**Towards the establishment of an International Digital Council for Food and Agriculture**

**Collection of contributions received**

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# Topic note

The need for an inclusive and multi-stakeholder approach to discuss digital technologies in agriculture and food has been reflected in January 2019, during the Global Forum for Food and Agriculture (GFFA) [1], approximately **74 ministers of agriculture** from around the world and high-level representatives of international organizations committed to **use the potential of digitalization to increase agricultural production and productivity**, while improving **sustainability, efficient resource use, employment and entrepreneurial opportunities, and living conditions**, especially in rural areas.

Based on the Ministerial Communiqué 2019 [2], the agriculture ministers called upon FAO to draw up, in consultation with stakeholders including the World Bank, African Development Bank, IFAD, WFP, OECD, WTO, ITU, OIE and CTA a concept for the establishment of an international Digital Council for Food and Agriculture to help everyone harness the opportunities presented by digitalization.

Focal points were identified from each organization to work as part of a taskforce to join efforts to create **a concept note for the establishment of an International Digital Council for Food and Agriculture, as a starting point for this initiative**. Working collaboratively, such a Council would discuss and develop voluntary guidelines, provide advice to policymakers, and enhance knowledge-sharing on best practices that would contribute to sustainable agriculture and rural development during the digital transformation.

To date, FAO jointly with the international organizations:

* **House an open consultation process** involving relevant multi-stakeholders to develop the proposal for the establishment of an International Digital Council for Food and Agriculture;
* Work towards delivering a Concept Note based on a participatory consensus-based approach that defines the Terms of Reference (purpose, scope, functions, legality roles and responsibility, and operating model) to establish the International Digital Council for Food and Agriculture, together with a roadmap for implementation; and
* **Identify constitution, mechanism and timeline** for the establishment and implementation of the International Digital Council for Food and Agriculture.

Given this background, this consultation aims to involve stakeholders, interested parties and individuals in the development and improvement of the proposed Concept Note.

The current draft is in the process of being developed by FAO, with the support of Deloitte and in consultation with the taskforce focal points through a series of consultation meetings. Following this online consultation, FAO, together with the focal points will reconvene to discuss its outcomes and develop the final Concept Note. For this consultation, we will share some key parts of the Concept Note for which we still need inputs and suggestions from each of you.

**To better understand the points of view toward the establishment of a Digital Council, we hereby invite you to consider the following questions:**

1. What are the potential entry points for government to address challenges and foster the development of digital agriculture? ([Please click here to see the relevant section of the Concept Note](http://www.fao.org/fsnforum/sites/default/files/files/162_Digital_Council/Discussion_guide_Q1.pdf))
2. How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies? ([Please click here to see the relevant section of the Concept Note](http://www.fao.org/fsnforum/sites/default/files/files/162_Digital_Council/Discussion_guide_Q2.pdf))
3. Do you think that the roles identified for the Digital Council are suitable for facing the food systems challenges outlined above? ([Please click here to see the relevant section of the Concept Note](http://www.fao.org/fsnforum/sites/default/files/files/162_Digital_Council/Discussion_guide_Q3.pdf))
4. What governance structure should be in place in order for the Council to serve its purpose? ([Please click here to see the relevant section of the Concept Note](http://www.fao.org/fsnforum/sites/default/files/files/162_Digital_Council/Discussion_guide_Q4.pdf))
5. Please add any other comment or relevant content you think should be included in the Concept Note.

We thank you for your valuable contribution to the development of the Concept Note for a Digital Council for Food and Agriculture and for helping the Taskforce prepare a comprehensive document  document that considers the view and experiences of all relevant stakeholders.

Best regards,

Samuel Varas, FAO

Meng Zeng, FAO

[1] [www.gffa-berlin.de](http://www.gffa-berlin.de/)

[2] [www.gffa-berlin.de/wp-content/uploads/2015/10/GFFA-2019-Communique.pdf](https://www.gffa-berlin.de/wp-content/uploads/2015/10/GFFA-2019-Communique.pdf)

# Contributions received

## Brandon Eisler, Nutritional Diversity, Panama

In pursuit of establishing an international digital council for food and agriculture, we cross yet another degree where we face the useful reality to certain aspects we know of social media platforms. It is another pivotal moment of deciding how much power online council, online currency and online voting power we should allow. It is another moment where we may not be doing anything accept performing bureaucracy.

For myself, it has seemed curious how for years we can not facilitate an individual citizen; accurate vote on individual issues and tax dollars spent, when the means do so through social security numbers (and a few numbers) has existed more than a decade.

Total voting regulatory power could sit well within the now very popular block chain technologies, and this all bates mention of a Panama colleagues' [Producers Market token](https://www.producersmarket.com/), an agriculture v.s. digital technology solution. I happen to have an inside look at the team here and the king of this Hill, more or less selected to my knowledge and likely overall success, by my favorite teacher - and this type of selection in this case certainly, does not come to the undeserving. This model could be extremely proactive in promoting better agriculture that does not harm biology and wildlife.

If I am understanding the Producers Token platform right it would [c] essentially function as a marketing engine for the council itself, and for small transparent organic farmers within the ranks. [d] Food distribution costs can be saved and gained by the consumer and the producer who would be able to connect through the network. It is really quite perfect / even very much so for [Nutritional Diversity Diet](https://nutritionaldiversity.com/introduction-nutritional-diversity/) enthusiasts, who could through a network like this arrange there private food purchases for the [required high food biodiversity](https://nutritionaldiversity.com/biodiverse-food-study-panama/).

I have enjoyed being one of the more abstract contributors to these important discussions. I also enjoy coming from a standpoint which I feel is correct. Not to get too ahead of things, ....

What about a really proactive council, to reforest using permaculture's food forest model, disaster stricken lands, etc. To educate cattle farmers how through permaculture models and not too much more on investment, can have there cows and and whole bunch of other goodies too.

If we can expand our hopes and aim to something of this nature, the smart phone app [iNaturalist](https://www.inaturalist.org/), seems to be a great functioning database reference for plant species and could play an integral role in bringing humanity back in touch with nature and back up knowledge Parr on functional foods. It is with kind of knowledge that we can live in harmony with nature instead of at odds with it and obtain individual freedom and sustainability.

Can this international council body dare to create insanely incredible ecology to our beautiful world?

As a technical "digital" body can we task ourselves to develop waist collection and conversion technologies -very easily online shared open source development potentials.

In many ways if we don't have the focus on the species,  what are we doing.

If we are focusing on the species regional climate category groups would be able to harvest seed and use young species to supply ever expanding permaculture installations.

A joint efforts standard agreement could be a good fixture. For example should a poor farmer convert and work /grow on certain owned property for 50% take of produce. This could be great to see abandoned pasture or tragically destroyed lands be productively utilized easier. This type of job could be a great path for troubled youth.

Thanks and respecfully,

## Saud Al Farsi, FAO, Oman

What are the potential entry points for government to address challenges and foster the development of digital agriculture?

* Availability of digital agriculture and geo data base.
* GIS & RS Graduated staff (capacity building) for such digital data base (data collector, data entry and data analyzer …etc.).
* Cooperation or data exchange between farmers and agriculture / statistics extensions.
* Ability for data base updates & harmonization.
* Financial resources: formulation & running cost for the structure of digital agriculture unit.
* Financial resources: survey / gathering and frequently updating the data base.
* Digital data accessibility between the unit staff and/or between the stakeholders.
* Capacity building for the unit staff (policy and technical staff).

 How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?

* By creating an environmental present / prediction maps (land, water & land suitability, land use …etc), road map for marketing and investment map.
* If the data are accessible to different governmental sectors & to stakeholder.
* If the data are within acceptable cost for the users.
* Build up a trusted report through international consultant.

Do you think that the roles identified for the Digital Council are suitable for facing the agrifood systems challenges outlined above?

In addition to the CN for this section: I think through modeling (SWAT), we have to add (Policy & Alternative for a certain crop production in a certain region) in order to increase agricultural production and productivity.

What governance structure should be in place in order for the Council to serve its purpose?



## Bonaventure Temba, FAO, United Republic of Tanzania

This is one among the long awaited initiative by the FAO particulary in Tanzania, the country agriculture sector has been making efforts and policies to intergrate itself with  digital solutions.

I believe the council would find its place on solving the agrifood system challenges in countries such as this. As the country population continues to swell and  climate change is further increasing the risk in food production, we surely need to formulate sustainable plans to feed the growing population. With digital inclusion this objective is likely to be met. With this remark, yes I believe the roles identified for the digital council will contribute to a large extentent in addressing the agrifood systems challenges.

## Hamad Lyimo, Ministry of Agriculture, United Republic of Tanzania

**Potential entry points for government to address challenges and foster the development of digital agriculture:**

Nowdays agricultural services and input can and are acquired from other countries. Digital agriculture should focus to act across borders. To do that the Council should be designed in a way that harmonises guidelines from different countries and come up with common entry points that fit in different countries.

## Maurice Ahounou, FAO, Benin

Stratégie nationale pour l’e-Agriculture au Bénin 2020-2024

Attachment:

<http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Strat%C3%A9gie%20nationale%20e-Agriculture%20Benin%2025-08-2019.pdf>

## Mahesh Chander, Indian Veterinary Research Institute, India

This is welcome step, considering the rapidly changing agricultural landscape. The older generation in developing countries may not find it much useful but the youth may find it attractive option to get constructively engaged in agriculture since already they are using too much of  Social Media, for fun. Unless agriculture is data driven, it is simply a way of life where profit is not taken into account. Unless we do farming as business, we are not likely to benefit from it. We need more agripreenurs than simply the farmers. For this to happen, digitalization is a must. We need to take into consideration-access, avaialbility, afforadability and content updating in digital arena. The concept note prepared has mentioned about this but at the level of implemetation, monitoring would be required to ensure inclusiveness.

[https://medium.com/@UN\_CFS/can-social-media-lure-youth-into-agripreneurship-e67fcdaac695](https://medium.com/%40UN_CFS/can-social-media-lure-youth-into-agripreneurship-e67fcdaac695)

## [Madjid Bouzidi](http://www.fao.org/fsnforum/member/madjid-bouzidi), Algeria

**Original contribution in French**

J'ai le plaisir de vous faire parvenir ma contribution concernant l'utilisation des technologies de l'information dans l'agriculture. (version FR et EN)

Meilleures salutations.

Bouzidi.M

**English translation**

I am pleased to send you my contribution on the use of information technology in agriculture. (FR and EN version)

Best regards.

Bouzidi.M

Attachments:

<http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Fao%20Itc.pdf>

<http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Fao%20Tic.pdf>

## Kossi Amessinou, African ICT Foundation, Benin

**Original contribution in French**

Les technologies mobiles doivent être mises à contribution pour réussir le défi de la e-agriculture. Il faut utiliser les résultats de la recherche et ne recourir à de nouvelles recherches qu'en cas de nécessité. Je vous propose déjà ma thèse de doctorat pour exploitation. [Technologies mobiles en milieu agricole](http://www.theses.fr/2018BOR30031)

Nous devons utiliser tout le potentiel des drônes pour la facilitation du travail du producteur. Ensuite, les réseaux de jeunes spécialistes des TIC et du marketing peuvent être mis à contribution pour la commercialisation. Il faut un partage de rôle pour l'efficacité de l'action. Nous avons par exemple la plateforme de promotion de l'ananas pain de sucre du Bénin qui met les acheteurs en relations avec les vendeurs. [affaire mobile Bénin](https://www.am.bj/)

**English translation**

The use of mobile technologies must be harnessed to meet the challenge of e-agriculture. It is essential to use the results of research and start new research only when necessary. In the meantime, I am submitting my doctoral thesis for your use. [Technologies mobiles en milieu agricole](http://www.theses.fr/2018BOR30031) (Mobile technologies in agricultural environments)

Drones must be used to their full potential to facilitate the work of producers. Then, networks of young ICT and marketing specialists can be mobilized to commercialize the products. It is necessary to share roles to ensure the effectiveness of the action. One example is the Benin Sugar Loaf Pineapple Promotion Platform, which connects buyers with sellers. [affaire mobile Bénin](https://www.am.bj/)

## Ateca Kama, National Food and Nutrition Centre, Ministry of Health and Medical Services, Fiji

Agree. Our societies, from production to consumption, are now tech-driven and we now mostly depend on technology to link the producers to the consumers and every other parties involved in this space. This provision will provide a very important platform and linkage that is critical to information-sharing of best practices that everyone can contribute to, and benefit from. It will connect and provide more leverage and impetus to food and nutrition security in all forms.

## Emmanuel Nwite, National agricultural Seeds Council, Nigeria

**Contribution received through the e-Agriculture platform**

**Question 1**

The potential entry point for government in addressing the challenges and foster development of digital agriculture will includes the following:

1.In African,greater percentages of those practicing agriculture is inadequately trained or untrained,let alone in digital agriculture. Government have to sincerely harness people of interest and not money dependent political officcials.

2.Many remote areas where Agriculture is practiced lack access to networks and that can affect the use of GPS gadgets. Government have to finance the availability of network in the rural areas.

3.Government have to provide an enabling environment ranging from good polices,laws and allow for private participation.

**Question 2**

The establishment of the Digital Council can address the numerous barriers to adoption of these technologies by using:

1.People of interest. My experience so far in agricultural sector thought me that agriculture is all about interest. The council have to include participated individual in the consultancy process in the council.

2.Uniform technologies within member countries for effective delivery.

3.Result-oriented ideology; result encourages technological adoption.

**Question 3**

YES

It is suitable.

**Question 4**

The governance structure is politically feasible but I want to suggest that the 21 members of the executive council should not all be nominated by region's constituent government because they may nominate people who don't have interest or politicize it.The digital council should include participated individuals in the consultancy forum from each countries expect in a case where no body participated, the region government can now appoint people of their choice.

**Question 5**

I suggest that digital agriculture courses should be established in high schools and universities to increase adoption.

Thanks

## ****Jean Claude Ndayambaje,**** Digital Opportunity Trust (DOT Rwanda), Rwanda

**Contribution received through the e-Agriculture platform**

**Question 1**

Bring the Youth and the center and enable them to own the process

## ****Fostina Mani,**** Betta Grains, Kenya

**Contribution received through the e-Agriculture platform**

**Question 1**

1. Governments need to update their existing website and provide up to date current information on their website.
2. Governments need to make it very clear to their staff that research information on agricultural development does not belong to the individual staff members but belongs to the citizens of those countries, therefore such information must be made accessible to the public in a timely manner and efficient manner.
3. Many Government signed and agreed on Open Data Portal for purposes of making information access to the public.  Many Government continue to not avail or update  agricultural data and information which is essential for the citizens and other in making information discussion in agricultural production and trade.

**Question 2**

1. The Digital Council will certainly help in pushing that Government are uphold  their committment to various agreeement especially with regard to digital agriculture.  The Digital Council is well placed to speak to the Government at a much higher policy level than the average citizen.
2. The Digital Council will certainly be a voice for the many small holder farmers, youth, private sector and many development partners who want to transform Food and Agricultural across the globe.
3. The Digital Council will help draft policies that have the interest of government and all other stockholders, especially since many governments especially those from the developing countries lack the necessary skills, expertise, and technologies to address the various issue the Digital Council can.

**Question 3**

Yes the are.  I however would like to caution that the Digital Council does not use a copy paste type approach, because all developing countries are not the same.  They come with different cultures and solutions.  While the over arching goal is one, the approaching will certainly be different.  I suggest you engage private sector, rural farmers, women and youth.  Allow them to have a voice, otherwise the council will be meeting expert who have theoritical knowledge however greatly luck implementation experience.  We don't want to end up with solutions that cannot be easily adopted because those who are affected where never involved in the first place.

The roles identified above do not seem to have private sector involvement yet the private sector a huge stakeholder.

**Question 4**

All Ministers of Agricultural, Trade, and Other Related ministries should be part of the council, and should be held responsible by their Government or Presidents in ensuring that all countries implement whatever discussions are reached by the Council, so we don’t have some countries ahead of others.  The Internet has made the world one global market, we need to ensure that we are all on the same page especially with regard to food production and agricultural markets.  From the governance structure above it is not clear how that will happen.  There is need for  more clarity on the nature and the role of the working group.  What will their be doing, what will their represenation look like etc.

**Question 5**

1. Please ensure that Private Sector, Smallholder Farmers, Women and Youth are represented, it is not unusual to find out they are forgotten in these high level consultative meetings and discussions especially in the working groups.
2. Cyber Security should also be discussed extensively.

##  ****Saripalli suryanarayana,**** Professional Engineer-Administrator - 40 years experience - water, irrigation and infrastructure projects conceptualization, India

**Contribution received through the e-Agriculture platform**

**Question 1**

1. A serious need is village officers needs to be trained in to the technologies,and deliver same to the agriculture community.
2. Start a tab-in smart phone,and let the regional connectivity,digital/video/radio connectivity-interactive to e established.
3. Insurance companies needs to be linked to the owner/or land holder along with their Adahar or social security number.
4. Village development officers shall be able to byepass the immediate bosses when needed.
5. In put materials needs to be inside roofed buildings,having-silos,bins etc.Modernise the age old systems for people to use.[Bins-silos were in every house at least 70 years back]

**Question 2**

Farming solutions-shall be digitalized[1]available-region wise[2]area wise[3]technology used for seedlings to harvesting shall have no importance.

[a]The importance shall be food security

[b]less use of water

[c]conserve water for drinking purposes

[d]Escaping by saying the veternary doctor deals with the cows and buffalows

[e]Humans find no medicines -for masquitos,and other NCD

[f]Good communication with all the requiremnts of the farmer needs to be digitalised

[g]The money transfers shall be digitalised

**Question 4**

Technologies are changing.The secretariat has to have the input knowledge and contineous traing to the on going technologies innvation.

Imperative to know the nitrogen mix up in nature,methane release from various human and animal activities  as well from constant soaking of the roots of rice plants[constant water in paddy production fields] and carbon emissions from the cut crop of paddy etc.

**Question 5**

Social scientists-teachers, students shall be connected with the farming community
Help them with the technologies
Train them with the new technologies

## ****James Wire, Consultant, Uganda****

**Contribution received through the e-Agriculture platform**

**Question 1**

Most governments in the developing countries tend to move slow on new technologies. Take the case of drone technology and the rigid processes entailed in their importation. There is a big scare in line with security and this has rustrated innovators.

There is a need to relax this.

**Question 2**

The digital council shall liaise with Governments in multiple ways to encourage them to embrace technology. Without doubt, the council's influence can create a bigger impact in terms of policy and agenda setting.

## ****Sangya Kaphle, FAO, Nepal****

**Contribution received through the e-Agriculture platform**

**Question 4**

When we are talking about open data, open source, open APIs, and closing the digital divide, it is important to also consider open governance structures as an alternative.

 The proposed structure is very Top Down and Top Heavy. The Executive Council who  "ultimately decides" everything is far removed from working groups, implementation, monitoring, and avisory aspects and their accountability stucture is not presented. It looks like an old political model, which is not the norm in the digital sector lead by global public agencies.

Alternative structures formed around participatory and open governance models have been endorsed by multiple UN and partner agencies (including FAO) in the Digital Principles. They are prefered by UN Innovation Network, Open Goverment Partnerships (74 National Governments, and 20 local governments are members), Transparancy International have delivered important results in countries as well as globally. Open Governance models are critical and feasible for this council since it aims for digital transformation also at the grassroots. An executive council, removed from practice, ultimately making decisions, with a pre-dermined number of seats (21) is not going to create this transformation and looks to be motivated by political reasons rather than needs, evidence and results.

Key pillars for open governance have already been identified and have also been implemented  (e.g. colaboration, participation, transparancy, accountability) and are gaining traction in countries. A Secretariate, Community Interest Groups, Technology Interest Groups, Peer-support groups, and Working groups with independant reporting structures is an alternative model. Ultimately decisions should rest with Data, Evidence, and Results shared and discussed with transparancy, including with those who are more vulnerable and are affected the most by these policies.

I would like to suggest an open governance structure as an alternative.

##  Lars Kahnert, GIZ, Germany

**Question 1. What are the potential entry points for government to address challenges and foster the development of digital agriculture?**

* Add: Inadequate availability and accessibility of open data and lack of open data ecosystems
* Increase of socio-economic divides: Not only between countries, but also *within* countries / societies themselves!
* Low affordability is not necessarily restricted to *new* solutions. Business models are required that reduce barriers and can bring solutions to scale, whether new or old.
* Data ownership: Add “data protection”

##  Dinesh Panday, YPARD, Nepal

**Question 3**

The proposed concept note might have difficulties to link Role 1 (Building a Central Knowledge Hub) and Role 2 (Policy and Regulatory Framework for Digitalization) when it comes to ground level. Role 1 keeps an interaction of Farmer - Technology – Council, whereas Role 2 keeps nation(s) only and this leads more chances to formulate a top-down approach again. Is there any room that we can bring the nation into Role 1?

##  Mebit Kebede, Jhpiego, Ethiopia

**Question 1:**

* Use of blanket recommendation: in most developing countries farmers are not in a position to make informed and appropriate decision to apply any agricultural inputs rather farmers are forced to use a blanket recommendation without knowing the type and amount of nutrients lack to his/her soil. Mostly agriculture professionals recommend based on the research findings done somewhere else.
* How much farmers especially in developing countries will have access to the technology better to be considered.
* Not only socio-economic divides but also socio-cultural divides is better to be considered.
* Data quality should be considered boldly.

**Question 2:**

* Be loyal: the digital council shall be loyal to give constant support or allegiance to the rural community.
* Transparent and fairness.

##  Taimur Hyat, Consultant, Pakistan

I consider that the first stumbling block towards the adoption of Digital Agriculture is as follows:

**Question 1. What are the potential entry points for governments to address challenges and foster the development of digital agriculture?**

Proposed information for the concept note – The challenges that face our global food and agricultural system are enormous and some entry points that governments have to address are:

Access to information in Local and Regional Languages with access to translation software: There is no access to information in Local and Regional Languages and, in particular, to technical and non-technical knowledge of the agri-tech industry.

Incorrect selection of affordable of Appropriate; Adapted & Applied Low-Cost Solutions: There is no question of innovative interventions excluding the poorest of the poor if correct Soft, Self-Help Technologies are presented through Videos and Step By Step Guides with Local Language Live Support through Video Calls.

Yours Sincerely

Timur

## Mahesh Chander, Indian Veterinary Research Institute, India

Trust of information

The digital platforms are mushrooming in developing countries, each claiming authentic and reliable information to actors of the agri-tech value chain starting from the farmers, processors, retailers and consumers. Such multiplicity of digital platforms present issues of trust of the information source which make information available, as well as on the quality of the information provided. Many input suppliers for instance, may be misleading the farmers by exaggerating the potential of inputs or technology. How this is going to be regulated? Will the council come out with mechanisms to regulate information flow from digital platforms? It is also linked with the availability as also the quality of data, which affect the decisions at different levels. In developing countries, this is one of the serious limiting factors that often data are not correct. How the council will tackle this.

I believe, there is need of more webinars, regional consultations, workshops and face to face meeting before the digital council start functioning.

##  Andy Nyamekye, Wageningen University, Netherlands

**Question 1. What are the potential entry points for governments to address challenges and foster the development of digital agriculture?**

In addition to the challenges listed in the concept note are the lack of systems thinking and less reference to indigenous knowledge even at the design stage of digital innovations in agricultural systems. Given the dichotomy in digital literacy in the global north and south, governments must aim for a bottom-up approach to policy design and aim for a citizen-centered policy-making process in contrast to what is currently pursued in most countries especially in the global south. Like the proposed council for food and agriculture, governments must set up policy venues within food producing centers and measure the transformation process of integral digitization of agriculture from farm to fork.

**Question 2. How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?**

Be  Reflexive: the council must periodically reflect on propositions made to quickly adapt to fast changes in the digital innovation landscape.

Be  Anticipatory: Be forward-looking and potentially predict future the phase of digital agriculture through proactive thinking.

**Question 3: Do you think that the roles identified for the Digital Council are suitable for facing the food systems challenges outlined above?**

The council must have 'advocacy' clearly stipulated in their roles and function to ensure they play a significant role in engaging governments and key actors in drawing attention to the need for investment in digital agriculture as equally as peace and security.

##  Harish Jana, Water Technology Centre, India

**Contribution received through the e-Agriculture platform**

**Question 1**

the basic requirements for the farmer :

1) Best quality of seeds

2) Fertilizers/Bio fertilizers

3) Agrometeorological services for remote areas (for controlling major loss during folds or dry spell)

4) Marketing services

Above mentioned four (4) services addressed by the government by direct or indirect it helps to foster the development of digital agriculture.

The digital agriculture can also help to farmers related new schemes, subsidy or technology

## [Gullapalli Koteswara Rao](http://www.fao.org/e-agriculture/users/viswamathafarms), viswamatha farms, India

**Contribution received through the e-Agriculture platform**

**Question 1**

The land holdings in developing countries like India is very small. Networking of small holding farmers to increase the acreage as single large piece of land by FPO's & NGO's is essential. Government should focus on it to develop Digital Agriculture.

Latest technologies which are suitable for the small farm lands are Drones & Robots .These technologies should be promoted and utilized.

There should be a separate individual policy to encourage Digital agriculture by the Governments and it should be govern by agriculture research institutions, agriculture machinery manufactures, progressive farmers.

Government should allocate sufficient funds to develop innovative technologies which are suitable to small & Marginal farmers.

In order to reduce Suicidal deaths in the farming sector, the government should provide farm inputs, machinery, loans at lower interest rates with minimal documentation and also provide minimum support price by establishing  digital agri markets and make sure that digital markets are implementing without fail. The Digital markets to be audited for fair practices.

**Question 2**

Arrange to transfer upgraded technologies from the developed countries.

Support & facilitate the strong bi-lateral relationships between the countries where technologies are available to suit the local conditions.

Assist and provide required funds/financial assistance to the research institutes, universities, progressive farmers who are involved in adopting precision agriculture to scale up the digital agriculture.

Assist in setting up agricultural advanced technological parks to train progressive farmers and early adopters.

Boosting up research and development activities in universities & farm mechanise industries along with popularisation of inexpensive technical tools among small scale farmers to increase the profit.

Adopt low, medium and High technology in digital agriculture in steo wise.

**Question 3**

Aggregation of existing research and resources: to be reviewed to implement at the developing nations.

Highlights of new technologies: technologies which are used in NASA (e.g.: LIBS) remote sensing technologies to be examined and adopted in digital agriculture.

A synthesis of the way that target farmers can progress in implementing various digital technologies: The new innovative technologies should be developed based on the domestic conditions, crops, livestock, poultry, weather pattern.

