this integration (**Mackintosh, Srinivas, Kale**). Novel research on empowerment and capabilities measurement (**Anand, Santos**) is contributing to development goals relating to gender and capability measurement methods. Responding to REF 2014 Sub-panel feedback for more theory building, work on economic theory (**Trigg, Srinivas**) and political theory (**Papaioannou**), with a focus on inclusive innovation and development, provide relevant conceptual frameworks of equity, health and wellbeing. We advanced the field by investigating and clarifying narratives of inclusion and assumptions of social justice in innovation systems of the Global North and South (**Levidow**, **Papaioannou**).

Theoretical and methodological contributions to global development
This final interlocking thematic grouping is rooted in our commitment to interdisciplinary research and theory building for understanding normative aspects of technological, economic and political change. Our triple task and narrative research methodology (**Ison, Bell**) offers an innovative, holistic approach to better understand socio-ecological systems and improved, participatory design of local adaptation policies. Development and application of a system viability framework in indigenous communities in South America (**Berardi**) allowed participants to characterise a range of strategies in response to environmental challenges for maintaining the long-term survival of their particular system of interest. Since 2014, our commitment to the Sustainable Development Goals (SDGs) has informed our normative theories of social justice and capabilities for human development, creating ground-breaking research not only on the measurement of human capabilities, but also on evaluation of inclusive systems of innovation (**Anand, Papaioannou**, **Levidow**).

Future strategic aims
Our future strategic aims for research and impact are to further develop our world-leading research agenda that engages numerous organisations across the globe and has now both theory and policy practice orientation. Our long-term objectives are to:
- shape theoretical and empirical research agendas that widen the global knowledge base in Development Studies;

- exploit the OU's unique platform and partnership with the BBC for dissemination and communication;
- increase, develop and deepen global networks in our interdisciplinary research areas;
- ensure professional development and mentoring of early and mid-career staff to increase the vitality and sustainability of global development research in the OU and worldwide.

These objectives drive the quality of our research, which depends crucially on our integration of knowledge and expertise on, with and from the Global South and Global North. We continue to work across disciplines and engage with local, national and global public, private and third sector research partners. This global co-production of knowledge broadens and deepens ID@OU evidence-based policy and practice contributions.

Our future plans are underpinned by recent grant awards. Grants from the ESRC, ERC and other funders totalling £3.5M are already in place for supporting post-REF 2021 research, including in: community owned renewable energy systems; greening the belt and road initiative; redefining the loci of global development by focusing on China as a development actor in the heart of Europe; and fairness and justice in space research and innovation. We shall continue our efforts to diversify funding, engage every researcher as PI/Co-I and increase our doctoral mix. Since we emphasise both excellent research and impact, we will build on our past success in working with a range of global policy stakeholders from the public, private and civil society sectors in both Global North and Global South. Within the OU, ID@OU will continue to integrate activities, including BBC programming on public understanding of innovation and development. We will strengthen further the production of theoretically embedded, empirically grounded and policy relevant knowledge. We will further integrate PhD students into our research programmes and increase and strengthen our research collaborations with private sector and government organisations.

Our future strategic plans are in line with the interdisciplinary institutional structure of the unit. **DPP** remains the OU's hub for research in international development, but the university's research strengths and research impact in international development reach into every faculty and also into the OU's **International Development Office (IDO)**. The latter's role has been crucial for strengthening the relationship between research producers and research users. In 2016, **DPP** moved into the new Faculty of Arts and Social Sciences (FASS), established in August 2016 by the merger of the former Faculty of Arts and Faculty of Social Sciences. We are in a new School of Social Sciences and Global Studies. This has enabled further interdisciplinary interaction within the social sciences (including economics, social policy and politics), new research collaborations, grants, publications and joint PhD supervision. In addition, the Directorship of the OU/UoE **Innogen Institute** has moved from the University of Edinburgh to the OU in **DPP**. This has strengthened our institutional leadership of research in the impact of new life sciences and other emerging technologies on international development. The **Innogen Institute** will continue to provide the institutional base for our work in **science, technology, innovation and development** and will collaborate with other groups in the UK and globally.

1.3 Engagement and impact

Approach to impact
Commitment to impact in international development is a core component of the OU's social justice mission. The IES (sections 2.2 and 2.3) summarises the OU's global reach. Our leading-edge technologies are used around the world to break down geographical and social barriers to knowledge, research and development. Our impact in development studies has immense public reach through award-winning research-based media dissemination. Our many partnerships with policymakers mean that our shaping of debates and policy often unfolds as an iterative process, supported by our extensive network of graduates. We have had institutional support in these endeavours from the IDO, SRA IDII, IKD, faculties and the Innogen Institute's Communications and Policy Officer, who all work with ID@OU to develop and effect our particular approach to impact. We also benefit from the long-standing partnership with the BBC, leading a range of OU/BBC programmes on international development (IES section 2.2).

