CAPSELLA

COLLECTIVE AWARENESS PLATFORMS FOR ENVIRONMENTALLY-SOUND LAND MANAGEMENT BASED ON DATA TECHNOLOGIES AND AGROBIODIVERSITY

Deliverable 2.3

Outcomes of the CAPSELLA Workshop on open data from collective intelligence platforms and open social media

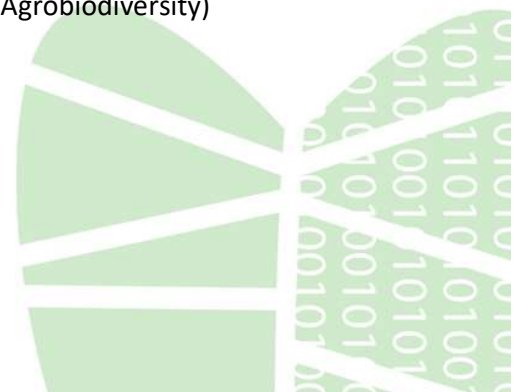|	
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Executive Summary

The CAPSELLA Open Data workshop, which was held in Chania Greece, and organized by Agroknow, targeted at connecting the CAPSELLA project with global networks and initiatives of the agri-food sector towards adopting best practices from these networks and initiatives. The workshop was built upon three main sessions, namely (a) Session I – An Open Science Infrastructure for Europe, (b) Session II – Big Data Processing & Visualisation for Agricultural Sciences and (c) Session III – Global Partnerships and Networks. Prior to the sessions, the keynote that was presented by Paul Stacey, from Creative Commons, kicked off the workshop by emphasizing on the importance of building sustainable business models based on commons. In this context, the presentations that followed articulated on the perspective of a centralized European scientific infrastructure that makes use of various technological assets in order to give value to open data and, consequently, create tools for farmers and other stakeholders. Collective knowledge should be connected with all parts of the agrobiodiversity value chain, from researchers to farmers and beyond – and CAPSELLA can contribute to that vision, following the examples of successful agri-food global networks and initiatives.

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1. Scope of the event

The project organized an open workshop with presentations about global agri-food data initiatives & networks. The workshop has been held in Chania, Greece on Friday, June the 2nd 2017 and it was one of the main outcomes of the Task 2.4 "*Liaisons and dissemination through global open data initiatives for agriculture, food & the environment*", which Agroknow is leading according to the project DoA.

The scope of this workshop was to connect the project activities with global open agri-food data initiatives and networks enabling information exchange with these networks and initiatives and towards facilitating adoption by the project of best practices from them. For the consortium it is important to liaise with major initiatives related to open data for sustainability, not only for information exchange, but also for bringing into the project a strategic perspective and best practices for possible adoption, as well as to promote it in the global open data ecosystem. Additionally, the workshop was an excellent opportunity to discuss and exchange experiences on addressing the CAPSELLA community challenges, while investigating strategic partnerships with European and global agri-food data stakeholders. More specifically, one of the key targets of the project is to position within the key European initiative, namely the European Cloud Initiative[1] and during the workshop initial liaisons with relevant European initiatives have been achieved. Moreover, during the workshop a panel has been planned, entitled: "From global challenges to local ones: Linking Communities around the world", where the panellists discussed with workshop's participants about how agricultural innovation and open data can facilitate the connection of global challenges (such as feeding the increasing population of the planet) with local challenges coming from farmers communities. This was a very important debate on how to connect and align challenges produced from top-down approaches with challenges produced from bottom-up approaches.

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[1] https://ec.europa.eu/digital-single-market/en/%20european-cloud-initiative

2. Overview and facts

The Open Data Workshop was held in the premises of Chania Sailing Club in the island of Crete, Greece. Agroknow organised for second consecutive year an annual event entitled "Open Harvest". This event brings together key stakeholders of the global agri-food open data ecosystem. This year's theme was: "*Building a global scientific data commons for agriculture and food*" and among the participants were representatives of global organisations focusing on agricultural research, open data and data sharing. The outcome of Open Harvest 2017 was the 2nd Chania Declaration[2], which was a call to action for all organisations that were present. This declaration is paving the path for addressing grand challenges in the agri-food chain by combining data with technology.

Open Harvest is a unique opportunity for mobilizing key players in the agri-food sector to work together and create a powerful data ecosystem, contributing with increasing knowledge production for agricultural innovation. CAPSELLA partners (i.e. Agroknow and ATHENA RC) took advantage of this event and aimed to position the project in the open data ecosystem, as well as to link the project with global challenges.

