

<p>Institution: UNIVERSITY OF READING</p>
<p>Unit of Assessment: 17b Geography, Environmental Studies and Archaeology: Geography</p>
<p>a. Overview</p> <p>During 2008-13 our research strategy has focused broadly on International Development, Justice and Sustainability, emerging from the collaboration of Geography with other cognate units within the University. Our distinctive strengths are represented by three complementary foci of research: (i) <i>Geographies of Justice, Care and Responsibility</i>; (ii) <i>Development, Environment and Sustainability</i>; and (iii) <i>Geographies of Resilience and Transformation</i>. This submission represents four research groups that work across these themes:</p> <ol style="list-style-type: none"> 1) Human Environments Research Group (HERG) of the School of Archaeology, Geography and Environmental Science (SAGES); 2) Livelihoods Research Group (LRG) [School of Agriculture, Policy and Development (SAPD)]; 3) Centre for Institutional Performance (CIP) [Department of Economics]; 4) International Centre for Housing and Urban Economics (ICHUE) [Department of Economics] <p>The research of these group feeds into the University's reputation for research excellence in Climate Change, Food Security, Health, Poverty, Exclusion and Access. Interdisciplinary collaboration in these priority areas is fostered by University-wide research centres comprising the Walker Institute for Climate System Research (WI), the Centre for Food Security (CFS), and the newly established Centre for Developing Economies and Emerging Markets (DEEM). Collaboration is also being enhanced through the development of joint undergraduate and postgraduate teaching programmes. The four groups represented in this submission (HERG, LRG, CIP and ICHUE) have won significant UK and international research funding of £80,806 per submitted staff FTE.</p>
<p>b. Research strategy</p> <p>Our research strategy combines a commitment to high quality interdisciplinary research with a strong focus on solving 'real-world' issues at the forefront of the UK government's international agenda on climate change, food security and poverty. The strategic research direction for 2008-13 has been driven by the University strategy to focus on environment and climate change, and food security, both of which address poverty, exclusion and access. But the decentralised research groups have also had a major impact on the evolution of University research strategy in these domains, based on a long history of collaboration with policy and developing-country partners.</p> <p>Across the University, research strategy encourages both top-down and bottom-up innovation. A broad research strategy is established by the School supported by decentralised research groups who also initiate new research directions. Target setting and monitoring are the responsibilities of Heads of School and Research Committees, with individual research plans developed with Research Committees, and updated and monitored as part of staff development review.</p> <p>Research groups develop innovative strategic direction by creating space for dialogue supported by strong working relationships (see Section e). We invest time in building collaboration across the university with STEM subjects, but also with external scholarship and policy networks. Evidence of our bottom-up innovation includes inviting policymakers into the Schools, contributing to a diverse of set of public engagements, and sharing and communicating ideas and opportunities through our University-wide networks, which includes our vibrant postgraduate student community.</p> <p>The vision and strategic direction is supported by dynamic research leaders and underpinned by an interdisciplinary research philosophy and inclusive research culture. Research groups HERG, CIP and ICHUE operate through bi-weekly seminars with staff and postgraduate students, grants are peer reviewed systematically, and the ESRC Doctoral Training Centre (DTC) presents an opportunity to co-supervise outstanding postgraduate students. LRG holds weekly seminars for staff and doctoral students, focusing on current and recently completed research. The management structure of research groups offers us the ability to develop and lead specific areas of research and provides channels of communication outwards to our policy and academic communities. Research capacity has grown through new academic appointments and enhanced interconnection across the groups. We aim to develop a greater diversity of research funding in an increasingly competitive research environment (see Section d).</p> <p>Over this REF period we have focused on International Development and issues of justice and sustainability that align with the University strategy while maintaining existing expertise in gendered and ethnicised identities, children, youth and families, migration and 'care'. This decision has been implemented through a series of strategic appointments since 2008 and has</p>

concentrated on building distinctive research strengths on the interactions between climate change, food security and poverty in the developing and developed world. Links between the groups have been strengthened further by the introduction of two new Masters in SAPD (in Food Security and Development and in Climate Change and Development) and a new interdisciplinary BSc degree in International Development starting in 2014 (SAPD with Geography and Environmental Science and Economics). The closer alignment of Human Geography, Agriculture and Economics at Reading has reinvigorated our research and directed a greater emphasis towards global and local environmental change and sustainability, leading to joint initiatives. During the period the four groups contributed to a University-wide research theme on Poverty, Exclusion and Access, directed by Garforth, Potter and Della Giusta.

