European Parliament

Smart villages

Concept, issues and prospects for EU rural areas

SUMMARY

Although there is no legal definition of a 'smart village' within EU legislation, there are a number of distinguishing features associated with the smart village concept, with the involvement of the local community and the use of digital tools being seen as core elements. The concept implies the participation of local people in improving their economic, social or environmental conditions, cooperation with other communities, social innovation and the development of smart village strategies. Digital technologies can be applied to many aspects of living and working in rural areas. The smart village concept also suggests the adoption of smart solutions in both the public and private sectors over a wide range of policy fields such as improving access to services, developing short food supply chains and developing renewable energy sources.

The smart village concept is gaining traction on the rural development agenda, coinciding with the ongoing reform of the common agricultural policy (CAP). A key element of this reform will be a new delivery model based on each Member State developing a CAP strategic plan. In December 2020, the Commission published its recommendations for each Member State on the direction their plans need to take to achieve the CAP objectives and the European Green Deal targets. The Commission's analysis highlight the gaps Member States must address if the Green Deal target of 100 % access to fast broadband internet in rural areas by 2025 is to be met. Much will depend on how Member States respond to these recommendations in drawing up their CAP strategic plans. The European Parliament has made a significant contribution to the smart village concept, taking part in a pilot project on smart eco-villages and supporting the European Commission's 2017 action plan for smarter villages. The European Committee of the Regions and the European Economic and Social Committee have meanwhile both indicated their support for the concept through events, opinions and communications.

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Background – EU rural areas

Rural regions in the European Union (EU) are diverse in terms of their nature, geographical patterns, development levels and socio-economic and demographic trends. Covering 44.6 % of the EU and home to 93.1 million people (20.8 % of the total EU population), the EU's rural regions are multifunctional spaces facing a range of challenges. These include: demographic ageing leading to a decline in the number of people of working age, a weak labour market and even depopulation of certain rural and remote areas. Other challenges facing rural areas when compared with urban ones include the lack of infrastructure and service provision, a poorly diversified economy, low incomes coupled with a higher poverty and social exclusion risk, farmland abandonment, a lack of education facilities, high numbers of early school leavers and a digital gap and divide (i.e. a lack of reliable internet connections limiting both individuals and businesses). These circumstances have been perceived as representing a 'vicious circle driving rural decline', (see also ESPON, 2020) as more people move to urban areas in search of better job prospects and provision of public services.

Despite these challenges, rural areas offer many opportunities. Their diversity is one of the EU's richest resources. They provide food and environmental resources and can contribute to the fight against climate change, providing alternatives to fossil fuels and developing the circular economy. Their role in ensuring a balanced territorial distribution of the population avoiding overpopulation of cities is crucial, while their quality of life is increasingly valued as is the contribution that the cultural heritage of rural areas makes to sustainable tourism. Furthermore, the Covid-19 crisis could potentially bring long-term changes in society, such as an increase in teleworking or greater valuing of green spaces, to the benefit of rural areas.

A survey carried out by ELARD (May-August 2020) showed that rural citizens feel that the vital importance of rural territories for society as a whole should be recognised and that per capita public investment in the development of rural areas should be equal to that devoted to urban areas. The survey confirmed support for expanding and extending the LEADER method as the multi-level governance tool it is. According to the Eurobarometer 'Europeans, Agriculture and the CAP' (October 2020) EU citizens recognise that achieving balanced territorial development in the EU is an important objective, as is developing digital solutions in the agri-food sector.

The Commission communication 'The future of rural society' (1988) marked a major step towards the framing of a European rural development policy (since Agenda 2000 the second pillar of the common agricultural policy). It acknowledged the specific problems of rural society and underlined the need to try out new development approaches, involving rural communities in seeking appropriate solutions. The communication concluded that the management approach to policies relevant for the development of rural areas needed to be coordinated, integrated and multi-sectoral in its implementation. According to a paper presented to the Council of Europe's Congress of Local and Regional Authorities (2017), 'These key messages remain as relevant now as they were in 1988'. In addition to the CAP, EU cohesion policy plays an important role in rural regions.

While a range of responses exist to address these challenges, the smart village concept is seen as offering a way to future-proof rural communities and ensure their survival. It has developed from a concept to a series of concrete actions and in the process has moved up the rural development agenda. This coincides with the ongoing development of the new strategic plans that form part of the Commission's legislative proposals for the common agricultural policy beyond 2022. This briefing analyses the smart village concept from its definition to its application in practice, also examining the implications arising for the preparation of the CAP strategic plans by Member States.

