UNIVERSITY OF TORONTO

MUNK SCHOOL OF GLOBAL AFFAIRS

Join the Global Conversation

The
G20 Research Group
at Trinity College at the Munk School of Global Affairs and Public Policy
in the University of Toronto
presents the

2017 G20 Hamburg Summit
Interim Compliance Report

8 July 2017 to 9 January/5 March 2018*

Prepared by
Sophie Barnett, Hélène Emorine and the G20 Research Group, Toronto,
and Irina Popova, Andrey Shelepov, Andrei Sakharov and Alexander Ignatov and the
Center for International Institutions Research
of the Russian Presidential Academy of National Economy and Public Administration,
Moscow

5 August 2018

www.g20.utoronto.ca
g20@utoronto.ca

"The University of Toronto … produced a detailed analysis to the extent of which each G20 country has met its commitments since the last summit … I think this is important; we come to these summits, we make these commitments, we say we are going to do these things and it is important that there is an organisation that checks up on who has done what."

— David Cameron, Prime Minister, United Kingdom, at the 2012 Los Cabos Summit

* Note: For seven commitments, the assessment period was from 8 July 2017 to 9 January; for the remaining 10 commitments, the assessment period extended to 5 March 2018.

Contents

16. Food and Agriculture: Information and Communications Technologies

"Promote information and communication technology (ICT) applications and skills in agriculture to strengthen productivity and efficiency in the value chain."

Hamburg Update: Taking Forward the G20 Action Plan on the 2030 Agenda

Assessment

	No Compliance	Partial Compliance	Full Compliance
Argentina			+1
Australia			+1
Brazil		0	
Canada			+1
China			+1
France			+1
Germany			+1
India			+1
Indonesia			+1
Italy			+1
Japan			+1
Korea		0	
Mexico			+1
Russia			+1
Saudi Arabia	−1		
South Africa		0	
Turkey	−1		
United Kingdom			+1
United States			+1
European Union			+1
Average		+0.65	

Background

G20 leaders first addressed the problem of food security and agriculture at the 2009 Pittsburgh Summit. The Declaration held that "sustained funding and targeted investments were urgently needed to improve long-term food security."[4293] G20 leaders thus supported a food security initiative announced in L'Aquila and "efforts to further implement the Global Partnership for Agriculture and Food Security and to address excessive price volatility."[4294] They also committed to supporting innovative bilateral and multilateral efforts to improve global nutrition and build sustainable agricultural systems, including programs like those developed through the Comprehensive African Agricultural Development Program.

In fulfillment of the G20 Pittsburgh commitment on food security, the Global Agriculture and Food Security Program was launched to further implement the Global Partnership for Agriculture and Food Security. In Toronto in 2010, G20 leaders committed to "exploring innovative, results-based

[4293] G20 Leaders Statement: The Pittsburgh Summit, G20 Information Center University of Toronto. Access date: 30 March 2018. http://www.g20.utoronto.ca/2009/2009communique0925.html
[4294] G20 Leaders Statement: The Pittsburgh Summit, G20 Information Center University of Toronto. Access date: 30 March 2018. http://www.g20.utoronto.ca/2009/2009communique0925.html

mechanisms to harness the private sector for agricultural innovation."[4295] The Declaration also underscored the importance of accelerating research and development to close agricultural productivity gaps, including through regional and South-South cooperation amidst growing demands and mounting environmental stresses, particularly in Africa. G20 leaders thus committed to "exploring the potential of innovative, results-based mechanisms such as advance market commitments to harness the creativity and resources of the private sector in achieving breakthrough innovations in food security and agriculture development in poor countries."[4296]

The 2010 Seoul Summit launched the Multi-Year Action Plan on Development, which document a special section dedicated to food security and agriculture. G20 leaders underlined "the need to fulfill… existing commitments on food security and sustainable agricultural development."[4297] They also called for support to build capacity in tropical agriculture technologies and productive systems, and emphasized that the actions' focus must be on "harnessing the potential of the agriculture sector to advance sustainable economic growth and poverty reduction, enhanc[ing] engagement with the private sector and strengthen North-South, South-South, and triangular cooperation."[4298]

At the 2011 Cannes Summit, G20 leaders agreed to mobilize G20 capacities to address these key challenges in food security and agriculture, in close cooperation with relevant international organisations and in consultation with producers, civil society, and the private sector. G20 Agriculture Ministers also met for the first time in Paris on 22-23 June 2011 and adopted the Action Plan on Food Price Volatility and Agriculture, which has five objectives: (1) improving agricultural production and productivity, (2) increasing market information and transparency, (3) reducing the effects of price volatility for the most vulnerable, (4) strengthening international policy coordination, and (5) improving the functioning of agricultural commodity derivatives' markets.[4299] At the 2012 Los Cabos Summit, G20 Leaders affirmed their on-going commitment to improving domestic food and agricultural practices, with a particular focus on adapting agriculture so as to mitigate its contributions to climate change.

In 2013 in St. Petersburg, G20 leaders acknowledged that food security and nutrition should remain a top priority on the G20 agenda. They recognized the importance of "boosting agricultural productivity, investment and trade to strengthen the global food system to promote economic growth and job creation" and promised to encourage all "efforts in the agricultural sector to further reduce hunger, under-nutrition and malnutrition, through increased coordination in the G20 to promote the identification and implementation of effective actions in support of production and productivity growth as well as enhancement of food security and nutrition for vulnerable population through, among others, nutrition sensitive policies and comprehensive social protection systems, with particular emphasis on low income countries." [4300] G20 leaders thus reaffirmed their

[4295] The G20 Toronto Summit Declaration, G20 Information Center University of Toronto. Access date: 30 March 2018. http://www.g20.utoronto.ca/2010/to-communique.html
[4296] The G20 Toronto Summit Declaration, G20 Information Center University of Toronto. Access date: 30 March 2018. http://www.g20.utoronto.ca/2010/to-communique.html
[4297] Seoul Summit Multi-Year Action Plan on Development, G20 Information Center University of Toronto. Access date: 30 March 2018. http://www.g20.utoronto.ca/2010/g20seoul-development.html
[4298] Seoul Summit Multi-Year Action Plan on Development, G20 Information Center University of Toronto. Access date: 30 March 2018. http://www.g20.utoronto.ca/2010/g20seoul-development.html
[4299] Cannes Summit Final Declaration — Building Our Common Future: Renewed Collective Action for the Benefit of All, G20 Information Center University of Toronto. Access date: 30 March 2018. http://www.g20.utoronto.ca/2011/2011-cannes-declaration-111104-en.html
[4300] G20 Leaders' Declaration St-Petersburg, G20 Information Center University of Toronto. Access date: 30 March 2018. http://www.g20.utoronto.ca/2013/2013-0906-declaration.html

determination to implement all previous G20 commitments and initiatives, the 2011 Action Plan on Food Price Volatility and Agriculture.

The 2014 Brisbane Summit saw the launch of the G20 Food Security and Nutrition Framework, which builds on previous work of international organizations and the broader G20 agenda in this area. The framework provides a basis for the G20 to take a long-term, integrated, and sustainable "food systems" approach to guide future action on food security and nutrition. It recognized that actions within and beyond the agricultural sector are needed to maximize future opportunities and reduce the risk of future crises. The framework set out three priority objectives to integrate work on food security and nutrition with the G20 work streams: 1) increasing responsible investment in food systems, 2) increasing incomes and quality employment in food systems, and 3) increasing productivity sustainably to expand the food supply.[4301]

Furthermore, in 2015 in Antalya, G20 leaders adopted the G20 Action Plan on Food Security and Sustainable Food Systems. It outlined actions to promote responsible investment in agriculture and food systems, improve market transparency for food security, support human resource development, foster sustainable productivity growth, and reduce food loss and waste.[4302]

At the 2016 Hangzhou Summit, the G20 also committed to continue prioritizing food security, nutrition, sustainable agricultural growth, and rural development as a significant means of implementing the 2030 Agenda for Sustainable Development. G20 leaders thus supported increasing efforts by the agricultural scientific and private sectors and welcomed the opening of the first G20 Agricultural Entrepreneurs Forum.[4303]