How to guide for officials or small holder farmers for business model development and technology: the council should provide digital agri service providers to train the farmers and digital agri tools providers on lease /rental to adopt new technologies.

**Question 4**

Success stories on digital agriculture around the developing countries to be filmed and shown to small and marginal farmers to adopt and scale up the digital agriculture.

The above suggestion may be included in working group.

**Question 5**

Digital Agriculture Benefits for small & Marginal farmers:

The rapid economic changes in developing countries are creating new scopes for digital agriculture. Previously the agriculture is resource based nature and now it is entering in to knowledge based era.

Due to increase in population, availability of land diminishing, the small scale farmers’ productivity required to be increased. To organize the total system of agriculture towards a low input, high efficiency and sustainable agriculture we need to modify the available innovative technology to suit domestic conditions, crop type, weather pattern.

Since the digital technology difficult to understand small & marginal farmers, we need to provide training and service providers and Digital agriculture tools to be provided at affordable cost by Government or Corporate sectors.

Adoption of Digital Agriculture  will help in

Increase in farm production and Profit.

It will provide better decision support system (DSS).

It will improve soil productivity.

It will improve water quality.

It will improve wildlife habit.

sustain natural resources for generations to come.

it will helps us in protecting the environment.

This digital agriculture tools helps farmers to complete their tasks in reduced working hours and lowers production costs.

Digital Agriculture makes farming more interesting for future generations.

##  Daniele Manzella, FAO, Italy

Dear colleagues, first let me thank you for the very commendable initiative, which, in my opinion, comes at the right time. I value the opportunity to contribute to the set up of the International Digital Council. My inputs are below. I look forward to interacting more with the community in the near future. Daniele Manzella (FAO, CBDT)

Question 1.

I think that the global challenges that the concept note puts forward, are comprehensive. However, I suggest strengthening the data ownership section by including policy and legal analysis of data ownership from the angle of access and use. Property is an important component but access and usability are equally fundamental. In this regard, open data vs. negotiated access is a dichotomy that is emerging in several sectors (e.g. plant sequence data) and the division between "data rich" and "data poor" is sharp. My suggestion is to connect this area of work to the 'digital divide", by adopting a capability approach, i.e. by strengthening not only the capacity to generate data, but also the analytical capacity of developing countries.

Question 2.

I suggest adding:

Being responsive to scientific evidence: the action of the Digital Council shall be informed by scientific evidence, including from social sciences, regarding e.g. responsible innovation pathways, technology absorption capacity. The Digital Council will produce a reflexive process whereby scientific evidence is generated and acted upon, and experience with implementation is then reviewed.

Question 3.

I suggest that the table insert into the innovator gap, the digital divide challenge.

##  ****Javier Almeida Simball,**** Ministerio de Agricultura y Ganadería, Ecuador

English translation will be available soon

**Ministerio de Agricultura y Ganadería**

**Respuestas para Nota Conceptual: Consejo Digital Internacional para la Alimentación y la Agricultura**

**1. ¿Cuáles son los posibles puntos de partida para que el gobierno aborde los desafíos y promueva el desarrollo de la agricultura digital?**

Para establecer una política pública debemos entender el estado del uso de herramientas tecnológicas en la agricultura. En un país como Ecuador, no son difundidas y no ha sido desarrollada la confianza en el uso de dichas herramientas, además por el alto costo de las mismas. Por lo tanto, se debe iniciar el reconocimiento de tecnología que esté en pleno uso para identificar las razones por las que su utilización es más difundida.

Existen varios desafíos a superar como el acceso a la información, alfabetización digital y precios poco asequibles, pero estos desafíos son transversales a la dinámica de producción de los pequeños productores, ya que este sector no tiende al uso de estas herramientas, por lo tanto tenemos que considerarlos como población meta a través de la asociatividad.

**2. ¿Cómo puede la creación del Consejo Digital abordar las numerosas barreras para la adopción de estas tecnologías?**

La identificación del estado situacional del país en cuanto a uso de herramientas tecnológicas, el intercambio de experiencias y las alianzas entre países podría ser las principales barreras a abordar inmediatamente, el consejo debe de llegar a acuerdos definidos.

**3. En su opinión, ¿Considera que las funciones identificadas para el Consejo Digital son adecuadas para hacer frente a los desafíos de los sistemas alimentarios antes mencionados?**

Las funciones del consejo están previstas para poder crear un centro de información para la consulta tanto de países como productores y también el espacio para debatir proyectos, metodologías y normativa para el fomento del uso de herramientas tecnológicas, pero también se podría instaurar un equipo técnico dentro del consejo con el que se pueda trabajar situaciones específicas de los países miembros como también la búsqueda de fondos para instaurar proyectos de investigación y desarrollo en el campo.

**4. ¿Qué estructura de gobernanza debería implantarse para que el Consejo pueda cumplir su propósito?**

La estructura presentada es favorable para el correcto procedimiento del consejo, ya que las bases serán los grupos de trabajo que podrán ser divididos por los diferentes enfoques con un mismo objetivo que tendrán los países para el desarrollo de las mesas, siendo esta la oportunidad de desarrollar propuestas de normativas y asistencia a países para el fomento del uso de herramientas como producto de cada uno de los grupos a formar.

## [Muhammad Subhan Qureshi](http://www.fao.org/fsnforum/member/muhammad-subhan-qureshi)****,**** Dairy Science Park, Pakistan

Good governance is lacking in the developing countries due to inefficiency of the relevant public service organizations. The red tape and tightly defined mandates of these organizations make their services almost non accessible for the stakeholders. An appropriate approach would be Academia-Industry-Government Nexus, providing win win situation for everyone.

Scientific Societies may contribute their services to the stakeholders across Food Value Chain through their expert groups and partner organizations. Dairy Science Park has come up with a Good Governance Model. [Www.dairysciencepark.org.pk/services-2](http://www.dairysciencepark.org.pk/services-2)

##  [Fidelis Eyoh Ukume](http://www.fao.org/fsnforum/member/fidelis-eyoh-ukume), African Development Bank, Côte d'Ivoire

**1. What are the potential entry points for government to address challenges and foster the development of digital agriculture?**

The Digitalisation Council can have on its mandate to work with the WTO and other like-agencies to ensure trade facilitation in the buying and selling of goods and services for agric tech. I think this point can fall under infrastructure or remain as a stand-alone point.

**2. How can the establishment of the Digitalisation Council address the numerous barriers to adoption of these technologies?**

To its principle of accessibility, ensuring visibility of the solution it proposes should be a high priority. The Digitalisation Council should strive to ensure farmers across the world know about its role and how they can benefit from its activities.

**3. Do you think that the roles identified for the Digital Council are suitable for facing the agrifood systems challenges outlined above?**

Another possible role under the policy and regulatory framework that can be taken up by the Digitisation Council is the role of advocating globally for the reduction in the cost of specific agric technologies so this can benefit poorer countries. A similar strategy as those used by the Global Fund to renogotiate prices for life-saving malaria, TB or HIV drugs so that patients from poorer countries can afford.  Advocacy for the reduction of prices can therefore be targeted such that the reductions only benefit the poorer countries.

##  [KBN Rayana](http://www.fao.org/fsnforum/member/kbn-rayana), JNU &IAMMA Institute of Agric. Mktg, Mgt., & Admin, India

Since digital in Agriculture implementation is an important aspect as the changes in the information technologies advanced at international level and every country using the digitalization besides fast track of communication.

This improves fastest use of right information tech, and R&D on field with latest use of extension technology, and transfer of technology in a specific country, along with the downloading and bringing easy way of technology developed in the world.

This is a fast step of less developed countries along with lively hood of Agriculture in tropical countries including India which is highest number of population , ie even today 65% population had an art and lively hood of agriculture, which is not counted by occupation, even though taxes paid by small farmer to big farmer.

How we can do it?

1. Let all member governments and non members to establish national level digital council, and associate with FAO, along with other international organizations participated....

2. make a plat form for direct slae /logistics-- on food front(unprocessed)

3. Develop the latest innovation center to enable to asses

4. Interaction and dispute redressel

5. rights and do`s and dont do`s.

6. association of international organizations and its monitoring/funding and developing of projects from time to time

7. association with R&D organizations both governmental, NGO`s and etc. including private one

8. Food matrix

9. Agricultural index

10. commandent on sessions and proposals cell with if any complaints.

These 10 points by initiating further involvement of regional level counted.

BY

Dr. Prof. K B NaRayana

Professor at Jaipur international university -- India

chairman - IAMMA., Hyd/India, & @ USA.

## [Hamad Lyimo](http://www.fao.org/fsnforum/member/hamad-lyimo)****,**** Ministry of Agriculture, United Republic of Tanzania

As an African I am so anxious with the establishment of the International Digital Council for Food and Agriculture. For a long time information gap between developed and developing countries has been to the disadvantage of developing countries. Because internet has no borders it is my hope that this Council will foster information sharing which will reduce information gap between countries. I am sure one day the whole world will sing the same song in addressing issues of food and agriculture. It is at that time then agricultural service providers, producers, processors and consumer will share data that will enable every partner to benefit from the sector without causing harm to another.

##  ****Dele Raheem,**** Arctic Centre, University of Lapland, Finland

**Contribution received through the e-Agriculture platform**

**Question 1**

The challenges are definitely inconclusive.... As an on-going initiative that seek inputs from stakeholders, the needs for different communities are expected to change over time. An important aspect for the council will be to effectively liaise with national governments to build their "analog infrastructures" that will support the envisaged digital solutions in the new 'Digital Council for Food and Agriculture'. How close the operations of the Council be to the end users will be crucial in its delivery.

**Question 2**

Perhaps an opportunity for cross-fertilisation of ideas through trainings and workshops on a regular basis (in both virtual and real platforms). It will be ideal to have branches of the Digital Council in strategic locations that are close to the people geographically.

##  [FSN Forum Team](http://www.fao.org/fsnforum/member/fsn-forum-team)

Dear all,

We would like to draw your attention to the [recording of the webinar](http://fao.adobeconnect.com/pk5hyp77z92o/) “Towards the establishment of an International Digital Council for Food and Agriculture”, which you can access here:

<http://fao.adobeconnect.com/pk5hyp77z92o/>

The webinar complemented this online discussion and took place last week. It featured a presentation by Mr. Samuel Varas, Director of the Information Technology Division at FAO. His presentation was followed by a question and answer session moderated by Ms. Meng Zeng, Information Technology Officer at FAO.

*Your FSN Forum Team*

##  [Policarpo Tamele](http://www.fao.org/fsnforum/member/policarpo-tamele)****,**** Entrepreneurship Development Agency, Mozambique

Establishing an international digital council for agriculture and food can be an extremely important tool for sharing information, networking, researching markets, pricing and sharing projects of successes, lessons and challenges.

I fully agree with this FAO mechanism to lead this process, as digitization will drive and revolutionize increased production and productivity to ensure food security.

I would like to call on FAO to create ways that in developing countries this concept will be broader even in rural areas and for Mozambique, where about 80% of the population depends on agriculture could create a new approach and stimulus.

##  [Marco Meneses](http://www.fao.org/fsnforum/member/marco-meneses)****,**** Primary Care Clinics, United States of America

In order to be successful, we must take in account the digital divide that exists in the country side and farm lands.

Agricultors, farmers and land workers must have access to the internet and to basic digital technologies.

If we want innovation, we must think in creative ways to close the digital gap between users in cities and the farms.

Do the farmers have access to the internet?

Do the farmers have access to electricity, solar, wind, batteries, etc?

Do the farmers have the skills to navigate the electronic frontier with laptops or phones?

How are we to integrate the high level decisions from planners and governments to the farmer?

Community Health Workers around the world have been looking for practical solutions the integration of technology and primary health care.

Marco Meneses

##  Gian Linard Nicolay, FiBL, Switzerland

**To Q1**, I propose some differentiation and new elements to highlight the challenges:

- digital literacy for skills development should address better cooperation with mobile companies (PPP), vocational schools as well as well organised farmer organisations, ideally at national a/o local level.

- the rural/urban divide should be added in bullet 6

- research and science-based information (in the form of R&D) can enhance the trust of information, hence the need to cooperate with research institutes interesetd in promoting education and skills for farmers.

**To Q2**, the principles highlighted may still be improved. My proposal:

- to add: (i) be accountable; (ii) subsidiary, i.e. the higher level of the Council should only intervene if the lower is not capable to do it; (iii) The main production systems should be differentiated, as the required knowledge/information need is often very specific to the production system. At least the distinction between industrial/big farming and agroecology/organic/smallholder farming should be made.

- the DC should operate more as a network than a hierarchical structure and so encourage the open sharing of experiences between regions and countries. The focus of the DC should be on enhancing the framework conditions by taking a leadership role, promoting pilotes and communicate effectively.

- under "neutral": the DC has not to accelerate digital agriculture, but to assure that the sector makes best use of it.

- under "be accessible". It is not the role (and competency) of DC only to make DA available and affordable, but together with the private sector (service providers) and the farmers communities.

**To Q3**, I think that the 3 key ecosystem gaps are fine for defining the roles for the DC. But what I miss is the distinction into the anticipated 4 levels, i.e. local, national, regional and global. See above my comment on decentralization and subsidiarity principles.

**To Q4**: An alternative model would be a network architecture, where the Secretariate would provide and receive information from the regional and national nodes, and the EC just be responsible for strategic decisions. All operational decisions should be regional, national and local. Desigend as it is, the public sector has too much weight and risks to end in a bureacratic and static organisation, not following the fast technological and social developments.

##  [Virendra Kamalvanshi](http://www.fao.org/fsnforum/member/virendra-kamalvanshi)****,**** Banaras Hindu University, India

**What are the potential entry points for government to address challenges and foster the development of digital agriculture?**

In many countries government has a good network of agricultural research institute, universities, marketing agencies and others. These organisations are working for many decades and they know about the local requirements and the other dynamics related to agriculture. They have collected huge data and other information. If that data can be utilised by converting into digital format for getting the in-depth information then it will be a better option. There are many issues  when we are working with governments especially in the case of developing countries corruption, education, political instability, economic inequality are very common. If the present plan is Implemented in a proper way along with giving proper training to the participating staff members. Then the Council will be able to drop at successful in achieving their objectives

vk

##  Moha Haddouch, UNDP, Morocco

Digital technology in agriculture should be driven by the need to make science based decisions.  The ecosystem service approach will help advance DT through data mining, modling and marketplace development in a way to meet the MEAs. The ESP has capitalized a substantial body of knowledge and tools that could be shaped to fit with precision farming. Creating an open team within ESP members is recommended.

##  Moha Haddouch, UNDP, Morocco

<https://vimeo.com/369924681>

A case study.

## [Virendra Kamalvanshi](http://www.fao.org/fsnforum/member/virendra-kamalvanshi)****,**** Banaras Hindu University, India

How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?

Digital Council can play a pivotal role in identifying the various adoption issues at a local level and try to give solutions at the local level. Depending upon the resource availability at various locations we should try to give solutions.

* Council can make it mandatory that the communication should be bidirectional, there should be a scope of the feedback system by which we can improve our self.
* By technological support, the Council can give solutions which will be real-time solutions or there should be a minimum time lap.
* Council can Help in merging various governmental, international and other parties to a single platform which caters their most of the needs making it an Inevitable "high utility" Need.
* Council can check duplication and Multiplicity of platforms from many such organisations.
* Council can give regulations for the interface, Data interpretability etc. To make it more easy for common operations and usage.

##  Dele Raheem, Arctic Centre / University of Lapland, Finland

In order to address challenges and foster the development of digital agriculture it will be important not to have a generalized concept to address these challenges in different geographical zones. An analysis of a case by case study that takes a critical look at both the opportunities and challenges should be carried out. Apart from the enormous opportunities of digitalisation, a recent policy report on "Digital transformation of European industry" clearly identified risks such as how automation and digitalisation risk polarising work and labour market inequalities, challenges to taxation and social equality systems, escaled shortages in digital skills across the economy, the competitiveness of firms dependent on mastery of digitalisation, issues of privacy and ethics.

##  [Mahesh Chander](http://www.fao.org/fsnforum/member/mahesh-chander)****.**** Indian Veterinary Research Institute, India

**Do you think that the roles identified for the Digital Council are suitable for facing the food systems challenges outlined above?**

Will the Digital Council work in collaboration or in convergence mode with the structures already in place in different countries? Often it would mean working on its own, irrespective of the work whatever little or more being done by the country governments. Also, sometime local structures become defunct when external agencies start doing work in the concerned area. The Proposed information for the concept note presented in tabular form indicates that the council would regulate most of the activities in food systems digital space. Often it may be the case, some countries are already doing some good work, in fact could be some lessons for the council too. Many a time the existing frameworks get disrupted even when doing well due to the external interventions being powerful in terms of money and influence. Hope the digital council will ensure nurturing the good practices and learn the lessons too!

##  [Omoyemen Lucia Odigie-Emmanuel](http://www.fao.org/fsnforum/member/omoyemen-lucia-odigie-emmanuel)****,**** Centre for Human Rights and Climate Change Research/ Nigerian Law School, Nigeria

**1. What are the potential entry points for government to address challenges and foster the development of digital agriculture?**

The first entry point is to undertake situation analysis that will enable government determine its own need and peculiarity in ensuring the right to food, food security and implementing the SDG related to food and agriculture and the key role digitization can be used for enhancement. Of course acess to information and date in usable form is imperative. It is necessary for government to prioritize investment in building skill especially digital literacy skill and needed infrastructure.

**2. How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?**

Initiatives, modalities and representation of the Council should be integrated reflecting a recognition of the linkages among food, water and energy.

**3. Do you think that the roles identified for the Digital Council are suitable for facing the agrifood systems challenges outlined above?**

Methods for linking food and agricultural policies and tools with other national, subnational and local policies using a rights based approach that integrates SDG targets and indicators.

**4. What governance structure should be in place in order for the Council to serve its purpose?**

Governance structure should reflect to local level engagement and allow down to up, up to down information flow.

##  Omerani Abdesslam, Haut Commissariat aux Eaux et Forêts et à la Lutte Contre La Désertification, Morocco

**English translation will be available soon**

**Quels sont les points d'entrée potentiels qui permettraient aux gouvernements de relever les défis et de favoriser le développement de l'agriculture numérique?**

Le transfert de technologies aux pays en développement et le renforcement des capacités locales pour leur adaptation et utilisation constituent des objectifs communs  prônés par la plupart des conventions et arrangements internationaux ou régionaux découlant du processus de RIO.

Dans cette optique, l’innovation et le transfert de technologies sont  à considérer comme systèmes complexes fondés sur une approche multipolaire considérant les capacités et les facteurs internes  aux différents acteurs, d’une part et l’environnement politique, culturel, économique et social, des parties impliquées , d’autre part. En effet, les activités ne concernent pas uniquement  le cadre de recherche ou industriel/artisanal permettant le développement des connaissances et l’adaptation des techniques, mais devront appréhender le renforcement des capacités des utilisateurs, la prise en compte du contexte genre, la diffusion des informations, la mise à disposition de locaux adéquats,….

Le développement de l'agriculture numérique devrait donc, à mon sens, être centré sur l’innovation et le transfert de technologie, tant au niveau de l’accès à l’information et aux outils  qu’au niveau du développement des compétences numériques.

La création d'un Conseil numérique international pour l'alimentation et l'agriculture revêt une importance particulière et devrait, une fois opérationnalisée,  inciter à la constitution de conseils numériques nationaux similaires dans les pays en développement avec l’appui de la FAO.

##  Rumyana Tonchovska, FAO, Italy

The UN-GGIM, UNSD has endorsed an UN Integrated Geospatial Information Framework in August 2018, which has 9 Strategic Pathways: Governance and Institutions, Policy and Legal, Financial, Data, Innovations, Standards, Partnerships, Capacity and Education, Communication and Engagement.

All 9 Strategic pathways are critical for the work of the International Council for Food and Agriculture. My suggestion is to build up on what has already been developed and negotiated with the UN MS and develop it further on how it can be used for Food and Agriculture sector as well as what the contribution of the Food and Agriculture sector to the Integrated Geospatial Information Framework is.

The International Digital Council for Food and Agriculture can be a knowledge and innovation hub for this sector. The UNSD is working with China to establish a Center of Excellence for Geospatial Information Management. FAO could host a Center of Excellence for Geospatial Information Management and Innovations for Food and Agriculture.

##  Vethaiya Balasubramanian, Freelance Consultant, India

The biggest challenge to DC will be to make the relevant information affordable, easily accessible in user-friendly forms, and made available on a timely manner to millions of smallholder farmers who are so diverse and scattered over large areas. To enhance the use of digital technologies by smallholder farmers, we need to:

**Organize the smallholder farmers into producer groups for each commodity** where the digital technologies can be tailor-made for each group and disseminated efficiently.

**Establish digital technologies service providers** who will serve their clients the required digital information and technologies on a cost-recovery basis. If the information and technologies provided are robust enough to make a significant positive difference in farmers' income and livelihood, they will be willingly pay for the services.

**Timely information is critical in focused and location-specific weather forecasting, early warning of impending natural disasters, possible invasion of pests and diseases** based on local weather, and demand-supply balancing and price fluctuations in markets.

Digital technologies must help demand-supply management. **Assessment of regional demand for various commodities and crop planning to meet the assessed demands** will help farmers prevent excessive production that will lead to market gluts and declining prices. This is especially important for the perishable produce like the vegetables and fruits.

**Cost-benefit analysis of each technology** must be made available to farmers so that they can make an informed choice of technologies they wish to use in their farms.

##  Irina Kravetc, CleverAgri, Ukraine

Original contribution in Russian

**1.Каковы возможные отправные точки для правительства для решения проблем и содействия развитию цифрового сельского хозяйства?**

Первоначально нужно определить, а заинтересовано ли само конкретное государство в диджитализации. Здесь нужен дифференцированный подход.

Например, общий земельный банк Украины составляет 45 млн гектаров , при этом в собственности государства находятся 10 млн гектар земли сельскохозяйственного назначения, данные об использовании которой находятся в тени. Только 73% сельскохозяйственных земель внесены в официальный Кадастр.

Комплексное внедрение инструментов диджитализации происходит преимущественно в частных агрохолдингах с земельным банком от 5000 га и более, для фермеров инструменты цифровизации доступны на уровне отдельных виджетов.

В целом государство не имеет никакого отношения к данным процессам и эту ситуацию нужно менять.

**2.Как создание Цифрового совета может устранить многочисленные барьеры на пути внедрения этих технологий?**

Надеюсь, что ЦС сможет объединить государства, являющиеся крупными экспортерами сельхозпродукции с целью сбора (он-лайн) данных о планируемом и фактическом урожае и обмениваться этими данным друг с другом, чтобы в целом понимать глобальную продовольственную ситуацию, что позволит в будущем рационально распределять продовольственные ресурсы и четко планировать ситуацию с продовольствием в мире.

**4.Какую структуру управления следует создать, чтобы Совет мог выполнить свою задачу?**

Предложенная организационная структура Цифрового Совета является рациональной, прозрачной и продуктивной благодаря заложенным в основу Рабочим группам. Очень важным полезным является создание Центра Мониторинга.

**5.Пожалуйста, добавьте любой другой комментарий или соответствующий контент, который, по вашему мнению, должен быть включен в Концептуальную записку.**

Хотелось бы поделиться практическим опытом внедрения диджитализации, проблемами и путями их решения.

Прогноз урожайности для глобального рынка продовольствия.

Достоверность цифровых данных по прогнозированию урожайности, рассчитанная на основе индекса зеленой массы, соответствует действительности только для некоторых культур, таких как подсолнечник, пшеница. Для кукурузы прогнозные и фактические данные расходятся на 30%. Для решения этой проблемы нужно применять решение по фактическому учету урожая, основанное на построении цифровой платформы Internet of Things, а именно датчиков, установленных как на сельхозтехнике, так и на элеваторах, которые передают фактические данные в он-лайн.

Глобальное объединение данных по фактическому урожаю позволит DC четко видеть продовольственную картину мира.

Мелкие фермеры заинтересованы во внедрении цифровых инструментов. Основная проблема для фермеров – непонимание какие инструменты цифровизации существуют на рынке, интерфейс непонятен, навыков самостоятельного внедрения не имеют, времени на изучение и внедрение не имеют.

Инструменты цифровизации – это быстро окупаемая инвестиция, повышающая производительность труда, доступная даже для мелких фермеров.

Одним из результатов деятельности Цифрового Совета хотелось бы видеть создание общего информационного поля, включающего в себя как данные, предоставляемые ДЛЯ сельхозпроизводителей ( спутниковые данные о погоде, влажности почвы, индексы развития растений), так и встречно полученные данные ОТ сельхозпроизводителей (данные о фактическом урожае, внесенных гербицидах). Это позволит видеть глобальную цифровую картину мира продовольствия в количественном и качественном отношениях и быстрее реагировать на решение возникающих продовольственных проблем

English translation

**1.** **What are the possible starting points for the government to solve problems and promote the development of digital agriculture?**

Initially, it is necessary to determine whether a particular country is interested in digitalization. A differentiated approach is needed here.

For example, the total land bank of Ukraine is 45 million hectares, while the state owns 10 million hectares of agricultural land, however data on the use thereof are in the shade. Only 73% of agricultural land is included in the official Cadastre.

Comprehensive implementation of digitalization tools takes place mainly in private agricultural holdings with a land bank of 5000 ha or more, for farmers digitalization tools are available at the level of individual widgets.

In general, the state has nothing to do with these processes and this situation needs to be changed.

**2. How can establishment of a Digital Council remove numerous barriers to introduction of these technologies?**

I hope that DCs will be able to unite the states that are major exporters of agricultural products in order to collect (on-line) data on the planned and actual harvest and exchange these data with each other, in order to generally understand the global food situation, which will allow rational distribution of food resources in the future and clearly plan the food situation in the world.

**4. What management structure should be established so that the Council can fulfill its task?**

The proposed organizational structure of the Digital Council is rational, transparent and productive due to the work of Working Groups which are embedded in the foundation. A very important and useful is the establishment of a Monitoring Center.

**5. Please add any other comment or related content that you think should be included in the Concept Note.**

I would like to share practical experience in the implementation of digitalization, problems and ways to solve them.

Yield forecast for the global food market.

The reliability of the digital data on yield forecasting, calculated on the basis of the green mass index, in reality is true only for some crops, such as sunflower, wheat. For corn, forecast and actual data differ by 30%. To solve this problem, it is necessary to apply a solution for the actual accounting of the crop, based on the construction of the Internet of Things digital platform, namely sensors installed both on agricultural machinery and on elevators that transmit actual data online.