Our approach to impact has aimed to achieve reach with significance in five distinct ways. We describe each below, with examples and signposting to case studies, in the following section:

(1) *Direct engagement with local communities and publics.* **Berardi** has established a social enterprise with local communities in South America. **Yanacopulos** and **Mohan** have undertaken a set of high-profile projects disseminating ID@OU research findings via the public understanding of development through our partnership with the BBC's *Why Slavery?* documentary series in 2018. This was aired to 1.6 million viewers across the UK and nominated for an International Documentary Award. In addition, the broadcast/programme page on OpenLearn received 3,801 visits from both the Global North and the Global South, raising awareness about modern forms of slavery. **Shipman** and **Parris** have disseminated their research through the BBC's *What Britain Buys and Sells in a Day* series in 2019. This was viewed by 6.29 million people across the UK and received 5,388 visits on OpenLearn. Shipman has also contributed to public understanding of economics and development through BBC Radio 4's *Economics with Subtitles* 2018 podcast that was streamed to 7.29 million listeners.

(2) *Long term in-country and regional partnerships with researchers and policymakers*. Countries where ID@OU researchers have long-term research partnerships include Guyana, South Africa, Tanzania, Kenya, Ghana and India. Since 2008, these partnerships with strongly policy-linked research peers have continued to generate in-country working relationships with national policymakers that have demonstrably influenced national and regional policies. For example, **Berardi's** long-term research partnership with indigenous communities in Guyana allowed project participants to use a novel System Viability Framework to characterise and promote the most effective strategies for long-term survival. This has, in turn, increased learning and capacity for protecting local ecosystems. **Mackintosh's** long-term research programme with African and Asian colleagues on the operation of local health systems and medicines markets and local industrial production challenges, with positive effects on access to essential medicines, has had international impact across Africa, Asia and Europe. This impact has been amplified through the involvement of organisations such as UNIDO, WHO and the African Union Commission in networks for promoting new industrial and health strategies. Former PhD student Wafula, now Senior Lecturer in Healthcare Management in Nairobi, works with **Mackintosh** to set up an information network to support activism and policy for non-communicable diseases. Emeritus Prof **Clark's** role as Lead Consultant to the UN-Habitat on Water and Sanitation Education Policy and as a Member of the Governing Council of the African Centre for Technology Studies (ACTS) builds on many years' work in Africa running a university and advising the New Partnership for Africa's Development (NEPAD). Emeritus Prof **Kaplinsky's** work on the green economy and urban regeneration in the UK and Greece draws on his many years research in innovation and development.

(3) *Close working with international policymakers and international policy-linked networks.* The Innogen Institute's work (**Kale, Wield, Papaioannou, Robbins**) has focused on how science and technology regulation and governance can facilitate advances in the pharmaceutical and other life science industries, which impacted national and international policy (UK Government, Scottish Government, NESTA-UK, BSI), including with a set of advisory roles. Our capabilities work (**Anand**) has been central to a shift within international policies towards measurement of wellbeing and progress through the empirical use of Sen's capabilities concept; this occurred through collaboration with the OECD and the World Bank and dissemination through its Better Life Index and other networks, supported by guidance from OU impact specialists and strategic investment from the OU Research Office. **Papaioannou**, as a member of the Expert Peer Review Group on Evaluation for the UK Government Department of Business, Energy and Industrial Strategy, advises on evaluative frameworks for inclusive innovation. **Ison**, as Director of the Systemic Change Lab of the European School of Governance, plays an influential role in setting governance agendas for Europe. This is now crystallised in his recently published monograph on governance in the climate emergency.

(4) *Direct impact on strategy at firm and business association level.* ID@OU researchers uniquely work directly with private sector actors and are able to trace direct impacts. **Papaioannou** and **Kale**'s work with the biopharmaceutical industry associations in South Africa and India has had a demonstrable impact in improving understanding of business-state relations. **Mackintosh**'s research on the health sector has also directly influenced industrial policies on medicine production in Africa. **Berardi** and colleagues have been successful in launching spin-off social enterprises that have directly emerged from their research, thus creating employment in the UK and internationally, while further directly implementing their research outcomes.

(5) *Impact on practitioners and professional services.* ID@OU's long-standing partnership with the Kulika Charitable Trust in Uganda, where OU MSc graduates use ID@OU research in their work in a range of state and nonstate development organisations, has influenced local and national policies in Uganda. **Clark** and **Hanlin's** research-based workshops, in partnership with ACTS, led the Kenyan government to ask them to advise on the 'rebranding' of innovation within the Government's science, technology and innovation policy. **Kaplinsky's** research on how to respond to the challenges of Asian suppliers has shaped South African consultant advice to its government on industrial policy, as well as to several hundred firms in the auto components and apparel sectors looking at supply chains.

Impact plans
We intend to build impact even more fully by doing the following:

1) Continuing to embed our 5-pronged approach to impact through engagement with the OU's RCUK Public Engagement in Research Catalyst project to become an 'Open Research University'. This includes continued active involvement in the public understanding of international development through dissemination of our research via BBC programming.

