

Written evidence submitted by Professor Claire Wallace and Dr. Lorna Philip, University of Aberdeen (RBD0016)

Professor Wallace and Dr. Philip have expertise in conducting digital social research with rural areas in Scotland and England being a focus of their work. They have published on topics including digital divides, the potential of eHealth in rural areas, opportunities and challenges for rural businesses within a digital economy context, cultural heritage in a digital age and information technology and rural social cohesion. Philip gave evidence in person to the House of Commons Scottish Affairs Committee's recent *Digital Connectivity in Scotland* inquiry; Wallace recently gave evidence to the House of Lords Select Committee on the Rural Economy on the topic of rural broadband.

Executive Summary

- Digital technologies and applications offer many opportunities to sustain and revitalise remote and peripheral rural areas. However, opportunities cannot be exploited if digital infrastructure is not fit for purpose.
- Most of the 5% of the British population served by digital infrastructure that does not support the speeds specified in the USO live in rural, especially remote and peripheral areas and these are over represented in rural Scotland.
- Universal Service Obligation (USO) targets of 10 Mb/s download and 1Mb/s upload speeds represent a partial catch-up for underserved areas but do not offer any futureproofing for those already experiencing very poor connectivity.
- Forward-looking investment in digital telecommunications infrastructure must include those rural areas where at present the digital infrastructure is significantly inferior to that available to the majority of the population. Failure to do so will result in many rural areas being left even further behind at a time when use of digital technologies is essential in many areas of everyday life.

Rural digital connectivity challenges

- 1 Despite the Broadband UK programme, which supported the roll-out of superfast broadband, delivering significant improvements in Internet connectivity to most homes and businesses premises, a sizeable minority have not benefited from this investment. Areas lagging behind are predominantly rural, in particular 'difficult to reach' remote and peripheral rural areas which are over-represented in Scotland. The broadband Universal Service Obligation (USO), set in legislation introduced in 2018, gives households and businesses in the UK the right to request a broadband connection capable of supporting download speeds of 10Mb/s and upload speeds of 1Mb/s. The USO is welcome, but the thresholds speeds do not offer already digitally underserved consumers effective future-proofing as investment in much faster infrastructure proceeds apace. At a time when superfast broadband is the norm, further improvements to connectivity are on the horizon (supported by, for example, plans for

full fibre networks) and a digital by default agenda is shifting public services to online only modes of delivery it is essential that further efforts are made to ensure that existing urban-rural digital divides do not become more entrenched.

- 2 Alternatives to broadband improvements supported by major government infrastructure investment (for example, satellite, community broadband, mobile coverage) have proved inadequate to address poor connectivity in many rural areas. Satellite services are more expensive than typical fixed broadband options, cannot support speeds greater than 30Mb/s, normally cap monthly data usage and the quality of satellite connectivity can be compromised by latency and adverse weather conditions. Community broadband developments require sustained commitment from volunteers who must lead the design, development and operation of their own broadband network. For this to work a community needs to be able to draw upon technical, business and organisational skills. There has been low take up of community broadband funding, perhaps a reflection that not all communities have the capacity to take on such a major infrastructure project themselves. Mobile internet is rarely a viable alternative for rural consumers based in areas where fixed broadband is inadequate. Considerable swathes of rural Britain are mobile 'not spots' where 3G/ 4G connectivity is at best intermittent or unavailable. 5G could provide a welcome alternative in rural areas where fixed broadband connections do not have the capability of supporting faster and/ or more reliable Internet access. However, 5G depends upon a network of transmission devices that will be less dense in rural areas and thus the full potential of this technology may not be realised for rural residents. Current proposals for 5G in the UK see urban areas scheduled to receive the fastest services first, with rural areas playing catch up or not included at all.

What digital connectivity can support in rural communities

- 3 Our research suggests that decent digital services are essential for contemporary rural areas. Some illustrative examples are provided below.
- 4 The proportion of **older people** is highest in rural areas and projected to remain so for the foreseeable future. This is a consequence of continued outmigration of young adults, increased life expectancy and middle aged and retired incomers moving into rural areas and becoming older in the communities they have relocated to. Although most older adults live healthy, active and independent lives, a demographically ageing population places demands on health and social care services that can prove difficult to meet in rural areas, especially remote areas. There are many ways in which technology can assist older people to continue to live independently in their own homes, some Internet of Things developments can help to provide remote access to health and other services. For example, eHealth devices can allow a health condition to be monitored if a patient uses a digital device to take readings that are sent to a distant clinician, monitoring that would otherwise require regular visits to a GP or involve a long distance trip to a hospital. Internet-enabled sensors and voice controlled devices can support independent living for the frail elderly. For those older adults who do not require health and social care digital technologies provide a myriad of opportunities to enhance quality

of life. Older people are increasingly making use of digital communications to stay in touch with friends and relatives which can help to mitigate the widespread epidemic of loneliness in later life. The closure of banks, post offices and retail outlets which cater for essential shopping can be mitigated against if online alternatives are easy to access and simple to use. Decent broadband services can thus support the inclusion of older people, offset some of the difficulties posed by the closure of service outlets and be a cost-effective means of delivering health and social care services if older people have access to decent connectivity at a reasonable cost.