At the most recent G20 Summit in Hamburg in 2017, G20 Leaders emphasized the need to promote food security, water sustainability, and rural youth employment. Thus, they committed to "increase[ing] agricultural productivity and resilience in a sustainable manner, while aiming to protect, manage and use efficiently water and water-related ecosystems."[4304] G20 leaders also stressed the need for "strengthened cooperation on ICT in agriculture and underline the importance of access to high-speed digital services for farmers and of adequately serving rural areas."[4305] The 2017 Hamburg Summit also saw the launch of the G20 Initiative for Rural Youth Employment in developing countries, particularly those in Africa. The initiative will help to create 1.1 million new jobs by 2022 and provide innovative skills development programmes for at least 5 million young people over the next five years.[4306]

[4301] G20 Food Security and Nutrition Framework, G20 Information Center University of Toronto. Access date: 30 March 2018. http://www.g20.utoronto.ca/2014/g20_food_security_nutrition_framework.pdf

[4302] G20 Action Plan on Food Security and Sustainable Food Systems, G20 Information Center University of Toronto. Access date: 30 March 2018. http://www.g20.utoronto.ca/2015/G20-Action-Plan-on-Food-Security-and-Sustainable-Food-Systems.pdf

[4303] G20 Leaders' Communiqué: Hangzhou Summit, G20 Information Center University of Toronto. Access date: 30 March 2018. http://www.g20.utoronto.ca/2016/160905-communique.html

[4304] G20 Leaders' Declaration: Shaping an Interconnected World, G20 Information Center University of Toronto. Access date: 30 March 2018. http://www.g20.utoronto.ca/2017/2017-G20-leaders-declaration.html

[4305] G20 Leaders' Declaration: Shaping an Interconnected World, G20 Information Center University of Toronto. Access date: 30 March 2018. http://www.g20.utoronto.ca/2017/2017-G20-leaders-declaration.html

[4306] G20 Initiative for Rural Youth Employment: Supporting the "Next Generation" in Rural Development, Agriculture and Food Security in Developing Countries, G20 Information Center University of Toronto. Access date: 30 March 2018. http://www.g20.utoronto.ca/2017/2017-g20-rural-youth-employment.html

Commitment Features

The commitment requires G20 members to promote information and communication technology (ICT) applications and skills in agriculture to strengthen productivity and efficiency in the value chain. Thus, the commitment has two major aspects: 1) the promotion of ICT application in agricultural sector, and 2) ICT-related skills development. To achieve full compliance with this commitment, G20 members must promote ICT application in agriculture and contribute to ICT skills development. Both national and international actions count for compliance.

Part One: ICT Application

To promote ICT application in the agricultural sector, G20 members can: launch different government projects, encourage private companies to conduct research and development programmes in ICT for agriculture, finance programmes to increase internet coverage in rural areas, finance programmes to increase the number of personal computers and other devices in rural areas, and take other steps to promote ICT application in the agricultural sector.

Part Two: ICT Skills Development

To promote ICT skills development the agricultural sector, G20 members can: launch vocational programmes for people living in rural areas, organize special short and long courses in ICT for people living in rural areas, launch educational programmes in rural schools, encourage small farmers to use ICT more actively, provide scholarships for ICT development research in rural areas, and take other steps to promote skills development the agricultural sector.

Scoring Guidelines

−1	G20 member NEITHER promotes application of information and communications technology (ICT) in agriculture, NOR contributes to ICT skills development
0	G20 member EITHER promotes ICT application in agriculture, OR contributes to ICT skills development
+1	G20 member promotes ICT application in agriculture AND contributes to ICT skills development

Argentina: +1

Argentina has fully complied with the commitment on information and communications technology (ICT) applications and skills in agriculture.

On 23 October 2017, the Ministry of Agribusiness launched a new application, Rural Change, that makes it possible to prepare technical reports on tasks, visits, and meetings for agricultural producers from mobile devices. The app is available on the App Store and Google Play.[4307]

On 30 October to 16 November 2017, the Ministry of Agribusiness organized a special mission for seven representatives from Ethiopia, Tanzania, Uganda, Saint Lucia, Antigua, and Barbuda to develop their skills in development and the use of biotechnologies. The delegation visited the Santa

[4307] Cambio Rural lanza nueva aplicación para realizar informes técnicos desde dispositivos móviles. Access date: 18 December 2017.
http://www.agroindustria.gob.ar/sitio/areas/prensa/index.php?accion=noticia&id_info=171023142009.

Rosa Agricultural Experimental Farm in Salta, which develops complex programs concerning genetic improvements of sugarcane with the use of ICT.[4308]

On 7 November 2017, the Ministry of Agribusiness launched the Integrated System of Management of the Argentine Dairy, a new resource for obtaining bank loans. Through the system, Argentinian banks can find information on producers' billing, production, and stock data to facilitate decisions on credit-granting.[4309]

On 9 November 2017, the Ministry of Agribusiness launched the testing of the Electronic Faena Controller System. The system will be obligatory starting from 1 January 2018. The equipment installed in farms will be online and can more efficiently control the number and pace of slaughtered animals.[4310]

On 16 November 2017, Argentina made a global presentation of its agricultural products through Alibaba.com, the biggest online platform in China, to an audience of millions of online visitors. For 24 hours, Alibaba.com provided Argentina with a special web-page to present Argentine agricultural products that are sold online at the Chinese market. The next step will include creating first "Latin American pavilion" at Alibaba.com to increase and diversify the online sales of Argentinian products in China. These activities follow from a prior memorandum of understanding signed the Ministry of Agribusiness and Alibaba.com last year.[4311]

On 23 November 2017, the Ministry of Agribusiness and University of Wageningen co-organized an international seminar on Modern Horticulture: Innovation and Development in Agro-Logistic in the Central Market of Buenos Aires. The event discussed the adaptation of ICT technologies, promotion of fruit and vegetable consumption, and reduction of food losses.[4312]

In December 2017, the Ministry of Agribusiness provided distance training for over 5,000 students from Argentina and 27 other countries representing food manufacturing small and medium-sized enterprises (SMEs).[4313] The courses focus on manufacturing in the food industry, labeling of packaged foods, hazard analysis and critical control point systems, and geographical indications and designations of origin in Argentina. Once all the modules were completed and the exams were satisfactorily completed, an electronic certificate is issued. The distance training aims to support food manufacturing SMEs to train their staff to increase the quality of their products using ICT.

On 7 December 2017, Chief of Staff of the Ministry of Agribusiness Santiago del Solar Dorrego participated in a panel on innovation as an engine of agro-industrial progress within the framework of the Agro 2030: Innovation for Development, organized by the Cabinet of Ministers through the Argentina 2030 Program, National Agricultural Technology Institute, and the Ministries of Science,

[4308] Técnicos de África y el Caribe se capacitaron con expertos nacionales en el desarrollo y uso de la biotecnología. Access date: 18 December 2017.
http://www.agroindustria.gob.ar/sitio/areas/prensa/index.php?accion=noticia&id_info=171116140355.
[4309] Nueva herramienta para mejorar accesibilidad a créditos para el sector lácteo. Access date: 18 December 2017.
http://www.agroindustria.gob.ar/sitio/areas/prensa/index.php?accion=noticia&id_info=171107183210.
[4310] Comenzó la primera etapa del Controlador Electrónico de Faena. Access date: 18 December 2017.
http://www.agroindustria.gob.ar/sitio/areas/prensa/index.php?accion=noticia&id_info=171109153622.
[4311] Argentina presente en el mayor evento de promoción online en China. Access date: 18 December 2017.
http://www.agroindustria.gob.ar/sitio/areas/prensa/index.php?accion=noticia&id_info=171116140051.
[4312] Seminario Internacional "Horticultura Moderna: Innovación y Desarrollo en Agrologística". Access date: 18 December 2017.
http://www.agroindustria.gob.ar/sitio/areas/prensa/index.php?accion=noticia&id_info=171123182944.
[4313] Capacitación a distancia para PyMEs alimentarias. Access date: 18 December 2017.
http://www.agroindustria.gob.ar/sitio/areas/prensa/index.php?accion=noticia&id_info=171214192021.