In sum, closer interaction between HERG, LRG, CIP and ICHUE has informed new appointments, re-oriented research strategy and strengthened University-wide interdisciplinary research collaboration. There are plans to further strengthen and formalise our collaboration through University support for the creation of an International Development Portal (IDP) to facilitate greater interactions across the University and to link with research hubs located in developing countries.

1. GEOGRAPHIES OF JUSTICE, CARE AND RESPONSIBILITY

Our research focuses on inequalities, politics and governance in fields as diverse as environmental change, food networks, housing, gender and caring relations, labour markets and citizen science, at spatial scales spanning the local to the global. The research encompasses participatory approaches and community engagement in both the global North and South.

Politics of justice: We address issues of social, economic and environmental justice and questions of rights, power and inequalities, across a range of scales/geographical settings. One focus is the justice and ethical dimensions of climate governance comprising mitigation, adaptation and low carbon development. Highlights include Okereke's book 'Global Justice and Neoliberal Environmental Governance' (2008), and Goodman's critical analysis of the 'spectacle-isation' of climate change (Goodman and Boykoff 2008). A second focus is on social injustices linked to long run development processes such as: religious and caste discrimination in the labour market and in schooling; gender discrimination in education; women's autonomy, microfinance and household welfare; female entrepreneurship; and mainstreaming disability in development. Thirdly, we focus on intergenerational inequality in housing and urban change, including tenure access, housing costs and mortgage finance. We also examine the dynamics of housing conditions, including research on social cohesion in migrant communities, building on Nygaard's work for Slough BC.

Geographies of care, ethics and responsibility: Our research addresses geographies of care and responsibility. One strand addresses time-space practices of care within families and communities, ethics of care, and intergenerational relations. This includes Evans' work on sibling 'caringscapes' in Tanzania and Uganda and caring relations in HIV-affected families; Bowlby's Leverhulme Emeritus Fellowship on 'Changing Spaces of Support: Friendship Practices among Women in their Fifties' (2012); and Lloyd-Evans' action research on gender, unplanned pregnancy and reproductive justice in the UK, which led to conference sessions on gender and justice at the 2012 and 2013 RGS-IBG conferences. A second theme focuses on responsible 'alternative' production and ethical consumption within local, regional and global food systems and implications for community resilience. Goodman's monograph (2012) evaluates the shifting cultural politics of consumption in fair trade networks, and his co-edited section of *Environment and Planning A* examines the 'ethical foodscape' (Goodman et al, 2010) alongside work on place geography and the ethics of care with McEwan. Other examples of our work include Fisher's research on fair trade cooperatives in Nicaragua and Herman's exploration of the strategic deployment of ethics through South African wine commodity networks. A third theme is exploration of emotion and affect in caring for the environment, focusing on the role of citizens in early-warning systems for surveilling and monitoring the natural environment, the role of business in caring for the environment through corporate social responsibility and the shifting cultural politics of the environment. Geoghegan's ESRC Future Research Leader award is conceptualizing the cultures, practices and processes of care and responsibility surrounding citizen science in tree health monitoring in the UK.

2. DEVELOPMENT, ENVIRONMENT AND SUSTAINABILITY

Our research in this theme examines the dynamic interactions between poverty, livelihood development, governance and sustainability of natural resources.