2) As part of the new Innogen Institute strategy, targeting and integrating three groups who are instrumental to our co-productive partner-based approach to research and impact: innovators (scientists, medics, farmers, firms); government and regulators (multilaterals, OECD, EU); and public advocacy groups (patient advocacy groups, NGOs). This includes developing a series of high-level policy workshops for civil servants, ministers, executives, regulators and innovators. These will be supported by continued work with key partners, such as the Globelics Academy.

3) Creating a strategic media plan to boost impact, with support from the IDO, the Innogen Institute's Communications and Policy Officer and **Chris Warkup**, ex-CEO of the UKRI Knowledge Transfer Network, recently appointed as a Visiting Professor. Media initiatives will include the development of a 'media centre' across our web platforms, to provide: news; videos; podcasts; blogs; expert contacts; and a strengthened social media presence through Twitter, Facebook, LinkedIn, and YouTube.

4) Working in concert with the IDO to promote and strengthen local partnerships in Global North and South to generate further impact and to expand the international development calendar of events, such as seminar series, symposia, conferences, newsletters and high-profile speaking events. In progressing this strategy, we will be further embedding impact training into our doctoral research training programmes through lectures, workshops and dissemination of best practice.

Relationship to case studies
Our case study evidence exemplifies one or more of our five approaches to impact.
The **local manufacturing for inclusive health care in Africa** case study (approaches 2-5) evidences direct impact on industrial policy in Tanzania. It cites project policy briefs in the National Five-Year Development Plan, "Nurturing Industrialisation for Economic Transformation and Human Development" (2016), and briefings by OU researchers for the Tanzanian national policy institution COSTECH's task force on implementation and participation in African private sector pharmaceutical meetings. The second is the area of **community owned solutions in**

South America, where our research had impact on capacity building, policy change and the establishment of inclusive social enterprises in local communities (approaches 1,2 and 4). More specifically, it directly resulted in 30 Indigenous community members using participatory visual methods to identify, record, share and implement community owned solutions. The capacity building was also delivered to institutional staff, including WWF-Guyana and Iwokrama, changing the way these organisations work through appreciating community owned solutions. The third is the area of **enhancing female empowerment and measuring capabilities in low- and high-income countries** (approaches 2, 3 and 5)**.** Our research with women primary school teachers has shaped the design of new pathways into teaching for women in low-income contexts. Specifically, this work developed the skills, competencies and agency of female teacher trainees (Malawi and Sierra Leone) and has improved 'gender sensitive' school practices leading to increased attendance and progression rates for girls in schools in which the trainee teachers are working. Our research also led to the evaluation of an Indian self-help programme for over 1.5 million women leading to more effective capability enhancement programmes. The development of capability indicators for evaluating human development programmes has led to the UNDP, World Bank, and European Commission promoting policies with an explicit emphasis on enhancing female capabilities.

Research integrity
ID@OU supports a culture of research integrity in accordance with the framework described in the IES. In addition to a research integrity and ethics briefing that all researchers receive at induction, the OU provides training programmes on good research practice. Research supervisors guide Postgraduate Research Students (PGRS) in research integrity and ethics in accordance with the Code of Practice for Research Students and Supervisors. The OU has a Human Research Ethics Committee (HREC) that provides, advises on and regulates protocol development and risk assessment for projects. OU academics have internationally recognised expertise in the field of research ethics and have led development of key principles that now form the basis for the UKRIO/ARMA Research Ethics Support and Review framework. ID@OU has implemented a range of innovative ethics practices, including innovative 'unexpected findings' guidelines. Its ethics statements are used as good practice examples on the ESRC web site. **Mohan** has been involved in an *Evidence and Collaboration for Inclusive Development* project to decolonise ethics practices. **Berardi** provides expert input, advice and validation of the community engagement process within the £142M FCDO UK Aid Connect programme.

2. People

2.1 Staffing strategy and staff development
ID@OU has an ambitious, well-established and long-term strategy for supporting the careers of research active staff. Since REF 2014, the strategy has developed strongly through new and continuing interdisciplinary structures, which has enabled the increase of research leadership for early and mid-career staff, improved the conditions for generational renewal and protected the OU's generous study leave allowing staff with heavy teaching commitments to engage in high quality research production. The ID@OU strategy is in line with the 'OU Code of Practice for Research', which outlines detailed structures and activities to maintain research quality.

ID@OU continues to enhance staff capacity at all levels. At senior level: **Papaioannou** has been promoted to a chair; **Newman** has been appointed to Professor; **Srinivas** has joined as a Professorial Fellow; **Kale**, **Berardi** and **Parris** were promoted to Senior Lectureships; **Marino** was appointed to Senior Research Fellow and Deane to Senior Lecturer (after census date); **Cross** and **Lampert** made permanent Lecturers. At entry level, **Lombardozzi**, **Mitchell**, **Jamar, Chiyemura, Lamont** and (after census date) Laskarides have been appointed to Lectureships. All lecturers are highly research active and have increased our research capacity. In all appointments, equality procedures were applied in recruitment and selection. More detail about these procedures can be found in sub-section C. Appointments and promotions strengthen the established group of ID@OU and support our key research areas, with some staff contributing to more than one: **Lombardozzi** and **Papaioannou** in equity, health and capabilities; **Lampert** and

Kale in migration; **Ison**, **Collins** and **Reynolds** in systems; and **Kale**, **Newman**, **Mitchell** and **Papaioannou** in innovation for low income populations.