Policy development and framework

Definitions and main features of smart villages

In a global context, the [beginnings of the smart village concept](#) date back to the middle of the last decade, based on initiatives pursued in [Africa, Central and South America and Asia](#). In the EU, the emergence of the notion of smart villages is closely associated with the 2016 [Cork 2.0 Declaration for a Better Life in Rural Areas](#), which set out a 10-point manifesto to improve quality of life in rural areas. It highlighted the need to overcome the digital divide between rural and urban areas and to develop the potential offered by connectivity and digitalisation in rural areas. The concept was given further impetus in 2017 by the European Commission's publication [EU Action for Smart Villages](#). This set out several EU policy areas and funds actively promoting the concept, including planned measures, adopting a [holistic and integrative approach](#) towards those objectives. It [defined](#) smart villages as 'those (local communities) that use digital technologies and innovations in their daily life, thus improving its quality, improving the standard of public services and ensuring better use of resources'.

Smart villages are *communities in rural areas* that use innovative solutions to improve their resilience, building on local strengths and opportunities. They rely on a *participatory approach* to develop and implement their strategy to improve their economic, social and/or environmental conditions, in particular by mobilising solutions offered by *digital technologies*. Smart villages benefit from cooperation and alliances with other communities and actors in rural and urban areas. The initiation and the implementation of *smart village strategies* may build on existing initiatives and can be funded by a variety of public and private sources.

Source: Pilot project: Smart eco-social villages, Ecorys [Final Report](#), European Commission, 2019.

Following input from [online consultations](#) (August 2018) and further discussions in the 'smart eco-social villages' pilot project steering group, a working definition was sketched out in 2019. Involvement of the local community and the use of digital tools were seen as core elements, focusing on a number of key features:

➢ A smart village strategy identifies challenges, needs, assets and opportunities. It is not a question of repeating existing strategies such as those under the LEADER approach, but of complementing them, where both strategies can coexist in the same territory.

➢ [Cooperation](#), involving partnerships and support of the local authorities is key. This includes cooperation and partnership between villages, and between villages and nearby urban areas. However, it is also possible to become a smart village as a single entity without cooperation.

➢ Smart villages seek solutions rooted in the local territory that can generate value and benefits for the community.

➢ Social and digital innovation are characteristic of smart villages (including broadband, training and the empowerment of rural communities).

Other definitions have been offered by those involved in rural development policy and practice, such as the 2020 [ESPON cooperation project](#), which highlighted the importance of good governance, public involvement, and measures to build human capital, capacity and community.

Policy development

The timeline of the main developments in the smart village concept are summarised in **Box 1** below. The European Commission's [EU Action for Smart Villages](#) paper referred to a [pilot project](#) initiated by the European Parliament to explore the characteristics of eco-social villages and to identify best practices in order to inform future development strategies. Parliament allocated €3.3 million to support the development of 10 smart villages. The concept was further reinforced by the work of the **European Network for Rural Development (ENRD**) and in particular its thematic group (TG) on smart and competitive rural areas. Since September 2017 this group has increased the level of interest in and information available on smart villages, by means of briefings, case studies and

practical advice on how to develop and implement the smart village concept, including a policy toolkit. Other notable developments include the Venhorst Declaration of 21 October 2017 which called on citizens and policymakers to assist in the creation of sustainable rural communities in a range of ways, including the approach outlined in the Commission's EU Action for Smart Villages paper. Reference was also made to the concept of 'smart growth' taking account of the role of small and medium sized enterprises (SMEs) in rural areas. The Commission's communication on the Future of Food and Farming published in November 2017 reiterated the Commission's commitment to reinforcing support for rural communities and local authorities that wish to develop smart villages through capacity building, investment, innovation support, networking and the provision of innovative financing tools for improving skills, services and infrastructure. A subsequent appraisal of this communication, carried out for the European Parliament's Committee on Agriculture and Rural Development, explained that success in rolling out the smart village concept would require much greater investment in improving digital connectivity in rural areas, and highlighted that the concept was premised on access to high speed internet in all rural areas. The Bled Declaration of 13 April 2018 called for further action to digitalise rural areas by means of smart villages. A key element in the declaration was the need to ensure all of Europe benefited equally from digital transformation. Broadband and connectivity was seen as a crucial step in digitalising rural areas. Other key developments included the publication of the Commission's legislative proposals in June 2018. In May 2020, the final report on the 'smart eco-social villages' pilot project was published. This identified 15 best practices as well as six villages that had expressed an interest in becoming a