Global aggregation of actual crop data will allow DCs to clearly see the food picture of the world.

Small farmers are interested in introducing digital tools. The main problem for farmers is a lack of understanding of what digitalization tools exist in the market, the interface is incomprehensible, they do not have self-introduction skills, they do not have time to study and implement.

Digitalization tools are a quick to recoup of investment that increases productivity, even for small farmers.

As one of the results of the Digital Council’s activities I would like to see the establishment of a common information field, which includes both data provided FOR agricultural producers (satellite data on weather, soil moisture, plant development indices), and counter-received data from agricultural producers (data on actual harvest, and applied herbicides). This will allow us to see the global digital picture of the world of food in quantitative and qualitative terms and to respond more quickly to the solution of emerging food problems.

##  David Dion, FAO, Tunisia

Contribution received through the e-Agriculture platform

**Q1**

The private sector has been eager to step up and provide innovations when the appropriate conditions are in place.  Where governments can be most effective is in supporting a regulatory environment that encourages the sharing of information and the development of digital infrastructure, in particular in rural areas.  It is costly to provide the core infrastructure components, such as the telecommunications networks and the central hosting or cloud services and the government could step in, perhaps in partnership with private sector actors, to facilitate and accelerate the building of this infrastructure.

Another area where governments can provide an important imput is in training.  From technical colleges to universities, high schools to extension services, it is crucial to build a cadre of digitally skilled advocates to spread the knowledge and the mentality of digital transformation.

**Q2**

I believe that under the principle of inclusivity, mention should be made of important actors such as financial institutions, information technology companies and experts and international donors.  Perhaps it is a given, but it would be better to state it outright as these actors will have important roles to play in rolling out technology solutions that benefit the agricultural sector.

**Q4**

I agree with [this comment](http://www.fao.org/fsnforum/comment/9765) and would suggest that alternative governance structures from the fields of Information Technology and computer science be examined for applicability.  I think it is also important to seek the involvement and participation of the beneficiaries on the ground in the countries that will be affected.  Concrete support should be given to the creation and maintenance of national-level councils that can act as a bridge between this international council and the public and private sector actors within the countries. It is crucial to have local buy-in as early as possible and the proposed structure does not appear to address this requirement.

##  Chris Ndungu, BASF, Kenya

Contribution received through the e-Agriculture platform

**Q1**

Life in rural areas is characterised with lack of electricity and bad roads. Yet some of these areas have very high crop yield. The result is low school enrolment and high poverty levels.

Internet connectivity tend to be high where road network is established and there is electricity. People need power to charge smartphones…Fibre optic cable is laid along public roads or follows electricity line….Unfortunately, these services are not avaiable in rural areas where agriculture is the main aconomic activity.

Roads and electricity, these are amenities the government should prioritise. Then private companies such as telecoms will see need to establish infrastructure due to perceived low risk. After that digital agriculture will then pick up.

I have documented this urgument before in a LinkedIn post before;

[https://www.linkedin.com/pulse/internet-enabled-agriculture-chris-ndungu...](https://www.linkedin.com/pulse/internet-enabled-agriculture-chris-ndungu-digital-marketing/)

**Q2**

Digital needs of players in food and agriculture value chain vary depending on the farm activity and geography. Optimizing agriculture digitalization at last mile level will yeild the most smallholder uplift.

For instance, how can a corn farmer holding smartphone differentiate between a caterpillar and a fall armyworm? And what preventive action can they take immediately? All this is possible digitally.

**Q3**

Under the "tools for nation and local governments" it would be great to eventually develop a 'global e-agriculture index'. This would entail an annual index showing country improvement and gaps. Examples are World Bank 'ease of doing business' or GSMA 'mobile connectivity' indexes.

This would be a great benchmarking instrument for goverments to reflect on their performance and for digital creators to identify market potential.

\_my two cents\_

##  Sophie Treinen, FAO, Hungary

Contribution received through the e-Agriculture platform

**Q1**

The entry points can be summarized asking the A's questions, are digital technologies in rural areas :

- Available, in terms of infrastructure, connectivity and quality of the service but also availablity of content in the language users can understand, replying to their needs

- Accessible - do people have access to the equipment, devices, maintenance.

- Affordable - is the price to pay for smallholder farmers, women, youth to have access affordable.

- Appropriate - adapted: are the devices appropriate in terms of resistance rural conditions exposed to climate changes such a very hot and very cold temperatres, dust, high level of humidity, shocks, can it be read easily ...

- Allowed - are there rules, social barriers that would prevent rural users to use the digital technologies.

- Ability: are users in rural areas prepared to use digital technologies, are there programme to make them trust the technologies, understand the benefits and developing their capacities to use them?

FAO has also highlighted in 7 success factors that should be taken into consideration to reduce the triple divide (digital, rural and gender):

Provide adapted and reliable content from trusted sources.

Develop capacities for three dimensions: the individual’s capacity, organizational capacity, and the enabling environment.

Mainstream gender and diversity.

Increase access and participation.

Engage in partnerships, especially public-private.

Identify the right mix of technologies.

Ensure economic, social, and environmental sustainability.

##  ****Elijah Masika Ndinyo,**** Bukwo District Local Government, Uganda

Contribution received through the e-Agriculture platform

**Q1**

By enhancing E-extension services:- E-extension services can help raise farm profits and provide a cost-effective way to reach a greater number of farmers

The government can also enhance market information through digital technologies:- Under certain conditions, improved access to market information via mobile phone can help increase farmers’ sales and prices, and reduce price dispersions across markets.

##  Jacques Drolet, IDRG, Germany

Contribution received through the e-Agriculture platform

**Q3**

The development is missing timelines bycountry and harmonization timelines. Time and harmonization and cooperation are of the essence but we still do not challenge ourselves enough to deliver a timely global approach partly because of the "by country" approach. Although we know that we must do better, we are still caught in a nationalistic mindset which in many respect hinders the SDGs. We are missing the gentle strength needed for true sustainability.

##  Ana Islas Ramos, FAO, Italy

The usefulness of digital technologies relies heavily upon the availability of relevant context-specific local data. In my view, the biggest challenge to widespread and just digitalization is the investment (and largely non-digital effort) to gather data at the ground level (ie. farm surveys, individual food consumption assessments, soil sampling, etc.). Governments need to invest in developing capacities to gather accurate data and in recurrent, frequent data collection effots, which is very costly. The DC could advocate for such efforts and function as a mechanism to mobilize resources towards data poor geographical areas and topics.

##  Erand Llanaj, Department of Preventive Medicine, Faculty of Public Health, University of Debrecen, Hungary

Question 1. What are the potential entry points for government to address challenges and foster the development of digital agriculture?

Governments will need to consider potential benefits, costs and risks, and to understand the factors affecting technology uptake so that interventions can be targeted to where there is a market failure, or a public interest for digital agriculture. It is important to start with understanding how technology can help in different components of the policy cycle, and may require government bodies to expand their skillsets, invest in technology and training, or partner with other actors (both government and non-government). On the one hand, digital agriculture may create new roles or responsibilities for governments, including to enable the digital infrastructure (is there a case for governments to be a provider or a rule maker of new digital infrastructure, and under what circumstances); but on the other hand, if technology can reduce information asymmetries and transactions costs, less government intervention may be needed.

Question 2. How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?

While you address certain principles in the guide it seems that some important principles are not considered or perhaps masked. My proposal is to consider:

Reliability - The action of the Digital Council should perform reliably.

Transparency - The action of the Digital Council should be understandable and transparent.

Accountability - The action of the Digital Council should have accountability mechanisms.

Question 3: Do you think that the roles identified for the Digital Council are suitable for facing the food systems challenges outlined above?

The roles are suitable and it seems that they are based on traditional governance structures. However, while the digital council has considered ways to ensure smooth decision-making and potential work streams within the structure, it seems that there is no involvement with national focal points. If you will appoint people for every country (even digitally) than this point shall be ignored.

Question 4. What governance structure should be in place in order for the Council to serve its purpose? According to you, do you think the proposed governance scenario is politically feasible?

One important think to keep in mind when thinking about the governance structure should be Responsibility. It will be great to have some accountability governance unit – at the same level and structure as the advisory committee that will keep track and ensure implementation of whatever agenda will be set by the executive council. If something seems not right than some unit should be responsible for addressing concerns – there are always things to be improved and science and technology does not end with us! You can even assign a working groups to make sure that there will be equal access to the services and digital guidance for all members, regarding the open source tools and ensure the quality of those tools! A space should be left for citizenship and local civil organization to participate (e.g. as partners). They can best help in the process of understanding local needs and how can to create public value.

##  Violet Chanza Black, Italy

If the digital council is made of a well representative team who have experiences and knowledge about the digital divide in different contexts then it would be able to address the barriers. Governments should put in place a place for reporting and knowledge sharing so that lessons learnt can be shared among different contexts.

##  Joseph Bagyaraj, Centre for Natural Biological Resources and Community Development (CNBRCD), India

It is an excellent move to establish an international digital council for food and agriculture. This will definitely help to increase agricultural productivity, improve the livelihood of farmers and also environmental sustainability especially in developing countries. Taking example my area of research, I work on beneficial microorganisms which enhance plant productivity. through several experiments we have shown that inoculation with these organisms not only improve the growth and yield of crops but also reduce environmental pollution through use of reduced quantity of fertilizers and pesticides. This fetches higher income to the farmer. Further this microbial technology also helps the nursery men to produce healthy vigorously growing seedlings which fetch him much higher price. I also like to point out that many of the agricultural technologies developed by scientists do not reach the stake holder because of gap in transfer of technologies developed. So in my opinion establishment of this international digital council will help to solve this problem.

##  Vijay Vallabh Barthwal, Independent Researcher, India

1. What are the potential entry points for government to address challenges and foster the development of digital agriculture?

Basically, India is having agrarian economy with more than 70 percent of population depends upon agriculture and allied activities for their livelihood. Unfortunately, share of agriculture is continuously declining over the years, with 15% contribution in GDP. Recently our Government is seriously making her efforts to double the farmers income. It is really a herculean task for us. If digitalisation of farm sector is succeed in our country by making double of the farmer's income on one hand and increasing the employment in agricultural sector our country and create more and more opportunities for our youths of small land holding in this sector, on the other. Only in that case we can say that digitalization is getting success.

2. How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?

Following steps should be taken by Digital Council to address the numerous barriers to adoption of these technologies

1. Wide spread Awareness programmes must be conducted in rural areas regarding digitalization of agriculture.

2. At the national level, various Regional Digital Councils may be established at state/district and village level.

3. Do you think that the roles identified for the Digital Council are suitable for facing the agrifood systems challenges outlined above?

- Certainly. It can play it's vital role, if the general farmer is involved to adopt and in implementation of digitalization of agriculture in our country.

4. What governance structure should be in place in order for the Council to serve its purpose?

Following Governance structure can be established

        INTERNATIONAL LEVEL

                    -

Various International Agencies and respective National Governments

                  -

1. Different State Governments  2. NGOs   3.Private Sector 4.Different Political Groups and People

4

##  Theodor Friedrich, FAO, Bolivia

Digitalization is a means, not an end. Priority should have firstly to establish sustainable management of land and natural resources to achieve the dream of Sustainable Agriculture. For this FAO should give firstly priority to roll out Conservation Agriculture at a global scale. So far this sustainable farming covers only 12% of global cropland and FAO's activities in this area are marginal. The next step should be creating the technology bases, on which digitalization can meaningfully work - basic "sustainable agricultural mechanization" along with the establishment of the necessary service infrastructure, which would include digital infrastructure. Starting firstly with digitalization will be expensive, have little impact and will not make use of the full potential of digitalization.

##  John Ede, Ohaha Family Foundation, Nigeria

**What are the potential entry points for government to address challenges and foster the development of digital agriculture?**

There is need to develop either toll-free lines to capture information and share information with local farmers, or have a free text messaging system because majority of farmers have access to a mobile phone, and in most communities there is someone who can either read and interprete  the message or have the message sent in the language of that particular region. Say for instance in Nigeria, information is Hausa Language is generally understood in the north, Yoruba in the West, and Igbo in the Eastern region. There are other languages depending on the region. This can be used to register farmers, share information like fertilizer availability, availability of seedlings, capacity development initiatives, latest information, at no cost to the farmers.

UNICEF's U-Report was implemented in Nigeria some time back, am not sure about now, and it was effective to spread news, capture polls, learn from the people what is important to them, and it helped shape UNICEFs work in country.

Also, there is the need to provide a channel where the farmers can provide feedbacks and respond.

The government could set-up a project team comprising farmers, CSOs, private sector and a small team from the government, while FAO monitors the process and holds them to account.

**How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?**

A digital council can address the numerous barriers to adoption of these technologies by forming a country teams with focal committee not just one focal person from the government. A farmer can connect with another farmer. There is the need for an independent team with people that can relate with the farmers on that country team.

There is the need to build local capcity of team members in-country, to manage communication with the people.

**Do you think that the roles identified for the Digital Council are suitable for facing the agrifood systems challenges outlined above?**

These roles identified is great, but there is need for country or regional representation in the advisory team, and add country teams in the working groups or regional groups. What will the composition of the team be? there is the need to have a greater portion of the teams, groups to be very independent of influence by national government to get the near true picture and implementation of the project.

We can also have other donor agencies send focal persons as members of the council with observer status to report to their organizations, this will make them feel part of the council, and also strengthen coordination and build capacity of local actors.

There is also the need to build capacity of the persons and groups of persons. There is need for country, regional and sub-regional consultation to feed into the overall goal of the design.

**What governance structure should be in place in order for the Council to serve its purpose?**

Select independent council members from ALL the regions of the world. FAO's country office or regional offices can serve the purpose of administrative and virtual meetings.

In 2010, I was channel manager for Microsoft to manage breath partners Northern Nigeria, my line manager was in Lagos, had a colleague in Ghana, we had more of our meetings virtual, and sent activity reports from the Microsoft offices in Abuja, Nigeria, and Accra, Ghana, coordinated by our manager in Lagos, Nigeria. The team small, but had wide coverage, most of the administrative cost were managed by the country offices, and there was an upsurge of interest as more partners felt the impact of Microsoft, I even had the opportunity to host partners in the Microfsoft Office to handle technical difficulties.

I understand that FAO can be really complex, but a similar approach could help, and besides, other multilateral agencies have their offices in-country, like the Worldbank, EU, DFID, aside the United Nations (FAO).

**Please add any other comment or relevant content you think should be included in the Concept Note.**

Increasingly, organizations are relying more on independent technical expertise of inidivuals in the regions or countries that they are most needed, it saves cost, expand reach, and helps to identify local actors to improve the process.

I will be happy to be part of the council, and will be more than happy to contribut technical skills and expertise to connect more farmers to boast food security using technology.

Currently, there are over 160 million active mobile phone lines in Nigeria, and there lies huge potential to connect more people with tools and resources to empower them towards a prosperous hunger-free, poverty alliviated future.

##  Justine Mwanje, Uganda Forestry Foundation, Uganda

Thanks for a very important discussion.

1. Potential entry points:

Root cause analysis to address challenges and foster the development of digital agriculture.

Root causes: Demographic, Economic, Technological, Political, Institutional, and Cultural.

a) Demographic: Inadequate digital literacy (and numeracy); inadequate new skills development; demographic dividends; digital divides, etc.

b) Economic: Poverty, inadequate access to financial services, inadequate for and by innovation; socio economic divides (gender, digital, geographic); lack of investments (particularly in under developed countries); low affordability of new solutions; inadequate financial capacity, etc;

c) Political: Inadequate access to information, inappropriate policies and regulations; inadequate enforcement; interference; inadequate governance; etc.

d) Institutional: Inadequate capacity; inappropriate institutions; inadequate coordination;

e) Cultural: Inequality (gender, age, religion, caste, status); negative teaching; abandonment of positive customs;

2. Addressing the numerous barriers: Agriculture is valuable because of the products and services that accrue from it. The factors of production are land, labour, capital and entrepreneurship or management, etc;

When management is characterized by innovation and inclusion, then empowerment occurs. Empowerment is "enabling people to participate in development."  The pillars of empowerment are knowledge, technology and cooperation or collaboration. In an agrarian economy, empowering sector participants (stakeholders) is very important. When stakeholders are empowered, the role of ICTs in addressing the root causes of inadequate agricultural production and productivity is tremendously enhanced.

Specifically, the following should be done:

1. Be inclusive.

2. Be innovative.

3. Be (digital) technology-driven.

4. Be efficient.

5. Be effective.

6. Be adaptive.

7. Be sensitive.

3. Roles identified for the Digital Council :

YES. However, the roles should be based on:

a. Supply and/or value chain analysis.

b. Participatory assessment, implementation, monitoring and evaluation.

4. Governance structure: As mentioned earlier, inclusion, innovation and technology are the pillars of empowerment. Apparently, the goal of the Digital Council is to uphold these pillars. The proposed governance structure looks good enough. But, it should be considered an experiment.

Attachment:

<http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/digital-agriculture_helping%20to%20feed%20the%20world_0.pdf>

## [Olanike Deji](http://www.fao.org/fsnforum/member/olanike-deji)****,**** Obafemi Awolowo University, Nigeria

Dear FSN Moderator,

Thanks for this privilege. It was interesting for me to participate in the FSN forum on the above topic.

Here are my further contributions to question 2: "How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?":

Establishment of an international digital council for Food and Agriculture is a great step forward to enhancing food security, especially in the face of the current global climate change challenges. However, to make major impacts in developing countries such as Nigeria, I hereby suggest that:

1. Gender experts should be involved at all the stages, to avoid or alleviate gender digital divides, which could hinder improvement in food production and security;

2. FSN and FAO should sponsor gender-responsive e-agricultural extension and rural advisory curriculum rehabilitation and integration at the tertiary level to support the bridging of the gaps between researches on ICT and adoption at the rural community levels;

3. Support capacity buildings of extension and rural advisory professionals as well as the farmers;

4. Support gender-responsive ex- ante research to analyze the existing environment for effective digital integration into agriculture in developing countries; and

5. Collaborate with local stakeholders such as Universities, Agricultural Institutes, Extension, and rural advisory institutes and agencies, Ministries of Agriculture, farmers' organizations, etc. for effective application.

Thank you.

Prof. Olanike Deji

Obafemi Awolowo University,

Ile Ife, Osun state.

Nigeria.

##  Leanne Wiseman, Griffith University, Australia

Contribution received through the e-Agriculture platform

**Q1**

Potential entry points for Government to address the challenges and foster the development of digital agriculture:

-development of digital agricultural strategy to guide Government policy development in the field of agriculture to assist in the adoption and uptake of digital technologies;

- whether this is policy development that facilitates open data sharing or not:

-once Government strategy is decided; then policy development can assist access to information; and focus priorites around capacity building for digital and data literacy within agricultural industries.

To build trust, governments must ensure frameworks are in place to ensure agricultural technology industries are treating ag data safely, securely and respecting the privacy of the farmers.  To do this Governments can examine a variety of regulatory options: unfair terms legislation; data codes of conduct that encourage best practice in data collection management and sharing.

**Q2**

I believe the Digital Council itself need to Be Informed: members of the Digital Council should have training in a wide range of issues to ensure that the deliberation of the Digital Council are well informed. There are many complex issues arising with the adoption and uptake of digital technologies in agriculutre and for effective and ethical decision making, it is important that there is training provided and adopted by the Digital Council, around the legal social and ethical and technological implications of digital agriculture. This will assist in developing a common informed view that will assist the Digital Council perfrom its role effectively.

**Q3**

Yes - but agree that the Digital Council should be engaged with industry and farmers - the DC could take on the role of providing a broad overarching capacity building - both at a high level SDG level as well as national level. Some examples of best practice would be helpful to provide guidance and resources, bringing together  policies and information resources.

##  [Justine Mwanje](http://www.fao.org/fsnforum/member/justine-mwanje)****,**** Uganda Forestry Association, Uganda

Corrections and/or additions to my contribution:

Q1: Potential entry points:

Addition to root causes:

Technological: Digital divide, gender divide, geographic divide, inappropriate technology, inadequate innovation, etc.

Q4: Governance structure:

The pillars of empowerment are knowledge, technology and cooperation. The goal of the Digital Council should be to uphold these pillars.

My apology.

##  [Dennis Ekwere](http://www.fao.org/fsnforum/member/dennis-ekwere)****,**** Children and Young People Living for Peace (CYPLP), Nigeria

Question 2. How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?

Membership shall be open and free so that no one is left behind in participation.

##  Mary Mwema, Council of Governors, Kenya

Good evening from Kenya. This is Mary Mwema a youth Agricultural Resource Manager.

While most agricultural stakeholders have an indepth understanding of digital agricultural practices, the key stakeholder and end user-farmer-barely engages in the awareness and formation of such features.

Farmers, especially in developing countries like ours, need to be capacity built through extension information on aspects key in infusing digital technologies. Precision agriculture, use of georeferencing and other aspects of digitizing agribusiness will only be jargon to a farmer who is still stuck to observing weather patterns and not keen on keeping farm records. The farmers might not adopt the digital agricultural practices as they deem them too complex to use. The youths can help in sensitizing rural communities on importance and use of digital technologies and how it ties to agriculture production.

In addition, I agree that there needs to be a scoping of the preparedness of counties to be engaged in the international platform. As local as county level in Kenya so as to adopt better practices in tandem with agroecological conditions. This will ensure effective adoption and bring out different issues in different geographies even as we adopt digitization.

Building up on well established digital platforms such as the FAO FSN and other digital farmer platforms will help synthesize a wider database of early adopters and exchange best practices.

Kind regards,

Mary Mwema

SYNSAD,KENYA.

##  David Ojo, NIHORT, Nigeria

Goodday!

Have been following the UN governing councils for decades. My take is that the UN is too weak to deliver on her promises. I recommend nomination/selection of experts for take of of this digital council. Those that can deliver the promises. My recommendation should be coupled with the engagements of those that are directly affected by the digital effects if this iniitative is to deliver on the promises.

David Ojo NIHORT

##  Eugene Ryazanov, Kyrgyzstan

Dear Colleagues,

As a representative of the business, I would be glad to have more clarity about how a proposed International Digital Council for Food and Agriculture is going to deal with the agricultural business? Through government? Through NGO? And what is the role of the business in the digitalization of agriculture? What type of services provided by the business can be considered as social important for small-scale agricultural producers and can be developed using Business Development Services, BDS approach? (supporting promotion of the services and not subsidizing the transaction of the services)

From a business point of view:

**Question 1. What are the potential entry points for government to address challenges and foster the development of digital agriculture?**

Lack of available information on export and import of agricultural products; long-term market price fluctuation for fresh agricultural produce, agricultural input; margins of value chain operators working for domestic market and export.

**2. How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?**

Consider the business as an equal partner for decision-making, rather than a provider of services leading to service market distortion.

**3. Do you think that the roles identified for the Digital Council are suitable for facing the agrifood systems challenges outlined above?**

A Hub for gathering new knowledge, sharing knowledge through the Internet and live face-to-face contacts. An Organizer of innovation competitions and dissemination of innovations.

**4. Do you think that the roles identified for the Digital Council are suitable for facing the agrifood systems challenges outlined above?**

It would be good to take into consideration regional specifics and make a kind of matrix system: Specific working groups – Different regions of the world.

Kind regards,

Eugene Ryazanov

##  Madjid Bouzidi, Algeria

French version

Question 1

Dans les pays du Maghreb, les pouvoirs publics investissent dans les infrastructures de base pour développer les réseaux de communication à travers tout le territoire afin d’étendre la connectivité aux régions les plus reculées. L’objectif immédiat est de rapprocher le réseau de l’utilisateur. La numérisation des institutions et des services publics progresse plus ou moins vite selon le pays.

La majorité des grandes et moyennes entreprises utilisent les tics de base, elles créent leurs sites internet, utilisent les réseaux sociaux pour promouvoir leurs produits ; échanger avec leurs clientèles. Elles déposent leurs marques, leurs noms de domaines, elles se protègent de la contrefaçon et de la concurrence déloyale.

De même, les universités s’initient à l’utilisation des ressources numériques, certaines d’entre elles ont introduit des modules d’enseignement relatifs à l’utilisation des bases de données, elles créent des espaces consacrés à la numérisation de leurs travaux de recherche et publications...de telles initiatives vont favoriser à terme l’émergence d’une culture numérique qui va ouvrir la voie à la naissance de nouvelles compétences dans les tics.

Le Conseil arrive à point pour insuffler une nouvelle dynamique aux systèmes d’innovation actuellement en état de léthargie, la mise en œuvre de la politique de recherche scientifique et de l’innovation, la création de passerelle entre le monde rural et académique, le développement de l’agri-entrepreneuriat... peinent à démarrer. Des projets de valorisation industrielle et/ou marketing concernant les produits de l’opuntia sont en cours dans les trois pays. Le terrain est propice pour y intégrer les tics, il faut ‘’faire avec ce qu’il y a”.

Le climat de développement initié par une institution internationale est stimulant pour les détenteurs de technologie à investir directement ou indirectement au Maghreb. Le système de propriété intellectuelle des trois pays est rassurant, leurs dispositifs législatifs et règlementaires sont conformes aux standards de l’ADPIC (Accord sur les Droits de Propriété intellectuelle quitouchent au Commerce)

L’Algérie plus aisée financièrement que ses voisins peut investir à la fois dans les technologies matérielles et immatérielles, l’utilisation de ces dernières est nécessaire pour atteindre ses objectifs de développement à l’Horizon 2020/ 2030.

Question 3

Le rôle que s’assigne le Conseil numérique présenté dans les deux grandes rubriques, à savoir la construction d’un pôle de connaissances d’une part, et un cadre politique et règlementaire, d’autre part, ne nous semble pas homogène. En effet, autant la première spécifie certaines taches notamment le ‘’ regroupement des recherches et des ressources existantes…’’, la ‘’collaboration entre les acteurs…’’, l’’’orientation efficace des investissements en R&D…’’ autant la deuxième décline le rôle sous forme d’un catalogue consistant en la fourniture de ‘’ guides pratiques…’’ des ‘’outils… ‘’, des ‘’indications clé de performances…’’ destinés aux fonctionnaires et décideurs politiques. On s’interroge alors sur l’étendue de l’implication du Conseil, celui-ci se limiterait-t-il à la constitution d’un pôle de connaissances ?

Il nous semble, a priori, que le rôle du Conseil tel qu’il apparait à travers les taches énumérées est susceptible d’améliorer l’écart d’information en matière de développement de l’agriculture numérique de façon générale.