We have continued to strengthen our research capacity, extend our networks and enhance our research impact. Although, since REF 2014, several staff (**Mugwagwa**, **Johnson**, **Chataway**, **Kaplinsky**, **Banda**, **Hanlin, Ugochukwu**, **Yanacopulos, Bell**) have moved to other posts or retired, these staff continue formally as Visiting and Emeritus faculty. They collaborate closely in research areas, such as inclusive innovation, governance, health systems and civil society, and extend our networks into organisations, such as the Department of Science, Technology, Engineering and Public Policy (STEaPP) at University College London (UCL).

The OU provides a supportive environment for enhancing staff capability. All staff are provided with an academic mentor on appointment, and a staff member who supports them through their probationary period. In the annual appraisal process, colleagues are encouraged to review and plan their longer-term goals and priorities, including a research and scholarship plan. There is generous allocation of one research day per week, plus two months annual sabbatical leave on full salary. All junior staff act as co-supervisors in supervision teams, supported by an OU-wide training scheme that prepares them to become lead supervisors. They are strongly encouraged and mentored to become co-applicants on bids and to bid for their own funding. For example, **Lampert**, **Cross** and **Kale** became co-applicants on successful bids on Asian drivers in African development and on equity, health and human wellbeing before they started bidding for their own external funding. They also contributed major outputs to high quality academic journals and edited volumes, including *Making Medicines in Africa* (2016).

In addition, all staff are allocated time in their workloads for extramural activities to stimulate and support their KE within public and private sector bodies, including industry and government. Some staff (**Papaioannou**, **Mackintosh**) have advisory roles in government and NGOs, and others (**Johnson**, **Mohan**) are involved in governing structures of organisations and research collaborations. ID@OU recognises and rewards staff for their research and KE activities by advising FASS on their promotion and remuneration.

There is a well-developed OU training programme for research bids, and those seeking more than £30k go through a rigorous internal review process. The SRA IDII functions as a 'one-stop shop' for bidding support across the faculties of FASS, STEM and Business and Law (FBL). It also provides seedcorn funding for researchers who are interested in conducting pilot projects to support the development of new proposals for external funding. To foster continuity between projects, faculties also provide bridge funding, which enables PIs to retain talented named researchers before the start of new funded projects. Leaders of research projects are also able to adjust their teaching loads.

Our future strategy on staffing is to continue: (a) support for early and mid-career staff to lead major research projects as PI/Co-I; (b) to enable staff to work across disciplinary boundaries and faculties supported by our strategic research areas, interdisciplinary centres and institutes; and (c) use the OU's generous study leave allocation procedures to benefit research production of the highest quality.

2.2 PGRS
Doctoral candidates in ID@OU remain '*the lifeblood of new ideas*' (REF 2014, RA5a). They are part of the University's Graduate School that was launched in October 2016 to provide support and online training via the Graduate School Network, a bespoke Virtual Learning Environment (VLE). ID@OU led and supported early development of this VLE, as a dedicated web portal built to the OU's world leading standards, providing access to a range of academic, training and professional development resources, and ensuring parity of experience for all OU research students regardless of physical location. This training includes core research methods and skills benchmarked against Research Council expectations for PGRS training.

In ID@OU we have actively sought to sustain our numbers of PGRS, increase quality, secure more internal and external funding and spread the practice of cross-faculty supervision. We have ESRC studentships in our Doctoral Training Partnership (DTP) with the Universities of Oxford and Brunel in our dedicated International Development pathway. The SRA IDII also provides studentships in the broad area of inclusive innovation and international development. GCRF-gained QR funding provides three full time studentships linked to major GCRF research grants. Other studentships are supported through the IDO, alumni endowments, and collaboration between the OU and global not-for-profit organisations (e.g., Offshore Petroleum Industry Training Organization (OPITO), Beevers Fund, Wellcome Trust/KEMRI), developing country agencies (e.g., Oppenheimer Memorial Trust, ACTS) and developing country universities (e.g., Cape Town and Ghana).

The OU co-funds competitive studentships and fee waivers that enable us to recruit gifted students from developing countries. The diverse background of our students, both geographically and in terms of career stage, makes for a highly supported group. Our students work in teams and have their own peer-training group and student-led seminars, which promote co-learning, build team-working skills and incentivises early submission. Diverse collaborations and funding sources result in a thriving and diverse community. Following COVID-19, ID@OU has established a doctoral student-run online PhD Hub for student presentations and support. For example, students can find information about live, online and interactive events and other opportunities open to them.

Our long-term practice is to approach students as researchers first and foremost and integrate them into our research strategy, teams and activities. This is the main reason for maintaining our high four-year completion rates (92%) and high student research publications and output rates (see below).