Technology, and Productive Innovation, and Agribusiness. The event was attended by more than 400 Argentinian and international farmers and experts.[4314]

On 12 December 2017, the Ministry of Agribusiness organized Innovation and Rethinking Agricultural Education Day in Buenos Aires, which drew participation from teachers from rural Buenos Aires schools.[4315] The event aimed to demonstrate agricultural innovative technologies to the educational authorities of the province. The participants discussed topics including the application of electronics and robotics in agriculture, present and future jobs, concepts of production and sustainability, and training of agricultural staff on a constant base to align with sector needs. The day's activities allowed participants to understand the importance of innovation in agriculture.

During the compliance period Argentina has taken actions to promote ICT application in agriculture and contribute to ICT skills development.

Thus, it has been awarded a score of +1.

Analyst: Elizaveta Safonkina

Australia: +1

Australia has fully complied with the commitment on information and communications technology (ICT) applications and skills in agriculture.

On 31 July 2017, the Commonwealth Scientific and Industrial Research Organization and Ruralco, a private agricultural company, announced a partnership to promote digital technologies in agriculture. The parties agreed to support the further implementation of digital solutions such as drones, robotic facilities, and data analytic applications in Australia.[4316]

On 17 November 2017, the Australia-Indonesia Partnership for Promoting Rural Incomes Through Support for Markets in Agriculture was presented. The program uses the market systems development approach to support inclusive economic growth in Indonesia's agriculture, horticulture, livestock and aquaculture sectors. It focuses on introducing ICT in the agricultural sector and bridging skills gaps.[4317]

Australia has taken steps to promote ICT application in agriculture and contributed to ICT skills development.

Thus it receives a score of +1.

Analysts: Alexander Ignatov and Irina Popova

Brazil: 0

Brazil has partially complied with the commitment on information and communications technology (ICT) applications and skills in agriculture.

[4314] Pensando la Agricultura y la Agroindustria al 2030. Access date: 18 December 2017. http://www.agroindustria.gob.ar/sitio/areas/prensa/index.php?accion=noticia&id_info=171207183441.
[4315] Se realizó con éxito la Jornada ¨Innovar y Repensar la Educación Agraria¨. Access date: 18 December 2017. http://www.agroindustria.gob.ar/sitio/areas/prensa/index.php?accion=noticia&id_info=171212101844.
[4316] CSIRO and Ruralco partnership to drive digital farming, CSIRO 31 July 2017. Access date: 28 March 2013. https://www.csiro.au/en/News/News-releases/2017/CSIRO-and-Ruralco-partnership-to-drive-digital-farming)
[4317] Australia-Indonesia Partnership for "Promoting Rural Incomes through Support for Markets in Agriculture", Department of Foreign Affairs and Trade of Australian Govenmnet 17 November 2017. Access date: 28 March 2018. http://dfat.gov.au/about-us/business-opportunities/tenders/Documents/aip-prisma-2-idd-17-nov-2017.pdf

On 4 August 2017, the Governments of Brazil and Pakistan agreed to cooperate in agriculture technology. They also discussed the possibility of cooperation in other key areas including citrus and grape harvest, bio-fuel production, mechanized cotton planting, soybeans processing, and post-harvest technologies. Pakistan and Brazil aspire to benefit from each other's experience in agriculture research, biotechnology, innovation, techniques for increasing per-acre yield, and agro cooperatives.[4318]

On 3 October 2017, the Brazilian Development Bank and Ministry of Science, Technology, Innovation, and Communications presented the results of a study on the Internet of things (IoT): An Action Plan for Brazil. The study will subsidize the development of the IoT National Plan and includes proposals focused health, smart cities, industry, and the rural environment. The Ministry also stated that in rural areas, Brazil will highlight initiatives such as Fazenda Tropical 4.0, which increases the productivity and quality of Brazilian rural production using data that, for example, helps to accurately monitor biological assets.[4319]

On 14 November 2017, the Ministry of Agriculture, Livestock and Food Supply stated their plans to launch an Animal Health app that breeders, authorities, and veterinarians can use to share information on breed health. The app will also offer information, manuals, and health codes issued by both the Government Brazil and World Organization for Animal Health.[4320]

Brazil has taken steps to promote ICT application in agriculture, but hasn't contributed to ICT skills development.

Thus it receives a score of 0.

Analyst: Logvinenko Dmitriy

Canada: +1

Canada has fully complied with the commitment on information and communications technology (ICT) applications and skills in agriculture.

On 21 July 2017, Minister of Agriculture and Agri-Food Lawrence MacAulay reached agreement on the key elements of a new federal, provincial, and territorial agricultural policy framework. The Canadian Agricultural Partnership, a five-year, USD3 billion investment, came into effect on April 1, 2018. Under the Partnership, the Canadian government will target investments with a focus on growing trade and expanding markets, innovative and sustainable growth of the sector, and supporting diversity and a dynamic and evolving agricultural sector.[4321]

On 3 November 2017, Minister MacAulay announced a USD3 million investment in the Canadian Livestock Genetics Association to help exporters develop and expand new markets for Canadian

[4318] Pakistan, Brazil agree to cooperate in agriculture technology, PakistanToday, 4 August 2017, Access Date: 26 December 2017. https://profit.pakistantoday.com.pk/2017/08/04/pakistan-brazil-agree-to-cooperate-in-agriculture-technology/

[4319] BNDES and MCTIC launch a National Study of the Internet of Things (IoT)' BNDES web site, 3 October 2017, Access Date 26 December 2017.
https://www.bndes.gov.br/SiteBNDES/bndes/bndes_en/Institucional/Press/Noticias/2017/20171003_bndes_and_mctic.html

[4320] App will help farmers ensure health of their herds, Portal Brazil 29 November 2017, Access Date: 26 December 2017. http://www.brazilgovnews.gov.br/news/2017/11/app-will-help-farmers-ensure-health-of-their-herds

[4321] New Canadian Agricultural Partnership to Help Position Canada as a Leader in the Global Economy, Government of Canada 21 July 2017. Access date: 19 December 2017. https://www.canada.ca/en/agriculture-agri-food/news/2017/07/new_canadian_agriculturalpartnershiptohelppositioncanadaasaleade.html

livestock genetics. More Canadian livestock will be raised outside of Canada using prized Canadian genetics.[4322]

On 16 November 2017, Parliamentary Secretary to the Minister of Finance and Member of Parliament Joël Lightbound announced up to USD437,562 to the University of Laval for the production of a new version of the Simulovins software, which will facilitate decision-making for sheep farmers and steer them toward the most profitable models and production techniques.[4323]

On 17 November 2017, Minister of Public Services and Procurement Carla Qualtrough announced a USD1.8 million investment in the University of British Columbia to determine carbon sequestration and greenhouse gas emissions and develop beneficial management practices for increasing the efficiency of fertilizer use in blueberry, potato, and forage crops. The project is one of 20 new research projects supported by the USD27 million Agricultural Greenhouse Gases Program, a government partnership with Canadian universities and conservation groups. The program supports research into greenhouse gas mitigation practices and technologies that can be adopted on the farm.[4324]

On 24 November 2017, Member of Parliament Jati Sidhu announced a USD124,000 investment for the British Columbia Agriculture Council to develop a generic risk assessment framework that could be adapted and used by different commodity sectors to identify risks, potential mitigation strategies, and tools for each unique sector. Using feedback from commodity organizations, the project will examine the economic impact of various risks and demonstrate the use of that risk assessment tool on sectors including greenhouse, nursery, cattle, grain, and blueberry.[4325]

On 1 December 2017, Canada launched the ASEAN-Canada Scholarships and Educational Exchanges for Development, a scholarship program for students to study in Canada in areas related to the United Nations Sustainable Development Goals, including climate-smart agriculture, in the Association of Southeast Asian Nations (ASEAN) region.[4326]

On 12 December 2017, Minister of International Trade François-Philippe Champagne and Minister MacAulay announced that Canada signed the Joint Ministerial Statement on Trade in Food and Agricultural Products. The statement re-affirms the central importance of science and risk analysis to protect public health while enabling the safe use of pesticides.[4327]

Canada has taken steps to promote ICT application in agriculture and has contributed to ICT skills development.