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Box 1 – Chronology on the development of smart village concepts and policies in the EU

2014   EU rural development programmes (2014-2020)

2016   Cork Declaration 2.0
           ESPON 2020 cooperation programme

2017   EU Action for Smart Villages
           ENRD: Thematic working group / Smart Villages Portal
           European Parliament pilot project
           The Venhorst Declaration
           Communication on the Future of Food and farming

2018   Bled Declaration
           Añora Declaration
           CAP Legislative proposals (COM(2018) 392).

2019   Final report: Pilot Project: smart eco-social villages
           Declaration of cooperation on a smart and sustainable digital future for European Agriculture and rural areas.
           Launch of SMART Rural 21 project (DG AGRI).

2020   European Green Deal: Farm to Fork Strategy /
           Biodiversity Strategy.
           Roadmap: Long-term vision for rural areas
           European Commission's recommendations to Member States for their CAP strategic plans.

Source: Compiled by the authors.

'smart eco-social village'.

In December 2019, following the outcome of a public tendering procedure, the European Parliament initiated a new phase for smart villages by launching a preparatory action on smart rural areas in the 21st century, with the European Commission as the contracting authority. This involved the selection and establishment of 21 smart villages to serve as examples of the application of the smart village concept. This project will identify a list of features and related actions considered

essential for becoming a smart village. The project is scheduled to conclude in June 2022. Following the selection of 21 villages, a 'roadmap toolbox' setting out key stages in helping villages to develop and implement smart village strategies was developed with further practical tools to be added. A series of events and regional workshops are being organised throughout the course of the project.

A range of observers have examined the origins of the smart village concept, including its definition, relevance and application. Given the above-mentioned challenges facing rural areas, public service providers are often forced to examine innovative ways to address declining or sparsely populated areas, using digital technology. **Table 1** illustrates ways in which smart villages can be enhanced by such approaches. Potential measures are not limited to basic social services but can extend to policy areas such as transport, training and power supply. In terms of public administration, opportunities exist to apply a range of solutions to improve service provision for rural areas. These can often involve the adoption of e-administration tools. Such smart solutions are not limited to the public sector but are equally applicable in the private sector, for instance with the adoption of precision farming techniques or the development of short food supply chains via online sales.

Table 1 – Examples of smart measures in rural areas

Smart solution area	Public services	Public management	Private enterprises
Areas of intervention	power supply	e-administration	precision agriculture
	safety and security (e.g. visual monitoring)	waste management (e.g. container level sensors)	online trade (e.g. in local products)
	distance learning	town and country planning (e.g. digitalisation)	rural tourism based on smart solutions
	transport (e.g. telebuses) e-care e-health	environmental monitoring (e.g. air quality sensors)	sharing (e.g. specialist equipment)

Source: Extracted from L. Komorowski and M. Stanny., 'Smart Villages: Where Can They Happen?', *Land*, Vol. 9(151), May 2020.

The following points can be drawn from the range of sources available on smart villages:

➢ Although the focus is often on the role played by digitalisation, this is not necessarily seen as a pre-condition for becoming a smart village, (a point made in the ESPON briefing quoted above). The final report of the pilot project explained that 'digitalisation is a tool, not a goal in itself' and that 'the usage of digital technologies is not what defines a smart village'.

➢ A wide range of benefits are associated with the application of the smart village concept; these are illustrated by case studies but also in the ongoing work of Member States in their preparations for the new CAP strategic plans. One example of the benefits was set out by Ireland's Department of Rural and Community Development at an ENRD seminar in June 2020. These are summarised **in Box 2**, below.

➢ Findings from the pilot project as well as the work of the ENRD's thematic group highlight a range of 'good practices' associated with the successful implementation of the smart village concept. They include for example the involvement of local people; engagement with local municipalities and local mayors, cooperation between partners (including with the private sector) with the focus on a specific issue or theme. The value of an overall strategic plan or framework is also noted along with the use and application of digital technology.