Students from all faculties (in 7 UOAs) are associated with ID@OU and are encouraged to connect across disciplines within the university and with other universities, in the UK and globally. To this end, interfaculty structures such as the SRA IDII play a crucial role through the organisation of research away days aimed at promoting such connections. Students appreciate that they are treated as staff members. Whilst our REF 4a data attributes completions to the UOA of the lead supervisor, ID@OU jointly supervises additional students across a range of intersecting fields.

There is a formal scheme for all students to build employability and gain structured and mentored teaching experience. All doctoral students are provided with: at least two supervisors; full office and administrative support; encouragement and financial support to present at conferences; support for fieldwork; and workshop presentation experience. Supervision practices are guided and informed by the University's Code of Practice for Supervisors and Research Students. Surveys of our 2013-2020 doctoral cohorts include comments such as: '*I was treated like a staff member in terms of being included in academic life. In my previous institution, PhD students were very separate from staff. At the OU, I felt at the centre in terms of things like having my desk/office in the same space as the staff members and having an expense allowance for going to conferences just like staff members.*' Another said: '*I felt I was treated as a peer by other academics, rather than as a student which is particularly special.*' A third commented: '*There are no boundaries. I also appreciated the fact that there was a large cohort of doctoral students.*'

ID@OU researchers have supervised a total of 30 completions (including 9 as co-supervisors) during the period and we currently supervise 21 doctoral students. On a like for like basis our PhD awards are the same as REF 2014. Over 60% of doctoral students over this period have been from overseas, 55% from the Global South, and of these, 100% are from LICs, most (71%) with OU scholarship support. We are proud of the high proportion of African students and of their extraordinary professional successes. Completed doctoral students registered during 2013-20 have: published 3 books, 21 peer reviewed articles and 8 book chapters from their doctoral research; gained 10 competitive postdoctoral fellowships; obtained 10 research grants (in

addition to the above fellowships); and presented more than 50 conference papers, of which 2 obtained prizes. Dr Alex Bud obtained the African Studies Association biennial second prize for his research on the Nollywood industrial complex. Kirsteen Merrilees won the George Stevenson Medal of the Institute of Civil Engineers for her paper on engineering responses to natural disasters in Nepal.

The employment rate of these graduates is 100%, and the professional roles played by our doctoral researchers on graduation include (for those registered during 2013-20) a wide range of academic posts (11 postdoc fellowships, 5 lectureships, 2 senior lectureships), and major policy and management posts around the world (Angola, Kenya, Vanuatu, China, South Africa, Sweden). Some early postdoc alumni already have impressive achievements, such as in the UK's response to the Rohingya crisis, in the global diamond industry and World Bank and UNDP anti-corruption efforts. They were awarded 20 small grants during their study, and held 11 internships (including with Makerere University, World Bank, Peace Direct, The Globe Theatre in China, De Beers and the African Union NEPAD).

ID@OU has particularly focused on the early and mid-career development potential of doctoral students, with significant research and leadership skills training (since 2000). Alumni results are impressive. This mix of doctoral students is highly balanced between national and global (about one quarter each of UK, EU/US, Africa and other LMICs), and it is 50% 'BAME' and 65% female. A QMU based alumnus recently wrote: *'The OU was, and remains, a great anchor institution welcoming and nurturing international students.'* The doctoral cohorts surveyed for REF 2014 are now in mid-career and senior career positions, mostly at senior lecturer/associate professor level in universities (Imperial, Nairobi, QMU, Lincoln, Edinburgh, IDS, UCL) and at director level in NGOs, research institutes and government. Examples are: Chief Curator, National Museum of World Culture, NL; Director, ASEAN Institute, Jakarta; Co-Director, Oxfam; Secretary-General, Africalics; Chief Research Specialist, HSRC, Pretoria; Director, San Francisco Opera; Chief Child Rights, UNICEF.

Our future strategy on research students is to: a) consolidate training and virtual training systems for full and part time doctoral students; b) consolidate student numbers; and c) further extend our highly successful cohort-based approach to supervision.

2.3 Equality and diversity
Equality and diversity are at the core of the OU mission. The IES, section 3, details university level systems and activities. ID@OU encourages remote working in line with the University's measures for efficiency and promoting well-being. This has been of great benefit to staff and PhD students during the COVID-19 crisis. ID@OU also understands the importance of promoting and implementing gender equality and social inclusion and takes this issue seriously. ID@OU is committed to promoting equal opportunities and to involve historically discriminated groups at all levels within management, research and dissemination. The ID@OU leadership team ensures that research activities adhere to equal opportunity procedures in decision-making and work allocation. In addition, the ID@OU leadership team have been monitoring and recording the involvement of self-identified historically discriminated individuals in group discussions and meetings. For historically discriminated individuals, they have been actively encouraged to take opportunities for presenting their research ideas and work, including within stakeholder engagement and media opportunities when they arise.

More specifically, ID@OU addresses equality and diversity in: staff recruitment and career progression; research design and management, among doctoral student and postdoctoral researchers; and in academic, educational and other socio-economic impact.

ID@OU research is co-designed and developed with partners. For example, **Berardi's** programmes with Guyanese partners were co-designed, capacity building was built into project development and all publications are co-authored. **Levidow's** agro-ecology project was co-designed via regular visits over 2 years before full design of the research.