21 different organisations from France, United Kingdom, Italy, the Netherlands, Canada, United States, China, India, Bulgaria, Greece and Brazil were represented in the Open Data workshop. Participants covered all spectrum of the agri-food ecosystem ranging from data scientists and researchers to policy makers and agronomists and presentations have been provided, among others, by representatives from the French National Agronomic Institute (INRA), the Wageningen University & Research (WUR), the CGIAR, the Chinese Academy of Agricultural Sciences (CAAS), the Indian Statistical Institute, CABI, University of Guelph, and the Global Open Data in Agriculture and Nutrition (GODAN).

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[2]https://docs.google.com/document/d/1gAq-Z4-8YO4EL6k18W1Uw9yDtlQH7YnyLzG8AjVvJSk/edit

3. Presentations slots

The workshop kicked off with a keynote speech from Paul Stacey, Associate Director of Global Learning in Creative Commons, continued with 20-minute presentations around three main thematic areas, and concluded with a panel discussion.

3.1 Overview of the presentations' slots

Presentations were organized in three main sessions:

- Session I – An Open Science Infrastructure for Europe (4 presentation slots)
- Session II – Big Data Processing & Visualisation for Agricultural Sciences (3 presentation slots)
- Session III – Global Partnerships and Networks (3 presentation slots)

3.2 Beyond Licensing – The social and economic aspects of building an open data commons

3.2.1 Speaker's short bio

Paul Stacey, Associate Director of Global Learning, Creative Commons, Canada

Paul helps government, organizations, and businesses around the world adopt Creative Commons based on open policy, business models, and practices. Paul excels at facilitating and supporting groups in defining strategies and implementation practices for Creative Commons use. He is an advocate for the commons as a means of maximizing citizen participation in culture and creating a more equitable and sustainable economy. Paul has over 25 years of technology, online learning, and open education experience in both the public and private sectors. Prior to Creative Commons, Paul helped found BCcampus and its open education initiative. Paul holds four degrees including a MEd in Adult Learning and Global Change.

3.2.2 Presentation Outcome

In the keynote presentation of Open Data Workshop, Paul Stacey introduced to the audience a new perspective on how commons on open data work and what is the innovation and economic potential they have. Sustainability relates largely to open business models and the ability to generate revenue to sustain operations. Open resources are digital goods that have been licensed to be freely and openly available for others to retain, revise, reuse, remix, and redistribute. "If we are going to build a global scientific data commons for agriculture and food then let's build one that provides access to all, maximizes participation, generates value collectively, spurs innovation, and brings people together for a common cause. Let's not use openness to just improve existing practices but rather to do innovative things not possible any other way", Paul concluded.

The presentation can be found in the CAPSELLA website in the following URL:
http://www.capsella.eu/wp-content/uploads/2017/06/PaulStacey_Beyond_Licensing.pdf

3.3   E-Infrastructure Tools and Services for Open Agricultural Sciences

3.3.1   Speaker's short bio

Odile Hologne, Head of the department of scientific information, INRA and eROSA H2020 CSA Project Coordinator

Odile Hologne is the head of the department of scientific information of INRA, French research institute in agriculture, environment and food. She has been involved in many different project from data sharing policy to repositories development and is a member of the Science Europe Working Group on open access to research data. Among others, Odile is currently coordinating the Community Support Action Horizon 2020 project e-ROSA, which focuses on setting the e-Infrastructure roadmap for Open Science in agriculture.

3.3.2   Presentation Outcome

Odile Hologne presented the European viewpoint on an open science infrastructure for agriculture and food. Odile emphasized on eROSA project activities for the creation of a confederated science cloud, while she provided insights about a mapping exercise of agri-food data providers and initiatives in the European ecosystem that is currently taking place.

The presentation can be found in the CAPSELLA website in the following URL:
http://www.capsella.eu/wp-content/uploads/2017/06/OdileHologne_³-Infrastructure_Tools_and_Services_for_Open_Agricultural_Sciences.pdf

3.4   FAIRifying research data

3.4.1   Speaker's short bio

Jan Top, Senior scientist, Wageningen UR Food & Biobased Research

Jan Top is Research Manager at Wageningen UR-A&F, an organization for contract research in the agrifood domain. He is responsible for research strategy, acquiring funds and project management for the subgroup of Food and Biobased Research. He is professor in Knowledge Management at Vrije Universiteit Amsterdam. He is also responsible for knowledge management at TI Food and Nutrition, the Dutch top institute for food research. His research focuses on Knowledge sharing and reuse, Application-oriented ontology engineering, and Semantic web services based on true integration of services and ontologies.