➢ There is a recognition in the research literature that the smart villages concept and the LEADER approach share common features. The latter is an established community-led local development method that has been used for almost 30 years to engage local actors in the design and delivery of strategies for their local territories. (See **Box 3** for its key features). Both adopt a place or area-based approach, with LEADER focusing on the wider territorial level while the smart villages concept focuses on a narrower territorial area involving either an individual village or groups of village communities. Both adopt an integrated approach to rural development. LEADER seeks to achieve synergies among the various sectors within its territory, while the smart village concept often focuses its attention on rural services and local social and digital innovation in the wider rural sector. LEADER is often seen as a tool to help implement the smart villages concept (ENRD, 2019). Research on LEADER suggests that it may be constrained by a number of factors, such as having to work within its existing regulatory framework of 'standard pre-defined measures in relevant EAFRD programmes' and budgetary constraints, including the variation in the budgets allocated to local action groups (LAGs) across the EU (Nieto and Brosei, 2019). This research suggests that LEADER may not give sufficient room to implement 'risky innovative projects'. The suggestion is made that in cases where LAG budgets are small, supporting activities such as administrative and management tasks take time away from developing and promoting innovative measures.

Box 2 – Benefits of implementing smart village strategies

❖ Brings communities together to formulate agreed pathways for development and investment in their area

❖ Gives communities ownership of the development of their area and builds their capacity to face challenges

❖ Starting with small scale projects, can build up to larger more ambitious projects

❖ Obliges communities to identify what is needed and not simply chase funding that is available

❖ Lends greater coherence to rural development activities

❖ Enables funding departments/agencies aware of proposed plans to provide opportunities for more targeted funding streams

❖ Demonstrates the commitment of communities to development of the area with projects more likely to be delivered and maintained

❖ Allows funding applications from communities with agreed strategies to score higher in selection processes

❖ Empowers established communities to mentor new communities, developing capacity and fostering links between areas

Source: Adapted from D Harney 'Smart Villages – An Irish perspective: A vehicle for developing rural communities', Power-point presentation. June 2020, Department of Rural and Community Development, Ireland.

Box 3 – Key features of the LEADER approach

LEADER (*liaison entre actions de développement de l'économie rurale* – links between actions for the development of the rural economy) has seven specific features: a bottom-up approach, an area-based approach, local public-private partnerships (local action groups), an integrated and multi-sectoral strategy, networking, innovation, and cooperation.

Information on smart village networks and projects

The ENRD website's smart villages portal provides access to case studies and publications on issues such as: digital and social innovation in rural services, revitalising rural services, the European Green Deal, rural digitalisation transformation, rural energy communities and rural mobility. A number of briefing papers target both policymakers and those involved in the implementation of smart village

strategies. These sources illustrate the relevance of the smart village concept to a wide range of policy fields, ranging from improving access to services and enhancing business opportunities such as short food supply chain development, to renewable energies, climate change adaptation, preservation of biodiversity and boosting tourist appeal by promoting cultural heritage. The ability of the smart village concept to permeate many aspects of living and working in the EU's remote and sparsely populated rural areas can be illustrated by the following themes:

Rural digitalisation: In Lormes, Burgundy, France, a 'Digital Mission' association was established in 2003 to offer digital inclusion and education support to the community. A local digital hub opened in 2008 offering training and educational facilities. The mission serves 166 communes.

Renewable energy: In Oberrosphe, Germany, the local community invested €700 000 in a project to connect 120 houses to a wood chip-fired heating plant managed collectively by a cooperative, resulting in CO_2 reductions. There is also is the example of bioenergy villages in Germany, where farmers were connected to cooperatives managing energy production and distribution.

Mobility: In Yllas, Finland, a cooperation project formed by the municipality of Kolari and Yllas Travel Association, launched a mobility project to enable tourists to buy tickets from a range of public and private transport services.

Social innovation: The Iberian Ecovillage Network involves 13 eco-villages in Spain and Portugal. These are living laboratories developing a new way of life with low environmental impact and CO_2 emissions.

Health and social care: In Castellon Province, Valencia, Spain, in response to rural depopulation, the provincial government launched a rural taxi service for medical purposes initiative. It provides free transport for residents who do not have their own transport to access hospitals, medical and dental centres. This improves access to health care for older people of municipalities with under 5 000 inhabitants.

Culture: In Piscu village, Ilfov County, Romania, a project is raising awareness of cultural and local heritage among younger generations, operating from a pottery centre.