Our future inclusive strategy is to launch an ID@OU Pro-Diversity Action Plan (PDAP) that builds on our current 'Equal Impact Analysis' work. PDAPs, currently being piloted in several existing ID@OU research projects, will form the basis of all research applications and will allow us to monitor equality and diversity progress across ID@OU. The PDAP strategy will consist of a series of actions that will be implemented within research projects so as to encourage the consideration of pro-diversity/equality issues. Our aim is to introduce actions that will:

- promote diversity and appreciation of multiple perspectives;
- improve the diversity/gender balance;
- apply measures to help reconcile work, private life and cultural/ethical preferences;
- raise awareness of equal opportunities within publications and dissemination.

Our PDAP implementation will mainstream activities that address the relationship of historically discriminated groups through:

- building awareness of discrimination issues;
- active mentoring of self-declared historically discriminated individuals;
- selecting research leadership and participation with equity in mind;
- considering diversity in work involving community members, firms and organisations.

3. Income, infrastructure and facilities

3.1 Income

Our research is underpinned by strong internal and external support. Since REF 2014, we have attracted approximately £5M external research grants and an additional £2.5M competitive internal research support over the assessment period. This indicates that our funding over this period has shown strong continuity, averaging £1M or so each year. This is due to a strong bidding culture that has led to a substantial increase of external funding in 2019-21 (e.g., 2 successful GCRF bids and 1 new ERC grant totalling c. £2.3M) and subsequent increase in research capacity.

ID@OU obtains its grant income from the most competitive sources. During the assessment period the main funders have been the EU, ESRC, EPSRC and The Leverhulme Trust. Since REF 2014, our strategy has been to further diversify our funding, including the creation of social enterprises, such as the Cobra Collective that empowers local communities through research. We have also emphasised investment and institutional support to Early Career Researchers (ECR) in bidding for small and medium sized grants. We have succeeded in obtaining 35 external grants from 17 funders to 15 PIs/Co-Is. We have also succeeded in obtaining significant grants from Wellcome (£62,626), Leverhulme (£142,196) and DFID-ESRC (£767,909), as well as from the ESRC (£1.4M). Large and medium research grants include the GCRF Migration for Inclusive African Growth (£706,705), the GCRF How to Link Industrial and Social Innovation for Inclusive Development: Lessons from Tackling Cancer Care in Africa (£699,514) and the UK Space Agency Integrated Space Technology Vector Control for Enhancing Community Health and Resilience against Escalating Climatic Disruptions (£378,568). Small future research grants include the GCRF Food Sovereignty through Agroecology in South America (£23,210) and Co-I on Earth Observation Enabled Responsive Climate Adaption for the Kalahari Basin (£22,180).

The inclusive innovation and development focus of these research projects has led to development of deep expertise (9 academics, 3 postdocs and 4 PhDs) over the current period. Significant funding has also been secured for work in Asian drivers in African development, with 3 ESRC and DFID-ESRC grants won in the REF period, totalling £1.6M and additional funding from the SRA IDII. ID@OU research on equity, health and human wellbeing now integrates 7 academics and has attracted more than £800,000 in grants over the REF period, with major grants for the next period.

In winning research funding, we continue to draw heavily on the skills of the senior professoriate, research officers and business managers from FASS. In addition, we support a funding pipeline from smaller to bigger grants and we also run our own 'in-house' mentoring exercises, seminars and workshops on grant-getting and publishing in journals. One indicator of the success of these

measures is that 55% of the staff in this submission have won external peer-reviewed grants as PI or Co-I. Future research will be sustained by new and recently acquired grants totalling £3.5M.

3.2 Infrastructure and facilities
Since REF 2014, the OU has made heavy investments in research infrastructure and IT support. ID@OU is the hub of a set of tightly interconnected networks. It directs one of the five OU Strategic Research Areas, SRA IDII which has received a £2.5M investment from 2016-21. The SRA IDII has functioned as the OU's research infrastructure for challenge-led, interdisciplinary research bids, with more than 50 active researchers in all OU faculties. In its first 5 years, the SRA IDII has been awarded a total of £10,141,143 (award value) for 31 projects with income distributed over 7 UOAs. In this UOA, the SRA IDII has enabled 3 administrators and 4 ECRs to support external income generation activities, engendering a vibrant interdisciplinary research environment with regular seminars, workshops and conferences around our new thematic areas of expertise.

Other investments include support for the move of the Innogen Institute Directorship from the University of Edinburgh to the OU, strengthening the international development dimensions of research in new life sciences innovation (£24,000), as well as maintenance of the IKD (£65,000). We have used this new opportunity to strengthen our research base in Scotland as part of the OU's substantial four nations presence, including three Innogen/OU Scotland collaborative projects.

The University continues to create a technologically rich and sophisticated virtual research infrastructure (See IES, section 4). Within a few minutes' walk of DPP headquarters is the world-class OU Library. Researchers in ID@OU have benefited from the library's investment in all the databases essential to the discipline. The University was an early leader in opening access to all its research data. OU multi-million-pound investments in online services include one of the UK's largest open access research data repositories, Open Research Data Online (ORDO), enabling researchers to share and publish their data and obtain a DOI.