Il répond partiellement à la seconde lacune, l’écart d’intégration, puisqu’il se propose d’oeuvrer à la collaboration et la coordination des parties prenantes. Bien que ce qui précède soit un apport déterminant pour l’innovation, néanmoins le processus de ce dernier n’étant pas du tout évoqué, les solutions pour y remédier (l’écart d’innovation) ne sont pas apparentes.

Question 4

Le conseil reconnait le défi qui l’attend pour vaincre les difficultés à faire adopter les technologies. En effet, les expériences du passé en matière de transfert de technologie sont vivaces, le choix des technologies n’est pas plus aisé aujourd’hui qu’hier aussi bien par rapport aux marchés, le niveau de la technologie, les capacités d’absorption des acteurs tout le long de la chaine de valeur de la filière.

Les obstacles à surmonter sont nombreux et variés compte tenu de la pluralité des acteurs, des métiers, de profils…l’absence d’une stratégie opérationnelle pertinente dans la conduite des projets d’innovation explique le statut quo de certains projets. Des résultats probants sont un gage déterminant de l’efficience des actions du Conseil, l’avenir du développement de l’agriculture numérique en dépend.

Les taches étant multidisciplinaires, l’élaboration d’un plan d’action allant de l’étude de besoin /solution à la production/fabrication/commercialisation nécessite la réunion d’une expertise dans le domaine dont il s’agit. Il nous semble que le Conseil doit se doter de cette capacité à assister les utilisateurs des technologies non pas seulement à faire de la duplication mais à la création et l’innovation, faute de quoi on va assister à un « remake » du classique transfert de technologie Nord/Sud remis au gout du jour (rétention de l’information et renouveau dans le transfert de technologie).

English version

Question 1

In the Maghreb countries, governments invest in basic infrastructures to develop communication networks across the territory in order to extend connectivity to the remote regions. The immediate goal is to bring the user closer to the network. The digitization of institutions and public services is progressing to a certain extent depending on the country.

The majority of large and medium sized enterprises use basic ICTs, they create websites, use social media to promote their products and exchange with their clients. They file trademarks, domain names; they protect themselves from counterfeiting and unfair competition.

Likewise, universities are starting to use digital resources; some of them introduced units related to databases using, created spaces dedicated to the digitization of research papers and publications. Such actions will support the emergence of a digital culture which will open the way to new ICT skills.

The Council is coming at a great time to instil a new dynamic and breathe life into the innovations systems that are currently in a dormant state because of the execution of scientific research and innovations politics, the creation of bridges between the academic and rural world that is struggling to take off. The industrial/marketing valorization projects concerning Opuntia related products are ongoing in the three countries. The field is suitable to integrate ICTs, we must “work with what we have”. The development climate initiated by an international institution is stimulating to the technology holders to invest directly or indirectly in the Maghreb countries. The intellectual property system in the three countries is reassuring; their regulatory and legislative frameworks are complying with the TRIPS (Trade-Related Aspects of Intellectual Property Rights) agreement standards.

Algeria being wealthier than its neighbours can invest in both material and immaterial technologies, the using of the latter is necessary to reach its development goals by 2020/2030.

Question 3

The digital council role which is presented in two wide sections, namely the construction of a knowledge pole on one hand and a political and regulatory framework on the other hand does not seem to be evenly distributed. Indeed, the first one specifies certain tasks such as “research and existing resources grouping”, “collaboration between actors”, “efficient orientations of R&D investments”. The latter declines the role under the form of a catalogue consisting of providing “practical guides”, “tools” and “key performance indications” destined for officials and political decision-makers. This does raise questions about the implication of the Council, Is it limiting itself to the construction of knowledge pole only?

It seems that the role of the Council looking from the enumerated tasks is susceptible to improve the knowledge gap concerning the development of the digital agriculture in general. It answers partially to the second lack, the integration gap, because it works towards the collaboration and coordination between the stakeholders. Although the foregoing is a determining contribution for innovation, however, being that the process of innovation is not addressed; the solutions to repair the innovation gap are not in sight.

Question 4

The Council recognizes the challenge that awaits it to overcome the difficulties faced in order to adopt the technologies. Indeed, past experiences concerning technology transfer were perennial, the choice of technologies is not easier today in relation to the market, technology level and the absorption capacity of the actors all along the value chain of the sector.

The obstacles to overcome are numerous and diversified considering the plurality of actors, occupations and profiles. The absence of a pertinent operational strategy in conducting innovation projects explains the status quo of certain projects. Persuasive results represent guarantees that determine the efficiency of the Council’s actions, the future of the development of digital agriculture depends on them.

The tasks are multi-disciplinary, the elaboration of an action plan from the needs/solution study to the production/manufacturing/sales needs a meeting between experts in the corresponding sector. It seems that the Council should arm itself with a capacity to assist the users of the technology and not to only perform a duplication but to create and innovate. Otherwise, we will deal with a “remake” of the classical technology transfer North/South brought up to date (Information containment and renewal in the technology transfer).

Attachments:

<http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Fao%20Digital%20Council.pdf>

<http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Fao%20conseil%20num%C3%A9rique.pdf>

##  ****Ibukunoluwa Adedeji,**** University of Ilorin, Nigeria

My little addition to the Concept Note is that there should be an inclusion of "Introduction/ Studies on Digital Agriculture" in the High schools and undergraduate students' curriculum. In short, the study of Agriculture needs to be repackaged to make it catchy for the younger generation to study in our tertiary institutions in Africa.

##  Oliver Onyeodili, University of Nigeria, Nsukka, Nigeria

Digitalization in various aspects of agriculture is positively reforming the fate of agriculture unto food security in countries that embraced the initiative. Are there likely modalities that the Council would adopt to encourage, propel, and subsequently enforce countries (member countries) that are yet to embrace it, and /or are having challenges with their implementations?

By the application of the modalities, the functions and impacts of the Council will be widespread seeing that the jurisdiction of functions of the Council is not limited to any continent of the world.

Best wishes,

Onyeodili, Adindu Oliver.

From University of Nigeria, Nsukka (UNN).

##  Nenad Dragoljic, FAO, Samoa

**Q1. What are the potential entry points for government to address challenges and foster the development of digital agriculture?**

On the subject of evaluating the potential entry points for governments to address challenges and foster the development of digital agriculture, the reality on the ground in the Pacific Islands Sub-region clearly illustrates that one size doesn’t fit all.  In situations where the number of islands of one Pacific state exceeds by orders of magnitude the number of inhabitants of another island state, or where some states have fast Internet links, while in others people rely on radio stations to get their news, the challenges which various governments face are quite different.

Without getting into particulars of different island countries, the experience shows that connecting to Internet by fast links (e.g. by under-sea optical cable; most Pacific countries still use slower links), and development of communications infrastructure and making it affordable to general population, are among principal drivers for many aspects of society in the Pacific, including agriculture.  In addition, when dealing with digitalization with regards to food, the experts frequently point out that the areas such as Fishery and Climate Change, which are very pertinent in the Pacific, should not be generically included in digital agriculture, since they often have different dynamics, but they have as much to benefit from digitalization as agriculture.

Other potential entry points for governments could be:  finding synergies between different Ministries, taking stock of digital initiatives at national level, integrating international initiatives with relevant ones locally present, encouraging public-private partnerships, making information and resources available to small holders (no one is left behind), ensuring access to market, creation of government sponsored open agriculture portals (as opposed to profit driven ones), ensuring reliability of agricultural information, encouraging knowledge sharing, ensuring availability of information in local languages (often times many languages are spoken in the same country), and promoting digital literacy (especially since most of the island populations are young and quickly accept new technologies).

**Q2. How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?**

One aspect to underline with regards to the barriers to adoption of digital technologies is privacy/confidentiality.  In Pacific countries, where populations are seldomly numerous, ensuring privacy/confidentiality of information is sometimes an issue.  Techniques of data anonymization, which work in places with higher populations, are sometimes not applicable in the Pacific.

**Q3. Do you think that the roles identified for the Digital Council are suitable for facing the food systems challenges outlined above?**

Regarding Role 1 (Building a Central Knowledge Hub), one of the starting points could be making a comprehensive inventory of digital initiatives at national level and encouraging national ownership (otherwise acceptance could be difficult).

**Q4. What governance structure should be in place in order for the Council to serve its purpose?**

On the topic of governance structure, it could be beneficial to conduct an input-output study before deciding on the final structure.  This would ensure a results-based approach in determining the optimal structure, rather than a process based one.

##  Caroline Figueres, Figueres Consultancy, Netherlands

The challenges to foster the development of digital agriculture are in my view a good overview of the situation. But these challenges are generic and also very much valid for other development sectors such as water, education, health, etc.

To use them as potential entry points for government to foster the development of digital agriculture is fine as long as all the entry points are addressed in a comprehensive way and in the context of development in general and not just for digital agriculture.

People will argue that you cannot address all these challenges at the same time. There are two tracks of development : the slow track that build the capacities in the country to lead the development and the fast track that involve external support to fill the gaps between now and the moment capacities are well-enough developed. Having a comprehensive approach will allow to combine both. And it will allow to be more adapted to the agriculture sector.

The council (if any) should would have a huge task in mainstreaming digitalization in agriculture and at the same time side-streaming digitalization for development.

Example: At the moment, digital agriculture is not taking up because of private Agri companies using digital to foster agri production but because of IT companies interested in value-chain actors' data, and this unfortunately not for the purpose of fostering agriculture or the benefit of all small-holder farmers.

So creating a council is fine as long as it is clear what is the WHY, the HOW and the WHAT. With other words: is it to mainstream digital in agriculture or to side stream or both? Is the purpose to address the needs of small-holder farmers in the countries or to fit the interests of big tech/agri companies or both?

When looking at the proposed governance it seems to me that it is a very traditional top-down approach. I may be wrong but I have the impression that there is limited room for bottom-up participation. Saying that an approach will be participative is probably not enough.

In a world where people are getting more and more frustrated by the elites and go down in the street, an international digital council for food and agriculture could be a great body to show the way forward, being innovative also in its governance. I would like to see a bold Council that willing to move away from business as usual...

We talk about agriculture and this is more that 500 million family farms worldwide (FAO 2014). With 7,7 billion people on the planet (2019 - 45% leaving in rural area) we talk about roughly 3 billion small-holder farmers (more that 50% being women). This is a huge part of the world population and giving them a say in the council would be right, considering that we consider they are feeding the planet...

Caroline Figuères

former IICD directeur and consultant in the field of digitalisation for development

##  Lena Michelsen, INKOTA, Germany

**Overall comment**: We want to stress that all the discussions and activities of the Digital Council
should be guided by a human-rights based approach und support the progressive realization of the right to adequate food for all, especially for the most marginalized groups / food producers (further explanation see below). In the case of digital agriculture, the farmers’ rights of the FAO Seed Treaty should play a key role in the discussions, especially regarding the protection of farmers’ knowledge which is currently being threatened by corporate capture and algorithm-based decision-making assistance tools. Furthermore, the principle of the UN Sustainable Development Goals (SDGs) to “Leave no one behind” should be the key guiding principle for the establishment of an International Digital Council for Food and Agriculture.

**Question 1. What are the potential entry points for government to address challenges and foster the development of digital agriculture?**

We want to highlight the importance of the entry point of socio-economic divides between
developing and developed countries, rural and urban areas as well as between the genders. Despite all potential benefits of digital farming, there is a high risk of widening these gaps if governments and UN bodies fail to intervene in the process of digitalization that is currently being driven mainly by private companies. In our opinion, the role of states and donors should however not only be to foster digitalization in areas which have been left behind so far, in terms of promoting investments by the private sector, but rather work towards the provision of digital infrastructure as basic public services. Otherwise, digital infrastructure would run the risk of a lock-in of users in specific, incompatible private service systems and facilitate the misuse and commercialization of personal and operational data – especially in countries with weak or missing data protection legislation. Instead, net neutrality should be a key aim.

Moreover, we want to add to the entry point of data ownership – which is indeed a crucial aspect – the importance of data sovereignty. This includes, among other things, the secure storage of data in the country where it is collected. Currently, this remains a major issue especially on the African continent, where most of the data collected is stored in Europe or the US.

Lastly, we want to add the entry point of regulating large tech and agricultural companies, among other means by more effective measures of taxation and by a stricter competition law (so that mergers like the merger between Bayer and Monsanto, which made Bayer the leading company in digital agriculture, could not be approved in the future). A large number of technology and agricultural experts see the concentration of corporate power as one of the core challenges of digitalization (not only, but also in the field of food and agriculture). In general, the market concentration in the digital sector leads to a decline in the wage share and an increase of the capital ratio, leading to an increase of inequality. In the specific case of the agricultural sector, digitalization is also a driver of market concentration along the entire agricultural chain (see publication “Blocking the Chain”: <https://webshop.inkota.de/node/1553>). This can lead to lock-in effects of farmers who will find themselves dependent on the software and hardware of one service provider, once they start using a farm management information system that offers “solutions” from seed to harvest.

**Question 2. How can the establishment of the Digital Council address the numerous barriers to
adoption of these technologies?**

We want to highlight the importance that the Digital Council should be designed in an inclusive way, especially including marginalized groups1 organized in the Civil Society Mechanism (CSM) as the largest international space of civil society organizations working to eradicate food insecurity and malnutrition. In our understanding, this should be achieved through maintaining the CFS principles of participation and representation since participation and inclusiveness have made the CFS a unique experience in the UN, particularly for organizations of small-scale producers. The council should ensure a balance of constituencies, gender, and regions.

Different from the proposal in the present concept, the main criteria should not be to “offer the
greatest potential value to accelerating digital agriculture”, i.e. regarding digital agriculture as an end in itself, but to offer the greatest value to meeting the needs of small-scale food producers2 or people working in rural areas to increase their sovereignty and their income and enable them to manage their farm in an ecologically and economically sustainable way, bridging socio-economic gaps.

**Question 3. Do you think that the roles identified for the Digital Council are suitable for facing the agrifood systems challenges outlined above?**

In the present concept, the roles of the Digital Councils do not match the challenges outlined and especially lack recommendations for governments concerning the regulation of digital agriculture (e.g. regarding data security and sovereignty, net neutrality and curbing corporate power and monopolistic structures). For example, the concept only says “Nations would gain practical suggestions to foster digitalization in agriculture”. However, as already stated in question 2, the main goal should not be to foster digitalization per se, but rather to meet the needs of (smallholder) farmers to increase their income and enable them to manage their farm in an ecologically and economically sustainable way, bridging socio-economic gaps. Digital applications can but don’t have to be a useful tool for that.

**Question 4. What governance structure should be in place in order for the Council to serve its
purpose? According to you, do you think the proposed governance scenario is politically feasible?**

We think that marginalized groups (as mentioned already in question 2) should also be represented in the executive council, in order to increase the weight of their perspectives.

Moreover, we would like to make the following proposals for concrete questions / challenges the working groups should address:

(a) access to digital infrastructure or technologies, i.e. how to bridge socio-economic divides (see
question 1);

(b) regulate coporate control, among other approaches through taxation and a stricter  competition law (see question 1);

(c) questions of data sovereignty, ownership and storage;

(d) planetary boundaries, i.e. how to design digitalization so that it contributes to the realization of the aims of the latest UN climate agreement as well as the SDGs, including the realization of the principle of “leaving no one behind”

**Question 5. Additional comments**

It goes without saying that the establishment of the Digital Council should be in line with the CFS
products like and the voluntary guidelines on the responsible governance of tenure of land, fisheries and forests (VGGT), the voluntary Guidelines on the Right to Food etc. and should support other UN or FAO processes like the implementation of the UN declaration of the rights of peasants and other people working in rural areas (UNDROP) and the Scaling Up Agroecology initiative.

Attachment:

<http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Digital_council_INKOTA.pdf>

##  Alvaro Areta, COAG, Spain

Original contribution in Spanish

Desde COAG, organización que representa los intereses de agricultores y ganaderos de España se considera positiva la iniciativa para crear un Consejo Digital Internacional para la Alimentación y la Agricultura. La digiltalización es un aspecto clave para el futuro de las y los agricultores, así como para las zonas rurales y el conjunto de la cadena alimentaria.

* **Pregunta 1**,

Hay una cuestión clave que no está suficientemente reflejada en la propuesta:

- **Participación del agricultor/a en la digitalización**: los agricultores/as deben estar en el centro del proceso y convertirse en protagonistas del mismo, de manera que no se conviertan en víctimas del cambio sino que salgan reforzados del mismo. Una transformación digital que se realice sin contar con los agricultores no será exitosa. Se debe desarrollar adecuadamente dicha transformación, construyendo un ecosistema digital en el que puedan participar los agricultores, con el objetivo de potenciar y mejorar el modelo familiar y social de agricultura y alimentación. Se debe caminar por la senda de la democratización y favorecer, desde todos los ámbitos, que esta nueva era digital sea inclusiva, evitando que se produzca la enésima reconversión en el campo.

Por lo que se refiere a las ideas ya planteadas en el documento, estos son algunos comentarios:

- Respecto al aspecto de la **alfabetización digital insuficiente y el desarrollo de nuevas capacidades**, afectaría tanto a la mano de obra agrícola como a otros agentes del sistema. La formación y la existencia de un ecosistema digital que apoye al sector son necesarias. Un asesoramiento correcto, independiente y cercano es absolutamente necesario para tomar las decisiones correctas.

- En cuanto al **acceso inadecuado a los recursos financieros**, se comparte que es uno de los principales elementos que dificultan la digitalización. El agricultor aún no ve estas inversiones, en muchos casos de elevado coste, como un futuro beneficio sino principalmente como un riesgo. Aún no considera rentable lanzarse a esta clase de inversiones, aunque haya pequeños pasos que ya demuestran mejoras de este tipo. La relación coste-beneficio no es suficientemente beneficiosa en muchos casos.

- En lo que concierne a las **infraestructuras inadecuadas y a las distintas brechas existentes**, en el documento no se explicita la elevada brecha digital entre el medio rural y el urbano. EN el medio rural existe, en general, un deficiente acceso a Internet y a las redes de telefonía, con una cobertura insuficiente o inexistente. Es imprescindible mejorar este punto, a través de inversiones que doten de cobertura real y de velocidad suficiente no sólo a los núcleos rurales, sino también al campo, lugar de trabajo de los y las agricultores y ganaderos. A este respecto, también hay otra brecha que no se ha considerado suficientemente en el documento:  la brecha generacional. El elevado envejecimiento de la población agricultora supone un hándicap, no sólo por edad y por brecha generacional, sino por la necesidad de acometer determinadas inversiones costosas a las que pueden no estar dispuestos los agricultores de más edad.

- Finalmente, en lo que respecta la **propiedad de los datos**, en las explotaciones agrícolas y ganaderas, se va a generar, o se está generando, un nuevo producto: el dato. Sin el trabajo de los agricultores y agricultoras, no hay dato y eso hay que ponerlo en valor. Debe quedar suficientemente claro que la propiedad del dato es de aquel agente que lo genera y de ahí derivar los derechos y obligaciones correspondientes. Los datos constituyen la materia prima para que diversas aplicaciones puedan ayudar al productor en la optimización de la toma de decisiones y permitir así la mejora de la rentabilidad, de la calidad de los productos, del medio y de la calidad de vida de los hombres y mujeres del campo. Es necesario buscar el equilibrio entre ambas partes y conseguir ser rentables y sostenibles para el futuro inmediato y para el medio y largo plazo.

* **Preguntas 2, 3 y 4**

Se comparte plenamente que el Consejo Digital debe ser un órgano inclusivo. Para ello, debe asegurarse la presencia de las organizaciones que representan a los agricultores, los campesinos y los ganaderos, principales actores sobre los que pivota la transformación digital. Para ello, debe asegurarse su presencia, a través de las organizaciones que los representan, en los órganos de gobernanza del Consejo.

English translation

COAG, an organisation representing the interests of farmers and livestock producers in Spain, welcomes the initiative to establish an International Digital Council for Food and Agriculture. Digitalization is key for the future of farmers, rural areas and the entire food chain.

**Question 1**

The proposal should better reflect one key challenge:

- **Participation of farmers in digitalization**: Farmers should be at the heart of the process and become key players. The digital transformation should reinforce -rather than impair- farmers, as they are essential to its success. This transformation should be properly undertaken, building a digital ecosystem in which farmers can participate with the aim of strengthening and improving food and agriculture at the social and household levels. The process should be democratic, fostering the inclusive nature of this new digital era across all sectors and avoiding yet another rural restructuration.

Regarding the ideas raised in the discussion guide, please find below some comments:

- **Inadequate digital literacy and new skills development:** This entry point would not only affect agricultural labour force but also other actors across the system. Establishing a digital ecosystem that supports the agricultural sector is necessary. Adequate, independent and trusted advice is essential for making the right decisions.

- **Inadequate access to financial resources**: Indeed, this is one of the major obstacles to digitalization. Farmers still see the required investment -costly in many cases- as a risk, rather than a future benefit. Although some improvements are becoming evident in this field, farmers are not keen on making this type of investments, as they believe they are still not profitable. In many cases, the benefit-cost ratio is not favourable enough.

- **Inadequate infrastructures and socio-economic divides**: The document makes no specific reference to the digital gap between rural and urban areas. In rural areas, Internet access and mobile network coverage are generally poor, or simply non-existent. Improving this infrastructure is essential. Investments are required to provide real coverage and adequate Internet speed, not only in rural towns but also on the field, the place of work of farmers and livestock producers. The document does not sufficiently address another important divide: the generational gap. Increased ageing of the farming population is a handicap. Not only due to the generational gap itself, but also because of the reluctance of many older farmers to make costly -but necessary- investments.

- **Data ownership**: Farms will generate -or already generate- a new product: data. Without the work of farmers, no data is available: this dependence should be properly valued. Making sufficiently clear that data belongs to whoever generates it is also essential, laying the foundations for the corresponding rights and obligations. Data is the raw material required by different applications to optimize decision-making, improving the profitability and quality of agricultural products, the rural environment and the quality of life of farmers as a result. We need to seek the right balance with the aim of building a profitable –and sustainable- future in the short, medium and long term.

**Questions 2, 3 and 4**

The Digital Council should certainly be inclusive. To this end, farmers and livestock producers ‑key players on which digital transformation is based- must be adequately represented –by relevant organizations- in the governance structure of the Council.

##  Placidius Rwechungura, GreenApp, United Republic of Tanzania

The potential entry point to this is the use of Youths especially in Africa.

Taking an example in our Country Tanzania, a big population of mobile phone technology adaptors is the youth population, and they are also suffering from unemployment challenges.

Instead for them to wait for white colar jobs the government can take an initiative to support them and push them to involve in agriculture as it is very easy to get employed in agriculture in our country as there are no complications to own the farmland.

##  Segun Ogunwale, OpenFarm Network, Nigeria

The establishment of an International Digital Council for Food and Agriculture is a move in the right direction.

Developed as a Contributory note are inputs for the Concept note. The note commences with a review of the discussion guide. Recommendations are made based on the questions raised and points highlighted as responses to each question. The note goes further to make recommendations for the Council’s positioning, knowledge hub, regulatory role, and required structure in member states.

Also attached is a presentation delivered on digital innovations across the value chain that may be helpful.

Responses to the Discussion Guides are featured here:

**Q1. What are the potential entry points for the government to address challenges and foster the development of digital agriculture?**The entry points identified in the Q1 discussion guide are exhaustive. However, the Council should not overstretch itself by trying to provide solutions in all the areas highlighted. Instead, the Council should start with a focus on the low hanging fruits, work towards the widening of existing solutions, and support the development and adoption of new digital technologies.

Recommended entry points of priority are:

* Improving access to information, digital literacy, and digital solutions for Agriculture.
* Support for innovation systems through capacity building for the development and adoption of digital solutions.
* Advocacy for infrastructure development and investments towards Agtech
* A flexible regulatory framework for data acquisition, ownership and management, with the establishment of Trust mechanisms for data and information sharing.

More on these in the note attached.

**Q2. How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?**Highlighted in the discussion guide are principles to guide the operation of the Council. These do not necessarily address the HOW of addressing the numerous barriers to the adoption of these technologies. However, required as an addition to these principles are:

* **Accountability:**how and to whom the Council is to be accountable should be included
* **Apolitical:** farmers form a major political bloc in most nations - developing and developed. As the key stakeholder, Nations need to be reassured that the Council would not be a platform for the promotion of political agendas or foreign interests in their countries.

How the establishment of the Council can address the numerous barriers to adoption of technologies are addressed in later pages of attached note.

**Q3. Do you think that the roles identified for the Digital Council are suitable for facing the food systems challenges outlined above?**Currently identified are building a knowledge hub and regulatory framework as roles 1 and 2. For the knowledge hub, the “Investor Gap” is missing. From our observations at OpenFarm, digitization of African agriculture does not necessarily suffer from a lack of innovation, but scaling and adoption that is retained by sustainable business models. Many innovations end as pilots and PoCs without mass adoption. We have also noticed that many innovators are enthusiastic but lack the business edge required to succeed as entrepreneurs. Though the innovator or informer can also be an investor, the “Investor Gap” needs a separate thinking cap. History has repeatedly proven only exceptional minds are both. Therefore, resources with the sole purpose of driving investments into digital solutions for Agriculture should be provided in the knowledge hub to fill that gap.

The council can be strategically positioned to do beyond roles 1 and 2. It can extend to a role 3 of making available Shared Platforms as building blocks to aid the digitization of agriculture in member Nations. Examples of these platforms are:

* **A National directory of digital solutions for agriculture and solution providers.**The input of each member state can form a global directory of digital solutions for agriculture.
* **A National Data Portal on digitization i**n general with key stats such as internet connectivity, mobile penetration and more.
* **Information platform with modules**for news, production data, weather, GAPs, and market information which are responsive for mobile accessibility to Farmers and innovators can utilize as building blocks for other innovations.
* **An Orchestration platform**for request & feedback management, evaluation, matching, partnerships, communication and more.

These platforms can be developed from ground-up or aggregated from existing platforms. They can be available to member Nations as a SaaS or solutions to download and host independently.

**Q4. What governance structure should be in place in order for the Council to serve its purpose? According to you, do you think the proposed governance scenario is politically feasible?**For the Advisory Committee, it can also double as an Advocacy committee since it “…guarantees the involvement of International Organizations”. This would help to extend its deliverables of the Advisory council beyond only moments of consultation. The A&A committee can also suggest feedback from advocacy.

M & E Organism needs to be defined. Is it to be in the secretariat, a working group or outsourced?

As seen with the development of open source technologies, Working Groups (WGs) can be opened up to interested parties. Once problems are identified, independent groups of innovators, researchers and professionals should be able to provide solutions competitively. When the council is required to provide resources to working groups, evaluations of track records and submitted proposals can be made. These working groups can be based on campuses, innovation hubs, R & D labs, or solo operations.