> Social innovation means developing new ideas, services and models to better address social issues. It invites input from public and private actors, including civil society, to improve social services.

Funding opportunities: Current and future possibilities

The EU Action for Smart Villages paper outlines how several EU policy areas and funds are actively supporting the development of smart villages. They include the CAP's rural development policy (through the European Agricultural Fund for Rural Development (EAFRD), the LEADER initiative, which has been extended in scope to support community-led local development (CLLD), the European Innovation Partnership for Agriculture (EIP-AGRI), EU cohesion policy programmes and specific instruments such as smart specialisation strategies, integrated territorial investment (ITI), the Connecting Europe Facility funds and the Horizon 2020 programme (the EU's framework programme for research and innovation). The European Commission has launched a new €30 million initiative focusing on boosting rural economies through cross-sector digital service platforms involving two large scale pilot projects. These will help smart villages and rural communities to improve their resilience. The EAFRD can support smart village initiatives through a mix of measures targeting business development and rural business start-ups, investment in small-scale local infrastructure and connectivity projects, village renewal, knowledge exchange and information, development, CAP networks, the installation of young farmers and basic services. Other funds such as innovative financial instruments and their combination with grants and financing from the European Investment Bank can also be leveraged, representing potential support for rural infrastructure.

The issue of future support for smart villages has been the subject of discussion in ENRD Thematic Group meetings. At a meeting on 11 April 2020, the Polish managing authority outlined the range of challenges smart villages could address, indicating how each region is preparing proposals to address the needs of rural areas, including those to be supported by means of smart villages. These would be supported through the cooperation measure within the future CAP strategic plan as well as support from LEADER. Advisory services as well as local action groups (LAGs) could also play a role in preparing smart village plans. In June 2020, managing authorities from Austria, Ireland and Slovenia presented their ideas for supporting smart villages in their future CAP strategic plans. These included making use of three main types of CAP intervention, namely LEADER, investments in basic services, and regional innovation partnerships. Ireland indicated how smart villages could be one of the areas supported in future local development strategies if LAGs made this is a priority. Smart villages could leverage in further support from other national or EU funding sources. In Slovenia, the managing authority suggested that key interventions for supporting smart villages could be LEADER as well as the investments in basic services. It also indicated that coordination among EU funds would be improved through various governance structures such as the CLLD coordination committee. A presentation by the European Commission's DG REGIO to the same ENRD TG meeting highlighted how EU cohesion policy can complement the support offered to smart villages by the CAP. Cohesion policy can also support CLLD initiatives via cross-border cooperation and smart specialisation strategies.

Looking to the next programming period, the MFF Regulation and the Interinstitutional Agreement were approved by the European Parliament on 16 December 2020. Council adopted the MFF regulation on 17 December 2020.

European Parliament position

The European Parliament has been actively involved in promoting the smart villages concept as reflected in its support for the pilot project on smart eco-social villages, subsequently implemented by the European Commission's DG AGRI, its resolutions and its scrutiny role through parliamentary questions. The findings of the pilot project made a significant contribution to understanding how this concept can be applied in practice. In its resolution of 30 May 2018 on the future of food and farming, Parliament welcomed the Commission's commitment to promoting the concept of smart villages as this would address issues such as insufficient broadband connections, jobs and the provision of services in rural areas. It called on the Commission to set up measures to make smart villages a priority for the next rural development policy. In a subsequent resolution of 3 October 2018 on addressing the specific needs of rural, mountainous and remote areas, Parliament called for the establishment of a smart villages pact, with a view to ensuring a more effective, integrated and coordinated approach to EU policies with an impact on rural areas, involving all levels of government in accordance with the principle of subsidiarity.