Development, poverty and livelihoods: We explore poverty and livelihood strategies in rural and

urban spaces of development. Evans and Lloyd-Evans provided an important overview in their book “Key Concepts in Development Geography” (with Potter and Conway, SAGE 2012). Specifically, our research analyses efforts to alleviate poverty through institutional interventions and livelihood development, e.g. Fisher’s and Arnall’s research examines community driven interventions; Evans explores relations between land rights, food security and the intergenerational transmission of poverty; Ainslie’s co-authored book, ‘Livelihoods and Vulnerability in the Semi-Arid Lands of Southern Africa’ (2010) explores relationships between ecosystem services and poverty alleviation. Arnall researches societal responses to displacement and sustainable livelihoods in communities resettled as a result of weather extremes and climate change, (funded by Norwegian Research Council, British Academy and the UoR). There is also a strong nexus of research on children’s health, educational outcomes and the intergenerational transmission of poverty. Examples include the impact of malarial health shocks on children’s longer-term productivity (Rawlings); religious schooling and gender divisions in education in Bangladesh (Asadullah); and Kambhampati’s work on parental choice of schooling or paid work for their children (DFID) and the availability of children’s books in Africa (Leverhulme). Work is currently underway on migration and school choice (UoR funding) and assimilation of migrants in the USA. Analysis of institutions in development and poverty alleviation resulted in a special issue of World Development, 2010.

Governance of natural resources and sustainability: Our research explores the actors, institutions and processes implicated in governance of the environment, natural resources and sustainable development. A prominent area of work is analysis of the discourses through which societies articulate visions of sustainability and mediate competition for resources and their distribution; e.g. Fisher’s Leverhulme-funded work on community organisation in coastal resource systems of the Western Indian Ocean Region (2008-10); Boyd’s co-edited book ‘Theorising the Carbon Economy’ (2012) and leading work on governing carbon offsets for the poor; as well as Osbahr’s work on empowering women in watershed development in Rajasthan, India. A recurring insight is the negative consequences of ignoring participation and power in the policy design and implementation process, clearly demonstrated in Dorward’s analysis of the governance of community based natural resource management.

Knowledge for decision making: This research theme focuses on how knowledge is generated, communicated, and used for decision making to enhance poverty alleviation. We examine the process and quality of transformation associated with different modes of knowledge generation and use e.g. Dorward explores the potential of scaled-up climate information services for smallholder farmers in Lesotho (funded by IFAD 2013). Similarly, Osbahr has done studies for the British Council (Middle East, 2009-10) and the British Red Cross (Bangladesh, 2009) on institutional learning for climate change adaptation, while Boyd and Osbahr (2010) explore organisational learning across four internationally networked organisations. Garforth’s work on farmer innovation and decision making (including research funded by Defra, 2013) is reflected in his review for the Foresight Project ‘The Future of Food and Farming’ (2011) on extension, education and training.

3. GEOGRAPHIES OF RESILIENCE AND TRANSFORMATIONS

Our research in this theme investigates the dynamic society-nature interactions that affect the resilience of urban and rural economies. We investigate the local level human responses to large-scale socio-economic and environmental pressures and we seek to understand the dynamics of both radical social transformation and incremental change, how these processes are formed and lead to differentiated outcomes for different people across space and time.

Geographies of resilience: Our research on geographies of resilience focuses on ‘adaptiveness’, as exemplified by Boyd’s co-edited book on ‘Adapting Institutions’ (2012). We apply theoretical understanding of *adaptiveness* to scale-up and mainstream adaptation policies. Several projects exemplify the collaborative nature of this research, including work by Dorward and Osbahr on climate change adaptation across East and West Africa (Nuffield Foundation, CGIAR, IFAD, and ASARECA/WI) and Boyd’s innovative collaboration with Reading Meteorology on Sudan Climate Early Warning and Adaptation Strategies: Nature Climate Change (2013). We also focus on improving understanding of what ‘resilience’ means in the context of environmental change and how to operationalize resilience in practice. Recent examples of our work include Boyd’s research on social networks and forms of governance in the framework of resilience (2008; 2013 and in O’Riordan and Lenton, OUP 2013) and her UN award-winning action research with informal settlements in Maputo, Mozambique (United Nations Framework Convention Momentum for Change: Urban Poor Award 2013), Osbahr’s study of successful livelihood adaptation to climate

change and variability in southern Africa (2010), and Garforth's collaboration with colleagues in Sri Lanka and Bangladesh on adaptation by rice, and prawn-rice-fish farmers, to perceived climate change (2013). Evans has developed a framework to assess risk and protective factors for HIV-related stigma, asset inheritance and the intergenerational transmission of poverty among widows with HIV and orphaned youth in Uganda and Tanzania (Chronic Poverty Research Centre, 2010).