The early deliverables of the executive council or a working group should include the required working groups based on the identified problems and needs, and the modalities for working groups.

*Recommendations for the Council’s positioning, knowledge hub, regulatory role, and required structure in member states are provided in the attached note.*

Attachments:

<http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/OpenFarm%20Contribution%20to%20FAO%20Concept%20Note%20on%20the%20Establishment%20of%20an%20International%20Digital%20Council%20for%20Food%20and%20Agriculture.pdf>

<http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Agric%20Innovations%20FirstBank%20Agric%20Expo%203.0%20Presentation.pdf>

##  Murungi Jonan, Agroecology advisor, Uganda

The idea of formulation of council anticipates development in agriculture which every nation should embrace as it's listed in most of SDGs, However not neglecting the dynamics each and every Nation encounters, this should be made a priority in designing as well as appreciating the existence and more empowerment of value chain of various enterprise which creates a significant additional in dissemination of ideas.

Murungi Jonan

Agriculture extension agent, Kampala Uganda.

##  Pascal Bonnet, #DigitAg et Cirad, France

Original contribution in French

**Quels sont les points d'entrée potentiels qui permettraient aux gouvernements de relever les défis et de favoriser le développement de l'agriculture numérique?**

La question est complexe. Mais le développement de l’agriculture numérique nécessite la mise en place graduelle d’un vaste écosystème d’innovation sur la base d’acteurs (aspects gouvernance et compétences, capacité, formation), de techniques et de technologies agricoles ou numériques (Capteurs, Equipements agricoles et non agricoles porteurs de ces capteurs, Smartphones et autres matériels communicants intégrateurs de capteurs et services), d’infrastructures (Réseaux et Infrastructures de communication pour échanger des données, communiquer, Internet), la conception de Services informationnels et de plateformes «d’intelligence agronomique et économique », basés sur des données et modèles – des algorithmes pour l’aide à la décision (rôle important de la recherche) dans la production et la commercialisation, et mettant en relation des Acteurs, Organisations (associations de producteurs), intégrant le numérique dans leurs Stratégies et Politiques d’entreprise et d’action collective ou individuelle. Cet écosystème est plus facile à mettre en place dans un environnement favorable quand il existe un Modèle sociétal, un Environnement sectoriel et un Contexte politique et économique de « l’économie numérique ». C’est donc bien le système d’innovation dans son ensemble qui doit être réfléchi, dont les différentes composantes sont plus ou moins solides dans certains pays et contextes.

Les centres de compétences sont particulièrement utiles au développement de ce système d’innovation (centres de recherche qui travaillent sur le domaine de l’agriculture numérique) pour des travaux de recherche en interdisciplinarité, mêlant sciences du numérique et sciences agronomiques ou sociales. Ce niveau de collaboration entre ces domaines disciplinaires n’est pas encore en place partout, voir par exemple en France <https://www.hdigitag.fr/fr/>.

Au-delà de ces aspects génériques se greffent des difficultés propres aux pays en développement, comme la fracture numérique, mais aussi la fracture juridique (manque de cadre légale déontologique et éthique sur l’usage des données) qui remet en cause la confiance et la vision sur les bénéficiaires réels de telles méthodes.

Voir <https://spore.cta.int/fr/opinions/article/eviter-une-valorisation-technologique-et-economique-asymetrique-des-big-data-sid0726bd8f1-b891-47fc-8993-87861c5806dd>

**Comment la création du Conseil numérique peut-elle contribuer à lever les nombreux obstacles à l'adoption de ces technologies??**

L’inclusivité et la diversité des acteurs me semble être le facteur le plus important car garant de la diversité des points de vue dans le respect de l’éthique et d’une utilité avérée de la mise en place de solutions numériques (engagement dans les ODD notamment) .

**Pensez-vous que les rôles assignés au Conseil numérique sont appropriés pour faire face aux défis des systèmes alimentaires décrits ci-dessus?**

Le schéma proposé semble adapté, mais le pôle de connaissance doit mieux intégrer les sciences sociales car les questions de co design, de transition et d’adoption sont étudiés par ces disciplines.

**Quelle structure de gouvernance convient-il mettre en place pour que le Conseil puisse remplir sa mission??**

La mise en place d’une alliance globale et de collèges thématiques (dont un collège de la recherche et de l’innovation) avec des groupes de travail opérationnels devant livrer des livrables clairs  paraitrait adaptée

English translation

**What are the potential entry points for government to address challenges and foster the development of digital agriculture?**

This is a complex issue. However, the development of digital agriculture requires the gradual implementation of a broad ecosystem of innovation based on stakeholders (governance and skills, capacity, training), agricultural or digital techniques and technologies (sensors, agricultural and non-agricultural equipment carrying these sensors, smartphones and other smart devices integrating sensors and services), infrastructures (networks and communication infrastructures for data exchange, communication, Internet), the design of information services and "agronomic and economic intelligence" platforms, based on data and models, algorithms for decision support (important role of research) in production and marketing, and linking Actors, Organisations (producer associations), by incorporating digital technology into their corporate strategies and policies and collective or individual action. Such ecosystem is easiest to implement in an enabling environment provided there is a Societal Model, a Sectoral Environment and a Political and Economic Context of the "digital economy". Therefore, what needs to be considered is the innovation system as a whole, the different components of which are more or less solid in certain countries and contexts.

Centres of excellence are particularly useful for the development of this innovation system (research centres working in the field of digital agriculture) for interdisciplinary research work, combining digital sciences and agronomic or social sciences. Such a level of collaboration between these disciplinary fields is not yet universally in place, see for example in France <https://www.hdigitag.fr/fr/>.

In addition to these generic aspects, there are also challenges specific to developing countries, such as the digital divide, but also the legal divide (lack of a legal, ethical and deontological legal framework for data use), which undermines confidence and vision about the real beneficiaries of such methods.

See <https://spore.cta.int/fr/opinions/article/eviter-une-valorisation-technologique-et-economique-asymetrique-des-big-data-sid0726bd8f1-b891-47fc-8993-87861c5806dd>

**How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?**

I believe that the most important factors are the inclusiveness and diversity of stakeholders since they ensure the diversity of points of view in accordance with ethical principles and because of their proven usefulness of the implementation of digital solutions (including commitment to the SDGs).

**Do you think that the roles identified for the Digital Council are suitable for facing the agrifood systems challenges outlined above?**

The proposed scheme seems appropriate, although the knowledge cluster must more effectively integrate the social sciences as these disciplines are studying issues of co-design, transition and adoption.

**What governance structure should be in place in order for the Council to serve its purpose?**

The establishment of a global alliance and thematic colleges (including a research and innovation college) with operational working groups that should provide clear deliverables would seem appropriate.

Attachment :

<http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/SFO_OP_Cirad_DEF.pdf>

##  Robert Kibaya, Kikandwa Rural Communities Development Organization, Uganda

**(1) What are the potential entry points for government to address challenges and foster the development of digital agriculture?**

Developing policies which can promote Open Data for Agriculture at all levels by followith the FAIR Principal.

**(2) How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?**

The digital council will help to advocate, lobby and influence policy formulation at International, Reginal, National and Local level

**(3) Do you think that the roles identified for the Digital Council are suitable for facing the agrifood systems challenges outlined above?**

Partly yes but there is a need to critically look at the diverse challenges faced by smallholder farmers in the Global South and the central government budget allocations to the Agriculture sector. This will give you a clear picture.

(4) What governance structure should be in place in order for the Council to serve its purpose?
(Please click here to see the relevant section of the Concept Note)

##  KBN Rayana, JNU &IAMMA Institute of Agric. Mktg, Mgt., & Admin, India

This is good idea to enable exchange of information and transfer of Technology. It needs all member country efforts for implementation.

Advantages :

1.*emphasize all transfers quick action and bias will be choosen for transfer and development  from the farmers end/ fied level*

*2. More room is needed in the implementation of technology as its need sofessticated equipment besides the computer and internet*

*3. Education of farmer at farm level become hard ship as this is not focussed for small farmeers.*

*4. Particularly to refer LDC, developing countries have large size of  farmers which needs effortable cost / prices on thiss technology..*

***constrainsts:***

***a. In India work force of arround 67% on Agriculture ( as per world Bank). This is a large population works as lively hood, to be suited our digital technology..***

***b. Other developing countries too similar problem***

***c. unless market oriented this is hard to implement since the farmers ultimate aim to obtain maximum returns/  price to their productivity.***

***d. At the same time consumer price index should be stable one. else political & governance factor impacts .***

***e. Due to complexicity problems- an essential plan is required to digitalize at an International level  and also at naational level.***

***Good Idea ---- but staandards, program of planning is more important. Decession making on what  priorites to be considered.***

***by prof. KB NaRayana,***

##  Foluke O. Areola, Federal Ministry of Agriculture and Rural Development, Nigeria

**Question 1: What are the potential entry points for government to address challenges and foster the development of digital agriculture?**

The global challenges are not conclusive in the following areas:

* Stakeholder’s education: Are there plans to transcribe the applications to local languages?
* Focus on sectoral peculiarities and requirement (crop/fisheries/livestock)
* Stakeholder’s ownership, participation and partnership
* Harmonisation of countries policies or synergy
* Attraction to youths
* Supplementary elements: policies standards, regulatory framework

**Question 2: How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?**

The principles highlighted are not conclusive though they address the need for overcoming the barriers. The assumption is presumption on all things being equal without consideration to: --inadequate education to grasp the concept; infrastructural deficiencies and required facilities to actualise vision; financial needs/ support and non-adoption by people who are impervious to change (old habits die hard). Achieving grass root buy-in and adoption is important in scaling up the project.

**Question 3: Do you think that the roles identified for the Digital Council are suitable for facing the agri-food systems challenges outlined above?**

1. The roles are suitable for as long as they can be focused to achieve the desired goals and objectives and there are efficient implementation strategies. The pulling together of research work should ensure the existence of such relevant research works across geographic areas, demographics etc.
2. Role 2: The polices must be in place before the need to access their maturity
3. Role 2: Every form of good governance (transparency, stakeholder’s participation, inclusiveness etc); strong monitoring and evaluation and not only collaboration will be effective ways to enable digitalisation in an inclusive way.

The other roles should take into consideration the gaps in levels of development, enlightenment and exposure to research and use of research findings in the participating countries.

Other political roles: The Council should also be involved in Advocacy at different levels of Government -National and State Government, stakeholders- operators, investors etc.

There should also be a mechanism in place for periodic engagement with Government at national, regional and international levels, on policies and policy formulation, adoption, implementation, adaptation of policies to evolving issues, maturity etc

**Question 4 What governance structure should be in place for the Council to serve its purpose?**

The governance structure is feasible for as long as the Executive Council will have a way of interfacing with the highest levels of governments like the forum where the idea was conceived; ensure compliance with Keep Performance Indicator to evaluate progress against timelines, ensure commitments in infrastructural financing. What are the criteria for choosing a) the 21 delegates? Are they going to be representatives of member countries which may make their selection political and the right people may not be selected?

b) The Advisory committee to ensure inclusiveness, transparency, and capable hands.

The working Group: There must be proper evaluation of the working group to ensure that they would deliver on their mandate.

Where do Monitoring and Evaluation belong within the governance structure.

**Question 5: Please add any other comment or relevant content you think should be included in the Concept Note.**

For the Council to succeed, it is important to list and ensure availability of resources especially financial and identify sources of funding. Also set timelines against stated goals and objectives.

##  Yrysbek Abdurasulov, Ассоциация "Кыргыз-Эт", Kyrgyzstan

Original contribution in Russian

Уважаемые коллеги,

я  предлагаю рассмотреть следующие  предложения:

1. Разработать четкие правила формирования  состава Совета  (отбор членов  Совета с учетом регионов  и  их периодическая ротация), которые должны быть четко расписаны и строго соблюдены. Ни одна страна не должна занимать диктующую позицию или группы стран не должны создавать картель.

2. Разработать четкие принципы формирования финансов Совета (например, членские взносы 0,001% ВВП страны) и поддержки развивающихся стран в цифровизации (развитые страны пользуются продукцией сельского хозяйства, развивающихся стран).

3. Вопрос 3. Роль 2. Мониторинг процесса цифровизации.

Совет: совместно с Правительством стран  может осуществлять мониторинг процесса цифровизации, в соответствующей стране.

С уважением,

Ы. Абдурасулов,

проф. (Кыргызстан)

**English translation**

Dear colleagues,

I propose to consider the following suggestions:

1. Develop clear rules for the formation of the composition of the Council (selection of Council members taking into account the regions and their periodic rotation), which should be clearly scheduled and strictly observed. No country should take a dictating position or groups of countries should not create a cartel.

2. Develop clear principles for the formation of the Council’s finances (for example, membership fees of 0.001% of the country's GDP) and support for developing countries in digitalization (developed countries use agricultural products of developing countries).

3. Question 3. Role 2. Monitoring the digitalization process.

Advice: together with the Government of the countries, it can monitor the digitalization process in the respective country.

Respectfully,

Y. Abdurasulov,

Professor. (Kyrgyzstan)

##  Mahamoudou Koutou, FAO, Burkina Faso

Original contribution in French

**Q1 : Quels sont les points d'entrée potentiels qui permettraient aux gouvernements de relever les défis et de favoriser le développement de l'agriculture numérique?**

Renforcement des infrastructures numériques

Utilisation des plateformes de téléphonies mobiles pour l’information et la sensibilisation du monde rural (information agro climatique, cash transfert, distribution d’engrais, de semences, informations sur les marchés, etc)

Utilisation des dromes pour la surveillance des champs contre les attaques des nuisibles (oiseaux, criquets, chenilles légionnaires, etc) et le traitement phytosanitaire, l’application des engrais

Utilisation des données GPS pour localiser les zones de pâturage et surveiller les animaux sur les parcours

**Q2 : Comment la création du Conseil numérique peut-elle contribuer à lever les nombreux obstacles à l'adoption de ces technologies?**

Le conseil numérique peut faciliter :

l’accès au financement pour développer les technologies numériques en faisant du plaidoyer auprès des bailleurs de fonds

l’accès des petits producteurs aux technologies numériques en encourageant leurs subventions par les gouvernements

la formation des acteurs sur l’utilisation et la maintenance des technologies numériques en encourageant la création des centres de formation

la recherche-développement sur les technologies numériques en suscitant des programmes de recherche thématiques

**Q3. Pensez-vous que les rôles assignés au Conseil numérique sont appropriés pour faire face aux défis des systèmes alimentaires décrits ci-dessus?**

Oui, mais aux rôles cités, je suggère d’ajouter des rôles de coordination et de suivi-évaluation de l’impact de la numérisation du secteur agricole sur la sécurité alimentaire et nutritionnelle.

Un atelier international permettra de passer en revue les différents rôles en travaux de groupe et en plénière à partir de la liste exhaustive des activités. Le conseil doit travailler à responsabiliser les acteurs au niveau local pour plus d’efficacité

**Q4 : Quelle structure de gouvernance convient-il mettre en place pour que le Conseil puisse remplir sa mission? Estimez-vous que le scénario de gouvernance proposé est politiquement réalisable?**

Je pense que le scénario proposé est politiquement réalisable car il s’inspire déjà d’instances existantes. Il prend aussi en compte différentes échelles (mondiale, régionale, nationale, locale).

English translation

**Q1 : What are the potential entry points that would enable governments to address the challenges and promote the development of digital agriculture?**

Strengthening of digital infrastructures

Use of mobile phone platforms for rural information and awareness raising (agro-climatic information, cash transfer, distribution of fertilizers, seeds, market information, etc.)

Use of drones for field surveillance to control pest attacks (birds, locusts, armyworms, etc.) and phytosanitary treatment, fertilizer application

Use of GPS data to locate grazing areas and monitor animals on rangelands.

**Q2 : How can the creation of the Digital Council help to remove the many barriers that prevent the adoption of these technologies**?

The digital Council can facilitate:

access to funding to develop digital technologies by advocating with donors

access to digital technologies for small producers by encouraging their subsidization by governments

training of stakeholders on the use and maintenance of digital technologies by fostering the creation of training centres

research and development on digital technologies by stimulating thematic research programmes.

**Q3. Do you think that the roles assigned to the Digital Council are appropriate to address the food system challenges described above**?

Yes, but, besides the roles mentioned, I suggest additional functions of coordination and monitoring and evaluation of the impact of digitization in the agricultural sector on food and nutritional security.

An international workshop would review the different roles in group work and plenary from the full list of activities. The Council must work to empower actors at the local level for greater effectiveness.

**Q4 : What governance structure should be put in place to ensure that the Council can fulfill its mission**? Do you consider the proposed governance scenario to be politically feasible?

I think that the proposed scenario is politically feasible because it is already based on existing bodies. It also takes into account different scales (global, regional, national, local).

##  Poda Damas, FAO, Burkina Faso

Original contribution in French

**Quels sont les points d'entrée potentiels qui permettraient aux gouvernements de relever les défis et de favoriser le développement de l'agriculture numérique?**

Renforcer l'infrastructure numérique nationale afin de failiter l'accès du monde rural aux outils numériques.

Créer des plateformes numériques prenant en compte les langues locales

Accentuer l'utilisation des drones dans tous les domaies agricoles

Cartographies des spéculations par zone ago écologique.

**Comment la création du Conseil numérique peut-elle contribuer à lever les nombreux obstacles à l'adoption de ces technologies?**

Réduire l’écart numérique avec le monde rural.

**Pensez-vous que les rôles assignés au Conseil numérique sont appropriés pour faire face aux défis des systèmes alimentaires décrits ci-dessus?**

RAS

**Quelle structure de gouvernance convient-il mettre en place pour que le Conseil puisse remplir sa mission?**

Prendre en compte les réalités nationales et ne pas tout uniformiser.

**Veuillez ajouter tout autre commentaire ou contenu pertinent qui devrait selon vous figurer dans la note conceptuelle.**

RAS

English translation

**What are the potential entry points that would enable governments to address the challenges and promote the development of digital agriculture?**

Strengthening the national digital infrastructure to facilitate the access of rural populations to digital tools.

Creating digital platforms taking into account local languages

Increasing the use of drones in all agricultural fields

Mapping of speculations by agro-ecological zone

**How can the creation of the Digital Council help to remove the many barriers that prevent the adoption of these technologies?**

Reducing the digital gap with the rural world.

**Do you think that the roles assigned to the Digital Council are appropriate to address the food system challenges described above?**

Nothing to report

**What governance structure should be put in place to ensure that the Council can fulfill its mission?**

Taking into account national realities and not standardizing everything.

**Please add any other relevant comments or content that you think should be included in the concept note.**

Nothing to report

##  Leloko Tsita, Embassy of the Kingdom of Lesotho, Italy

Digital technologies are obviously transforming agriculture and the food system for the better. Artificial Intelligence, data analytics, internet, mobile applications and digitally-delivered services have definitely increased and brought up innovation in the agriculture sector. Sustainability, efficient use of resources and employment and entrepreneurial opportunities have been attained, which result in increased agriculture production and productivity: Thus bringing up the commercialization of the agriculture sector. An International Digital Council is vital to assist all harness the opportunities presented by digitalization of agriculture.

Government, non-government and private organisations are involved in the agriculture sector and rural development, and the council should allow these entities to work together to give better service to the farming communities globally. The agriculture sector would be advantaged by enhanced efficiency, inter-connectivity of all entities involved and better and improved monitoring and evaluation.

As a monitoring and evaluation expert, digitalization emerges enhancement of agricultural and rural development through improved information and communication processes. A system applied to retrieve information and knowledge for better decision-making should have ability to produce accurate, complete, consistent, valid, easily retrievable, unique and legitimate date. With monitoring and evaluation tools, lessons and recommendations to decisions are easily achievable. Trend and reflection of the "true" agriculture sector development can be observed.

All in all, the council should strongly include and involve the monitoring and evaluation as part for ability to provide recommendations and lessons to the involved stakeholders and entities involved in the agriculture sector and rural development for present and future implementation; and oversight of the activities of the processes different stages of the sector.

##  Philip Seufert, FIAN International, Germany

FIAN International submits the following comments to the concept note concerning the establishment of an International Digital Council:

Regarding question 1: What are the potential entry points for government to address challenges and foster the development of digital agriculture?

* Structural inequalities and discrimination are the main causes of hunger, malnutrition and violations of the human right to food and nutrition (RtFN) worldwide. These are determined and reflected by power imbalances between different actors in society. Any development of digital agriculture needs to acknowledge that digital technologies are deployed in contexts of structural inequalities and discrimination. Therefore, such developments must address the digital divide – which has, among others, rural and gender dimensions – and at the same time ensure that improved access to and use of digital technologies and (digitized) information is part of a coherent set of policies aimed at overcoming the structural causes for hunger and malnutrition, such as unequal distribution of land and other natural resources; gender, race, ethnic and other forms of discrimination; lack of protection of rural people’s (peasants, indigenous peoples, small-scale fishers, pastoralists etc.) agrarian,  pastoral,  forestry,  fisheries, and livestock systems; environmental destruction; corporate-controlled food systems; and discrimination against territorial food markets.
* While presenting some potential benefits, digital technologies and their application entail the risk of deepening existing inequalities and creating new forms of dispossession. For instance, digitalization of land and land administration data, as well as automatized land transactions using blockchain technology and smart contracts risks facilitating land grabbing. In addition, digital technologies are used to increase surveillance of farm workers as well as food processing and retail facilities, reducing their space to freely associate in trade unions and struggle for their labor and human rights. Another example is the sequencing of genetic information, which is happening at a fast pace, and which, in combination with patents on genetic sequences/native traits, undermines peasants’ and indigenous peoples’ rights over their seeds, and poses additional threats to the protection of their knowledge, innovations and practices. Without adequate and effective regulatory frameworks, the digitalization of food and agriculture therefore risks to consolidate, or even deepen, existing inequalities and injustices.
* The concept note should further acknowledge that the information and communications technology (ICT) sector and its ownership structure are highly concentrated. The fact that a small number of corporations hold oligopolies or even monopolies over digital platforms, data flows and digital infrastructure constitutes an important challenge to realize the potential opportunities of digital technologies, in particular for marginalized groups and developing countries.
* The concept note rightly points to data security and privacy issues as important concerns in the context of digitalization of food and agriculture. However, it should acknowledge that models based on the exclusive ownership of data and digital information as well as their use are not the only response to overcome existing challenges, and may not be the best option to serve the achievement of the RtFN and connected human rights, such as indigenous peoples’ rights, the rights of peasants and other people working in rural areas, women’s rights, as well as environmental rights. Approaches that are based on collective rights to access and use data, as well as transparency,  need to be developed as well because they can provide solutions that prioritize the public interest and communities’ wellbeing (“Bien vivir”), while ensuring broader participation in decision-making and in the potential benefits of digital technologies.
* We miss a reference in the concept note to the environmental and health concerns of digitalization. Debates on the potentials and risks of digitalization, including in the proposed International Digital Council should take into account the large environmental impacts related to the manufacture and use of ICT/AI hardware (e.g. micro-chips, semiconductors, liquid crystal displays, mobile phones, computers, batteries, etc.), which include  impacts  from  mining,  emissions  of  volatile  compounds,  acid  fumes,  solvents  and  metals  into  the  air  and  water,  high  energy  consumption,  waste  generation/disposal   and   greenhouse   gas   emissions   from   transportation and storage. It should further recognize the growing body of studies pointing to health risks related to technologies such as 5G.

Regarding question 2: How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?

* FIAN considers that the proposed Digital Council should be established within the UN system, and its mandate and principles be based on the UN Charter as well as the international human rights framework. Given that its focus will be on food and agriculture, it should contribute to the realization of the RtFN, in accordance with the FAO and CFS mandate. The proposed Digital Council should further be clearly anchored in a human rights-based accountability framework.
* The proposed Digital Council should recognize, in its composition, principles and ways of working, the protagonist role of small-scale food producers as well as those most affected by hunger and malnutrition, and other marginalized groups. The Council should be built on the principle of self-determination, which means that peoples have the right to decide which technologies they need and want.

Regarding question 3: Do you think that the roles identified for the Digital Council are suitable for facing the agrifood systems challenges outlined above?

* FIAN considers that the proposed Digital Council should build on the increasing scientific and political consensus that a transformative change of food systems is needed to address the social, environmental and food crises that the world is facing. Digital technologies can play a role in supporting the transformation of food systems, but they will not do so automatically. The proposed Council should provide guidance for technologies and regulatory frameworks that advance the RtFN and connected rights such as women’s rights, the rights of indigenous peoples, the rights of peasants and other people working in rural areas, labor rights and environmental rights. In order to do so, the proposed Council should have the following roles:
* Track and analyze ICT developments that are relevant for food and agriculture.
* Assess impacts of different digital technologies, in particular their impact on the rights of small-scale food producers and marginalized groups, as well as their capacity to develop sustainable and just food systems based on agroecology. The proposed Council should help identifying technologies that present opportunities, but also those that entail risks, and may be detrimental to advance the RtFN and food system transformation based on agroecology, as well as those which entail the risk of consolidating and even deepen marginalization and injustice.
* When assessing digital technologies and their impacts, the proposed Digital Council should take into account the socio-politic and economic context in which digital technologies are applied, including existing power imbalances between different actors in society, structural inequalities, discrimination based on gender, race, ethnic and other grounds, etc.
* The proposed Digital Council should gather the views of different actors, placing a particular emphasis on the needs and aspirations of small-scale food producers and marginalized groups, in order to identify and contribute to develop technologies, digital platforms and infrastructure that are accessible to these groups and serve to advance their rights.
* Based on its assessments, the proposed Council should provide guidance to states on which digital technologies as well as public policies related to digital platforms, data flows and storage, and digital infrastructure may serve best the advancement of RtFN and connected rights; as well as on the regulatory frameworks required to ensure outcomes that are conducive to the realization of the RtFN and human rights, the public interest and the protection and regeneration of nature.
* The proposed Digital Council should put forward norms and principles that should guide research and development, in particular public research, as well as the use/application of digital technology to advance the RtFN and agroecology.
* The proposed Council should further explore the potential of innovative approaches that are based on collective rights to access and use of data to provide solutions that prioritize public interest and ensure broader participation in the potential benefits of digital technologies.

Regarding question 4: What governance structure should be in place in order for the Council to serve its purpose?