During the current parliamentary term, a new intergroup on Smart Villages for Rural Communities has been established. In October 2019, the name of this intergroup was changed to RUMRA & Smart Villages. Building on the activities of the 2014-2019 intergroup on Rural, Mountainous and Remote Areas – RUMRA, the new group is actively engaging with the European Commission on its roadmap for a long-term vision for rural areas. Parliament has also raised a question concerning the lack of internet availability in smaller towns and villages, impacting on the development of entrepreneurship and tourism. In its response, the Commission explained that one of the objectives of its digital single market strategy is to achieve gigabit connectivity by 2025 for all main socio-economic drivers, such as schools, public services and digitally intensive enterprises. The Commission also highlighted how the EAFRD could support the roll-out of broadband with a view to fostering the development of smart villages and smart farming.[1]

Advisory committees

Both the European Committee of the Regions (CoR) and the European Economic, Social Committee (EESC) have discussed the concept of smart villages. CoR adopted an opinion on the revitalisation of rural areas through smart villages on 1 December 2017. It also called for EU-funded training to improve 'the digital literacy' expected of older inhabitants and for targeted support for existing rural employers, with farmers as a priority group, and for initiatives to boost rural entrepreneurship. Reference was also made to the role played by digital hubs in reducing the digital divide, revitalising village centres, providing jobs and acting as anchors for e-services, e-heath, e-learning, e governance and e-commerce. Examples included the Ludgate Hub (IE) and the Hive (Leitrim (IE). The CoR also held a debate on smart villages on 29 January 2019. This considered how smart villages could be promoted in all structural policies after 2020. On 27 November 2020, the CoR's Commission for Natural Resources (NAT) co-hosted a webinar with Parliament's RUMRA and Smart Villages intergroup, with the support of the international association Rurality-Environment-Development (RED) and the European Association of Mountain Areas – Euromontana, to examine the experience and lessons learned by rural areas during the Covid-19 pandemic. Examples of projects and initiatives launched by rural communities to cope with the pandemic were highlighted. (See also ENRD's database of rural responses to the Covid-19 crisis). The conclusions of the webinar pointed to the need to consider 'agriculture, cohesion, connectivity, green energy, mobility, educational services, digital platforms and health care as equally relevant' in reinvigorating rural Europe'.

The EESC declared its support for the Commission's smart villages initiative in an opinion adopted in October 2017. In a further opinion adopted in December 2019, the EESC expressed its support for Parliament's call to establish a smart village pact involving all levels of government, in accordance with the principle of subsidiarity.

Stakeholder views

A number of rural organisations have expressed their views on the potential of smart villages. COPA-COGECA – representing farmers and agri-cooperatives – reiterated the importance of providing support for smart village strategies in its indicative guidelines for the development of CAP strategic plans (September 2019) and in its perspective on the long-term vision for rural areas (September 2020). The Smart Village Network – an independent, bottom-up network of villages, village groups and associations across Europe – adopted a declaration on the occasion of its first meeting, held in Finland in February 2019. Its members consider that smart village approaches could help communities and rural areas become more resilient. RED, meanwhile, committed as it is to the integrated development of rural territories as set out in its European rural agenda, considers that rural territories have a role to play as hubs for development, innovation and exchange between local actors and territories. It has stressed the importance of including measures to support smart villages, either at the level of villages or territories, as part of CLLD territorial development strategies.

At a July 2018 event, Euromontana explored how policy measures can support social innovation through initiatives such as smart villages, in association with the RUMRA parliamentary intergroup and the Horizon 2020 SIMRA project. In a subsequent communication, it explained the role of social innovation in helping rural areas to develop their full potential. In May 2020, Euromontana published initial reflections on its long-term vision for rural areas. It reaffirmed the need for a place-based approach, including efforts to address the digital divide and the need to encourage digitalisation and social innovation in rural areas. Specific reference was made to the Interreg Alpine Space Smart Villages project (2018-2021), which illustrates the potential the smart village concept has for mountain areas.

Outlook

Looking to the future, a number of barriers and challenges to the take-up and implementation of smart village initiatives can be identified from existing research sources. These include:

> ➤ digital literacy levels in rural communities;
> ➤ existing levels of knowledge on the nature and utility of smart village approaches;
> ➤ the attitude of municipalities to such initiatives, including the political will to adopt them;
> ➤ the adequacy of existing levels of digital infrastructure in areas; and
> ➤ the challenges of developing a fully integrated approach to development across a range of policy areas at regional and local levels within Member States.

Evidence from an examination of the potential application of smart village programmes in Poland highlights a number of implementation difficulties. These include a deficit of digital skills among older adults. Survey evidence of local mayors in Poland shows that they did not associate the need to develop a responsive and inclusive social policy with the use of technological solutions. The research pointed to only 15 % of Polish municipalities (essentially the biggest cities) expressing an interest in adopting a smart and age-friendly community approach to local policy.