4. Collaboration and contribution to the research base, economy and society

Collectively, ID@OU has a distinctive Open Development Approach, grounded in intellectual reputation and technological capabilities. It resonates strongly with the University's social justice mission and world profile; all our work has scale and reach, largely due to the OU's reputation and use of technology and networks, and we work in stable and reliable partnerships with institutions and scholars of the Global South, generally built up over years. Such engagement enhances the intellectual rigour of our research.

4.1 Interdisciplinary research
Systems to support interdisciplinary (ID) research include ID research units and initiatives. Some are long-standing (for example, the Innogen Institute and the IKD). The SRA IDII, alongside its OU investment, has received external funding from four UKRI research councils with strong STEM/Social Science/Education ID collaboration. Innogen was externally evaluated as having 'remarkable breadth' of interdisciplinarity and 'exceptional degree of cross-citation linking the social sciences with public heath, environment and the biosciences.' **Mohan** was awarded the OU's Annual Prize for Research Excellence (2018) for his ID research on China Drivers in Africa.

4.2 National and international research collaborations
A distinctive characteristic of the OU is its degree of long-standing networked research and collaborations. The OU is networked with **48** UK universities (including: Edinburgh; Oxford; UCL; Cambridge; SOAS; Sussex; Manchester) and to more than **100** overseas organisations in **32** countries across 5 continents (including: African Medical Health Foundation; Kenya Medical Research Institute (KEMRI); Research on Poverty Alleviation and Economic and Social Research Foundation (Tanzania); CODESRIA (Senegal); Council for Scientific Industrial

Research (India); Swiss Tropical Institute; National Centre for Animal and Plant Health (Cuba); Africa Centre for Energy Policy (Ghana); ACTS (Kenya)).

We are also linked with **42** governmental and intergovernmental organisations (including: Scottish Government; UK Government (FCDO, NHS, ONS, Treasury, House of Lords S&T Committee); European Government (EU Joint Research Centre, AKIS, EESC, ESF); African Union Development Agency; **10** UN Agencies (including WHO, UNEP, UNDP, UNCTAD, ILO, UNIDO, UNICEF); African Development Bank; African Union Commission; African Association of Universities; OECD Water Governance Initiative; Economic Commission for Africa; Cuban, Kenyan, Namibian and Sao Tome Ministries for Education; Getulio Vargas Foundation (Brazil); Chinese Academies of Sciences and Social Sciences. We also collaborate with **61** overseas universities in **30** countries (including: Campinas, Brasilia; Berkeley, California; Australia (Melbourne, Monash, ANU); Erasmus; Ghana; Harvard; Helsinki; Indian Institute of Management, Kolkata; KwaZulu Natal; Lund; Maastricht; Muhimbili University of Health and Allied Sciences, Dar es Salaam; Seoul National; Stanford; Tsinghua; Tufts; UNU-MERIT; Witwatersrand, Pretoria, South Africa). All these collaborations strengthen Global North and South interactions, enabling learning, KE and capacity building for more inclusive and equitable development.

4.3 Research collaboration and public engagement
The OU is particularly well placed to achieve public engagement with its research. Millions of people from over 200 countries actively engage with the OU via our global presence on ORDO. Our leading-edge technologies are used around the world to break down geographical and social barriers to knowledge, research and development. Our impact in development studies has immense public reach through award-winning research-based media dissemination. In this REF period, for example, **Berardi's** EU research on local participation in environmental decision making in the Guyanian rain forest led to his appointment as Lead Consultant on the 'I Bought a Rainforest' documentary series with audiences averaging 1.7 million per episode. **Mohan** is the advisor to a new 2021 17-part BBC series on the SDGs.

4.4 Research collaborations with the private sector
In line with its mission to conduct research via interactive co-production of knowledge, ID@OU is distinguished by the wide range of research collaborations with the private sector. Over the REF period, we have collaborated with over **20** private sector firms and associations in 6 industrial sectors (health, agriculture, mining, energy, industrial and services) and 16 countries in 4 continents. **Mackintosh's** research has included collaborations with pharmaceutical and other industrial producers, retailers, wholesalers, private health facilities and industrial associations. These include four East African Manufacturing Associations and a range of institutions to establish the Access to Medicines Index. **Mackintosh's** research evidences the importance of local pharma and medical supplies industries in Africa. More generally, ID@OU has regular contacts with a group of 7 multinational pharmaceutical and biotech firms concerning public-private partnerships. **Papaioannou** and **Kale** have also collaborated with biopharmaceutical associations in India and South Africa, including the Organization of Pharmaceutical Producers of India (OPPI) and the Innovative Pharmaceutical Industry Association South Africa (IPASA) to improve industry-government relations through these intermediaries. **Mohan** has collaborated with Chinese oil companies, and with Mott Macdonald in relation to his research on Chinese investment into Europe. **Kale** has collaborated with the South African Medical Device Association and with firm-based Business Development Advisors, such as Oxford Micromedical Ltd. **Papaioannou** has worked with IPASA in South Africa and CII and TC Lab in India. **Shipman** collaborates with Oxford Economics and the Economic Intelligence Unit. **Levidow** collaborates with the Leeds Trade Unions Council. **Wield** has collaborated with Forbes-Marshall Group of India on improving innovation management in developing countries, and with the Globe Theatre concerning its China programme. **Clark** has worked with small and medium firms concerning how to bring the private sector into technology development in Africa. **Srinivas** is an invited scientific expert on immunisation to Sanofi Pasteur.