* As stated before (see question 2), FIAN considers that the proposed Digital Council should be established within the UN system, and its mandate and principles be based on the UN Charter as well as the international human rights framework. Given that its focus will be on food and agriculture, it should contribute to the realization of the RtFN, in accordance with the FAO and CFS mandate. The proposed Digital Council should further be clearly anchored in a human rights-based accountability framework. This requires, among others that there is a clearly defined mechanism of how it will interact with the UN and regional human rights systems, including the Committee on Economic, Social and Cultural Rights and the UN Special Rapporteur on the Right to Food, among others. As stated before (see question 2), the proposed Digital Council should recognize, in its composition, principles and ways of working, the protagonist role of small-scale food producers as well as those most affected by hunger and malnutrition, and other marginalized groups. The Council should be built on the principle of self-determination, according to which people have the right to decide which technologies they need and want. This requires to ensure adequate participation of organizations of small-scale food producers and those most affected by hunger and malnutrition.
* Applying an accountability framework based on human rights, the proposed Digital Council should consider states as duty bearers that are accountable to the rights holders (the people). If other actors participate in the Council, they would do so as third parties. The different roles and responsibilities of different actors need to be clarified, and the Council should take into account power imbalances between different actors (e.g. agrifood corporations and small-scale food producers). This is particularly important in the context of digitalization due to the high concentration in the ICT sector and its ownership structure.

Attachment:

<http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/FIAN%20Comments_E-Consultation%20International%20Digital%20Council_final.pdf>

##  Neil Fourie, United Kingdom Permanent Representation to the United Nations Food and Agriculture Agencies in Rome, Italy

After consulting with colleagues at our Ministries, we would like to put the following comments forward:

* Developing digital approaches in agriculture is something we are pursuing in the UK through Transforming Food Production and with industry through Food and Drink Sector Council
* Digital solutions and technological innovations in agriculture will be a key part of the solution to feeding a growing global population. They can unlock the potential of farming by improving productivity as well as using resources more sustainably and reducing environmental impact. For example, achieving ‘end to end supply chains’: applying digital/artificial intelligence/ block chain approaches/data embedded bar codes to drive productivity, efficiency and traceability through the entire supply chain, provide sustainability and nutritional data to consumers and reduce food waste.
* We will want to ensure that direction of travel and any international systems international systems draw on the systems and progress we are making in this area, and that such developments are both secure and compliant with relevant data protection regulations.
* However, the devil will be in the detail, and in the ability to resource the council. Research by DAI for USAID looking at 10 agri-tech/digital ‘hubs/platforms’ found that a key driver of success and sustainability is having the significant resources in place to actively curate content, and match the right content to different groups. One of their messages was that hubs that rely on self-reporting don’t last.

##  ****Ministerio de Relaciones Exteriores y Culto de la Argentina y el Ministerio de Agricultura, Ganadería y Pesca de la Argentina,**** Argentina

Original contribution in Spanish

**Pregunta orientativa 1: ¿Cuáles son los posibles puntos de partida para que el gobierno aborde los desafíos y promueva el desarrollo de la agricultura digital? ¿Cree usted que los desafíos globales identificados son incuestionables? En su opinión, ¿qué se debería añadir o suprimir?**

Se entiende que un desafío global que podría agregarse se vincula con la generación de mecanismos de apropiación y adecuación de las tecnologías globales a las necesidades particulares de los países, sin dejar de tomar en cuenta los principios rectores en que se basan. Es por ello que es importante que el Consejo pueda bregar por el correcto uso de estas tecnologías, tanto para garantizar la sostenibilidad en la producción agropecuaria, como su uso en los diversos eslabones de la cadena.

De igual modo, se considera necesario incluir referencias a los desafíos vinculados al fortalecimiento institucional a través, por ejemplo, de la promoción de una mayor articulación intra-gubernamental, y al desarrollo y/o mejora de los servicios de investigación ligados a la innovación y desarrollo de tecnologías. Asimismo, se entiende que la inversión en la juventud, un grupo en crecimiento especialmente en los países en desarrollo y emergentes, posibilitaría su inclusión en el sector agrícola.

Con relación a los retos señalados en la Guía de esta pregunta, se considera que podría agregarse en el punto relativo a “*Alfabetización digital insuficiente y desarrollo de nuevas capacidades*", la necesidad de capacitación no sólo para la mano de obra agrícola sino también para el sector privado en general, e incluso para los técnicos gubernamentales.

Por otra parte, y en cuanto al punto relativo al "*Acceso inadecuado a los recursos financieros*", se entiende relevante considerar herramientas destinadas a promover incentivos para las empresas emergentes y los emprendedores, así como para fortalecer el empleo joven.

Por último, se estima con relación al punto "*Infraestructuras inadecuadas*", que habría que hacer mención a la extensión y difusión de la red de fibra óptica de cada país, por ser éste un medio de transmisión mucho más rápido, eficiente y barato que la transmisión satelital. A ello habría que agregar la cuestión de la brecha digital entre los países y la necesidad de encontrar mecanismos para mitigarla. La difusión de las plataformas digitales innovadoras corre en paralelo a la extensión de la fibra óptica a las localidades pequeñas, donde en general viven los agricultores.

**Pregunta orientativa 2: ¿Cómo puede la creación del Consejo Digital superar las numerosas barreras para la adopción de estas tecnologías?¿Cree usted que los principios indicados son incuestionables y abordan las necesidades para superar las barreras? En su opinión, ¿qué se debería añadir o suprimir?**

En primer lugar, se destaca la coincidencia con las recomendaciones sobre medios para superar las barreras para la adopción de las nuevas tecnologías. Se estima subrayar la necesidad de poner énfasis en que dichas recomendaciones se adapten a la realidad de cada mercado agrícola.

Por otra parte, se considera que el Consejo de Agricultura Digital debería velar no sólo por el acceso igualitario a la tecnología sino fundamentalmente para que su uso sea para fines productivos. En este sentido se vuelve imprescindible la premisa de reglamentar el uso de la tecnología y el conocimiento promoviendo a través de políticas públicas y del financiamiento, tanto privado como de la comunidad internacional, el buen uso de las mismas.

La prioridad debería estar puesta, por ejemplo, en maquinaria y sensores que monitoreen los suelos y el clima con el foco en el mediano y el largo plazo. Hoy en día existen sensores de  humedad, de horas de sol, de temperatura, de minerales del suelo, etc., que permiten descargar la información en los teléfonos celulares. De igual forma, existen aplicaciones que pueden verificar la trazabilidad de los productos, e incluso podrían vincular a los productores con los distribuidores, proveedores y consumidores, permitiéndoles un incremento en sus beneficios. Estas tecnologías generan una contribución tanto al desarrollo del comercio electrónico como a la evolución de los locales de venta físicos.

**Pregunta orientativa 3: En su opinión, ¿Considera que las funciones identificadas para el Consejo Digital son adecuadas para hacer frente a los desafíos de los sistemas alimentarios antes mencionados? ¿Cree usted que esta tabla vincula con claridad las funciones del Consejo Digital con las tres carencias clave del ecosistema? ¿Qué otras funciones políticas debería desempeñar el Consejo Digital para cumplir su mandato? ¿Cómo concibe este papel?**

Se entienden adecuadas las funciones identificadas para el Consejo Digital. Se concuerda con potenciar la digitalización como uno de los medios para incrementar la producción y productividad agrícola, al mismo tiempo que se promueve un uso eficaz y eficiente de los recursos, se incluye mano de obra y se mejoran las condiciones de vida. Sin perjuicio de ello, se sugiere incorporar una discusión sobre ética de las innovaciones, sobre todo las que hagan uso de grandes cantidades de datos ("big data") y de inteligencia artificial, cuestiones que se relacionan con el diseño de los algoritmos y con el uso de dichas tecnologías.

Por otra parte, se considera que el rol del Consejo debería orientarse a la generación de guías y recomendaciones, el fomento del financiamiento sostenible y la asistencia técnica a través de la cooperación entre países, con una estructura ágil que cuente con la participación tanto del sector público como del sector privado.

**Pregunta 4: ¿Qué estructura de gobernanza debería implantarse para que el Consejo pueda cumplir su propósito? En su opinión, ¿cree que el escenario de gobernanza propuesto es políticamente viable?**

Sobre la estructura de gobernanza del Consejo, se debería definir con mayor detalle el órgano de seguimiento y evaluación cuya creación se prevé.

Por otra parte, se destaca la importancia de generar niveles más altos de cooperación entre los países, capacitación y sobre todo financiamiento para la incorporación de infraestructura, tecnología *hard y soft*, y diseñar un sistema de planificación estratégica conjunta que evalúe y monitoree sus progresos.

English translation

**Question 1. What are the potential entry points for government to address challenges and foster the development of digital agriculture? Do you think the global challenges highlighted are conclusive? According to you, what should be added or removed?**

It is understood that a global challenge that could be added is linked to the creation of mechanisms of ownership and adaptation of global technologies to the particular needs of countries, while taking into account the guiding principles on which they are based. This is why it is important that the Council can work towards the correct use of these technologies, both to ensure sustainability in agricultural production and its utilization in the entire food chain.

Similarly, including references to the challenges related to institutional reinforcement through -for example- the promotion of greater intergovernmental collaboration, and the evolution and/or improvement of research services linked to innovation and technological development are deemed necessary. Additionally, it is understood that investing in youth -an emerging group especially in developing and emerging countries-, would enable their inclusion in the agricultural sector.

Regarding the potential challenges outlined in the Discussion Guide, the need for training -not only for farm labour but also for the private sector in general, and even for governmental technicians- could be added to “Inadequate digital literacy and new skills development”.

On the other hand, and regarding the challenge "Inadequate access to financial resources", considering those tools aimed at promoting incentives for emerging companies and entrepreneurs, as well as for boosting youth employment, is deemed relevant.

Finally, with regard to the challenge "Inadequate infrastructures", extending the optic fibre network in each country -a much faster, more efficient and cheaper transmission medium than satellites- should also be mentioned. Adding the issue of the digital divide among countries, and the need to find mechanisms to mitigate this gap, would also be convenient. The dissemination of innovative digital platforms runs parallel to the expansion of optic fibre across small towns, where farmers usually live.

**Question 2. How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies? Do you think the principles highlighted are conclusive and address the needs for overcoming the barriers? According to you, what should be added or removed?**

First, it is worth noting the coincidence with the recommendations on ways to overcome the barriers to the adoption of new technologies. It is important to stress the need to adapt these recommendations to the reality of each agricultural market.

On the other hand, the Digital Council should ensure not only an equal access to technology, but also its major use for productive purposes. In this regard, the premise of regulating the use of technology and knowledge is essential, promoting the good use through public policies and financing, both from the private sector and the international community.

Priority should be given, for example, to machinery and sensors that monitor soils and climate with a mid-term and long term focus. Nowadays a broad range of sensors is available: they can monitor -among others- humidity, hours of sunshine, temperature, or oil minerals and the information recorded can be downloaded to cell phones. Similarly, there are applications that can verify the traceability of products, and could even link producers with distributors, suppliers and consumers, allowing them to increase their profits. These technologies contribute to both the development of e-commerce and the evolution of physical stores.

**Question 3: Do you think that the roles identified for the Digital Council are suitable for facing the food systems challenges outlined above? Do you think the table clearly matches the roles of the Digital Council to the three key ecosystem gaps? What other political roles should the Digital Council fulfil to address its mandate? How do you envision this role?**

The roles identified for the Digital Council are considered appropriate. Boosting digitalization is certainly one of the tools to increase agricultural production and productivity, while promoting an effective and efficient use of resources, involving labour and improving living conditions. Notwithstanding the foregoing, incorporating a discussion on innovation ethics -especially for those technologies making use of large amounts of data ("big data") and artificial intelligence, topics related to algorithm design- would be desirable.

On the other hand, the role of the Council should be geared towards the development of guidelines and recommendations, the promotion of sustainable financing and technical assistance through cooperation among countries, with a flexible structure involving both the public and private sectors.

**Question 4. What governance structure should be in place in order for the Council to serve its purpose? According to you, do you think the proposed governance scenario is politically feasible?**

Regarding the governance structure of the Council, the envisaged monitoring and evaluation organism should be defined in more detail.

On the other hand, enhancing cooperation among countries, training and -especially- funding for new infrastructures and hard and soft technology is considered very important. Designing a joint strategic planning system that assesses and monitors its progress is also deemed relevant.

##  Don Syme, New Zealand Embassy Rome, Italy

**New Zealand Comments on proposal for an International Digital Council**

Thank you for providing the opportunity for members to comment on the proposal for the establishment of an International Digital Council.

New Zealand understands that there is a ministerial mandate (agreed by agriculture ministers at the Global Forum for Food and Agriculture 2019 and the G20 Agriculture Ministers’ Meeting 2019) to envision a concept of the Digital Council for further consideration, not a mandate for establishing the Council itself. Therefore this process should be viewed as a scoping exercise at this stage.

New Zealand does not see a need for an agricultural and food specific International Digital Council. We are concerned that the establishment of such a council will duplicate similar work already underway in multiple international fora. In our view digital issues are best addressed in a sectoral neutral manner and this proposal would undermine that objective.

New Zealand does not support the proposal to create a large and complex structure to support the Digital Council as outlined in the concept note, i.e. with an Executive Council, Advisory Committee Secretariat and working parties. As an alternative to the Council we would suggest that the FAO should consider getting more involved in digital discussions already under way in Geneva.

In the event that the Digital Council was to proceed, its members should be solely digital experts (e.g. data management, technology development, sales/distribution, legal, infrastructure/telecoms, software/apps) rather than government/political representatives. Any recommendations from such a council should be non-binding and the results of the work should be referred to the appropriate IO committee, which may or may not be based in the FAO, depending on the issue under discussion.

In any event New Zealand would appreciate further information on how the proposed Council would be funded, and on the full range of implications for member countries.

##  Anisah Madden, Australian Food Sovereignty Alliance, Australia

Key Points and Questions on the Governance of Digital Agriculture

Should an International Digital Council be struck, it should consider the following points as priorities:

1. Digitalisation of food and agriculture should not be automatically considered positive or desirable. The autonomy of diverse cultural food and life ways of peoples and communities across the globe must be respected and protected as distinct and autonomous systems. It should not be assumed that smallholders WANT to be “integrated into new digitally driven agrifood systems” (USAID 2018, in Trendov, Varas, Zeng 2019 p1).
2. A clear division needs to be made between industrial food systems and peasant / cultural / agroecological food systems. Peasant food systems should not be subjected to incorporation into industrial systems through digitalisation initiatives. At present, most digital technologies – precision agriculture and remote sensing technologies, big data, cloud, analytics, remote sensing technologies - are designed to serve failing industrial food systems.
3. The millions of small-scale food producers across the globe, who produce the majority of the world’s food and who also disproportionately suffer from hunger, malnutrition, and food insecurity have the right to decide what kind of food and agriculture systems we want, and the right to participate in decisions that affect us. This includes digitalisation processes. Thus far, the consultations that have been conducted on this process have not included any small-scale food producers organisations. This is an unacceptable omission that should be corrected going forward.

 Responses to questions for concept note

1. What are the potential entry points for government to address challenges and foster the development of digital agriculture?

* Before governments address challenges and foster the development of digital agriculture, there are some important questions that need to be answered: What digital technologies are being developed and promoted and by whom? Who benefits from these developments? On what basis are digital technologies considered desirable? Have communities been consulted about their needs and aspirations for their food and agriculture systems? What are the risks to the rights, food security and livelihoods of people and communities of digital agriculture technologies?
* Private sector industrial innovations have already been shown to undermine democratic rights of people and communities to have a voice in decisions that affect them. This needs to be addressed directly and immediately. Indeed, the 2019 FAO status report Digital technologies in agriculture and rural areas recognised “large international companies predominantly use digital transformation in agriculture in a context of agribusiness. This process also affects other organizations, such as governments, public sector agencies and local agripreneurs, which are involved in tackling societal challenges such as rural livelihood, women and youth unemployment and agripreneurship” (Trendov et al, 2019 p2)
* Any process of digitalisation undertaken by governments and/or the private sector must respect pre-existing international human rights declarations, relevant treaties, conventions, and national laws. Violation of these instruments must incur strict and severe penalties.
* Governments MUST conduct comprehensive risk, impact, and benefit assessments of any new technology in a participatory and inclusive manner, prioritising the inputs of those most affected by hunger, malnutrition, and food insecurity.
* Governments MUST create strong legal and regulatory frameworks to protect people and communities from the potential negative impacts of digital agriculture technologies. These technologies must be strictly regulated, and communities should be protected from imposition of new technologies on them by private interests and governments.
* Investment in basic rural infrastructure, guided by the needs of communities, should be the first priority to address inequalities between rural and urban populations, in both developing and developed countries.
* Technologies should be developed to foster public goods first and foremost. People, not profits, should guide policy decisions.
* Data must be owned and controlled by the people who generate it, not private companies. Private sector access to and use of public data must be strictly regulated.
* The environmental and health impacts of digitalisation need to be carefully considered, assessed, and integrated into policy and regulatory frameworks – taking into account every point in the value chain – from the manufacture of hardware which relies on extractive industries such as mining, to their disposal, and also considering the issue of energy consumption involved in transportation and storage.
* If established, the Digital Council should consider the potential for digital technologies to contribute to sustainable energy transitions, to improve the efficient recycling and reuse of raw materials (reducing their continued extraction) their role in clean up and restoration of degraded and polluted landscapes, and many other applications needed for transition away from hydrocarbon-dependent growth economies and towards steady state and degrowth economies based on clean energy.

1. How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?
* Inequalities between and within countries are the primary cause of hunger and malnutrition. Governments must begin by addressing these problems collectively.
* The council should not be neutral. If established, its work should be firmly anchored in advancing the progressive realisation of human rights, including the right to food, the rights of women, the rights of indigenous peoples, and the rights of peasants and people working in rural areas.
* While many technologies may be desirable and useful, we need to be very cautious and recognise the risk for misuse, and the potential of digital technologies to exacerbate existing inequalities and injustices. Technologies should be in the service of people and communities and enhance their livelihoods. As such, data must be collectively owned by communities, accessible, affordable, ethically designed, produced, distributed, and regulated. The process of developing these technologies should be democratic and bottom-up, and respond to the needs and aspirations of people and communities while ensuring decent work, ecological integrity, sustainability, and equity.
* In recognition of the need for transformative food system change to address the multiple interdependent crises of rising global hunger and malnutrition, climate change, mass migration, and inequality, agroecological approaches have been shown to have the greatest potential for meeting all these challenges in ways that are community-led, context-adaptable, and sustainable. Many of the industrial innovations under the rubric of digitalisation such as precision agriculture and DSI do not address these challenges, and may in fact contribute to them (HLPE 2019). How will the Council address these contradictions?
* The technologies themselves could possibly benefit diverse publics, if they were democratised. That is, if their development was oriented to enhancing public goods, through participatory and inclusive mechanisms, and based on collective rights and shared access, use, and benefit to and with communities. The research and development of new industrial technologies should be based in an understanding of and respect for the complex interdependence of nested, dynamic human and ecological systems. As this is not the case, these “solutions” are highly unlikely to support the food system transitions so urgently needed.
* In terms of its ethical responsibilities, the council should not only make sure that technologies are used in an ethical way, but that ethical principles guide their design, development, testing, manufacturing, distribution, ownership, control, and benefit

2.​​​​​​​ Do you think that the roles identified for the Digital Council are suitable for facing the agrifood systems challenges outlined above?

* The agri-food systems challenges we collectively face will not be magically fixed by digital technologies. They will be addressed only by governments upholding the rights of their publics, and by legal and regulatory frameworks and policies that serve public goods. Digital technologies can play a role in this, but only if they are democratised. Private sector concentration in the digital sector is the first priority that this digital council should address.

3. What governance structure should be in place in order for the Council to serve its purpose?

* What is the rationale for forming a Digital Council? What other fora already exist for discussion on these topics, and what gaps would this council fulfil? Has any assessment has been done on this? Before going forward, there should be a comprehensive assessment of the different intergovernmental fora where digital technologies for food and agriculture are being discussed. Surely, any discussion on digital agriculture should take place within already existing fora on food and agriculture, namely the UNFAO, and primarily the CFS, which is the foremost intergovernmental platform for food and agriculture policy.
* If established, who would this council be accountable to? Who would set the priorities for its work and on what basis? How would accountability be monitored and ensured?
* Not all stakeholders are equal. Private interests whose motivation is shareholder profits should not be given equal voice to people and communities, who are rights holders, and to whom governments, as duty bearers, are responsible. What mechanisms will be in place to prevent conflicts of interest? Private Sector participation and influence in the Council should be strictly limited due to conflicts of interest.
* What mechanisms will be in place to ensure democratic and inclusive participation of vulnerable and marginalised communities in the council? Small-scale food producers across the world have most at stake in this discussion, and as such their voices should be prioritised.
* While a number of stakeholders invested in industrial agriculture and food systems have taken up the rhetoric of sustainability, their piecemeal, technical approaches (e.g. biofortification, so-called sustainable intensification, biotechnology) do not address these dysfunctionalities in a holistic, participatory, and transformative way. In essence, these so-called solutions are driven by the logic of unchecked economic growth and the accumulation of private profit at the expense and disregard of public goods. Those responsible for the development of digital agriculture technologies are operating under the same logics. We should be very clear to evaluate any new technologies on the basis of already agreed-uopn normative principles – to uphold, protect, and fulfil human rights and the right to food. The CFS is the space in which to address these issues.

 References:

HLPE. 2019. Agroecological and other innovative approaches for sustainable agriculture and

food systems that enhance food security and nutrition. A report by the High Level

Panel of Experts on Food Security and Nutrition of the Committee on World Food

Security, Rome.

Trendov, N. M., Varas, S. & Zeng, M. (2019). Digital technologies in agriculture and rural areas – Status report. Rome. Licence: cc

## US Mission to the UN Agencies, Italy

Please find attached the United States comments to the introduction of FAO’s online discussion on the “Establishment of an International Digital Council for Food and Agriculture.”

Thanking you in advance for your kind attention,

Maria Adelaide D’Arcangelo

United States Department of Agriculture
US Mission to the UN Agencies| US Embassy Rome

The United States welcomes the opportunity to comment on the discussion of the establishment of an “International Digital Council for Food and Agriculture”. We welcome the use of an inclusive and multi-stakeholder approach to discuss digital technologies in agriculture and food, but also stress the need for this work to be strongly scoped and context-specific. Indeed, the usefulness and applicability of digital technologies relies heavily upon the availability and accessibility of relevant context-specific and local data. Some of the barriers in this field, such as the accessibility, availability and affordability of digitalization, are outside of FAO’s traditional field of expertise, and addressing them may be better left to other international institutions. The Digital Council is definitely a starting point in mobilizing efforts and drawing attention to the Food and Agriculture sector.

The Digital Council should also avoid replication and duplication of the work the UN and other institutions have already carried out on digitalization in food and agriculture.

On the point “*Working collaboratively, such a Council would discuss and develop voluntary guidelines, provide advice to policymakers, and enhance knowledge-sharing on best practices that would contribute to sustainable agriculture and rural development during the digital transformation.”*The United States would like to stress the importance of ensuring that any advice or guidance provided by the Digital Council be indeed **voluntary, non-prescriptive, and non-binding**. The United States believes FAO is best placed to provide a neutral forum for an open and frank discussion of ***all***possible best practices, approaches and technologies that benefit all farmers and contribute to sustainable agricultural and rural development.

Specifically on [**Question 2**](http://www.fao.org/fsnforum/sites/default/files/files/162_Digital_Council/Discussion_guide_Q2.pdf#_blank): “How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?”

* We strongly concur with the principles of **Be Scalable** and **Be Efficient**:  This may favor software-based solutions that are easily transferred into new contexts.
* We would like to propose an additional principle of **Be Connected**: The Digital Council should connect to existing research, best practices and online tools.

Please note: these are initial and preliminary comments. The United States welcomes the opportunity to comment further and to continue playing an active role in the future.

##  [Muhammad Ariful Haque](http://www.fao.org/fsnforum/member/muhammad-ariful-haque)****,**** Kamfisht Universe Engineering, Bangladesh

I appreciate the initiative of formation of International Digital Council for Food and Agriculture. Now we are living in age of globally integrated information communication technology (ICT) in handy and affordable price. Ecommerce, ATM card, POS, e-wallet, mobile banking, translation and Transliteration apps, sensor based disaster management apps, food, nutrition and agricultural videos / apps, TV apps, online radio, social media, supply chain management system, various software and websites etc all are various forms of ICT. Using ICT, any remote farmer can exchange latest scopes of agriculture. So, I think proper and fair way use of ICT without discrimination for food and agriculture will be bless for all.

##  European Commission

Joint contribution of the European Commission .

**1. What are the potential entry points for government to address challenges and foster the development of digital agriculture?**

In our view, the main entry points which should deserve most attention in view of fostering the uptake of digital tools in agriculture are:

* Fostering the link between eAgriculture and FinTech companies and the farmers, including farmers associations.
* Increasing the cooperation between Agriculture and Digital ministries and authorities inside governments, including farmers organisations.
* Government support schemes for assuring connectivity to farmers such as voucher schemes (EU experience)
* Governments have to assure that the farm advisory system in place, sufficiently addresses questions related to digitalization of the agricultural sector.
* Impact on the environment, being it negative or positive, should be one of the main issues to be taken into account: use of energy, use of sensitive minerals, positive and negative contribution to climate change, etc.
* The council should act considering the concentration of market operators.
* Inadequate access to information: How are the farmers aware of the available digital tools currently available and their benefits?
* Inadequate digital literacy and new skills development: How can governments encourage, promote and provide access to trainings for farmers wishing to use digital tools? How to ensure closing the digital gap between farmers (especially the ageing ones) and the rest of population? How to make farming attractive and modern for younger generations? For coping with digitalization farmers and food processors do not only need digital literacy, but also management skills for being able to decide which digital technologies from comprehensive portfolio is suitable for their business.
* Inadequate infrastructures: Digital divide is one of the main issues in rural areas and should be addressed providing reliable and affordable broadband connection fostering the uptake of digital tools in the farming sector. For instance, while SMS eAgri services are providing real benefits, the full potential will be reached by internet services accessed on smartphones. Inclusion of broadband connectivity in the national rural and agricultural policies.
* Data ownership: legal aspects of data ownership and protection are a cause of concern - issue of ‘datification’ (how to use the flow of data being produced to the benefit of farmers and how to ensure the added value of using all those data?).

Countries and farmers in particular should directly benefit from the “data economy” they generate thanks to digital transformation in agriculture.