There will also be financial limitations arising from the MFF Regulation adopted by Council on 17 December 2020. Although this provides budget certainty for the EU's long-term budget for the period 2021 to 2027, the allocation of €85.3 billion (in 2018 prices) to Pillar II (rural development) still needs to be co-financed by Member States. Much will depend on the extent to which Member States are prepared to co-finance measures in support of smart villages, which will have to compete with other measures contained within each of the Member States' CAP strategic plans. Much will therefore depend on the content and design of these plans, an issue considered below.
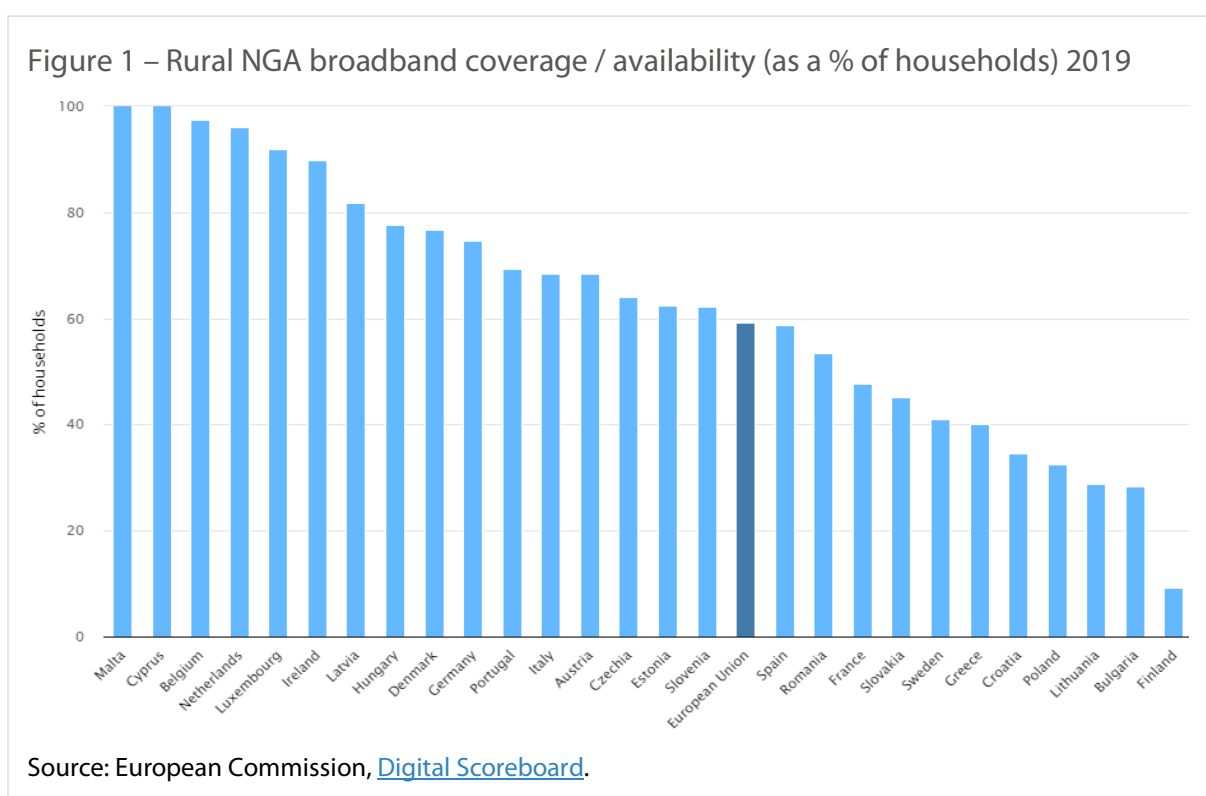
Although the CAP strategic plans have not yet been published, indications on how the issue of smart villages is being addressed can be obtained from other sources. The European Parliament has put forward a number of amendments to the Commission's legislative proposals in relation to smart villages. Meanwhile, ARC2020 has published a policy analysis of the CAP reform process that references smart villages. In December 2020 the Commission published recommendations to Member States on the direction their plans were to take in order to achieve the CAP objectives and the EU's Green Deal targets. Together, they provide insight into the range of issues that impact on the future design and shape of the new CAP strategic plans and how they could impact on the development and implementation of smart villages across the EU.