[4322] Investing in New Markets for Canadian Livestock Genetics, Cision 3 November 2017. Access date: 4 December 2017. http://www.newswire.ca/news-releases/investing-in-new-markets-for-canadian-livestock-genetics-654959143.html

[4323] Accessible and user-friendly software for improved risk management in the sheep sector, Cision 16 November 2017. Access date: 19 December 2017. http://www.newswire.ca/news-releases/accessible-and-user-friendly-software-for-improved-risk-management-in-the-sheep-sector-658033413.html

[4324] Government of Canada Supports Innovative Research into Sustainable Agriculture, Cision 17 November 2017. Access date: 19 December 2017. https://www.canada.ca/en/agriculture-agri-food/news/2017/11/government_of_canadasupportsinnovativeresearchintosustainableagr0.html

[4325] Helping British Columbia Farmers Identify and Manage Risk, Cision 24 November 2017. Access date: 19 December 2017. http://www.newswire.ca/news-releases/helping-british-columbia-farmers-identify-and-manage-risk-659800903.html

[4326] Canada launches SEED scholarship programme, Borneo Bulletin 1 December 2017. Access date: 4 December 2017. https://borneobulletin.com.bn/canada-launches-seed-scholarship-programme/

[4327] Canada supports agricultural trade at WTO, Global Affairs Canada. Access date: 12 December 2017. https://www.canada.ca/en/global-affairs/news/2017/12/canada_supports_agriculturaltradeatwto.html

Thus, it receives a score of +1.

Analysts: Angelina Belichenko and Uliana Koptukh

China: +1

China has fully complied with the commitment on information and communications technology (ICT) applications and skills in agriculture.

On 10 July 2017, Premier Li Keqiang visited an agricultural high-tech industrial zone in Northwest China's Shaanxi province and encouraged farmers to learn advanced agricultural technology and start their own business. There are now over 80 farmers being trained in the industrial park to become more knowledgeable about starting businesses back in their hometowns.[4328]

On 13 December 2017, the State Council called for more efforts to foster new types of agricultural businesses in China. According to a statement following a State Council meeting chaired by premier Li, projects will be launched to support diverse business entities that integrate different industries and link to the Internet Plus Strategy. Training plans will also be started to cultivate new types of professional farmers to spur entrepreneurship and innovation in rural areas to lift more people out of poverty.[4329]

Also on 13 December 2017, Premier Li stated at a State Council executive meeting that the development of new-type agricultural businesses should rely more on reform and the market rather than on government support such as demonstration bases. At the meeting, the State Council decided to implement projects to cultivate new types of business entities, support businesses featuring industrial integration, diversified operation and Internet Plus, and carry out training projects for professional farmers and rural entrepreneurs.[4330]

China has taken steps to promote ICT application in agriculture and has contributed to ICT skills development.

Thus, it receives a score of +1.

Analyst: Tsvetkova Anna

France: +1

France has fully complied with the commitment on information and communications technology (ICT) applications and skills in agriculture

On 21 September 2017, the Ministry of Agriculture announced that the French Research Institute for the Exploitation of the Sea acquired a new supercomputer, Datarmor. Equipped with computing and storage capacities tenfold compared to the previous possibilities, the supercomputer at the service of

[4328] Premier encourages farmers to innovate, Site of Central People's Government of the People's Republic of China (English version) 10 July 2017. http://english.gov.cn/premier/news/2017/07/10/content_281475719589790.htm
[4329] China stresses modern agriculture development, Xinhua 14 December 2017. http://english.gov.cn/premier/news/2017/12/14/content_281475976104616.htm
[4330] Premier Li urges new-type agricultural businesses to rely more on market, Site of Central People's Government of the People's Republic of China (English version) 20 December 2017. http://english.gov.cn/premier/news/2017/12/20/content_281475983370560.htm

big data in the marine sector aims to accelerate marine research and refine oceanic and fisheries forecasting models.[4331]

On 25 September 2017, Prime Minister Édouard Philippe presented the main points of a EUR57 billion investment plan to be implemented from 2018 to 2022. The plan aims to consolidate the link between public research and private research and encourage risk-taking in sectors like artificial intelligence, big data exploitation, nanotechnology, and cybersecurity. Agriculture, fishing, agri-food, and forestry are considered to be the essential sectors because they contribute positively to the balance of trade and influence of France in the world. France will invest EUR5 billion in these sectors to accelerate the adaptation of tools and practices, better respond to climate challenges, strengthen the competitiveness of these sectors, and support research and innovation.[4332]

On 17 November 2017, the Rural Network Seminar, organized by the Ministry of Agriculture in partnership with the Regional Council of Brittany in Rennes, was attended by more than 150 participants. The seminar discussed the prospects for a rural development policy after 2020 and illustrated the potential of digital technologies for reducing inequalities between territories.[4333]

On 30 November 2017, Minister of Agriculture Stephane Travert travelled to Montpellier to the International Exhibition of Equipment and Know-How for vineyard-wine, olive, and fruit-vegetable production (SITEVI). The Minister also visited a demonstration platform for digital agriculture called The Mas Numérique, which opened on 12 October 2017 in Villeneuve les Maguelone. In Villeneuve les Maguelone, companies in digital agriculture services demonstrate innovative and operational solutions available for farming. The platform, which is actively promoted by the French government, enables agronomists to come together for information, training, and to identify and anticipate digital progress related to their activities.[4334]

On 6 December 2017, Minister Travert attributed awards to several agricultural journalists. In particular, Yannick Groult received a prize for research on digital technologies in the agricultural sector. Without denying the growing importance of these new tools in the everyday routine of farmers, the author highlights that the access to new technologies is still expensive and offers some practical recommendations.[4335]

On 12 December 2017, during the One Planet Summit, France and the European Commission initiated a financing programme of USD650 million to boost the transfer of agronomy innovations on the ground, notably for smallholder famers in developing countries. The initiative is based on the

[4331] Datarmor : supercalculatEURau service du big data marin, Ministère de l'Agriculture et de l'Alimentation 21 September 2017. Access date: 20 December 2017. http://agriculture.gouv.fr/datarmor-supercalculateur-au-service-du-big-data-marin

[4332] Grand Plan d'Investissement: 5 milliards d'euros pour l'agriculture. Site du Ministère de l'Agriculture et de l'Alimentation, 26 September 2017. Access date: 29 November 2017. http://agriculture.gouv.fr/grand-plan-dinvestissement-5-milliards-deuros-pour-lagriculture

[4333] Séminaire du Réseau rural français à Rennes, Ministère de l'Agriculture et de l'Alimentation 17 November 2017. Access date: 20 December 2017. http://agriculture.gouv.fr/seminaire-du-reseau-rural-francais-rennes

[4334] Le Mas numérique : inauguration d'un dispositif au service d'une viticulture connectée, Ministère de l'Agriculture et de l'Alimentation 12 October 2017. Access date: 20 December 2017. http://agriculture.gouv.fr/le-mas-numerique-inauguration-dun-dispositif-au-service-dune-viticulture-connectee

[4335] Presse agricole : Yannick Groult et Marion Coisne reçoivent les prix 2017 de l'AFJA, Ministère de l'Agriculture et de l'Alimentation 06 December 2017. Access date: 20 December 2017. http://agriculture.gouv.fr/seminaire-du-reseau-rural-francais-rennes.

realization that while research in the field of agronomy is producing excellent results, its transfer can sometimes take decades.[4336]

France has taken steps to promote ICT application in agriculture and has contributed to ICT skills development.

Thus, it receives a score of +1.

Analysts: Ekaterina Rosolovskaya and Anastasiia Shkrebo

Germany: +1

Germany has fully complied with the commitment on information and communications technology (ICT) applications and skills in agriculture.