3.4.2   Presentation Outcome

Jan Top suggested to "FAIRify agri-food research data". Data has to be Findable, Accessible, Interoperable and Reusable (FAIR) and Jan pointed out that data should be supported by the appropriate

metadata and task-specific ontologies in order to create value for the end user. By using the appropriate tools, and applying a set of domain-specific models and semantic annotation mechanisms, large collections of research datasets can be very useful to the wider agri-food community.

The presentation can be found in the CAPSELLA website in the following URL:
http://www.capsella.eu/wp-content/uploads/2017/06/TopJan_FAIRifying_research_data.pdf

3.5 Global Agricultural Concept Scheme (GACS): Overview and Current Developments

3.5.1 Speaker's short bio

Johannes Keizer, GODAN Secretariat

Johannes Keizer has more than 20 years of experience in the area of opening access to data and knowledge. After his studies (Master Degrees in Biochemistry and Biophysics, PhD in Biology) he started a consultancy company for scientific data management (lab data organization, registries of rare diseases, national pesticide management in Italy). In 2000, he joined the Food and Agriculture Organization of the UN to head a big restructuring operation of the "International Information System for Agricultural Science and Technology - AGRIS". Since 2015, he is member of the GODAN secretariat and responsible for strategic partnerships.

3.5.2 Presentation Outcome

Johannes Keizer presented the GACS scheme as part of the bigger entity of Agrisemantics. The ambition of Agrisemantics is to link semantic silos. He pointed out that the main, obligatory step before communities start building their semantic resources (ontologies, vocabularies, thesauri), is to check whether there is an existing solution so as to re-use/adapt it to cover their needs. "We have to capitalize on our commons, namely the GODAN Action Map of Standards (http://vest.agrisemantics.org/), the AgroPortal (http://agroportal.lirmm.fr/), the GACS", he concluded.

Relevant material regarding GACS can be found in the following URL: http://browser.agrisemantics.org/gacs/en/

3.6 From Open Access to Open Science with the ARPHA Publishing Platform

3.6.1 Speaker's short bio

Lyubomir Penev, Managing Director, Pensoft Publishers

Lyubomir Penev is the Managing Director and Founder of Pensoft Publishers. Having graduated in Biology at the University of Sofia, he also holds a Ph.D. in Ecology at the Russian Academy of Sciences, Moscow. Currently, he is Professor of Ecology at the Bulgarian Academy of Sciences, Sofia. His main fields of interest are methodology and software development for biodiversity research and environmental assessment, biogeography, landscape and urban ecology and entomology. Penev is the author of BIODIV, one of the first specialized software for biodiversity research (Exeter Software, New York, 1991) and one of the first computerized bibliographies, CARLIT & CARRUS (1993).

3.6.2 Presentation Outcome

Lyubomir Penev presented his perspective on the future of academic publishing. He focused on the transformation of biodiversity data publishing into a dynamic process using a variety of technological assets. It is of high importance to build a community around agricultural data, linking existing e-infrastructures, based on specific standards, ontologies and controlled vocabularies. The Open Biodiversity Knowledge Management System (OBKMS) could act as an example on the possibilities that could be created by bringing together semantic-enriched journals and rich biodiversity datasets, all linked to Open Data.

The presentation can be found in the CAPSELLA website in the following URL:
http://www.capsella.eu/wp-content/uploads/2017/06/LyubomirPenev_From_Open_Access_to_Open_Science_with_the_ARPHA_publishing_platform.pdf

3.7 CGIAR Big Data in Agriculture Platform

3.7.1 Speaker's short bio

Medha Devare, Senior Research Fellow, IFPRI & Module 1 Lead, CGIAR Big Data Platform

Medha Devare is the Data and Knowledge Manager at the CGIAR System Office. She is a scientist with expertise in agronomy, microbial ecology, and bioinformatics tools, but is equally comfortable in the data and knowledge management arena, with experience in the development and application of standard vocabularies, ontologies, and semantic web tools and approaches. Medha works across CGIAR's fifteen Centers and Research Programs to coordinate a consistent approach to Open Access and Open Data, and facilitate management and dissemination of CGIAR research outputs via FAIR principles (Findable, Accessible, Interoperable, and Reusable).

