

# Index

- Adarsh Gram Yojana programme (Government of India), 106
- AgriChemWay, 21
- Agriculture 2.0, 85
- Agriculture 3.0, 85
- Agriculture 4.0, 85
- Agriculture and food production challenges with, 84–85  
climate change, 84–85
- EU agri-food sector, 84
- EU code of conduct on agricultural data sharing, 92
- precision agriculture (PA)/farming (PF), 85–90  
bottlenecks, 91–92  
examples, 87–88  
forestry, 88  
importance to smart villages, 90–92  
precision livestock farming (PLF), 88–90
- rate of technology uptake by farming community, 84, 85, 88–90  
future trends, 90
- technological transformation and, 93
- Bioeconomy, 24
- Bioenergy Villages project, 103
- Bled Declaration, 2018, 2–3, 15, 52, 128, 158
- Broadband infrastructure, 77
- Clean energy driven smart villages, 105–106
- Clean energy technologies, development of  
IT skills and, 104–105  
rural high-speed internet links and, 104
- Cohesion policy, 2–3, 19–20
- Committee of Regions (CoR), 13
- Common Agricultural Policy (CAP), 2–3, 14, 16–19, 94, 141, 173–174
- Community-Led Local Development (CLLD), 128
- Community-led Local Development (CLLD) approach, 64
- Connectivity, 30
- Consultative Group for International Agricultural Research (CGIAR) Research Program on Climate Change, 158
- Cork 2.0 Declaration 2016, 2–3, 8, 14, 15, 21, 25, 51–52, 128
- COWOCAT project, 76
- Depopulating villages, 1–2, 67
- Fouskari, xv
- Greek villages in Peloponnese, 3
- Digital economy, 76–77
- Digitalisation of smart villages, 104–105

- Digitalization of cities, 14–15  
 Digital Single Market, 16, 94–95
- Eigg Heritage Trust project, 118–119  
 Embeddedness, 30  
 ESPON 2020 Cooperation Programme, 128  
 ‘EU Action for Smart Villages’, 15–16, 63  
 EU agricultural and food production sectors, 84  
 EU General Data Protection Regulation (GDPR), 92  
 EU policies for rural areas, improving coherence of, 21–22  
 EU policies for smart villages challenges for implementation at local level, 40–43 access to institutions, 42 technical infrastructure, 42 use of resources, 42–43 cohesion policy, 19–20 Common Agricultural Policy (CAP), 17–19 context and definition, 37–40 research and innovation, 20–21 Digital Innovation Hubs, 20 LIAISON, 20 LIVREUR, 20 ROBUST, 20 RUBIZMO, 20 RURACTION, 20 SIMRA, 20 European Commission, 2–3 on barriers to adopt digital technologies, 94–95 Basic Payment Scheme (BPS) applications, 91 on broadband coverage in Europe, 91
- General Data Protection Regulation (GDPR), 92 long-term climate vision for 2050, 85 Mobile Agricultural Robot Swarms (MARS) experiment, 90 new Skills Agenda for Europe, 95–96 ‘The Internet of Food and Farm 2020’ project, 89 European Economic and Social Committee (EESC), 14 European Innovation Partnership (EIP-AGRI), 18, 21, 24–25, 72–73, 94 European Network for Rural Development (ENRD), 13–14, 15, 21, 24–25, 118 European Union, 1 Clean Energy Package, 105–106 development of rural high-speed internet links, 104 differences between the rural and urban territories, 50 funding for non-agricultural activities, 13 population living in rural and urban areas, 49–50 Eurostat, 49–50 EU strategy of technological transformation, 95
- Gandhi, Mahatma, 158 Ghat Heritage Village, 164 Green Revolution, 85 Gulf Cooperation Council (GCC) countries, 155–156, 174–175

- digital government models, 162–163
- National Transformation Plans, 161–162
- population distribution and estimation (2018–2030), 160, 161
- smart village initiatives, 164–166
- transformational context, 159–164
- Habala Villages, 164
- Horizon Europe, 24–25
- Howard, Ebenezer, 55
- Hungarian ‘grandma application’, 120
- Hydra Village, 164
- ‘I can do this for you’ philosophy, 9
- IEEE Smart Village, 128
- Information and communication technology (ICT), 3–4, 7, 49, 50, 55, 85, 149–150, 165–166, 174–175
  - advances in, 174
- Innovations, 31, 41
  - small- and middle-sized enterprises (SMEs), role of, 114
- International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), 158
- Korea, 174–175
  - agricultural and rural investment plans in, 144
  - agricultural policy in, 139–140, 143
  - agricultural sector in, 139
- block grant system, 145–148
- Comprehensive Rural Village Development Program (CRVDP), 145
- rural policy, 140–141, 142–143
- rural spaces in, 139
- rural tourism, 144, 145
- rural tourism policy in, 148
- rural tourism programs in, 146–147
- 6th industrialization, 149
- smart farming, 149–150
- Smart Village Project in, 143–148
- LEADER approach to smartness, 63–65, 68, 128
  - budget, 73
  - common features shared, 68
    - innovation, 72–73
    - integrated development, 70–71
    - partnership and community empowerment, 71
    - place-based approach, 69–70
  - distinctive characteristics between smart villages and LEADER, 69
  - geographical scope, 73
  - local actions groups (LAGs), role of, 71, 72–73, 78, 79
  - modern rural development policy paradigm and, 65–68
  - opportunities for sustainable development, 68
  - potential role of LEADER, 73–77
    - as animator and facilitator of community processes, 74–75