Geographies of transformations: We investigate long-term urban transformations and the emergent responses of local communities to incumbent environmental and socio-economic pressures. Feola's project "Failure and Success of Transition Initiatives" (2011-13) considered what factors interplay in different geographical contexts to cause the success or failure of the Transition Towns Movement's local initiatives (funded jointly by SAGES and the SREP). The ICHUE work on urban transformations builds on a solid theoretical basis in urban geography and economic theory, exemplified by Mossay's (2013) work on spatial agglomeration, and by papers by Meen and Nygaard (2011-13). In rural contexts, our research focuses on the ability of socio-technical innovation to deliver agricultural transformations— DfID-ESRC project (2012-14) 'Innovation Systems, Agricultural Growth and Rural Livelihoods in East Africa' (Garforth PI, Dorward Co-I), and a CGIAR-ICRISAT funded project on the effects of smallholder farmers' investment in innovations on livelihoods — and the transformative effects of external environmental or socio-economic pressures on agricultural systems. These projects build on a long term history of collaborative research on agricultural innovation in Africa and Latin America by Garforth and Dorward; e.g., Feola's Integrative Agent-Centred Framework for Improved Understanding of Farmers' Behaviour (2010) expanded with British Academy/ Leverhulme Trust funding on a project "Adaptation between Resilience and Transformation: A Colombian case study" (2013-14) which investigates the persistence or transformation of informal institutions under simultaneous environmental and economic change.

FUTURE VISION: Strategic aims for the next five years are to continue to enhance our UK and international reputation as a growing centre of excellence in the broad areas of international development, justice and sustainability, and to develop and respond to new areas of interest. This will take place through three core activities:

1. *Develop the next generation of PGR students* and enhance our interdisciplinary research culture through activities such as joint PhD seminars and summer school events. Here our new teaching initiatives will help to recruit and train a new generation of researchers.
2. *Lead collaborative research across the University* through existing centres (WI, CFS and DEEM) and new initiatives (International Development Portal with regional hubs) diversifying our sources of funding and collaborations with STEM subjects at the University.
3. *Support the University strategy of targeted internationalisation* in W & E Africa (Ghana, Nigeria, Mozambique, Senegal and Sudan), Latin America (Colombia), & SE Asia (India), where we have already initiated collaborative research activities.

Other objectives are linked to key research trajectories in our areas of expertise.

- Key areas of development in *Justice, care and responsibilities* are: i) use diverse empirical foci of planned research on spaces of care and justice to promote theoretical debate and progress. Foci include: issues of justice and responsibilities amongst families and firms in Africa, alternative food practices and pre-natal care in the UK; housing inequality and child health; ii) extend research on affects and emotions of 'everyday' spaces and 'ordinary' practices involved in global scale resilience, citizen-led, 'cyber-science'; and 'care at a distance'.
- Key new research pathways in *Development, environment and sustainability* include strengthening linkages between HERG and Economics in analysis of urban change, poverty alleviation and resilience; exploring poverty traps and social resilience in the context of Ecosystem Services; and analysing the gendered and intergenerational struggles over land, food security, and natural resources that take place through community networks. We will also build on existing assessments of climate smart agriculture's ability to support institutional learning; and develop understanding of smallholders' use of climate and weather information in E & W Africa to plan production.
- Finally, our frontiers work on *Resilience and transformations* will form a central component of the University's commitment to address 21st Century sustainability challenges through transdisciplinary research. Key research areas include better understanding of the emergence and consequence of innovations in rural and urban economies and methodologies to explore collective decision-making around transformations. We will link together expertise on citizen

science, behavioural change, chronic poverty and management of ecosystem services for climate resilience in the global South.

c. People, including:

i. Staffing strategy and staff development

A key objective of our staffing strategy is to recruit, motivate and retain high quality people to implement our research priorities. All the research groups aim to create and maintain a supportive and collegiate research environment, which allows individual researchers to develop their area of work. SAGES and Economics have established Individual Research Plans, funds for staff development (SAGES Research Fund, Internationalisation Fund, Research Group Fund), a staff sabbatical system (one term in nine) and school-funded teaching buy-out.