3.7.2 Presentation Outcome

Medha Devare, representing a major global organization in the field of agrobiodiversity research, presented an overview of the CGIAR Big Data Platform. This open platform is an opportunity for CGIAR to

publish and expand the outreach of the data and knowledge products that are generated by different CGIAR research centres around the globe, pertaining data on breeding, remote sensing, soil agronomy and genebanks. Medha pointed out that with the rich collection of such datasets, CGIAR aims to bring together the private sector, academia and NGOs to produce innovative solutions based on this data and also provide valuable information and analytics to farmers. In fact, the aspiration of CGIAR is to support farmers in real-time decision making leveraging artificial intelligence technology with open harmonized and interoperable databases.

The presentation can be found in the CAPSELLA website in the following URL:
http://www.capsella.eu/wp-content/uploads/2017/06/MedhaDevare_CGIAR_Big_Data_Platform.pdf

Figure 1: Medha Devare on the CGIAR Big Data Platform

3.8   OpenMinTeD: Text Mining Services for e-Infrastructures

3.8.1   Speaker's short bio

Sophie Aubin, Knowledge Management Officer, INRA

Sophie has been working in the field of knowledge engineering for more than 10 years. Her educational background is a Master in computational linguistics. As a study engineer at INRA Scientific and Technical Information Department for the past 6 years, she is in charge of developing vocabulary management and text-mining services for researchers. Sophie is participating in the OpenMinTeD project that sets out to create an open, service-oriented ep-Infrastructure for Text and Data Mining (TDM) of scientific and scholarly content. Her previous positions led her to work on information extraction in the Alvis and

Quaero projects, while recently she is involved in the institutional working group dedicated to preparing and supporting research data openness.

3.8.2 Presentation Outcome

Sophie Aubin presented a solution on Text and Data Mining technologies that could be applied to a variety of thematic areas dealing with large amounts of information. The case study that Sophie drew upon was the one of the Wheat Initiative[3], which is an online portal providing federated search services of genomic and genetic data for wheat. With the help of text mining technology, remarkable value is created from the aggregated datasets, using semantics, appropriate standards and protocols - resulting to decreased use of technical resources.

The presentation can be found in the CAPSELLA website in the following URL:
http://www.capsella.eu/wp-content/uploads/2017/06/SophieAubin_OpenMinTeD.pdf

3.9 Introduction to National Science and Technology Library of China

3.9.1 Speaker's short bio

Zhang Xuefu, Chinese Academy of Agricultural Sciences

Xuefu Zhang has a Bachelor degree in Library and Information Science, a Master in Information Science from the University of Heilongjiang, and a PhD in Information Science from the National Science Library (NSLC) of the Chinese Academy of Science (CAS). Since 1991, he is working as a docent in information management at the University of Heilongjiang. In 2004, he became a professor of information management and since 2006, he works for the Agriculture Information Institute of Chinese Academy of Agricultural Science (AII/CAAS) in the division for digital libraries, databases and networks. Since 2007, he is supervising PhD students at CAAS and since 2013, he serves as the director of Knowledge Engineering Division (KED, formally Agricultural Information Laboratory), mainly engaged in research and application of theory, methods and technology in agricultural knowledge management.

3.9.2 Presentation Outcome

The National Science and Technology Library of China (NTSL) containing almost 70 Million resources is one of the biggest online libraries in the world. Apart from the full text search service, it provides decision making services based on research data that can be used by scientists, policy makers and governmental agencies. Especially for the agricultural sector, NSTL aims to assist on the expansion of an information-supported smart agriculture. For that reason, Xuefu Zhang presented the latest developments that the NTSL will include in the future, especially designed for the agricultural sector:

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[3] http://www.wheatinitiative.org/

A crop growth model, applications of image recognition technologies for smart agriculture and tools for agricultural production management. As a closing remark, Xuefu stressed the importance of creating a Global Agricultural Big Data and Information Services Alliance.

The presentation can be found in the CAPSELLA website in the following URL:
http://www.capsella.eu/wp-content/uploads/2017/06/ZhangXuefu_An_Introduction_of_National_Science_and_Technology_Library_of_China.pdf

3.10 GODAN Initiative: Overview and Activities

3.10.1 Speaker's short bio

Martin Parr, GODAN Programme Manager & CABI Head of Open Data

Martin Parr is the Operations Director for GODAN and works in CABI's Knowledge Services for International Development and is the Head of Open Data at CABI. Martin is passionate about the field of open data and has over fifteen years experience working in international development and on mobile internet, web-based products, and research communication services. He is responsible for implementing CABI's participation in global agriculture and environment information access projects; leading development of new CABI Compendia projects; development of mobile agri-advisory services; coordination of knowledge activities with DFID in the UK, including delivery of support and guidance in communication, project monitoring and evaluation, and impact reporting, knowledge management and development of the DFID evidence portal, r4d.dfid.gov.uk, Evidence on Demand for DFID CEIL PEAKS.