On 20 July 2017, the Ministry of Food and Agriculture (BMEL) organized a conference with politicians, economists, and civil society representatives to discuss the implementation of information technology in agriculture to maintain competitiveness in the industry.[4337]

On 17 August 2017, BMEL published the Programme for the Future Digital Policy in Agriculture. The programme states that new technologies in agriculture require a high level of qualification and ICT skills.[4338]

On 29 November 2017, the Thünen Institut für Ländliche Räume, which is financed by BMEL, created a diverse databank called Agrar GIS for land use. All information concerning the regions, digital landscape models, soil, natural conservation areas, and climate is combined in a large set of digital data with maps and statistics.[4339]

On 14 December 2017, BMEL decided to invest EUR1.5 million in agricultural research to find out how to apply the available satellite data for agricultural planning.[4340]

Germany has taken steps to promote ICT application in agriculture and has contributed to ICT skills development.

Thus, it receives a score of +1.

Analysts: Dariia Evreeva and and Alyona Zhogol

[4336] 12 International Commitments: One Planet Summit. France Diplomatie, 12 December 2017. Access date: 1 December 2017. https://www.diplomatie.gouv.fr/IMG/pdf/oneplanetsummit-dp-engagements-en_cle88d5e4.pdf
[4337] Schmidt: Breitband gehört zur Grundversorgung, Bundesministerium für Ernährung und Landwirtschaft 20 July 2017. Access date: 15 December 2017. https://www.bmel.de/SharedDocs/Pressemitteilungen/2017/063-Digitalisierung.html.
[4338] 12 International Commitments: One Planet Summit. France Diplomatie, 12 December 2017. Access date: 1 December 2017. https://www.diplomatie.gouv.fr/IMG/pdf/oneplanetsummit-dp-engagements-en_cle88d5e4.pdf
[4339] Das Thünen-Agrar-GIS - eine georeferenzierte Datenbank mit Informationen zur Landnutzung in Deutschland, Bundesministerium für Ernährung und Landwirtschaft 29 November 2017. Access date: 19 December 2017. https://www.bmel.de/DE/Landwirtschaft/Pflanzenbau/Boden/_Texte/ThuenenAgrarGIS.html.
[4340] Satellitengestützte Information zur Grünlandbewirtschaftung (SattGrün), Bundesministerium für Ernährung und Landwirtschaft 14 December 2017. Access date: 19 December 2017. https://www.bmel.de/SharedDocs/Pressemitteilungen/2017/107-Grünlandbewirtschaftung.html.

India: +1

India has fully complied with the commitment on information and communications technology (ICT) applications and skills in agriculture.

As of 31 October 2017, 470 Mandis across 14 states were integrated in the National Agriculture Market (e-NAM). 90 commodities are also being traded on a pan-India electronic trading portal launched by Ministry of Agriculture and Farmers' Welfare to facilitate farmers, traders, buyers, exporters, and processors with a common platform for trading commodities.[4341]

On 3 December 2017, the Government of India increased the budget of Agricultural Education by 47.4 per cent this financial year, compared to 2013-2014.[4342] One of the major goals of the Agricultural Education programme is to facilitate the necessary skills development for further introduction of modern technologies (information technology (IT) among most important) to the sector.

On 3 December 2017, the Minister of Agriculture stated that in order to adopt quality and holistic approaches to higher agricultural education, the Fifth Dean Committee Report was implemented in all agricultural universities. The goal is to provide adequate strengthening of agricultural education to maximize the use of advanced IT technologies., .[4343]

India has taken steps to promote ICT application in agriculture and has contributed to ICT skills development.

Thus, it receives a score of +1.

Analyst: Polina Shtanko

Indonesia: +1

Indonesia has fully complied with the commitment on information and communications technology (ICT) applications and skills in agriculture.

In August 2017, the Government of Indonesia adopted the 2017-2019 Roadmap for the National Electronic Commerce System. There are eight major components to the roadmap: funding, taxation, consumer protection, education and human resources, communication infrastructure, logistics, cybersecurity, and the implementing organization. These components cover the agricultural sector, among others.[4344]

On 17 November 2017, the Australia-Indonesia Partnership for Promoting Rural Incomes Through Support for Markets in Agriculture"was presented. The program will use the market systems development approach to support inclusive economic growth in Indonesia's agriculture, horticulture,

[4341] National agriculture market, Small Farmers' Agribusiness Consortium, Department of Agriculture, Cooperation & Farmers' Welfare, Ministry of Agriculture and Farmers' Welfare, Government of India 31 October 2017. Access date: 31 October 2017. http://www.enam.gov.in/NAM/home/faq.html#

[4342] Centre increases the agricultural education budget this year by 47.4 percent as compared to the financial year 2013-14: Agriculture Minister, Press Information Bureau Government of India Ministry of Agriculture 3 December 2017. Access date: 3 December 2017. http://pib.nic.in/newsite/PrintRelease.aspx?relid=174064

[4343] Centre increases the agricultural education budget this year by 47.4 percent as compared to the financial year 2013-14: Agriculture Minister, Press Information Bureau Government of India Ministry of Agriculture 3 December 2017. Access date: 3 December 2017. http://pib.nic.in/newsite/PrintRelease.aspx?relid=174064

[4344] Roadmap for the National Electronic Commerce System for 2017 — 2019, American Chamber of Commerce in Indonesia. Access date: 28 March 2018. http://www.amcham.or.id/images/Roadmap.pdf

livestock, and aquaculture sectors. The partnership focuses on the introduction of ICT in agricultural sector and bridging skills gaps.[4345]

On 21 November 2017, the Ministry of Communications and Information set a target to get 1 million fishermen and farmers online by 2019 to increase their market access. To reach the target, the Ministry will work with the Ministry of Maritime Affairs and Fisheries Ministry and start-up businesses.

Indonesia has taken steps to promote ICT application in agriculture and has contributed to ICT skills development.

Thus, it receives a score of +1.

Analyst: Irina Popova

Italy: +1

Italy has fully complied with the commitment on information and communications technology (ICT) applications and skills in agriculture.

On 22 December 2017, the Ministry of Agriculture, Food and Forestry Policies issued decree No. 33671, approving the Guidelines for the Development of Precision Agriculture in Italy.[4346] The guidelines provide for the comprehensive introduction and integration of ICT in national agricultural management systems, as well as education and skills development in this sector.[4347]

On 29 December 2017, the Ministry of Agriculture, Food and Forestry Policies announced the allocation of EUR500,000 for innovative agricultural projects in accordance with previously introduced legislation on food waste reduction. One of the projects, NetFood or Networking for Food Challenge, provides for the creation of an information platform for accounting, distribution, and utilization of surplus agricultural products. The project will receive up to EUR50,000 in financing from the Italian government.[4348]

Italy has taken actions to promote ICT application and ICT related skills development in agricultural sector.

Thus, Italy receives a score of +1.

Analyst: Andrei Sakharov

[4345] Australia-Indonesia Partnership for "Promoting Rural Incomes through Support for Markets in Agriculture", Department of Foreign Affairs and Trade of Australian Govenmnet 17 November 2017. Access date: 28 March 2018. http://dfat.gov.au/about-us/business-opportunities/tenders/Documents/aip-prisma-2-idd-17-nov-2017.pdf

[4346] Prot. DG DISR n. 33671 del 22/12/2017, Italian Ministry of Agricultural, Food and Forestry Policies 22 December 2017. Access date: 28 March 2018. https://www.politicheagricole.it/flex/cm/pages/ServeAttachment.php/L/IT/D/2%252F5%252F4%252FD.a478e4163e1e38fcda2f/P/BLOB%3AID%3D12069/E/pdf.

[4347] Linee Guida per lo Sviluppo Dell'agricoltura di Precisione In Italia, Italian Ministry of Agricultural, Food and Forestry Policies 22 December 2015. Access date: 28 March 2018. https://www.politicheagricole.it/flex/cm/pages/ServeAttachment.php/L/IT/D/f%252F2%252Ff%252FD.908249e56b5ec6753a1f/P/BLOB%3AID%3D12069/E/pdf.

[4348] Assegnati 500 mila euro per finanziare progetti innovativi contro lo spreco alimentare, Italian Ministry of Agricultural, Food and Forestry Policies 29 December 2017. Access date: 28 March 2018. https://www.politicheagricole.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/12088.

Japan: +1

Japan has fully complied with the commitment on information and communications technology (ICT) applications and skills in agriculture.