Comments on the concept paper related to question 1:

* The global challenges presented are not conclusive.
* The council should assure the cross-cutting cooperation between the agriculture and digital sector at public and private level.
* The council is to address the agriculture and food sectors, but the contents of the initiative seems rather limited to agriculture. Digitalisation heavily impacts the food chain (e.g. blockchains), so the council mandate should cover the whole food chain.
* On the other hand, data on the current uptake of precision farming and other digital technologies by farmers is not available; stocktaking is needed.
* One main aspect missing in the text under Question 1, is the facilitated access to public data, which does not only refer to making data freely available, but also in an appropriate format.
* The elements suggested in concept note mix up two different aspects in nature: challenges related to the digitalisation versus possible actions for governments. The last aspect is hardly addressed and not sufficient elaborated. Given that the Council is not exclusively composed by governmental organisations, it would be suggested that the global challenges are addressed in a different question from the one referred to what governments and other players can do to drive the digitalization of the agri-food sector in a responsible way differentiated by stakeholder group. It is worth to note that the digitalization of the agri-food sector cannot be achieved effectively and efficiently by actions undertaken by governments alone.
* On the bullet point related to the “The increase of socio-economic divides between developing and developed countries”, there is a need to take into consideration the fact that the risk of a digital divide does not only exist between developed and non-developed countries. A digital divide may also occur between large and small farms or within the food chain between operators having more or less buying powers.
* To complement on the digital divide, the Council should specifically address the divide between men and women, and young and old people.
* On the bullet point related to the lack of investment, it is to be considered that this issue does not only concerns developing counties.
* The bullet point on “low affordability of new solutions” needs to be further elaborated – how does this aspect proposes good regulation, new business models, use of mix of technologies (satellite connectivity), voucher support schemes.
* Another concern regarding “affordability”: how to design digital tools that are useful and accessible to farmers? In many cases the need of farmers are not really taken into account when designing tools and digital services (strategy based on the supply of technologies and not on the demand). How to better involve farmers and farmers’ organizations in the design and management of the digital services?
* To complement on affordability, there is the need for a strong analysis on the digital tools and technologies and their specific context.
* On the bullet related to “Trust of information”, it should be highlighted that farmers are currently not the greatest beneficiaries in the data value chain
* The Council should focus on the promotion and interoperability of online supporting the function of agricultural markets.
* The Council should focus on better using mobile payments for supporting small farmers

**2. How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?**

* The Digital Council should be “inclusive” recognizing that countries are not all at the same level of development when we talk of digital agriculture.
* Expectations from the consumers in terms of food traceability for instance and of the agricultural community must both be taken into account when discussing about digital solutions in view of getting everyone on board.
* “Be neutral”: when selecting technologies supporting potential socio-economic and environmental impacts are to be considered as well.
* “Be ethical”: “Considering the rights of the vulnerable” should be brought in a new sentence
* “Be honest/fair”: should be added. The digitalisation is an innovation that provokes positive and negative impacts (as any other innovation), expected and unexpected impacts, direct and indirect impacts, winners and losers, etc. The council must fairly address all the controversies.
* The Council should engage with the private sector and remove barriers for investments such as unpredictability of regulations and fiscal policies
* Address connectivity by bringing together mobile operators and farmers associations
* Digitalisation should be an integral part of agriculture and rural policies
* Promote strong privacy regulations such as GDPR compliance, and privacy by default technologies
* Digital Council should promote an inclusive approach supporting small and local farmers in taking advantage of digitalisation and digital transformation

Comments on the concept paper related to question 2:

* There might be several interpretations or visions on how to develop digital farming and such variety of visions should be preserved to avoid any mainstreaming. Contexts, conditions, means are different and digital solutions should be tailor-made not imposed from a supranational body.
* It is paramount to promote the benefits of digital tools among the agricultural community to foster the uptake rather than imposing them how to do their work or changing their.
* In bullet point one, rural communities are mentioned; their role has not been elaborated under the other parts of the concept note; it is not clear, if they should have relevance only as far as it concerns the agri-food sector or the comprehensive integrated rural development by means of digitalization.
* The “end user” or “the types of end users” need to be further defined. Does it include only farmers, also food processors or other actors?

**3. Do you think that the roles identified for the Digital Council are suitable for facing the agrifood systems challenges outlined above?**

* The figure outlined in the discussion paper is not consistent, elements are repetitive to some extent. Some aspects go beyond the scope of the Council.

Comments on the concept paper related to question 3:

* Overall, the figure would benefit from a differentiation in actions to be carried out in short-term, medium-term and long term. Some actions are one-time activities, for which a framing is missing.
* The figure would benefit from the description of a strategic approach towards the work of the Council.
* The figure is divided into two main blocks “Role 1” focussing on a knowledge hub and “Role 2” focussing on a policy and regulatory framework. The creation of a knowledge hub is insufficient for reaching out to the end-user of digital technologies and triggering innovation development and uptake. It might be adapted to focus on the creation of a knowledge and innovation system, approaching also the communication between stakeholders including processes of co-creation and (knowledge) transfer.
* The Role 2 may go beyond the scope of the Council as agreed at the GFFA: the creation of a (common) regulatory framework is not a declared objective in the declaration signed at the GFFA. The work of the Council may guide signing countries to enhance policy framing conditions for the uptake of digital technologies, but the council itself is not to create regulations. In so far the figure is misleading and the text might be adapted deleting “regulatory”.
* The description of the three types of gaps is not conclusive: The innovation gap goes beyond a lack of R&D tailored to local contexts. The phrasing “integrator gap” might be re-considered, if it is to reflect on the need of increased multi-stakeholder collaboration.
* It is not clear, how the following is to be understood “ National would gain practical suggestions to foster digitalisations in agriculture”
* Important to make the link between the two elements “methods for closing gaps in these areas” and “collaboration could be an effective way to enable digitalization in an inclusive way”.
* A comprehensive stocktaking of the current extent of use of digital technologies will be essential to form a basis for the activities of the council.
* Capacity building (activities to strengthen capacities or guidelines to manage this topic)

**4. What governance structure should be in place in order for the Council to serve its purpose?**

* The governance structure should first and foremost be transparent to ensure the full adhesion and participation of the member countries.
* The digital sector (mobile operators and service providers) should be sufficiently represented
* The Council should be providing a service to member countries delivering clear benefits for them otherwise there is a risk of low commitment and participation. Redundancy with other networks and similar reflexion groups should be avoided.
* The description of the governance structures of the Council are insufficient and to some extent non-convincing. Especially the following aspects call the attention:
* The flow of resources is not described.
* The role of donors is not described.
* It calls the attention that the executive council is described as expert group, and that in parallel working groups, which can be expected to form expert groups as well, are set up.
* It is not clear, whether some organisations and governments, which are not represented in the executive council will have an observer role.
* It is not clear, whether activities carried out by the working groups are completely accomplished by the working groups themselves, or whether they are outsourced.
* The relation between working groups and executive council is not explained.

Comments on the concept paper related to question 4:

* While it is rather common to have a structure which steer the process and the work of such Council, it is also important to keep some possibilities for the member countries to propose some specific themes to be analysed and further developed when relevant.

**5. Please add any other comment or relevant content you think should be included in the Concept Note.**

Overarching remarks

The documents provided as basis for the online consultation appear not to be mature enough on the one hand, and too detailed on the other: while the overarching mandate and concept of the Council to be established has not been profoundly elaborated, some part of the discussion documents already contain quite detailed elements.

Furthermore, there are very few details on the funding mechanisms and the “status” the council will have within the FAO. Will it be an FAO body? Will it be independent or part of the FAO technology directorate? What role for the international organisations that are part of this process?

The overarching objectives and field of actions for the council are not clearly defined (description of mandate is missing); One of the main objectives should be to bring at the same table digital and agriculture public and private stakeholders and offer a platform for partnership.

The scope of the council appears – following the current outlines – be rather focussed on agricultural production, rather than on the whole food chain including food producers, processors; and traders; particularly food processing SMEs might be a crucial target group for the council as well.

The geographical scope is not defined. Digital solutions, especially when applied to agriculture, only work if they are thought and developed for a specific context. Generalisations should be avoided. The work of the Council should be organised according to geographical areas and then divide between rural and urban areas.

The council should diversify the approaches according to the areas and clarify its objectives for the medium to the long term. This will also imply a prioritisation of technologies and digital solutions depending on the areas of intervention.

The origin and amount of resources on which the work of the council is based is not clear, which makes it difficult to assess the potential field of action;

The roles of governments having signed the declaration, international organisations, other stakeholders and actors in countries not having signed the declaration is not clear.

In general, it presents a positive image of digitalization. Such a council must have a broader analysis to be sure to analyse the challenges and the risks in order to overcome these risks (digital divide, impact on environment, support all the farmers and especially small/poor farmers and other type of actors (women, youth, etc.)

The guidance note does not mention the already existing platforms/networks at international/continental level in terms of coordination mechanisms, which are able/willing to address digital agriculture and food, the strengths and weaknesses of the existing council/mechanisms (for example TAP, Godan, CGIAR Big Data Platform). A clear analysis on the different mechanisms and their roles would help better defining the added value of this council.

There is a need to better align the thinking and the proposals with the SDG. Digitalization is a mean not an objective. The type of agriculture may be supported by digital tools (intensive, agroecological, industrial, family agriculture) is not only a question of access to resources, capacity strengthening to avoid “reluctant parties”.

Finally, it is stated that the council will address the privacy issue. However, it has to be considered among the most important actions of the Council. It will have to act to protect the data of millions of potential users, and the EU GDPR is among the best examples to follow.

##  Andrea Ferrante, Schola Campesina Aps, Italy

**What are the potential entry points for government to address challenges and foster the development of digital agriculture?**

Digital agriculture is still in the hands of few and in this moment is intensifying the polarisation in rural areas between poor and rich farmers, leading the latter to be extremely dependent on technology. Governments, actually, have no control over this process. Digital innovations are introduced by the private sector, without comprehensive impact assessments or regulatory frameworks by governments. This undermines government control over processes in the food and agriculture sector that impact the right to food for all.

Governments should support: 1) digital-agriculture programmes as farmer/community led process for the well-being of family farming. In Agroecology (Nyeleny 2015) there are examples of that. 2) Impact assessment of the on-going digitalization innovations 3) technological sovereignty initiatives 4)Regulatory frameworks that prevent any privatisation of data. 5)Precautionary principle applied in all policy recommendations on the implementation of digital agriculture. 6) policies and practices of the CSO's lead initiatives on digital agriculture

**How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?**

The mandate of the Digital Council is unclear and itself cannot be the tool to address this challenge. The total lack of any kind of regulation enforced on digital agriculture cannot be addressed by a generic forum, with participation of stakeholders like mega ICT companies that have a clear conflict of interest, and are entering for the first time ever in the food sector.

**Do you think that the roles identified for the Digital Council are suitable for facing the agrifood systems challenges outlined above?**

Policy and regulatory frameworks for digitalisation are the main priority: An immediate moratoria should be called to avoid concentration of data in the hands of a few companies, as is already happening. There is a clear underestimation of the impact of digitalisation on the food systems all around the world on the Right to Food. A Digital Council that has no regulatory power cannot address these risks and impacts. The next FAO Regional Conferences in 2020 (as already started in ERC 2018) should address the need for regulatory frameworks for digital agriculture and all FAO COAG should include these discussions in their agendas. Finally, the CFS in the ongoing work on the policy recommendation on Innovations, should define an overarching policy and regulatory framework.

Until comprehensive regulatory frameworks are in place, a moratorium on any concentration of all kind of agricultural data in the hands of private companies should be put in place on the basis of the precautionary principle.

**What governance structure should be in place in order for the Council to serve its purpose?**
The Council should work under the Guidance of the CFS and respect the fundamental mandate and principles of the CFS.

**Please add any other comment or relevant content you think should be included in the Concept Note.**

The seed sector has already shown how DSI is hindering farmers rights and creating more and excessive concentration in the seed sector, which is having a devastating impact on agricultural biodiversity.

Data are collected by farmers and the farmer's data ownership is still not at all defined and regulated, but a few companies are already collecting and storing immense quantities of data. This has to be stopped immediately.

Trade: Agricultural data collected by the farmers are not trade commodities. The WTO cannot claim any role in setting regulatory frameworks. Farmers rights and the right to adequate food and the recently approved UNDROP are the appropriate references to be used by governments.

Until now, no serious impact assessments on digital agriculture have been conducted. There is no clarity on the impacts of digitalisation on food and agriculture, and in particular, on the collecting and concentration of data which risks the extreme concentration of power in the food sector. There is also no impact assessment on the entry of the new actors - ICT companies - on the food sector . This has to be cautiously considered to assess the economic, ecological, and social impact.

##  Meng Zeng, FAO, Italy

Dear all,

Thank you very much for your valuable contribution in "Towards Establishing an International Digital Council for Food and Agriculture", which will help us prepare a comprehensive Concept Note that considers the views and experiences of all relevant stakeholders. We will try our best to consolidate all your remarks and integrate into the final document.

It's a great honor to work with you through an open-consultation and co-creation to establish an International Digital Council for Food and Agriculture which will enable us to face challenges and embrace opportunities in agri-food system, and ensure leaving no one behind in the digital age and contributing to achieve SDGs.

The final Concept Note will be launched at next GFFA event in Berlin on January 16, 2020. We invite for your continuous support to this initiative.

Again, thank you very much for your valuable contribution.

Best regards,

Samuel Varas, FAO

Meng Zeng, FAO

##  Magdalena Ackermann, Society for International Development, Italy

Society for International Deveolpment submits the following comments to the concept note concerning the establishment of an International Digital Council. Please kindly refer to the attached document.

**Comments by the “Society for International Development” on the proposal of an International Digital Council for Food and Agriculture**

**1. What are the potential entry points for government to address challenges and foster the development of digital agriculture?**

The background of the Concept Note clearly demonstrates that the current agro-industrial system is failing to address the current food and climate crisis. Therefore, the development of digital agriculture should be at the service of these human, social and ecological challenges.

While the strategies for such development must be people-centered, Human Rights should be its overarching framework. Before implementing such strategies, governments should assess them beforehand to avoid further injustices in all dimensions. More in particular, digital agriculture **should not**:

* dispossess peasants’ knowledge and access to knowledge. *In this sense, precautionary principle should be applied in all policy recommendations*
* concentrate economic and political power into the hands of actors who are often distant from food production. *Hence*, *regulatory frameworks should prevent any privatization of data*
* increase existing inequalities and discrimination on economic, social, gender, race, and ethnic grounds. *Therefore, Impact assessment of the on-going digitalization innovations*

Potential entry points for the development of digital agriculture should be based on these concepts to reaffirm the Right to Adequate Food and Nutrition, in the context of the indivisibility of all Human Rights, for everyone.

**2.** **How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?**

The Digital Council should ensure that knowledge remains a public good by addressing corporate concentration and technology monopoly. Roles and responsibilities within the Digital Council should be clearly established, ensuring that political decisions stay in the hand of States and are not undermined by economic and financial interests.

The risk analysis of the digital technologies is a first step undertaken by the Concept Note, which should be further developed to address the numerous barriers towards the adoption of such technologies. The Concept Note makes clear that production systems will be shifted and agroecological modes of production “*will be become uncompetitive as compared with digital-driven commercial production”*. The latest should be strengthened in light of the last HLPE report on “Agroecological and other innovations”, which gives evidence on the social, economic and environmental benefits of agroecology towards food and nutrition security.

**3.** **Do you think that the roles identified for the Digital Council are suitable for facing the agrifood systems challenges outlined above?**

People-centeredness should be central in all roles established for the Digital Council. More in particular, on Role 2 “Methods for closing gaps in these areas”, collaboration among different actors can be promoted, but it should be inclusive of the most affected, while making sure that their needs are adequately addressed. Groups such as smallscale food producers (farmers, pastoralists, fisherfolks), indigenous people, women and youth need to be considered into such collaboration.

**4. What governance structure should be in place in order for the Council to serve its purpose?**

The Executive Council should clearly define the responsibility of decision-making at the hands of the States. The CFS model should be a guiding example for the Digital Council’s functioning, mandate and principles, respecting, protecting and ensuring the right to adequate food for all.

**5. Please add any other comment or relevant content you think should be included in the Concept Note.**

The current Concept Note does not address in any way the gender aspect of digital agriculture development. Therefore, gender should be strengthened in the document to ensure Womens’ rights and their agency in shaping food systems and nutritional outcomes.

##  Brandon Eisler, Nutritional Diversity, Panama

In pursuit of establishing an international digital council for food and agriculture, it will be important to have worthy direction.

It is another pivotal moment of deciding how much online currency and online voting power or policy making v.s. how much positive direction and support should be established with something like this. It is another moment where we may not be doing anything accept performing bureaucracy that get's in the way of progress, we should be careful not to do this.

For myself, it has seemed curious how for years we can not facilitate an individual citizen; accurate vote on individual issues and tax dollars spent, when the means do so through Social Security numbers (and a few other numbers) such as the ID number here in Panama which has existed almost two decades.

Total voting regulatory power could sit well within the now very popular block chain technologies, and this all bates mention of a Panama colleagues' Producers Market token, an agriculture v.s. digital technology solution. I happen to have an inside look at the team here and the king of this Hill, more or less selected to my knowledge and likely overall success, by my favorite teacher - and this type of selection in this case certainly, does not come to the undeserving. This model could be extremely proactive in promoting better agriculture that does not harm biology and wildlife.

If I am understanding the Producers Token platform right it would [c] essentially function as a marketing engine for the council itself, and for small transparent organic farmers within the ranks. [d] Food distribution costs can be saved and gained by the consumer and the producer who would be able to connect through the network. It is really quite perfect / even very much so for Nutritional Diversity Diet enthusiasts, who could through a network like this arrange there private food purchases for the required high food biodiversity.

I have enjoyed being one of the more abstract contributors to these important discussions. I also enjoy coming from a standpoint which I feel is correct. Don't we all, but important is to go slow and not to get too ahead of things, to cause any stumble. In any event I realize my comments and suggestions are a bit off key topics, all though no less important considerations.

Discussion:

What about a really proactive council, to reforest using permaculture's food forest model, disaster stricken lands, etc. To educate cattle farmers how through permaculture models and not too much more on investment, can have there cows and and whole bunch of other goodies too.

If we can expand our hopes and aim to something of this nature, the impact would be good.

For database information on plant species, the smart phone app iNaturalist, seems to be a great functioning storage and reference for plant species and could play an integral role in helping each geographic region share whats working there. the program is a great text book of sorts to bringing humanity back in touch with nature and back up knowledge Parr on functional foods and other plants around them. It is with kind of knowledge that we can learn and grow into a life in harmony with nature instead of at odds with it and obtain individual freedom and sustainability for ourselves that can last.

Obviously today technology and the development there of is the root of the 12 year crisis so let's get to learning and turning this world around, for our children and all the animals and biology on the planet.

Can this international body dare to inspire insanely incredible ecology to our beautiful world? If so I have just the idea for this!  Intelligent humans  should be able to manage the growth of incredible thrive-ability and special natural development, the problem has always been for some reason large land plant related developments have been mono culture. Here every vegetable, teak wood is a mono culture. Every tree is cleared for cow pasture. This is the complete opposite direction. If we go the right direction of diversity, we should be raise some amazing eco-cultures far beyond our dreams and compatibilities of today.

As an innovator in the field of this very [science of diverse agriculture](https://nutritionaldiversity.com/), we have discovered and tested the incredible results of diverse nutrition production and we know that the possibilities are endless here.

As a technical body can we task ourselves to develop waist collection and conversion technologies through simple design contests that award the money to do it. This is also provides the opportunity to the communities themselves suffering the variety of problems they do to become successful by uplifting their world.

Online the resources are easy to develop, and can support various motions such as

* Very easily online shared open source development file and information sharing potentials.
* Event information and motivation contest administration.
* World wide unified actions in Bio-Dynamic Agriculture.

In many ways if we don't have the focus on the species,  what are we doing.

If we are focusing on the species, regional climate categories would be able to harvest seed and use young species to supply ever expanding permaculture installations.

In this a joint efforts standard agreement could be a good fixture. For example should a poor farmer convert and work /grow on certain owned property for 50% take of produce. This could be great to see abandoned pasture or tragically destroyed lands be productively utilized easier. Also for public owned crisis land restoration efforts.

Recently we discussed land contracts, and there was some mention of disaster land agreements and national or private land options that offered the opportunity for reforestation, rehabilitation or permaculture to offset the "12 years left crisis," give the poor an out, and give constructivist to ourselves regarding our biological parents in whom we always codependent (plants). These features should be apart of any online consulship also, and were well covered then.

To grow the focus on land, agriculture etc., I see gaining funding a project thought. One idea could be deal with a company like [Airbnb](https://www.airbnb.com/rooms/24266429) who is already leveraging property value to and from diverse independent properties, could maybe allow a optional tax deductible 2-6%  optional donation on each transaction to see actual reforestation work happen. The company recently advertised and experience based reservation to get to know the animal kingdom, which I thought was very cool.

By the way Airbnb operators can start making greener properties growing diverse foods and other plants anytime they want.

Counsel gained funds from whatever source should pay directly to people reforesting land, using their imaginations and making totally awesome Avatar-like ecology all over the globe. I know it sounds a stretch, but isn't that what is needed?

What I could do with even a few more hectares in a few more micro climates, some cleared cattle land permaculture redesign, I could rattle off things all day there is so much potential out there.

Another easily achievable, and well supported web-place to offer the option to contribute this could be high school programs and great websites like this one used to follow high school sports. To get kids and parents and the community interested and a little more involved with the ecology they live in, is a great step!

Digital sharing competitions of incredible farming achievements, or installations, or learning presentations, etc., should be the regular to inspire actual no-chemical-use agriculture and wildlife protection.

1. The number one agenda should be addressing the 12 year crisis, and turning this world around.
2. Thinking about it, regional territories should control their own funding, marketing and conduct their own project management. Regions can also conduct their elections for council persons. Nominations should be based on merit actual work and accomplishment.
3. Embedded connections, other technical developments and code assistance type of expenses can be paid by a yearly percentage of each region.

This concludes my suggestions on this one.

Thanks to group and all that you do.

##  Neth Daño, Action Group on Erosion, Technology and Concentration (ETC Group), Philippines

Inputs of the Action Group on Erosion, Technology and Concentration (ETC Group)
Online Discussion: Towards the establishment of an International Digital Council for Food and Agriculture
8th November 2019

1.    What are the potential entry points for government to address challenges and foster the development of digital agriculture?

Addressing systemic inequalities
In line with the 2030 Agenda for Sustainable Development  agreed by UN member-states as the overall framework for all UN agencies and programs, efforts toward the establishment of an International Digital Council for Food and Agriculture must be guided by the vision to “Leave No One Behind”.  This is directly relevant to the theme of agricultural digitalization in a context characterized by serious systemic divides that underpin the so-called “Digital Divide”, between the global North and the global South, between rural and urban regions, and between gender.

Tackling corporate power in global food and agriculture
Systemic inequalities are often exacerbated by the application of digitalization and other new technologies in agriculture as can be seen in the continuous domination and consolidation of corporate power in seeds, agrochemicals and farm machineries as well as in livestock and animal pharmaceuticals. The increasing role of data and technology platforms  in the food and agriculture through control of Big Data are strategic concerns that need to be tackled.

Respect for peoples’ rights
The promotion of digitalization in agriculture must be based on recognition and respect of peoples’ collective and individual rights. Citizen’s rights to privacy, protection of personal information and collective data, and prior informed consent are the most obvious rights-related issues that need to be addressed and promoted in agricultural digitalization.  More fundamentally, human rights including farmers’ rights and right to health must be respected and protected as enshrined in international laws and norms.

2.    How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?

A fundamental question that need to be addressed by any governance measures in agricultural digitalization is whether the adoption and promotion of new technologies can address the systemic problems that beset agriculture? Uncritical approaches that embrace these technologies without question presents blinders to seeing the big picture and the horizon in agricultural digitalization

3.    Do you think that the roles identified for the Digital Council are suitable for facing the agrifood systems challenges outlined above?

Form should follow function.  A thorough consideration of whether digitalization presents an effective a solution to challenges in food and agriculture, whether it will truly address inequality, corporate control and the assault to farmers’ rights should predicate any discussion on governance structure. In the case of the idea to establish an International Digital Council for Food and Agriculture, the Ministerial Declaration by the 2019 Global Forum for Agriculture (GFFA), exploring means to conduct impact assessment of digital technologies is an explicit component and should be an inherent part of any discussion on the proposal for a Digital Council and should define its roles and mandate. Horizon scanning is an key capacity that international and national institutions on agriculture current lack.  There should be a mechanism to provide information on digital technologies and their potential impacts on farmers and rural communities, biodiversity and the environment. It should also include assessing digital technologies and corporate power behind them, along with countries/governments that are producing and selling these technologies. Assessment should not be ex ante when impacts are already felt after a digital technology application has been deployed commercially but early in the research and development process.

4.    What governance structure should be in place in order for the Council to serve its purpose?
Any governance mechanism on agricultural digitalization should be within the UN system, to be governed by UN rules and established norms. There should be balanced representation: North-South, regional, gender, farmers movements and civil society, including those that represent critical views.  The central role of small-scale farmers should be explicit. Transparency, inclusiveness and public participation should be key guiding principles.

5.    Please add any other comment or relevant content you think should be included in the Concept Note.

##  Shiney Varghese, Institute for Agriculture and Trade Policy, United States of America

Comments Submitted by the Institute for Agriculture and Trade Policy (IATP) USA

Introduction:

This effort to establish a global governance mechanism is timely, as digitalization of agriculture and food systems is already happening around the world: it goes beyond precision agriculture to cover an array of operations, from digitalization of agricultural extension services to the use of block-chain technology in food value chains and retail sales.

At times, however, these initiatives can end up undermining the livelihood security of those engaged in the agriculture and food systems as food producers and/or as workers, making them vulnerable to food insecurity.[[1]](#footnote-1)

This, first and foremost, is due to the power imbalance between the private sectors promoting these technologies and the states where these MNCs are located as opposed to other actors, including other countries, where digitalization is being enacted.

Also, digitalization efforts often target a specific problem, be it traceability or precise fertilizer application, but in the process often lose sight of the over-all objectives of the food and agricultural sector. As the recent HLPE report on *Agroecological and other innovative approaches for sustainable food systems* emphasized, these overall objectives are about ensuring food and nutrition security of all, through progressive realization of the Right to Food, by recognizing the agency of those producing, processing and consuming food, while at the same time reducing the ecological footprint of food systems.[[2]](#footnote-2)

The UN’s Sustainable Development Goals are such that pursuit of one goal must be informed by attention to other related ones, lest the efforts negatively impact any other goal. Innovative technologies like information communication technology (ICT) in food and agriculture can very much be part of this pursuit of UNSDGs around the right to food and ecological sustainability. However, for that to happen, these initiatives need to be guided by UN decisions and treaties, in particular UN CFS policy instruments developed through an inclusive multi-stakeholder process, as well as the UN declaration of the rights of peasants and other people working in rural areas (UNDROP) and the UN declaration of the rights of indigenous peoples.