- 5 **Agriculture** is important for sustaining an economically vibrant and environmentally attractive countryside. Many farm governance activities and everyday business practices require use of online systems or are enhanced by the use of applications supported by digital communications. For example, livestock movement notifications are compulsory and must be notified through online systems. Many upland livestock farmers operate on low profit margins and are located in remote areas that are poorly served by existing digital telecommunications infrastructure. High costs associated with alternatives to fixed broadband may be difficult for upland farm businesses to absorb. Arable and livestock farming is increasingly making use of Internet of Things technologies and other digital applications that support, for example, precision agriculture. Farm businesses cannot exploit new technologies if the farm is located in an area with inadequate fixed broadband and/or poor mobile Internet coverage. Better connectivity across rural areas would be hugely beneficial to the agricultural sector, especially farm businesses operating in the less favoured areas that are typically found in remote, upland regions.
- 6 **Tourism** is one of the most important sectors within the rural economy. The tourist industry is increasingly digital, reliant upon online marketing, bookings and payment systems. Businesses that cater directly for visitors and others whose profitability is supported by visitor spend are inherently disadvantaged if they operate in an area with poor connectivity. Visitors expect to be able to access information about events and amenities, use their social media accounts and undertake other routine online activities when on holiday, both in their accommodation and when out and about. Being unable to do so can discourage repeat visits and lead to poor reviews and feedback about an area which may deter others from visiting. As everyday digital engagement becomes increasingly ubiquitous, tourist destinations where connectivity fails to keep pace with the expectations of visitors will become less popular, with potentially serious financial consequences.
- 7 Rural areas are characterised by **small businesses**, most of which are micro-enterprises. Digital communication has become essential to the successful operation of businesses in most sectors of the economy. The UK is moving to an online only taxation system for businesses, digital marketing is increasingly essential for business survival and much routine and specialist software requires reliable digital connectivity. Businesses thus need good connectivity to be able to operate. Some small rural businesses struggle to meet the costs of going digital, lack the skills required to exploit digital opportunities or operate from premises where the digital infrastructure is inadequate to support essential needs. Relocation to an area with better connectivity may be the only option to keep a business financially viable. The loss of any business, no matter how small, could

have detrimental social and economic consequences for small communities. Rural digital infrastructure with similar capabilities to the infrastructure serving urban areas is essential to support businesses operating in all sectors of the rural economy.

- 8 **Communities of place** and **communities of interest** increasingly interact via digital networks. Small and scattered populations use online platforms to, for example, share community news and information about events, coordinate car sharing and offer goods and services. This promotes community coherence and can help foster inclusion. Digital networks have opened up numerous opportunities for individuals to pursue special interests, transcending limitations of physical distance which in the past would hinder engagement. Face to face participation in self-help or support groups such as those offering assistance to those with chronic illnesses can be difficult, if not impossible, for those who live in remote communities; being able to participate remotely, using digital technologies, can be life enhancing for rural residents of all ages. Fit for purpose digital communications across rural areas can therefore support interactions within and between communities of place and communities of interests and allow rural residents to fully participate in the social and wellbeing opportunities facilitated via digital technologies.
- 9 Working from home for some or all of the time saves time and money and reduces congestion and pollution. Remote working opportunities widen the range of jobs that those who live in rural areas can undertake. This helps to retain existing residents and attract newcomers to live in small communities. Remote working normally requires **digital working** thus decent connectivity is a pre-requisite if those living in rural areas are to benefit from these opportunities.

Needs not numbers

- 10 A minority of the British population live in rural areas, a much smaller minority live in the smallest and most remote rural communities. However, people want and increasingly need to be digitally engaged wherever they live or work. Territorial digital divides remain deeply entrenched despite considerable sums of public money having been invested in the development of UK-wide digital communications infrastructure. Urban-rural digital divides are preventing a rural minority from exploiting the many benefits offered by an increasingly digital economy and society. A worst case scenario is that without decent digital infrastructure now and in the future some remote rural areas will experience depopulation to the extent that a resident population is no longer viable. We recommend that future digital services policies should reflect **needs not numbers** to **ensure that the rural minority have the same digital opportunities as the urban majority.**
- 11 Most broadband infrastructure developments in the UK have followed an “inside out” model. That is, developments have favoured urban and other densely populated areas, with sparsely populated and peripheral areas being largely relegated to “catch up” status. We argue that to prevent further entrenchment of territorial digital divides there should instead be an “outside in” policy with priority given to improving and, ideally,

future proofing, digital infrastructure in the periphery. Commercial providers are unlikely to adopt an “outside in” approach as commercial returns in sparsely populated areas are not attractive. The Scottish Government’s R100 policy aspiration of reaching 100% of the population with broadband speeds of at least 30Mb/s by 2021 and explicit priorities on delivery to remote and hard to reach areas is commendable, signalling a desire to ensure those areas currently lagging behind in terms of digital infrastructure do not fall even further behind. We recommend that **UK wide strategy should consider following the Scottish example and deliver appropriately resourced initiatives that will allow digital infrastructure for the minority to catch up and keep up with that which is available for the majority.** If this does not happen rural areas will continue to struggle to exploit the transformative potential of digital developments.

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