Since RAE 2008, the University has invested in new and replacement appointments in areas of strategic expansion which reflect the realignment of the four research groups. The staff profile has changed significantly. In HERG, over 50% of the current staff are new appointments made in the areas of environment and development, and cultural and social geographies of food and environmental 'care' – a Chair in Human Geography (Goodman), two readerships (Boyd, Okereke), and three lectureships (Feola, Herman, Geoghegan). Economics has appointed four ECRs, two of whom (Rawlings and Siddique) enhance strengths in international development. In addition, the appointment of Reade enhances work on issues of trust, central to CIP. A new professorial appointment (Gassebner) working on issues relating to global governance as well as conflict provides links with HERG (Okereke) and the Department of Politics and International Relations. Research excellence has been enhanced by the appointment of Visiting Professor Jackson (Chief Statistician at DFID) as well as by the presence of Professor Zaum, a member of the CIP research group and a Fellow of DFID. There have been three new appointments at lecturer and associate professor levels in LRG since 2008: Arnall brings capacity in environment, food security and climate change, with a specialism in forced migration and resettlement; Ainslie and Fisher bring expertise in governance, agricultural knowledge systems, rural livelihoods and poverty reduction. Staff motivation is enhanced through promotion procedures which recognise research quality and contributions to research leadership and outreach activities. HERG has seen several promotions since 2008, including Lloyd-Evans and Evans to Associate Professor and Boyd to Professor. In SAPD, Osbahr has been promoted to Associate Professor.

The net outcome of the strategic staff changes across the research groups since RAE 2008 has been to increase the academic staff contingent and re-energise research capacity in existing and new research areas. The mixed portfolio of senior and early career researchers creates long-term sustainability in staffing and research activities.

The Schools and the University aim to enhance the skills of ECRs, identify future research leaders, and promote gender and age balance. ECRs receive seed funds through Staff Development Accounts and School research funds. Seed funding provided by SAGES and the WI, for example, led to external funding success for Feola from the BA/Leverhulme Trust. ECRs also receive generous funds for conferences and benefit from reduced teaching loads in their first two years in order to develop their research and to fulfil the Post Graduate Certificate in Academic Practice (PGCAP). They are assigned mentors for research and teaching from senior staff working in their fields. ECRs are helped to apply for external funds, all grant applications are internally reviewed by Directors of Research and a system of peer review operates. Support is also provided by the University's Research and Enterprise Development (RED) Managers. The School heads ensure full implementation of the Local Concordat to Support the Career Development of Researchers and the University Code of Practice Research and Researcher Development Programme. The Concordat and the Code ensure the induction and performance management of research staff. Reading is one of the first ten UK universities to receive the "HR excellence in research" accreditation for adopting the European Charter for Researchers.

All staff are encouraged to attend the extensive training programmes offered by the University's Centre for Staff Training and Development. There is mandatory training for interview panel members, with a focus on equality and diversity. In addition, funds are allocated to attend training programmes offered at other institutions, e.g. specialist training in new areas of econometrics or wider development programmes. Boyd attended leadership development and training for women (ASPIRE). The University has EC recognition for improving career development opportunities for research staff. SAGES received an Athena SWAN Bronze award in 2012 and SAPD is submitting an application for this award in November 2013. SAGES and the

Department of Economics have a staff wellbeing programme and equality officers (Geoghegan, Della Giusta). Schools and the University provide financial support to aid research, e.g. SAGES provides support through its internal Research Fund, Internationalisation Fund, and Research Support Fund. The WI provides seed funding to its associates. Group members (Arnall, Boyd, Dorward, Evans, Feola, Fisher, Okereke, and Osbahr) have received multiple funds from these sources; e.g. Evans' studies on inheritance, land rights and poverty in Senegal and Ghana and Boyd's Sudan Climate Early Warning and Adaptation project.