On 29 August 2017, it was reported Japan's major telecom operator NTT Docomo Inc (30% of the shares are owned by the Government). would launch a service available via smartphones to provide aquaculture operators with sea data, including water temperatures, collected with the use of special buoys equipped with information and communications technologies; the service is expected to be used widely by fisheries cooperatives others across the country for reinvigorating the industry, helping sea farmers to better prepare for their work and save time going out to sea for checking water conditions.[4349]

On 18 December 2017, the Japan International Cooperation Agency signed a grant agreement with the Government of the Arab Republic of Egypt to provide grant aid of up to JPY993 million for the Project for Procurement of Education and Research Equipment for the Faculty of Engineering of Egypt-Japan University of Science and Technology Borg El Arab, Alexandria Governorate.[4350]

Japan has taken steps to promote ICT application in agriculture, and has contributed to ICT skills development.

Thus, Japan has received a score of +1.

Analyst: Pavel Doronin

Korea: 0

Korea has partially complied with the commitment on information and communications technology (ICT) applications and skills in agriculture.

From 11-13 October 2017, the Ministry of Science and ICT of the Republic of Korea in cooperation with the Korea IoT Association (Internet of Things Association) hosted the IoT Korea Exhibition 2017. The key exhibits on the margins of the event were devoted to the IoT application in various spheres including manufacturing, home appliances, health and medical care, energy and also in agriculture, aquafarm environment, livestock management services, etc.[4351]

Korea promoted ICT application in agriculture and but no actions on ICT skills development were found during compliance period.

Thus, Korea has received a score of 0.

Analyst: Alexander Ignatov

Mexico: +1

Mexico has fully complied with the commitment on ICT applications and skills in agriculture.

[4349] NTT Docomo to launch data service for aquaculture farmers, Japan Times 29 August 2017. Access date: 10 January 2018. https://www.japantimes.co.jp/news/2017/08/29/business/ntt-docomo-launch-data-service-aquaculture-farmers/#.WlSiJ1Vl-pp

[4350] Signing of Grant Agreement with Egypt: Strengthening practical education at the Egypt-Japan University of Science and Technology through the provision of education and research equipment, Japan International Cooperation Agency 22 December 2017. Access date: 10 January 2018. https://www.jica.go.jp/english/news/press/2017/171222_01.html

[4351] IoT Korea Exhibition & International Conference 2017. Access date: 20 December 2017. URL: http://www.iotkorea.or.kr/2017/eng/index.asp#

On 5 September 2017, the first Agrotechnology, Energy and Social Entrepreneurship Forum was held at the Tecnológico de Monterrey Campus Santa Fe, organized by the Capitalization and Investment Fund of the Rural Sector (FOCIR) (a government body) and the EGADE Business School of Tecnológico de Monterrey. The aim of the forum was to promote the ICT application in the agricultural sector as well as to discuss the entrepreneurial skills needed to develop the technologies for the agriculture.[4352]

On 17 November 2017, FOCIR participated in the panel "Agritech: Innovation For Food of The Future" where the representatives of the fund presented the information regarding the use of technology and innovation to incorporate added value in agriculture, livestock, forestry, fishing and aquaculture, among others.[4353]

On 13 December 2017, the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food signed a collaboration agreement with the Universidad Tecnológica de Oriental with the objective of promoting technical assistance and training for agricultural producers who are members of the Livestock and Agricultural Product Systems Committees. The agreement is intended to increase the competitiveness of each of the producers that make up the various links in the production chains.[4354]

On 16 February 2018, during the First Regular Session of FOCIR in 2018 the launch of the Capital Investment Fund in Agribusiness 4 was authorized by the government, with an investment objective of MXP1,000 million.[4355]

Mexico has taken steps to promote ICT application in agriculture, and has contributed to ICT skills development.

Thus, Mexico has received a score of +1.

Analyst: Irina Popova

Russia: +1

Russia has fully complied with the commitment on information and communications technology (ICT) applications and skills in agriculture.

On 25 August 2017, the Government of the Russian Federation approved the Federal program of scientific and technical development of agriculture in Russia for 2017-2025.[4356] The program is

[4352]Se llevó a cabo el Primer Foro de Agrotecnología, Energía y Emprendimiento Social, Government of Mexico 7 September 2017. Access date: 30 March 2018. https://www.gob.mx/focir/es/articulos/se-llevo-a-cabo-el-primer-foro-de-agrotecnologia-energia-y-emprendimiento-social?idiom=es

[4353] FOCIR participará en la 5ª Edición del Festival de Emprendimiento INCmty 2017, Government of Mexico 9 November 2017. Access date: 30 March 2018. https://www.gob.mx/focir/articulos/focir-participara-en-la-5-edicion-del-festival-de-emprendimiento-incmty-2017?idiom=es

[4354] Firma convenio de colaboración SAGARPA y la Universidad Tecnológica de Oriental, Government of Mexico13 December 2017. Access date: 30 March 2018. https://www.gob.mx/sagarpa/tlaxcala/articulos/firma-convenio-de-colaboracion-sagarpa-y-la-universidad-tecnologica-de-oriental?idiom=es

[4355] lanzamiento del Fondo de Inversión de Capital en Agronegocios 4, Government of Mexico 7 September 2017. Access date: 30 March 2018. https://www.gob.mx/focir/archivo/articulos?idiom=es

[4356] Federal program of scientific and technical development of agriculture in Russia for 2017-2025. Access date: 10 January 2018. http://government.ru/docs/29004/

focused on further stable growth of agricultural production and enhancing national food security by means of incorporation of advance sciences into process of production.[4357]

On 24 November 2017, Igor Kozubenko, the Director of Department of Development and Management of Public and Information Resources of the Agricultural Sector of the Ministry of Agriculture of the Russian Federation took part in a business meeting with his German counterparts on the margins of the XVI Forum "Peterburgsky Dialog" in Berlin.[4358] The meeting was devoted to bilateral exchanges of technologies and expertise in the sphere of information technology in agriculture.[4359]

On 15 December 2017, the Ministry of Agriculture of the Russian Federation and the Russian Academy of Sciences signed a mutual cooperation agreement.[4360] The two institutions look forward to establishing closer ties to promote wider use of high-tech innovations in agriculture including better staff skill training, economic expertise and general academic support.[4361]

Russia has promoted ICT application in agriculture and contributed to ICT skills development.

Thus, Russia has received a score of +1.

Analyst: Alexander Ignatov

Saudi Arabia: −1

Saudi Arabia has not complied with the commitment on information and communications technology (ICT) applications and skills in agriculture.

On 17 October 2017, within the framework of the project "Innovate, Disrupt and Transform" Saudi Arabia held the International Data Corporation IT Forum." It attracted more than 1500 high-level information technology managers to the events held in the Middle East and Africa in 2017. Among the topics participants discussed the application of IT and other innovations in agricultural sector.[4362]

Saudi Arabia has taken no steps to promote ICT application in agriculture, and has not contributed to ICT skills development in this sphere.

Thus, Saudi Arabia has received a score of −1.

Analyst: Manuchekhr Mukhammedov

[4357] Federal program of scientific and technical development of agriculture in Russia for 2017-2025. Access date: 10 January 2018. http://government.ru/docs/29004/

[4358] Igor Kozubenko took part in the XVI Forum "Peterburgsky Dialog" in Berlin. Access date: 10 January 2018. URL: http://mcx.ru/press-service/news/igor-kozubenko-prinyal-uchastie-v-khvi-forume-peterburgskiy-dialog-2017-v-berline/

[4359] Igor Kozubenko took part in the XVI Forum "Peterburgsky Dialog" in Berlin. Access date: 10 January 2018. URL: http://mcx.ru/press-service/news/igor-kozubenko-prinyal-uchastie-v-khvi-forume-peterburgskiy-dialog-2017-v-berline/

[4360] The minister of agriculture and the President of Russian Academy of Sciences signed a mutual cooperation agreement. Access date: 10 January 2018. URL: http://mcx.ru/press-service/news/minselkhoz-rossii-i-ran-podpisali-soglashenie-o-sotrudnichestve/

[4361] The minister of agriculture and the President of Russian Academy of Sciences signed a mutual cooperation agreement. Access date: 10 January 2018. URL: http://mcx.ru/press-service/news/minselkhoz-rossii-i-ran-podpisali-soglashenie-o-sotrudnichestve/

[4362] ICT Experts to Explore Saudi Arabia's Digital Transformation Landscape at IDC's 'IT Forum 2017' in Jeddah & Riyadh, IDC Analyze the future 10 October 2017. Access date: …
URL:https://www.idc.com/getdoc.jsp?containerId=prCEMA43146217

South Africa: 0

South Africa has partially complied with the commitment on information and communications technology (ICT) applications and skills in agriculture.