4.5 Research collaborations with the third sector
The OU has at least **50** significant collaborations with third sector organisations, most either international or southern NGOs. 3 NGOs have been set up as a direct result of OU research. Research on the harmonisation of life science regulation in Africa facilitates links between NEPAD, the Southern African Development Community, the African Network for Drugs and Diagnostics Innovation (ANDI), and the Pharmaceutical Industry Association of South Africa. Related OU research on health systems strengthening led directly to the establishment of a new Zimbabwean NGO, the Citizens Health Watch to provide platforms for care givers and patient contributions to health systems strengthening. **Johnson's** research has informed co-operative union policy in Malawi, and she is a Trustee of the Cooperative College. **Berardi's** research on indigenous people's empowerment over the Guyanese rainforest environment directly led to the establishment of the Cobra Collective.

4.6 Seminars, conferences, CPD, journal editorial boards
We organise a portfolio of research events, including weekly seminars and regular workshops and conferences. CPD contributions include a toolkit made on statelessness for large programmes for the Education Workforce Initiative (**Santos**, et al), and **Mohan's** work with NGOs on international development. Since 2014, our membership of conference organising/scientific committees has grown rapidly to **44**. Sixteen ID@OU academics have held **32** journal and book series editorial roles. These include 5 editorships and 27 editorial board memberships, including: International Journal of Technology Management, Sustainable Development and Biopolicy International (**Clark**); International Journal of Technology Management (**Papaioannou**); Journal of International Development (**Papaioannou**); Review of African Political Economy (**Mohan**); Science as Culture (**Levidow**); Journal of Socio-Economics (**Anand**); International Development Planning Review, Antipode, Political Geography (**Mohan**); Technology Analysis and Strategic Management (**Wield**); and book series editorships (**Mohan, Yanacopulos, Wield**).

4.7 Other contributions to the professional associations and the wider social sciences
The OU hosted the highly successful DSA Annual Conference in 2019 on the theme of 'Opening up Development.' ID@OU members have been members of DSA Council (**Mohan, Johnson, Yanacopulos**). **Johnson** was elected Academician of the Social Sciences in 2013.

4.8 Cooperation and collaborative arrangements for PGRS training
ID@OU runs the Development Policy and Practice stream in the ESRC-recognised Grand Union (Oxford, OU, Brunel) DTP. Researchers of ID@OU play a major role in doctoral training at the OU. The face-to-face doctoral workshop programme is built around the OU co-published book, *Doing Postgraduate Research*, and supporting DVD and website. Peer-to-peer support and learning are particularly important and provided through a research student support group facilitated by ID@OU academics. This group provides both discipline specific and academic career training, covering topics that include research bidding, publishing, dissemination and impact. There is also an active doctoral collaboration between ID@OU and the University of Brasilia.

4.9 Other indicators of wider influence
15 researchers have held or hold **42** senior advisory/research council panel positions. These include positions on: the African Vaccines Manufacturing Initiative; Academy of Finland; UN Habitat; OECD Water Governance Initiative; Department of Business, Energy and Industrial Strategy; ESRC Peer Review College and various ESRC and GCRF panels, including Chair of three panels; the NERC-DFID El Niño Panel; European School of Governance Board; Commonwealth Scholarships Commission. **Ison** is the President of the International Society for Systems Science.

Mohan was awarded the BSA Sage award for best paper in Sociology in 2020. **Mackintosh's** REF 2014 impact case study was one of only three international cases in the UKCDS 'Top 20'. **Srinivas** was awarded the 2015 biennial Myrdal Prize for theoretical contributions in her book, *Market Menagerie*, and was the 2020 Clarence E Ayres Scholar of the Association for

Evolutionary Economics for her work in institutional economics. **Ugochukwu** holds the French national honour, *Chevalier des Palmes Academique*.

ID@OU researchers have given **200+** presentations (external to the OU) since 2014. These include 51 keynotes, plenaries and invited talks (international) given by 15 people in 24 countries. Finally, 14 people delivered 47 keynotes, plenaries and invited talks in the UK.

To conclude, ID@OU is a strongly team- and network-driven international centre of excellence for research in international development with research foci in science, technology, innovation, Asian drivers, health, equity and human wellbeing. Committed to a co-productive partner-based approach, we work collaboratively to produce impactful, world-renowned research of the highest calibre, with high academic, economic and social impact, as evidenced by the indicators presented here. Our research and staffing strategies articulate the ways in which we have built on our strengths to meet our REF 2014 strategic targets and plan for continued excellence in research to 2027 and beyond.