Schools provide research groups with an annual budget to support ECR and postgraduate students. The RETF is used to support high quality strategic initiatives, e.g. Boyd, Okereke, Kambhampati and Meen have all received seed-corn funding. Staff and PGRs are encouraged to present papers at major conferences, facilitated by Staff Development Accounts and University Travel Awards. This is further enhanced by incentive income provided by the University to researchers who are successful in winning external awards. The Schools run regular internal seminars at which staff and PGRs present their research at an early stage of development in order to obtain peer feedback. The Schools encourage visiting scholars to work with members of staff and run seminar programmes of invited external academics. SAGES also offers joint Geography and Environmental Science Postgraduate Seminars to provide training and support from ECRs and senior staff, particularly for employability skills. A key feature of the School of Politics and Economics is the award of 6-month internships for two of its new graduates each year. Graduates provide research support to staff and are also introduced to research methods.

ii. Research students

Since 2008, the three Schools have awarded 45 Doctoral degrees working broadly in the 3 core themes covered in b above. Across the unit our current population of postgraduates is approximately 60. This has required the expansion of financial support and the University encourages departments to use internal funds for scholarships as well as promoting its students for external awards. HERG has 20 PhD students in 2012/13 (of whom 3 are joint with other departments). In Economics, PhD students in ICHUE AND CIP stood at 9 in 2012/13 with 2 students having completed in 2011/12. Staff in LRG supervised 49 PhD students in 2012/13, of whom 43 are international students from a total of 15 countries. In 2012/13, 7 PhD students completed from the LRG. The University's Graduate School has a *Reading Researcher Development Programme*, which is available to all PGR students. The University has set a minimum level of expected engagements in the programme, which equates to six training courses during the first year, and at least four in each of the second and third years. Requirements are based on a Learning Needs Assessment, conducted at the beginning of the PhD programme.

The Departments are part of the ESRC's South-East DTC (Economics and Geography paths, and the interdisciplinary Environment, Energy and Resilience path) and all research students are entitled to attend specialist training sessions provided by other member institutions, have full access to necessary hardware and software and are given an annual allowance for conference attendance. Further funds are made available from the Schools as necessary.

A Director of Postgraduate Research Studies has responsibility for research training. All students have two experienced supervisors (who are required to undergo University training). All schools have an established 'Monitor' system involving another member of staff in addition to the two supervisors with yearly committee meetings. SAPD has also established mentors whose role is to ensure that satisfactory progress is being maintained. All PhD students are required to attend research seminars given by internal and external speakers and, in the case of Economics, additionally to attend the *Policy in Practice* seminars. All students are required to present their work at annual PhD workshops, attended by peers and staff. The outcome of the workshops is part of the formal progression process; SAGES and SAPD host an annual postgraduate conference. The majority of international students undertake six months to one year of research in their study country in their second year of their PhD, for which they receive supervisory field visits. These projects are funded through scholarships from sources including the ESRC-DTC, Commonwealth Scholarship Commission, Felix Trust, ESRC, Ghana Education Trust Fund, University of Malawi, The National Transitional Council, The Libyan Interim Government and from the University Social Science fund in the central University of Reading and School scholarships.

d. Income, infrastructure and facilities

(i) Research Income.

The group has achieved notable successes over the REF period: a total research income of

£1,802,209 and income of £80,806 per submitted staff FTE. The generation of this research income enhances the quality and reach of our research, contributes to reputation and provides overheads which contribute to infrastructure, staffing levels and support for staff. We work closely with the RED team who are well informed about funding streams. We have received funding from a range of external sources: RCUK (ESRC and NERC), independent bodies (British Academy, Leverhulme, Rockefeller, Nuffield Foundation, and the British Council, Royal Geographical Society, Climate Development Knowledge Network), UK government (DFID, DCLG, Slough Borough Council), and international agencies (CGIAR, IFAD, ASARECA, Red Cross, Min. of Foreign Affairs, Finland, International Growth Centre, Australian Research Council, AusAid, European Integration Fund, Corporate and Institutional Strategies for Climate Change, and MISTRA). Examples include:

Research councils: Geoghegan - ESRC Research Leadership; Boyd with Norris and Robinson (SAPD) - £1M consortium on ecosystem limits and chronic poverty in Africa (ESRC-DFID); Boyd with the Met Office and Oxford - the costs and damages of extreme climate events (NERC).