3.10.2 Presentation Outcome

Martin Parr presented the activities of GODAN and the challenges that this global initiative is facing. Martin described how GODAN is working on these challenges by publishing a set of guidelines on responsible agricultural data, data ownership and governance and on promoting success stories based on open agri-food data. Since the majority believes that farmers are isolated and don't see the value that Open Data brings for agriculture and global hunger, GODAN created online web series with video documentaries targeting to farmers and the wider agri-food community. CAPSELLA can benefit from the experience of networks such as GODAN and follow good practices to address similar challenges.

The presentation can be found in the CAPSELLA website in the following URL:
http://www.capsella.eu/wp-content/uploads/2017/06/MartinParr_GODAN_progress.pdf

3.11 Global Water Pathogens Project

3.11.1 Speaker's short bio

Matt Verbyla, San Diego State University, California

Matthew Verbyla is currently a postdoctoral research scientist at École Polytechnique Fédérale de Lausanne (EPFL) in Switzerland, where he studies pathogens in water and wastewater and microbial risk. Matthew has a Bachelor of Science in Civil Engineering from Lafayette College (2006), as well as a Master of Science in Environmental Engineering (2012) and a Ph.D. in Environmental Engineering (2015), both from the University of South Florida. Matthew is currently an editor and author for the Global Water Pathogens Project, an initiative led by UNESCO and Michigan State University to produce an online open access platform for scientific knowledge on pathogens in water.

3.11.2 Presentation Outcome

Matt Verbyla presented the Global Water Pathogens Project (GWPP), led by UNESCO and the Michigan State University. GWPP is a global network of scientists focusing on water pathogen and sanitation research, building an online open access integration platform. GWPP is sharing knowledge created by a network of almost 160 contributors to all around the globe, providing access to data on pathogen removal for different sanitation technologies. Their goal is to make this information accessible to engineers, policy makers, service providers and help them meet Sustainable Development Goals for clean water and sanitation[4].

The presentation can be found in the CAPSELLA website in the following URL:
http://www.capsella.eu/wp-content/uploads/2017/06/Matt_Verbyla_GWPP.pdf

3.12 Research Data Alliance (RDA) and Research Data Management (RDM)

3.12.1 Speaker's short bio

Devika Madalli, Documentation Research and Training Centre, Indian Statistical Institute

Devika Madalli is an Associate Professor at Documentation Research and Training Centre (DRTC), Indian Statistical Institute (ISI), Bangalore, India. She holds a Masters degree and Ph.D in Library and Information Sciece. Joined ISI in 1996. Devika's work is focused towards data management, policies and infrastructure to ensure equitable access to data from the perspective of developing nations; building Synergies between and among RDA Interest and working groups with shared and/or complementary interests; Gender Sensitization and inclusiveness in all workflows and at all levels within RDA and its outreach programs; advocacy, liaison and sustenance of RDA ; building capacities by forging effective collaborations among the members and member institutions of RDA and other renowned institutions and initiatives.

3.12.2 Presentation Outcome

Devika Madalli presented the activities of the Research Data Alliance, which is a big global network fostering the openness and harmonisation of non-profit data from stakeholders from all around the world. RDA consists of almost 6000 members and has various working groups on different topics. Devika focused on the activities of the Agricultural Data Interest Group (IGAD), which aims to promote good practices in the research domain, provide a platform for global networking and collaboration on agricultural data management issues and interoperability as well as to become the meeting place of all groups working worldwide on agricultural research and innovation. IGAD consists of diverse focus groups on agrisemantics, wheat data, soil data and weather and climate data, to name a few. Devika concluded with the challenges that are common in every group focusing on agricultural data, which are the lack of scientific data, lack of a shared infrastructure, lack of awareness and gaps in standards adoption.