The Commission's legislative proposal for the CAP strategic plans includes references to smart villages in its recital 16 and annex I. The amendments to the proposal adopted by the European Parliament on 23 October 2020 include a new article (Article 68b), referring to the possibility for Member States to offer grants to help the installation of digital technologies to support, inter alia, precision farming, smart villages, rural enterprise and the development of information and communication infrastructure at farm level. A new Article 72(b) is proposed in relation to the development of a 'smart villages strategy' in the CAP strategic plans. It is also stated that Member States may build their smart villages strategy into the integrated strategies of community-led local development. One proposed amendment includes a provision whereby Member States should include 'a description of the strategy for the development of digital technology in agriculture and rural development, smart villages and for the conditions of use of these technologies'. Parliament's proposed amendments recognise the significance of smart villages for rural areas, including their role in digitalising the rural economy.

ARC2020's policy analysis of the CAP strategic plan legislative proposal, published in December 2020, notes the absence of both a definition of a smart village in the legislative proposals and any description of smart village strategies. It notes that support granted to smart villages could also be used to support precision farming as described above. It considers this to be a case of 'channelling rural development interventions towards farmers'. Although Parliament's amendments allow for support for the development of smart village strategies as outlined above, the analysis suggests that the absence of any description of such strategies may lead to a lack of uniformity in the development of such strategies across the EU. ARC2020's critique calls for greater clarification on the governance of smart villages and synergies with LEADER/CLLD strategies, including

coordination across EU funds. It considers more could be done to foster sustainable design, access and use of digital technologies in rural areas. It points to 'a lack of commitment to dedicate the CAP budget towards the full coverage of high speed connectivity in rural areas'.

Further insight into how smart villages are being considered in Member States' CAP strategic plans can be derived from the Commission's specific recommendations to Member States as regards their CAP strategic plans. In its communication dated 18 December 2020, the Commission recognises that knowledge and innovation have a key role to play in meeting the challenges facing agriculture and rural areas and that the availability of a fast and reliable internet connection in rural areas, accompanied by the development of digital skills, is crucial to enable the development of all future smart solutions for both agricultural and rural business and communities. In terms of the specific recommendations put forward by the Commission for each Member State, none of them make specific reference to smart villages (except for a few passing references in the case of Greece). However, the Commission consistently makes reference to the need for CAP strategic plans to contribute to the EU Green Deal target of 100 % access to fast broadband internet in rural areas by 2025, (measured by the share of rural households with next generation access (NGA) broadband).

Figure 1 – Rural NGA broadband coverage / availability (as a % of households) 2019

Source: European Commission, Digital Scoreboard.

Further commentary is provided for each Member State in relation to their ranking on the Digital Economy and Society Index (DESI). Their position for rural NGA broadband coverage / availability is summarised in Figure 1. The Commission's analysis provides insight into the variations between urban and rural areas compared with national and EU levels for measures on levels of connectivity, basic digital skills and broadband speeds. Lithuania has one of the biggest gaps in terms of digital skills between city dwellers and rural residents. In Poland, the Commission's analysis points out that the penetration of next generation access in villages with up to 100 inhabitants is 6 %. Although Finland has a high coverage of mobile broadband subscriptions, NGA broadband coverage in rural areas remains a challenge reflecting the lack of incentives for market players to invest in sparsely populated rural areas. In France, while almost all French households are covered by a fixed network, more than half are not covered by any NGA technology. In Sweden, which is highly digitalised with good broadband coverage, there is a need to roll out NGA broadband capacity to sparsely populated rural areas.

The experience of the smart village pilot projects and case studies highlighted in this briefing show the potential contribution smart villages can make across a range of policy issues, but much will depend on the outcome of the ongoing CAP strategic planning exercise and how Member States respond to the Commission's recommendations. Other variables that will determine the future success of smart villages include the impact of key policy drivers – such as climate change – and the need to address a range of economic, social and environmental issues such as demographic ageing. Lastly, certain additional factors will be also be decisive, such as the provision of adequate digital infrastructure and digital training, active citizenship at local level and a positive attitude on the part of key actors at national, regional and local levels.

MAIN REFERENCES

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ENDNOTE

[1] Additional sources of support include the European Fund for Strategic Investments, the Connecting Europe Broadband Fund and the WiFi4EU initiative. The Commission's Rural Broadband Action Plan focuses on helping to speed-up the rollout of broadband to such areas through the consolidation of the network of Broadband Competence Offices.

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