Independent bodies: Feola - adaptation and agriculture in Colombia; Arnall - societal responses to climate variability in Mozambique; Garforth HIV/AIDS communication in South Africa and the UK (all BA). Okereke, Bowlby and Fisher – 3 Leverhulme grants. Boyd - climate adaptation in Maputo (Climate Development Knowledge Network). Osbahr and Dorward - climate change analysis and learning and communication in 5 African countries (Rockefeller Foundation). Dorward - Climate Change Adaptation in Zimbabwe's Agricultural Extension System (Nuffield Foundation).

UK government departments: ICHUE - Framework Agreement with CLG (2006-2010), for research on housing affordability. Nygaard's collaborative partnership with Slough Borough Council led to a major joint award from the European Integration Fund. Dorward - innovation systems, agricultural growth and rural livelihoods in East Africa (DFID-ESRC Growth Programme).

International agencies (Asadullah, Boyd, Dorward, Okereke), Okereke - (Australian Research Council), Asadullah - AusAid grant (with University of Kent). Boyd - MISTRA funded grant from Stockholm Resilience Centre at Stockholm University (Ekoklim) (2011-13).

Improvements to physical infrastructure have benefitted SAGES and Economics. An £850k+ investment has brought together cognate research groups in SAGES within one building and provided improved individual and shared space, IT facilities, and PhD student work space. These facilities encourage greater cohesion and cross-disciplinary linkages and provide a venue for hosting research events. Similarly, Economics has been brought together in one building, improving the quality of space available to the spatial economics group and allowing better interactions with the development economists. The groups have also benefitted from a major refurbishment of the library along with additional funding for print and e-resources, longer library opening hours, and investment of £50K on course support material. Additional investments of £680K will help to bolster information resources. The library also includes the Special Collections and the Museum of English Rural Life (MERL) library and archives with relevance to Geography. One of the strengths of the MERL library is the pamphlet collection (over 5000 items), covering a vast range of subjects on food, farming and the countryside in the UK and in global agriculture.

The University provides IT services, which include email, remote access, internet access, data network, file storage collaborative drives, daily backup services, and wireless access. There are plans to upgrade wireless services across the University. Schools provide hardware and software support to staff e.g. SAGES has 2 dedicated IT technicians, 1 graphics technician and a wide range of specialist mapping and GIS software. Investments have been made in video and transcribing equipment, portable presentation equipment, and support for the creation of maps and visuals. Economics has devoted increased funds for econometric software improvements since RAE2008.

e. Collaboration or contribution to the discipline or research base

The groups provide strong, interdisciplinary contributions to the research base in Geography and Development Studies. We engage extensively with the academic community in our roles as editors or members of editorial boards of 18 academic journals and as honorary Fellows/Professors at partner institutions. Group members contribute to relevant disciplinary institutions as members and officers of key study groups including the RGS-IBG (Bowlby, Evans, Geoghegan, Goodman, Herman, Lloyd-Evan, and Osbahr), and the Development Studies Association (Boyd, Okereke) and research assessors for RGS-IBG and ESRC. Geoghegan is the Undergraduate Dissertation Prize Coordinator of Historical Geography Research Group. Lloyd-Evans is Secretary of the Geographies of Justice Research Group. Goodman and Evans are reviewers for the Royal

Environment template (REF5)

Geographical Society (RGS) journals and Goodman a reviewer for the RGS-IBG book series. He is also on the book panel on 'Globalising Responsibility' as part of the RGS book series. Group members act as reviewers for ESRC and hold ESRC studentships (Boyd, Evans, Goodman, Lloyd-Evans). Geoghegan is a member of the ESRC Peer Review College.