The presentation can be found in the CAPSELLA website in the following URL:
http://www.capsella.eu/wp-content/uploads/2017/06/MadalliDevika_RDA_for_RDM.pdf

3.13 Round Table Discussion

The title of the Panel session: "From Global Challenges to Local Ones: Linking Communities Around the World" made a clear point on what the outcome of this workshop should be. The project coordinator accompanied with three key representatives of the global agri-food open data and commons communities discussed in an open manner how local communities can address global challenges following a "bottom-up approach" and sharing the knowledge that is being created. With global hunger, food security and food safety so vital to human health, productivity and wellbeing, agriculture is incredibly important to many stakeholders. As such, the community invested in agriculture data goes well beyond traditional farm businesses – it involves charities and foundations, corporations, academic institutions, farming co-operatives, agencies, the United Nations and many others. Knowledge-sharing between organisations is increasingly a concern for those in the sector to complement each other's work, learn from each other's insights and collaborate to create value in the sector.

Johannes Keizer, representing GODAN secretariat, pointed out that GODAN aims to bring together people that have the mandate to address these challenges and work together. For that particular reason, they have created different GODAN Working Groups focusing on several aspects of the open agri-food data spectrum. The Working group on Data Ecosystem was referred as an example to similar cases which is led by the industry (http://www.godan.info/working-groups/data-ecosystem-working-group).

Rozita Dara from the "Food from Thought" mentioned the global challenges that are being addressed by this big Canadian initiative. There is an immense opportunity for open data and technology to continue shifting the economies and employment opportunities in rural communities. "Rural communities have always been resilient, and agriculture has always been an incredibly technical

and innovative sector. Now the rest of the digital economy is seeing and seizing those opportunities". She also highlighted the need to "make sure all the different agricultural stakeholders are talking and sharing their data".

Eleni Toli highlighted the need to transfer the messages to farmers. It is very promising that there are global communities that have very similar needs with the ones in Europe and enable us to find new ways of collaboration.

During the closing remarks, Paul Stacey from Creative Commons pointed out that openness is the key issue to connect global and local challenges and enable collaboration. And for enhancing this collaboration, the concept of commons is of high importance.

Figure 2: Paul Stacey during the keynote presentation

4. Initiatives and networks involved

The networks and initiatives below were represented during Open Data Workshop.

4.1 GODAN

Global Open Data for Agriculture & Nutrition (GODAN) supports the proactive sharing of open data to make information about agriculture and nutrition available, accessible and usable to deal with the urgent challenge of ensuring world food security. It is a rapidly growing group, currently with over 547 partners from national governments, non-governmental, international and private sector organisations that have committed to a joint Statement of Purpose. The initiative focuses on building high-level support among governments, policymakers, international organizations and business. GODAN promotes collaboration to harness the growing volume of data generated by new technologies to solve long-standing problems and to benefit farmers and the health of consumers. We encourage collaboration and cooperation between stakeholders in the sector.

4.2 Food from thought

Food From Thought is a $76.7 million research program at the University of Guelph. The program, which began in 2016, is funded by the Canada's First Research Excellence Fund for 7 years. The Food From Thought program intends to exponentially increase our ability to leverage big data for the benefit of food production and biodiversity at three scales of research and innovation at the global, landscape and microscale. The program will integrate and strengthen the University's data management and analysis capabilities across our facilities and our partners, and better support and incubate faculty and student innovations.

4.3 GWPP

The Global Water Pathogen Project (GWPP) aims at developing a knowledge resource to reduce mortality linked to water pathogens and the lack of safe drinking water and basic sanitation through creating the state-of-the-art knowledge hub on water-related disease risks and intervention measures, including new and emerging pathogens and updated scientific data replacing the current benchmark reference work of Feachem et al. The knowledge gathered through the project will be available through a UNESCO book in English, French, and Spanish, both in printed and electronic format following the open ac-

cess policy of UNESCO, as well as an online data base and knowledge platform, for broad international access and ongoing updates via a global higher education network. The GWPP network currently counts with currently 158 (47.14% of women) from 46 countries organized in 12 teams working on: sanitation and health (theory and control), bacterial pathogens, helminths, virus, protists, indicators and microbial source tracking markers, persistence, sanitation and disinfection, and case studies.

4.4 RDA

The Research Data Alliance (RDA) was launched as a community-driven organization in 2013 by the European Commission, the United States National Science Foundation and National Institute of Standards and Technology, and the Australian Government's Department of Innovation with the goal of building the social and technical infrastructure to enable open sharing of data. With over 5,700 members from 128 countries (June 2017), RDA provides a neutral space where its members can come together through focused global Working and Interest Groups to develop and adopt infrastructure that promotes data-sharing and data-driven research, and accelerate the growth of a cohesive data community that integrates contributors across domain, research, national, geographical and generational boundaries.