On 1 December 2017, Business Connexion Group, a full-subsidiary of the Telecom SOP (a state-controlled, digital industrial company) announced its intention to provide end-to-end digital technology for agri-processing needs.[4363]The product was named "The Digital Farm" and will allow the fulfilling of various tasks in the agricultural process.[4364]

South Africa has taken steps to promote ICT application in agriculture, but has not contributed to ICT skills development in this sphere.

Thus, South Africa has received a score of 0.

Analyst: Alexander Ignatov

Turkey: −1

Turkey has not complied with the commitment on information and communications technology (ICT) applications and skills in agriculture.

Turkey's Ministry of Food, Agriculture and Livestock Strategic Plan for 2013-2017 prioritizes (among other things):

- Development of the Agricultural Parcel Information System to collect agricultural data under one system and to ensure easy access. Based on the analysis of the agricultural data, it is also planned to determine the development indices of villages and districts, conduct their needs analyses and adopt respective support measures for agriculture development;[4365]
- Establishment of agribusiness Marketing Information System;[4366]
- Enhancement of the efficiency of Farm Accounting Data Network System, and Geographical Information Systems and remote sensing technologies;[4367]
- Activation of local resources in rural areas through trainings.[4368]

The Strategic Plan also highlights a number of ICT-related performance indicators, namely:[4369]

[4363] BCX, GE co-creates Digital Farm solution tailored for SA and African agriculture. Access date: 11 December 2017. URL: http://www.bizcommunity.com/Article/196/707/170663.html
[4364] BCX, GE co-creates Digital Farm solution tailored for SA and African agriculture. Access date: 11 December 2017. URL: http://www.bizcommunity.com/Article/196/707/170663.html
[4365] Strategic Plan for 2013-2017, Turkey's Ministry of Food, Agriculture and Livestock 2015. Access date: 15 January 2018. https://www.tarim.gov.tr/SGB/Belgeler/Stratejik%20Plan%202013-17-EN.pdf
[4366] Strategic Plan for 2013-2017, Turkey's Ministry of Food, Agriculture and Livestock 2015. Access date: 15 January 2018. https://www.tarim.gov.tr/SGB/Belgeler/Stratejik%20Plan%202013-17-EN.pdf
[4367] Strategic Plan for 2013-2017, Turkey's Ministry of Food, Agriculture and Livestock 2015. Access date: 15 January 2018. https://www.tarim.gov.tr/SGB/Belgeler/Stratejik%20Plan%202013-17-EN.pdf
[4368] Strategic Plan for 2013-2017, Turkey's Ministry of Food, Agriculture and Livestock 2015. Access date: 15 January 2018. https://www.tarim.gov.tr/SGB/Belgeler/Stratejik%20Plan%202013-17-EN.pdf
[4369] Strategic Plan for 2013-2017, Turkey's Ministry of Food, Agriculture and Livestock 2015. Access date: 15 January 2018. https://www.tarim.gov.tr/SGB/Belgeler/Stratejik%20Plan%202013-17-EN.pdf

- With respect to food safety and security — the number of fishing vessels covered by remote sensing Vessel Monitoring System (inspection, control, data collection);

- With respect to development of agricultural infrastructure services — total area with land use planning, total area on which detailed soil surveys are performed, and ratio of registered/defined plots;

- With respect to utilizing products on-site and increasing their added value — completion rate of the marketing information system (per cent);

- With respect to increasing living standards in rural areas and ensuring rural development — the number of beneficiaries trained, certified, and authorized (persons), the number of enterprises receiving agricultural consultancy services, the number of enterprises covered by the Farm Accounting Data Network System.

However, no actions were found during compliance period.

Turkey has taken no steps to promote ICT application in agriculture, and has not contributed to ICT skills development in this sphere during the compliance period.

Thus, Turkey has received a score of −1.

Analyst: Pavel Doronin

United Kingdom: +1

The United Kingdom has fully complied with the commitment on information and communications technology (ICT) applications and skills in agriculture.

On 29 July 2017, the UK announced funding for rural businesses.[4370] Funding will be available to support new rural broadband projects, and provide significant amounts of funding to on-farm businesses to invest in new infrastructure such as new buildings and machinery.[4371]

On 7 February 2018, Farming Minister George Eustice announced new GBP60 million grants scheme where farmers can bid for cash to buy new farm equipment.[4372] Farmers can apply online to the Countryside Productivity Small Grant Scheme, requesting a grant between GBP3,000 and GBP12,000 towards the costs of farm equipment.[4373]

On 16 February 2018, the Association of Public Analysts Educational Trust and the Government Chemist Programme in British company LGC organized an annual Royal Society of Chemistry-

[4370] GBP200 million boost for rural England, Government of the United Kingdom 29 July 2017. Access date: 28 March 2018. https://www.gov.uk/government/news/200-million-boost-for-rural-england
[4371] GBP200 million boost for rural England, Government of the United Kingdom 29 July 2017. Access date: 28 March 2018. https://www.gov.uk/government/news/200-million-boost-for-rural-england
[4372] GBP60m farming productivity fund launched at Dairy-Tech, Government of the Unitaed Kingdom 8 February 2018. Access date: 28 March 2018. https://www.gov.uk/government/news/60m-farming-productivity-fund-launched-at-dairy-tech
[4373] GBP60m farming productivity fund launched at Dairy-Tech, Government of the Unitaed Kingdom 8 February 2018. Access date: 28 March 2018. https://www.gov.uk/government/news/60m-farming-productivity-fund-launched-at-dairy-tech

approved, fully residential week long postgraduate course on the analysis and examination of food and feed. The course will take place from 16 to 20 April 2018.[4374]

The United Kingdom has promoted ICT application in agriculture and contributes to ICT skills development.

Thus, the UK has received a score of +1.

Analyst: Irina Popova

United States: +1

The United States has fully complied with the commitment on information and communications technology (ICT) applications and skills in agriculture.

On 24 July 2017, the US government agency Agricultural Research Service announced that its engineers created a sensor network that monitors temperatures and humidity levels inside the semitrailers and the kernel moisture content.[4375] A weather station also tracks outdoor air temperatures, humidity levels and wind speed—which all can affect the peanut drying rate.[4376]

On 23 October 2017, the Agricultural Research Service launched a newly designed website that improves access to information about its research.[4377] The new site features mobile responsiveness allowing users to better navigate and view information on both mobile and desktop devices.[4378]

On 23 August 2017, US Secretary of Agriculture Sonny Perdue unveiled a new mobile application for Apple and Android devices to provide Executive Branch employees answers to questions about government ethics issues.[4379] The US Department of Agriculture (USDA) Ethics App is the first of its kind in the federal government and reaffirms Perdue's commitment to applying President Trump's government-wide ethics standards to the department.[4380]

[4374] GC offers APA validated postgraduate residential course, Government of the United Kingdom 16 February 2018. Access date: 28 march 2018. https://www.gov.uk/government/news/gc-offers-apa-validated-postgraduate-residential-course

[4375] New Sensor System for Improved Peanut Drying, USDA. Access date: 24 July 2017. https://www.ars.usda.gov/news-events/news/research-news/2017/new-sensor-system-for-improved-peanut-drying/

[4376] New Sensor System for Improved Peanut Drying, USDA. Access date: 24 July 2017. https://www.ars.usda.gov/news-events/news/research-news/2017/new-sensor-system-for-improved-peanut-drying/

[4377] New ARS Website Enhances Access to Scientific Information, USDA. Access date: 23 October 2017. https://www.ars.usda.gov/news-events/news/research-news/2017/new-ars-website-enhances-access-to-scientific-information/