Our roles in helping form Government policy with regards to climate change are significant: Okereke is lead author of the IPCC Fifth Assessment Report; Boyd and Osbahr have been reviewers for the IPCC Report; Boyd also acted as a reviewer of the Human Dimensions of Climate Change Adaptation (2009) for the Commission on Climate Change and Development, Ministry of Foreign Affairs, Sweden. Boyd and Feola have both served as members of the Norwegian Latin America Research Programme Board. Meen is an Adjunct Professor at RMIT University Melbourne and is a Fellow of the Weimer School of Advanced Studies in Real Estate and Land Economics in Florida. Feola is a Fellow of the International Network of Research on Coupled Human and Natural Systems and sits on the board of the Farming Systems Association. Siddique is a Research Fellow at IZA and the Centre for Economic Research in Pakistan.

Support for collaboration includes pump-priming funds for staff, particularly for ECRs, via University and school mechanisms, and the sabbatical system (see People C (i)). The main support for collaboration is through externally-funded research (see Section D). Scholarly contributions flowing from internal collaborations include interdisciplinary grant applications via the WI (HERG, Meteorology and SAPD) and jointly organised international symposia. In conjunction with SAPD and Meteorology, Evans organised an International Symposium on Food Security and Poverty Alleviation in Khartoum (December 2011), in collaboration with five Sudanese HE institutions, supported by UoR, UN Development Fund, World Food Programme, Red Cross, Practical Action and Kenana Sugar. The Symposium was attended by 180 delegates. Evans, Lloyd-Evans and Bowlby organised a seminar day 'Connecting feminist geographies' (December 2009), involving 6 leading feminist geography professors, and hosted Prof. Linda Peake, Univ. of York, Toronto. ICHUE and RMIT are developing a major collaborative programme to examine the drivers of long-run urban change and poverty patterns since the 19th century in large cities in the global North.

Our involvement with the academic community is illustrated by our external collaborations with leading HE institutions at national and global levels. In particular we have strong national collaborations with the School of Geography and the Environment, University of Oxford, King's College London, and School of Development Studies at the University of East Anglia. We also work closely with UCL, York, Leeds, Warwick, Manchester, Sheffield, IDS Sussex, Overseas Development Institute, and Coventry. Our close International collaborators include the Stockholm Resilience Centre and RMIT University Melbourne. We have good working relationships with Uppsala University, Helsinki University, Milano-Bicocca, Siena and Turin, IZA, CICERO, Murdoch, Toronto Rhodes, Melbourne, Mbarara and Makerere, University Eduardo Mondlane, Universidade Católica de Moçambique, University of Zambezia, Afhad University, University of Nairobi, Bunda College, the University of Cape Coast, University of Cheikh Anta Diop, Universidad Nacional de Colombia, Pontificia Universidad Javeriana Columbia, Universidad de Boyacá Colombia, Ludwig-Maximilian, Wageningen, Dar es Salaam, Egerton and Maseno.

Our research is strongly directed towards impact. Lloyd-Evans is an advisor working with Reading Local Involvement Network to engage vulnerable communities in health and social care service delivery. Geoghegan collaborates with Forest Research and the Science Museum and is linked to the Defra-funded Living Ash Project. We have strong links with policy makers and practitioners (e.g. Framework Agreement between the ICHUE and DCLG, 2006-2010) as well as Feola's collaboration with the Transition Towns Movement's Research Network. Boyd was awarded UNFCCC Momentum for Change Award 2013 for her work in Maputo. Impact is also achieved through institutions that shape national and international priorities. We work with the following partners: World Bank, UN Institute for Training and Research, CGIAR Programme on Climate Change, Agriculture and Food Security, Agricultural Research Council in South Africa; Foundation for Ecological Security in India, Tree Aid, ICRISAT, Institute of Development Studies in northern Ghana, Prolinnova NGO Network, Farm-Africa and FIPS, Practical Action, International Fund for Agricultural Development, ICRISAT, CORDIO Kenya, and Bees for Development. Our links with UK and Local Government are very strong, including DFID, DCLG, Defra, Slough and Reading BCs, Thames Valley Strategic Partnership for Migration, Slough Race Equality Council, Slough-Windsor Education Business Partnership and Berkshire Learning and Skills Council.