Figure 3: Wrap-up of the Open Data Workshop

5. Workshop dissemination

For dissemination purposes, a dedicated page was created in the project's website (http://www.capsella.eu/open-data-workshop/). This page was populated with information regarding the speakers and their topics and also after the event the slides of speaker were uploaded.

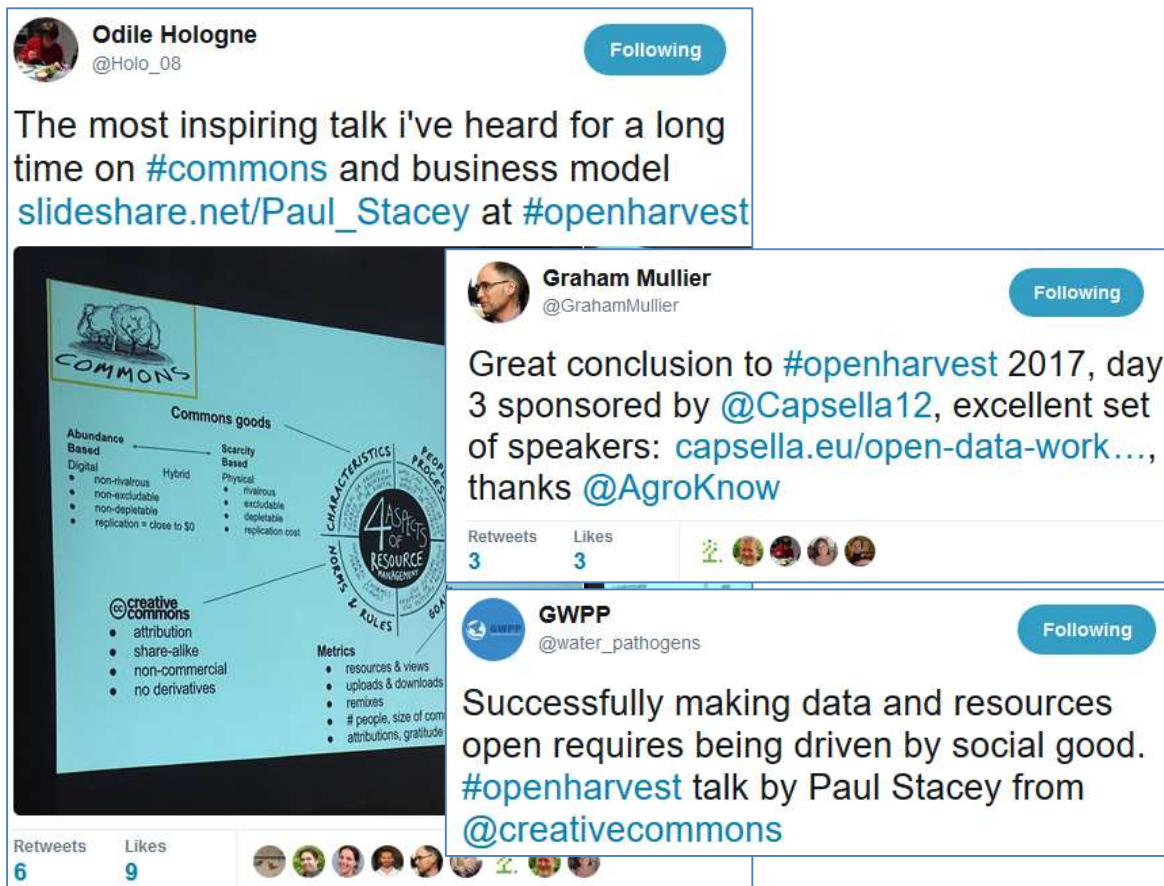Prior to the event, the workshop was disseminated via the project's social media (Facebook, Twitter) and via the newsletter (http://mailchi.mp/0aa535984c78/capsella-project-newsletter-n-0317?e=0c36ae7e27) .