- as enabler for transition, 76–77  
as laboratory of innovation for a transitional change, 75  
role in digitization, 76–77  
supporting scaling-up of initiatives through cooperation, 75–76  
regulatory barriers in, 78–79  
LEADER Local Action Groups, 24
- Masqat, 162–163  
Mobile Agricultural Robot Swarms (MARS), 90
- Nanotechnology, 90  
National Strategy for Inner Areas, Italy, 67  
NEOM project, 163–164
- Paris Agreement, 100, 101  
Plan for Rural Digitisation, Finland, 67  
Power technologies for smart villages, 102–104  
biogas, 102–103  
biomass, 103–104  
wind and solar thermal, 104
- Regional Policy, 2–3  
Relatedness, 30  
Resilience, 50–51  
Revitalization, 10  
Rezo Pouce project, 76  
Rijal Almaa Village, 164  
Rural development, 31  
concepts  
endogenous approach, 33–35  
evolution of policies, 36–37
- mixed exogenous/endogenous approach, 35  
neo-endogenous approach, 35  
policy, 37  
EU, 37–38  
role of agriculture, 83–85  
Rural proofing, 21–22, 25
- San-Car, 120  
Saudi National Space Strategy (2030), 164  
Saudi National Transformation Program 2020 and Vision 2030, 159  
Saudi ‘Smart City’ initiative, 163–164
- Service hubs in rural Flanders, 119  
Slovenia  
Blatna Brezovica, 131  
concept of smart village, 128–129  
Distributed Hotel Konjice, 130  
FabLab Network, 132–134  
Hotel of Good Teran, 131  
innovation, 132–133  
landscape of, 129  
Ljubljana, 129  
mobility services, 131–132  
projects Agrotur I and Agrotur II, 131  
rural areas  
challenges of, 127  
problems of, 125–127  
SaMBA, 131–132  
smart rural development in, 125, 133  
tourism, 129–131  
village Padna, 130–131  
Small and medium-sized enterprises (SME), 9  
Small- and middle-sized enterprises (SMEs), 111

- ability to develop smart solutions, 119–120
- components of intelligent or smart solutions, 116–117
- connection between smart villages and, 111
- effectiveness of, 112
- project examples, 118–119
- role in European economies, 112–114
- role in innovation, 114
- role in sustainability, 114–115
- rural, 112
- smart solutions for, 115
- sources of financing for, 117–118
- Smart cities, 156–159
- Smart Dubai initiative, 162–163
- Smart Eco Social Villages, 15
- Smart Fab Village, 133–134
- ‘Smart’ food production processes, 90–92
- Smartness of a settlement, 14
- Smart rural development, 31
- implementation of, 31
  - notion of innovativeness, 31–32
- Smart Specialisation under Cohesion policy, 16
- Smart strategies for smart villages, 52–53
- methodology for design of, 53–59
  - actors involved in process, 54–55
  - coherent structure of government and territory, 58
  - commitment to social cohesion and development, 58
- connections with other rural areas and cities, 58–59
- environmental sensitivity and responsibility, 57–58
- first step in defining, 56–59
- garden city model, 55, 56
- theoretical framework, 55–56
- work and innovation, 58
- Smart Village Model, 51–52
- Smart villages, 1
- advantages of, 56
  - benefits of living in, 57
  - challenges and corresponding actions, 2
  - definition of, 38–39, 111
  - EU policies for, 14–16
  - European Commission definition, 3
- European policy discussions, 14
- five avenues of
- communication, 24
  - innovation, 24–25
  - integration, 23
  - rural proofing, 25
  - simplification, 23–24
- implementation under integrated rural development framework, 67
- importance of, 4–5
- as a policy objective, 13–14
- rationale behind, 1–2
- relevance, 2–4
- three pillars, 3–4
- Smart Villages Portal, 15, 118
- Solar power, 8–9, 99–100
- Solar-powered smart villages, 100–102
- digital nature of solar power, 102, 104–105
  - rationale for, 101

- roof panels for, 101–102
- State of Kuwait Vision 2035 (KUWAIT-2035), 162
- State of Qatar Vision 2030 (QATAR-2030), 162, 163
- Sultanate of Oman Vision 2020 (OMAN-2020), 162, 163
- Sustainable Development Goals (SDGs), 65, 100, 157, 164
- Sustainable Smart cities (SSC), 155, 162–163
- Thematic group (TG) on Smart Villages, 38, 40
- Thematic Working Group, 15
- “Three magnets” theory, 55, 56
- Toolkit for the development of Smart Green Villages, Rwanda, 106
- “The 25 Most Innovative AgTech Startups in 2018,”, 120
- UAE Vision 2021 (UAE-2021), 162
- Venhorst Declaration, 2017, 22
- Village angels, 115–116
- ‘WAB’ initiative, 77