[4378] New ARS Website Enhances Access to Scientific Information, USDA. Access date: 23 October 2017. https://www.ars.usda.gov/news-events/news/research-news/2017/new-ars-website-enhances-access-to-scientific-information/

[4379] Perdue Unveils New USDA Ethics App for Executive Branch Employees, USDA. Access date: 23 August 2017. https://www.usda.gov/media/press-releases/2017/08/23/perdue-unveils-new-usda-ethics-app-executive-branch-employees

[4380] Perdue Unveils New USDA Ethics App for Executive Branch Employees, USDA. Access date: 23 August 2017. https://www.usda.gov/media/press-releases/2017/08/23/perdue-unveils-new-usda-ethics-app-executive-branch-employees

On 6 November 2017, Assistant to the Secretary for Rural Development Anne Hazlett announced that USDA invested more than USD200 million in infrastructure projects to bring broadband to hundreds of unserved and underserved rural communities.[4381]

On 14 December 2017, the USDA introduced its new information technology operating model to increase efficiency in serving its customers.[4382]

On 13 December 2017, the Agricultural Research Service announced that its scientists are saving water in California's vineyards by using satellite data and computer models to better manage water resources.[4383]

On 18 December 2017, Agricultural Research Service announced that its scientists and collaborators are using 3-D imaging to protect newborn piglets by monitoring adult female pigs' behavior.[4384]

The United States promotes ICT application in agriculture and contributes to ICT skills development.

Thus, the US has received a score of +1.

Analyst: Svetlana Shapovalova

European Union: 0

The European Union has partially complied with the commitment on information and communications technology (ICT) applications and skills in agriculture.

On 24 November 2017, ICT-AGRI Conference on ICT and Robotics for a Sustainable Agriculture was held in Copenhagen, Denmark as a ERA-NET (instrument designed to support public-public partnerships in their preparation, establishment of networking structures, design, implementation and coordination of joint activities as well as topping up of single joint calls and of actions of a transnational nature) activity. One of the Projects approved during the conference is the project "ICT and Automation for Low Input & Reduced Traffic Agriculture in Irregular Sloped Pastures." It targeted to implement a pilot project to increase animal production and accelerate rural socio-economic development by precision (low input & reduced traffic) fertilization of irregular sloped mountainous pastures by using ICT and automation. The Project is expected to start on 1 January 2018.[4385]

On 27 October 2017, the European Commission launched the Horizon 2020 Work Programme 2018-2020.[4386] With the Investment of EUR1.3 billion this Programme responded to some key global

[4381] USDA Invests in Broadband Infrastructure in Unserved and Underserved Rural Areas, USDA. Access date: 6 November 2017. https://www.usda.gov/media/press-releases/2017/11/06/usda-invests-broadband-infrastructure-unserved-and-underserved

[4382] USDA Announces New IT Operating Model, USDA. Access date: 14 December 2017. https://www.usda.gov/media/press-releases/2017/12/14/usda-announces-new-it-operating-model

[4383] Bringing Space Technology to Water Needs in California Vineyards. Access date: 13 December 2017. https://www.ars.usda.gov/news-events/news/research-news/2017/bringing-space-technology-to-water-needs-in-california-vineyards/

[4384] High-Tech Camera Helps Protect Sows and Piglets. Access date: 18 December 2017. https://www.ars.usda.gov/news-events/news/research-news/2017/high-tech-camera-helps-protect-sows-and-piglets/

[4385] ICT and Automation for Low Input and Reduced Traffic Agriculture in Irregular Sloped Pastures, ICT-AGRI era-net 24 November 2017. Access date: 30 November 2017. http://ict-agri.eu/node/38664.

[4386] Horizon 2020 Work Programme 2018-2020, Food security, sustainable agriculture and forestry, marine, maritime and inland water research and the bioeconomy, European Commission 27 October 2017. Access date: 30 November 2017. http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-food_en.pdf.

challenges, including ensuring food security and agricultural development.[4387] The program listed a number of projects to be launched, among which are:

a) European Joint Programme on agricultural soil management that suggested developing new ICT tools, this could help farmers to protect and manage soils in line with current scientific understanding of processes;[4388]

b) ERANETs in agri-food, which stated that ICT-enabled agri-food systems should be introduced in agriculture. The agri-food sector needs to take more advantage of the potential of digital technologies. Relevant technologies may include Internet of Things, Artificial Intelligence, Big Data technologies, remote and localized sensing;[4389]

c) Blue Bioeconomy Public-Public Partnership that suggested addressing research and innovation gaps such as achieving zero waste by optimizing the use of underutilized and waste material from fisheries and aquaculture and apply biotechnology and ICT in the blue bioeconomy.[4390]

d) ICT Innovation for agriculture — Digital Innovation Hubs for Agriculture that called for promoting Digital Innovation Hubs in agriculture. It shall address the adoption of ICT-based solutions for more productive and sustainable agriculture systems. The expected impact of this project includes attracting a significant number of new users of ICT in the agricultural sector and creating a critical mass of pan-European experiments that explore new application areas for ICT in agriculture in general.[4391]

On 11 October 2017, the Agri-Innovation Summit started in Lisbon, Portugal. One of the aims of the summit was to provide a platform for a stimulating debate on innovation and digitization in agriculture and rural areas, now and after 2020. The AIS 2017 was a joint initiative of a Portuguese consortium, the Portuguese Government, the EIP-AGRI network and the European Network for Rural Development. [4392] It gathered around 500 farmers, rural businesses, startups, Rural Development Programmes managing authorities, national rural networks, Horizon 2020 multi-actor projects, LEADER Local Action Groups, advisors and non-governmental organizations throughout the EU with the aim of raising awareness about innovation and digitization (ICT introduction)

[4387] Horizon 2020 Work Programme 2018-2020, Food security, sustainable agriculture and forestry, marine, maritime and inland water research and the bioeconomy, European Commission 27 October 2017. Access date: 30 November 2017. http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-food_en.pdf.
[4388] Horizon 2020 Work Programme 2018-2020, Food security, sustainable agriculture and forestry, marine, maritime and inland water research and the bioeconomy, European Commission 27 October 2017. Access date: 30 November 2017. http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-food_en.pdf.
[4389] Horizon 2020 Work Programme 2018-2020, Food security, sustainable agriculture and forestry, marine, maritime and inland water research and the bioeconomy, European Commission 27 October 2017. Access date: 30 November 2017. http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-food_en.pdf.
[4390] Horizon 2020 Work Programme 2018-2020, Food security, sustainable agriculture and forestry, marine, maritime and inland water research and the bioeconomy, European Commission 27 October 2017. Access date: 30 November 2017. http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-food_en.pdf.
[4391] Horizon 2020 Work Programme 2018-2020, Food security, sustainable agriculture and forestry, marine, maritime and inland water research and the bioeconomy, European Commission 27 October 2017. Access date: 30 November 2017. http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-food_en.pdf.
[4392] Agri-Innovation Summit Lisbon 2017, European Commission 12 October 2017. Access date: 19 December 2017. http://ec.europa.eu/programmes/horizon2020/en/news/agri-innovation-summit-lisbon-2017

opportunities for agriculture and rural economies and how these may be supported under on-going Rural Development Programmes among other agendas.[4393]

On 29 November 2017, the European Commission prepared a report about the further development of common agricultural policy after 2020. The report underlined the importance of digitalization and technological development within the agricultural policy.[4394]

The European Union promotes ICT application in agriculture and contributes to ICT skills development.

Thus, the EU has received a score of +1.

Analyst: Karina Khasanova

[4393] Agri-Innovation Summit Lisbon 2017, European Commission 12 October 2017. Access date: 19 December 2017. http://ec.europa.eu/programmes/horizon2020/en/news/agri-innovation-summit-lisbon-2017

[4394] Schmidt: Diskussion zur zukünftigen GAP nimmt Fahrt auf!, Bundesministerium für Ernährung und Landwirtschaft 29 November 2017. Access date: 19 December 2017. https://www.bmel.de/SharedDocs/Pressemitteilungen/2017/104-GAP.html.