Figure 4: Tweets from workshop participants (sources: @Holo_08, @GrahamMullier, @water_pathogens)

6. Conclusions and some considerations

The Open Data workshop aimed to empower CAPSELLA's position within the global ecosystem of agri-food open data networks and initiatives. By taking advantage of the key stakeholders that were present in the workshop, the project partners took a holistic view of what the next steps could be in order to connect the agrobiodiversity communities in a local and global level. Moreover, the discussions held in the workshop can certainly bring a new perspective for developing appropriate business models built on Open Data for the CAPSELLA's pilots
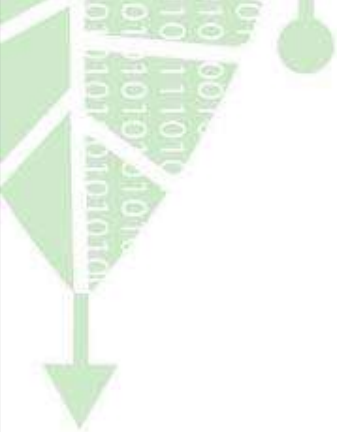
Moreover, it was very helpful that some of the participants with relevant experience in the project's main scenarios (i.e. field, seeds and food) have presented their own approach in building new collaborations, applying new technologies, attracting more data providers, expanding the outreach of their material. Collective knowledge should be connected with all parts of the agrobiodiversity value chain, from researchers to the farmers and beyond. Following the example of other global successful communities, CAPSELLA can empower its position and engage with a wide variety of local and global stakeholders, exploiting business models built on open data and commons.

As future actions after the Open Data Workshop, the consortium aims to liaise with key initiatives such as GODAN, and exchange knowledge, while linking the project challenges with grand global challenges of these networks. Moreover, in terms of positioning the project in the European Cloud Initiative, a strategic partnership with eROSA[5] project is foreseen.

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[5] http://erosa.aginfra.eu

7. Annex

Workshop Agenda

Open Data Workshop

2 June 2017
Chania Sailing Club
Chania, Crete, Greece

09:00 – 09:30	Registration to open data workshop day, morning coffee
09:30 – 09:40	Opening and Introductions
09:40 – 10:40	Keynote Speech: "Beyond Licensing - The social and economic aspects of building an open data commons"
	Paul Stacey, Associate Director of Global Learning, Creative Commons

Session I - An Open Science Infrastructure for Europe

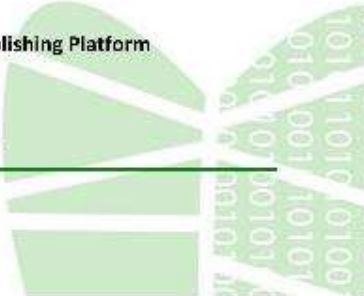|	
10:40 – 12:00	e-Infrastructure Tools and Services for Open Agricultural Sciences – 20'
	Odile Hologne, Head of the department of scientific information, INRA and eROSA H2020 CSA Project Coordinator
	FAIRifying research data - 20'
	Jan Top, Senior scientist, Wageningen UR Food & Biobased Research
	Global Agricultural Concept Scheme (GACS): Overview and Current Developments - 20'
	Johannes Keizer, GODAN Secretariat
	From Open Access to Open Science with the ARPHA Publishing Platform - 20'
	Lyubomir Penev, Managing Director, Pensoft Publishers

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12:00 - 12:30	Coffee Break

Session II – Big Data Processing & Visualisation for Agricultural Sciences

12:30 - 13:30	CGIAR Big Data in Agriculture Platform - 20'
	Medha Devare, Senior Research Fellow, IFPRI & Module 1 Lead, CGIAR Big Data Platform
	OpenMinTeD: Text Mining Services for e-Infrastructures - 20'
	Sophie Aubin, Knowledge Management Officer, INRA
	Introduction to National Science and Technology Library of China - 20'
	Zhang Xuefu, Chinese Academy of Agricultural Sciences
13:30 - 15:00	Lunch Break

Session III - Global Partnerships and Networks

15:00 - 16:00	GODAN Initiative: Overview and Activities - 20'
	Martin Parr, GODAN Programme Manager & CABI Head of Open Data
	Global Water Pathogens Project - 20'
	Matt Verbyla, San Diego State University, California
	Research Data Alliance (RDA) and Research Data Management (RDM) - 20'
	Devika Madalli, Documentation Research and Training Centre (DRTC), Indian Statistical Institute (ISI)
16:00 - 17:00	Panel - From Global Challenges to Local Ones: Linking Communities Around the World

Moderator:

- *Panagiotis Zervas, Agroknow*

Presenters:

- *Johannes Keizer, GODAN Secretariat*

- *Eleni Toli, Project Manager, ATHENA Research and Innovation Center*

- *Rozita Dara, Assistant Professor, University of Guelph*

- *Paul Stacey, Associate Director of Global Learning, Creative Commons*

17:00   -   Open Discussion and Wrap-up
17:15

The CAPSELLA Open Data Workshop is held in conjunction with Open Harvest 2017 in Chania Sailing Club (Neorio Moro) in the Old Venetian Harbor of Chania.