It is our firm hope that all the undertakings of the proposed International Digital Council (IDC) for Food and Agriculture will be guided by a human-rights based approach, and commitment to progressive realization of the right to adequate and nutritious food for all, especially the most marginalized groups of food producers and workers.

See our response to specific questions below.

1. *What are the potential entry points for government to address challenges and foster the development of digital agriculture?*
	1. The concept note rightly identifies the existing digital divide, in terms of the gap between demographics and regions with access to modern ICTs and those that do not have access or skills – in terms of gender, age, along rural-urban axis, and between and within regions and countries, indicating the pre-existing development gap.

Thus there is a huge risk that this gap will further widen if adequate actions are not taken at regional, national and international levels to develop mechanisms to ensure that the the gains from ICT benefit everyone more evenly, in advance of fostering the development of digital agriculture.

The provision of digital infrastructure as basic public services, can help address this gap to some extent. However, as is clear from the case of Kerala, where the Govt of the State of Kerala, in India has committed to provide internet to every household (free for those under poverty line), it is further important to make sure that net-neutrality concerns/other data related concerns are taken on board while providing internet connection as a basic public service.[[3]](#footnote-3)

* 1. The other issue that the concept note recognizes as important to consider is data ownership. So far most of the ICT technologies in agriculture that are getting scaled up are developed by transnational corporations engaged in agribusiness and food-value-chain operations, or in the business of data (Microsoft, Amazon). We also know that “demand for digital transformation is partially being driven by government ICT strategies."[[4]](#footnote-4)

While the extent of digitalisation varies substantially between developing countries and others, it remains the responsibility of the state, at whichever stage of digitalization they are, to develop legal measures to ensure that ICT technologies, especially those in agriculture and food systems, do not exacerbate pre-existing inequalities. One important way in which states can enable this is by developing legal mechanisms ensuring that ownership of the data gathered in this manner stays within the communities and countries where data is gathered.

As we are in the midst of an ecological crisis, governments should ensure that digitalization does not undermine the sustainability concerns. See more on it in response to question 5.

1. *How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?*
	1. The concept note sggests that *“*The Digital Council should be impartial to geography and technological solution areas when setting its agenda, instead prioritizing those efforts that can offer the greatest potential value to accelerating digital agriculture.“ Following from the earlier point on development gap, we would urge the Digital Council to recognize the pre-existing regional and demographic disparities between regions, and to prioritizing efforts that can offer the greatest potential value to **reducing the development gap** from these efforts at accelerating digital agriculture. Please refer to the opening comments to help guide this process.
	2. Similarly, it has been recognised that *“*the skillsets required in agrifood sector will change and transform how and where people work. This may affect female and male workers differently and transform the dynamics of the agrifood industry gender gap.”[[5]](#footnote-5) The Digital Council must foster development of appropriate, site specific measures that can be put in place (including skills development of those who can potentially be displaced through digitalization) in advance of digitalization initiatives.
	3. Having said that, the Digital Council must recognise that digitalization has been identified as a driver of market concentration in the specific case of agriculture and food sector, along the entire agricultural chain, as elaborated in *Blocking the Chain,* and this shall be addressed in the following sections on governance*.[[6]](#footnote-6)*
2. *Do you think that the roles identified for the Digital Council are suitable for facing the agrifood systems challenges outlined above?*

In the concept note, under role 2 (on policy and regulatory framework for digitalization) there is no clear role for Digital Council related to regulation, and what has been outlined falls far short of the requirement. It would be necessary for the Digital Council to develop recommendations that governments can use to regulate digitalization in agri-food secotor – on themes that have been raised through this brief comment, including net neutrality, digitalization enabled corporate concentration, and data ownership and security.

1. *What governance structure should be in place in order for the Council to serve its purpose?*

As stated earlier, digitalization is taking place around the world, and it is happening in an interconnected world. Thus we need a multilateral governance mechanism to address many of the existing and future challenges, especially if digitalization is to contribute to food and nutrition security of the most vulnerable, even as it contributes to building sustainable food systems. To acheive this, it is essential that this be established within the UN system, with its mandate based on the UN Charter and principles based on the international human rights framework, and contribute as per the mandates of the reformed UN Committee on Food Security.

The Digital Council should work closely withother parts of UN system, which are also developing their own vision on digitalization (for example, ILO in the context of impact on workers, UNCTAD in the context of international trade in agricultural commodities and food), so that mutually beneficial and co-ordinated strategies and policies can be developed in the public interest.

The different roles and responsibilities of different actors, (all of who must participate only as third parties), need to be clarified, and the Digital Council should take into account power imbalances between different actors. In doing this, Digital Council must be built on the principle of self determination, recognizing the **agency** of the people engaged in the agriculture and food systems as food producers and workers, recognising their right to determine what technologies they want if any, and under what conditions. CFS principles of inclusivity (or marginalized food producers, workers etc. through Civil Society Mechanism) could be a model for addressing this concern.

1. *Please add any other comment or relevant content you think should be included in the Concept Note.*

Thank you for this opportunity to add some of the most pertinent concerns. The concept note does not address the elephant in the room: the ecological crisis-in biodiversity, water, climate. Digitalization requires use of hardware with high ecological footprint, and technology that uses high amount of energy (as in the case of block-chains). We are still unaware of the potential public health risks of this increased use of internet in our lives. While these concerns are valid for digitalization in any sector, these concerns become especially pertinent in the case of food and agriculture sector, because its vast reach to lands and peoples.

Thank you.

Shiney Varghese

Institute for Agriculture and Trade Policy

##  Sonigitu Asibong Ekpe, Ministry of International Development Cooperation, Nigeria

I support the idea, however mainstreaming its decisions into National implementation becomes a complex scenario.

This is due to Countries priorities and available fund to support Council decisions.

##  ****Guillermo Martinez,**** Centro de Investigación en Ciencias de Información Geoespacial, A.C., Mexico

Contribution received through the e-Agriculture platform

**Q1**

It is relevant to focus on the equal better use of what is available today by the people in the different realities. It’s not only about accessibility to different things, because due to WWW huge amounts of data and tools are there awaiting to be used. The focal matter is to open opportunities to everybody to have the best benefit of them.

In most countries, it’s government’s duty to seek for the well-being of the population, but in most of them, society is able to participate through civil participation, NGO’s, etc. A possible useful strategy to address this is for decision takers to open the analysis process to different society’s actors, that can offer knowledge, plans and creativity to face this everybody’s problem.

Agriculture has to be considered a local activity with global impact. Inside the sustainability development’s postulates, this activity has to provide products and inputs not only to population surrounding the parcels, considering we are living in a global village. Important global tools such as satellite imagery can benefit different countries that might be in a difficult situation to buy, develop or use other technological tools.

A multinational council has the opportunity to focus correct efforts where are needed, because the local requirements have to be attended as so, having always in mind that each region is different in environmental, social and economic issues. This uniqueness can be better addressed by strategies emerging from de discussion of different points of view from inside and outside the areas.

**Q2**

The establishment of a council is a good opportunity to enhance available resources to address the limit of a barrier to adopt technology for agriculture. People in it have to seek for general benefits, sometimes thinking in local scale, other times in national level and even thinking of regions including parts or different entire countries. A special benefit of a council is that people proposing and taking decisions can (and should) be from de site, but also from other areas, to bring a different point of view.

**Q3**

Yes. I think these roles are useful baselines to face the challenges. Concrete products such as guides can set similar strategies, considering successful experiences. Bur also, there is a commitment in different ones, which becomes more useful, but also more difficult to accomplish.

**Q4**

Yes. Structure and duties look fine. The important thing about it is linked to question 2, considering that the people conforming it should be inclusive, neutral, accessible, autonomous, efficient, ethical and some other more.

##  Aftab Khan, International Consultant and founder of crvoices.co, Pakistan

QUESTION 1. WHAT ARE THE POTENTIAL ENTRY POINTS FOR GOVERNMENT TO ADDRESS CHALLENGES AND FOSTER THE DEVELOPMENT OF DIGITAL AGRICULTURE?

Lack of computer literacy for field staff in many poor countries would be a barrier. Therefore, computer literacy needs to be strengthened through rigorous trainings.

Women related Data : Chronic Gender inequality in policies, programs and social norms keep women contribution hidden as their data is often not included in surveys. Although global reports have started including data on women, it is hard to find detailed data in field level and national reports in majority of poor countries. Therefore, women should be included in data collection teams to ensure their crucial data is all inclusive.

QUESTION 2. HOW CAN THE ESTABLISHMENT OF THE DIGITAL COUNCIL ADDRESS THE NUMEROUS BARRIERS TO ADOPTION OF THESE TECHNOLOGIES?

The council should be equipped with sufficient financial resources to fund capacity building and infrastructure support for poor countries.

QUESTION 3: DO YOU THINK THAT THE ROLES IDENTIFIED FOR THE DIGITAL COUNCIL ARE SUITABLE FOR FACING THE FOOD SYSTEMS CHALLENGES OUTLINED ABOVE?

It is important to add role of Digital Council in emergencies and humanitarian situation. It should provide immediate real time information and analysis that can save lives of millions of peoples in emergencies

QUESTION 4. WHAT GOVERNANCE STRUCTURE SHOULD BE IN PLACE IN ORDER FOR THE COUNCIL TO SERVE ITS PURPOSE? ACCORDING TO YOU, DO YOU THINK THE PROPOSED GOVERNANCE SCENARIO IS POLITICALLY FEASIBLE?

- DO YOU HAVE ANY SUGGESTIONS IN TERMS OF THE KEY ELEMENTS TO MAKE THE GOVERNANCE SCENARIO MORE EFFECTIVE? - APART FROM THIS MODEL, DO YOU HAVE OTHER PREFERRED MODELS?

In the Executive Council, heartening to note representatives from government institutions , the private sector, academia/research, donors providing financing in support of the council, and members from civil society. Nevertheless, since women and men farmers are the weakest of all the stakeholders their representation should be included in the executive council. Women leadership in the executive council will also contribute to address gender inequality.

It is crucial to have units in the council that will connect with national digital councils.

- APART FROM THIS MODEL, DO YOU HAVE OTHER PREFERRED MODELS?

It would be useful to add regional units of the council. For instance regional units of Asia, Africa, Latin America, Europe, North America can promote regional cooperation on digitalization.

## Eugene Bortey, FAMSMAT Ltd, Ghana

**Digital farming experience in Ghana**

Most of district agricultural director are interested in the technology but have to educate them first then we educate extension officers and also interested farmers from extension officers request.

Education outreach should meet all the stakeholders on one platform.

Issues about cost, configuration of devices for end users to costly because of depreciation of the local currency making it more expensive to end users only government support farm project can use service but it's advantages can extended to peasant farmers also.

Issues about data protection, we have to source third party cloud services companies which we believe local data should be protected unless there and inform concern to other users, and internationally recognised cost should be payable if agreement of the two parties is agreed.

## Lynda Hayden, Australian Embassy, Italy

I am pleased to provide Australia’s input to the online discussion, attached.

We look forward to ongoing engagement on this matter.

*Comments on proposal for an International Digital Council for Food and Agriculture*

* Overall, this concept could provide a valuable resource and source of advice for governments and other stakeholders.
* We suggest that the mandate and work of the proposed Digital Council should show clearly how it will add value and not duplicate existing efforts across multilateral fora.
* We understand that there is a ministerial mandate (agreed by agriculture ministers at the Global Forum for Food and Agriculture 2019 and the G20 Agriculture Ministers’ Meeting 2019) to envision a concept of the Digital Council for further consideration, not a mandate for establishing the Council itself. Therefore documentation should be clear that this is a scoping exercise at this stage, which should be reflected through the use of qualifying language across the whole concept note—for example ‘the proposed Council’.
* Conceptually, we suggest that any Digital Council would act as an independent advisory group on digital agricultural issues, rather than a political/ representative body. The issues/suggestions raised by panel experts could be sent to relevant working groups (e.g. CoAg, CCP) or commissions (e.g. genetic resources) to progress. The concept note should explicitly define the role of the Council as distinct from other relevant international bodies in agriculture or more broadly—such as the International Telecommunications Union—and highlight how the proposed Council would add further value.
* Importantly, the members of the proposed Council should be digital experts (e.g. data management, technology development, sales/distribution, legal, infrastructure/telecoms, software/apps) and not be political representatives or traditional agricultural science experts who will have opportunities to consider issues in relevant FAO committees (or other IO committees). The involvement of government experts would be important to ensure that the work of the proposed Council is relevant to policymakers.
* The concept note needs to be clear that the proposed Council will provide non-binding and evidence-driven recommendations. These recommendations would be implemented not by the Council but by the relevant FAO or IO committee or national governments depending on the issue at hand.
* The proposed Digital Council should be streamlined and does not need to be supported by a large and complex organisational structure (such as an Executive Council, Advisory Committee, Secretariat and Working groups). This would likely create increased administrative burden and costs and potentially add to duplication of efforts across IOs working in this space.
* We suggest that the Terms of Reference for the proposed Digital Council should include a sun-setting clause, so that the work of the body can be evaluated and reviewed as appropriate.
* We would like to pose several questions relating to the proposal:
	+ How would the Digital Council be funded sustainably? Would there be any financial implications for participants?
	+ What would be the expected commitment from countries?
	+ What are the timeframes for the development of the concept note? Will we have another opportunity to consider the concept note?
* Finally, our specific responses to the four consultation papers are as follows:
	+ We note that it is unclear how some of the proposed information for inclusion in the draft concept note relates to the questions posed. For example, the key characteristics identified under Question 2 do not demonstrate how the Council will address barriers to technology adoption.
	+ With regards to Question 1, while we agree that the challenges listed are relevant to the digitalisation of agriculture, it is unclear how this list of potential entry points for governments relates to the potential role of the Digital Council.
	+ We also suggest the following amendments under Question 1:
		- It is important to acknowledge governments’ potential role in data standardisation and the creation of inter-operable systems. The ability to link different systems and interchange equipment and analysis is important for mainstream uptake of new technologies.
		- We suggest that ‘the increase of socio-economic divides between developed and developing countries’ should be worded as ‘the increase of socio-economic divides within and between countries’ to reflect the fact that many of the issues in question affect both developed and developing countries alike (although to varying degrees).

## Dóra Egri, Permanent Representation of Hungary to the UN Food and Agriculture Agencies in Rome, Italy

I refer to the online consultation regarding the establishment of an International Digital Council for Food and Agriculture and I am pleased to send you herewith attached the official comments of Hungary.

We wish you a fruitful work.

**1. What are the potential entry points where the government could promote and address the challenges of digital agriculture?**

The Government resolution No. 1470/2019 (VIII. 1.) on “Promoting and coordinating the digitalisation of Hungarian agriculture and on the Digital Agricultural Strategy of Hungary” entered into force on the 1st of August 2019. Based on paragraph 1 the Government accepted the „Digital Agricultural Strategy of Hungary” (hereinafter DAS) as a part of the Digital Welfare Programme, which was prepared with the active participation and broad cooperation of professional and non-governmental organizations and actors of the digital ecosystem.

To provide relevant information and promote the development of digital agriculture, DAS is available for interested farmers on the website of the Ministry for Innovation and Technology at the following link:

(<https://www.kormany.hu/download/3/fb/a1000/Magyarorsz%C3%A1g%20Digit%C3%A1lis%20Agr%C3%A1r%20Strat%C3%A9gi%C3%A1ja.pdf>)

Nowadays there are plenty of well-understood articles on precision agriculture/site specific management available online and on print media. Every Hungarian agricultural integrators have a separate business unit for the precision agriculture and the actualities are found on their own web pages. In addition, the PREGA (Precision Farming) Conference is held every year, where interested farmers (and early-stage innovators) can learn more about the latest international and domestic technology innovations.

The specific measures set out in the DAS are the following:

* + inadequate digital competencies and new skills development:
* Digital Agricultural Academy – promotional level
* Smart Farmer Programme – agricultural vocational training level
* Development of Agricultural Higher Education – university level
* Development of agricultural extension
	+ inadequate background on infrastructure:
* setting up a digital map identifying agricultural parcels
* development of GNSS reference stations’ network
* development of the Hungarian Meteorological Service’s measurement network and realization of free data policy
* development of plant protection forecast service
* digital soil data base
* Smart Farm Accountancy Data Network (SFADN)
* setting up fruit cadaster
* yield estimation based on remote sensing
* setting up the Digital Agrological Innovation Centre
* setting up the Digital Food Chain Research, Development and Innovation Centre
* setting up the National Food Chain Data Supply Centre
* setting up the Water Management Information System
* setting up the Forest Information Framework
* further development of Fishery Information System
* setting up the e-winemakers’ register
	+ inadequate support by the innovation system:
		- development of the innovation environment
		- adaptation of regulation to the possibilities of digital technology (deregulation)
		- support for the development of the digitalization of the sector

The socio-economic divide between developing and developed countries - the digital divide - is a real problem. Promoting equal access to advanced ICT tools for different generations will be successfully pursued in the future by the International Digital Council for Food and Agriculture on the basis of good practices and their common use. There is no significant difference in access to advanced ICT tools in Hungary, either in terms of gender and location of interested farmers. In the developing countries, the International Digital Council for Food and Agriculture could also help to create equal opportunities in this area.

Lack of investment in non-developed countries: not applicable for Hungary.

New solutions require a high level of investment: in Hungary, the medium and large economies should benefit the digitalization achievements. In any case, modern technologies increase the efficiency and profitability of production and reduce the necessary environmental burden of agricultural production. Smaller farms should seek to acquire digital devices that are accessible, operate decision support systems to increase their competitiveness, and be encouraged to implement, within their capabilities, higher investment in business cooperation.

In the developing countries, the Digital Council for Food and Agriculture could help to create a level playing field in this area by developing financing recommendations.

Providing credible confidential information, the issue of data ownership: This issue has "horizontal" nature, that’s why each country have to pay attention to guaranteeing the authenticity of the collected data by different sensors, because a random or deliberate data manipulation carries huge economic and financial risks for agricultural production. The fulfillment of this condition also needs to be checked based on the technological aspects (eg: communication via encrypted channels, data stored on a blockchain basis). The issue of data ownership is primarily a legal issue, and it is important to establish uniform international/European regulations as soon as possible. It is important that the information collected from farmers is not misused by integrators. In this regard, appropriate safeguard mechanisms should be elaborated and applied. Nowadays most farmers are mistrustful of service providers because of regulatory deficiencies. This distrust can greatly obstruct the spread of advanced agri-digitalization technologies.

Global challenges highlighted in this issue are convincing, relevant, and can be added to the entry points listed, but none need to be removed.

**2. How could the establishment of the Digital Council overcome the barriers to the adoption of new technologies?**

Global challenges highlighted in this issue are convincing, relevant and allow to overcome the obstacles to the spread of agricultural digitalization. Further principles may be added to the Concept Note, but none of the listed principles shall be deleted.

**3. What governance structure should be in place in order for the Council to serve its purpose?**

In our opinion, the figure includes all relevant factors in which the International Digital Council for Food and Agriculture should play an important role in addressing the three key ecosystem issues (R&D, co-operation, regulation) and act as an advisory body as described in the 2. question.

**4. What governance structure would be the most suitable for the Council from the work perspective?**

We agree with the structure proposed by the Council. We recommend establishing working groups on the following topics:

* + development of agricultural competences (promotion, vocational training, university level courses)
	+ digital technology and its legislation
	+ precision and site-specific crop production
	+ precision and site-specific gardening
	+ precision nutrients farming and plant protection
	+ remote sensing and use of UAVs in agriculture
	+ precision engines and machinery, robotization (R+D+I)
	+ digital solutions in the food industry (e-commerce, quality assurance, follow up)
	+ digital solutions and services in rural development

**5. Please add any other comment or relevant content you think should be included in the Concept Note.**

None

## ****Oladele Osanyinlusi, Nigeria****

**Sustainable Agricultural Digitization in Rural Nigeria: A Call for Infrastructural Development**

Author: Oladele I. Osanyinlusi

The agrifood sector remains critical for livelihoods and employment as there are more than 570 million smallholder farms worldwide (Lowder et al., 2016) and agriculture and food production accounts for 28% of the entire global workforce (ILOSTAT, 2019). Historically, agriculture has undergone a series of revolutions that have driven efficiency, yield and profitability to previously unattainable levels (Trendov et al., 2019). In relation to the Sustainable Development Goals, digital agriculture has the potential to deliver economic benefits via increased agricultural productivity, cost efficiency and market opportunities, social and cultural benefits through increased communication and inclusivity and environmental benefits through optimized resource use (Trendov et al., 2019).

However, one of the global and agricultural sector challenges is meeting global food demand which comes partly as a result of increased population growth (Trendov et al., 2019; UNDESA, 2019; UNDESA, 2017). Much of this growth rate has come from the developing countries. The market forecasts for the next decade suggest a ‘digital agricultural revolution’ will be the newest shift which could help ensure agriculture meets the needs of the global population into the future (Trendov et al., 2019). Digitizing agriculture is essentially the use of digital technologies, innovations, and data to transform business models and practices across the agricultural value chain and address impediments in productivity, post-harvest handling, market access, finance, and supply chain management to achieve greater income for smallholder farmers, improve food and nutrition security, build climate resilience and expand inclusion of youth and women.

The introduction of digital technologies such as mobile phones and internet has significantly affected sectors of economy including agricultural sector (Deichmann et al., 2016). This digitalization will change every part of the agrifood chain. This new shift will be largely data driven and which would make farmers more adaptable to climate change and make their farming activities more profitable, ensure greater food security, and sustainability (Trendov et al., 2019). Digital technologies are creating new opportunities to integrate smallholders in a digitally-driven agrifood system (USAID, 2018).

Trendov et al. (2019) explained two conditions to driving digital transformation particularly in developing countries. Factors such as availability, connectivity, affordability, ICT in education and supportive policies and programmes are the basic conditions, which are the minimum conditions required to use technology. The second condition is enabling condition called enablers, which are factors that further facilitate the adoption of technologies such as use of internet, mobile phones and social media, digital skills and support for agripreneurial and innovation culture (e.g. talent development). Having access to digital technology has been established to offer significant advantages to smallholder farmers and other rural business by providing links to suppliers and information such as support services like training, finance, and critically reach market and customers (Trendov et al., 2019).

Precision Agriculture (PA) is one form of digitizing agriculture which comprises these improved management technologies such as soil sensing and mapping, yield monitoring and mapping, satellite-based positioning, remote sensing, field and crop scouting, geographical information systems (GIS), variable rate application, and automatic steering (Ess and Morgan, 2003; Rains & Thomas, 2009; Say et al., 2017). It has better management practices resulting in more precision in agricultural operations from tillage to harvesting to reduce inputs, increase profits, and protect environment (Say et al., 2017).  Say et al. (2017) compared adoption rate of precision agriculture technologies between developed and developing countries and found that adoption of PA is an increasing trend in some of these countries but more with developed countries. The major factor identified driving PA adoption is farm size and it was stated countries with bigger farm such as US, Australia, Brazil, etc. are more likely to adopt these precision technologies in a bigger margin (Say et al., 2017).

The next period of growth in mobile connections is expected to come mainly from rural communities (Trendov et al., 2019). It is no gainsaying that digital technologies today are changing many aspects of life in both developed and developing countries. World Bank (2016) reported that even among the poorest 20% in developing countries, 70% have access to mobile phones. This is more than the access to other basic infrastructures such as electricity in rural homes (Deichmann et al., 2016). In addition, more than 40% of the global population has internet access. However, majority yet to be connected reside in rural areas (Deichmann et al., 2016). Though globally, the introduction of digital technologies in rural areas or remote rural communities where poverty rates are often high can be challenging due to lack of infrastructure including basic IT infrastructure (Trendov et al., 2019), the factors such as infrastructure, e-literacy, networks, power supply, and economies of scale could drive digitization more in developing countries (Trendov et al., 2019).

Digitization’s impact is however not uniform across economies in different stages of development. It has a greater impact on economic growth in developed economies than in developing ones. It has been established that there are significant disparities between the developed and developing countries in respect to the adoption of digital agriculture technologies (Trendov et al., 2019; Say et al., 2017). These disparities have also been extended to global companies and companies at a local, community, and family scale (Trendov et al., 2019). The small farmers in rural areas are disproportionately disadvantaged as well as facing problems of limited access to infrastructure, networks and technology (Trendov et al., 2019).

In emerging economies and rural areas, weak technological infrastructure, high costs of technology, low levels of e-literacy and digital skills, weak regulatory framework and limited access to services mean these areas risk being left behind in the digitalization process (Trendov et al., 2019). Because transformative digital innovations are often not designed for the scale at which smallholder farmers operate, it therefore puts them at disadvantage (Trendov et al., 2019). Yet, developing economies may also have the advantage of being able to ‘leapfrog’ older agrifood technologies and models in favour of a digital agriculture revolution (Trendov et al., 2019). This will call for a new approach by policy makers, international organisations, business leaders and individuals.

The advent of mobile phones and computers have revolutionized how people access knowledge and information, do business and use services. Yet there remain significant digital divides both within and between countries (Trendov et al., 2019; European Parliament, 2015b). The digital divide between the urban and rural areas came because the urban centres have better developed digital ecosystem (resources, skills, networks) than rural centres. Thus, making rural population where the farmers are concentrated falls behind in the process of a digital transformation (Trendov et al., 2019).

The benefits of digitized agricultural technologies cannot be downplayed. They promote greater inclusion in the broader economy, raise efficiency by complementing other production factors, and foster innovation by dramatically reducing transaction costs (Deichmann et al., 2016). Digital technologies overcome information problems that hinder market access for many small-scale farmers, increase knowledge through new ways of providing extension services, and they provide novel ways for improving agricultural supply chain management (Deichmann et al., 2016). However, they asserted that digital technologies are often not scaled up to the extent expected and they can only some of the barriers faced farmers in poorer countries.

The introduction of digital agriculture to Nigerian agriculture and food sector where farming stays mainly at the subsistence or smallholder level has the capacity to eliminate inefficiencies in her farming system. According to Trendov et al. (2019), in the agriculture and food sector, the spread of mobile technologies, remote-sensing services and distributed computing are already improving smallholders’ access to information, inputs, market, finance and training in developing countries. Although the Nigerian government is prioritizing diversifying its economy through agriculture, mining and industry, the investment in agricultural sector is still not digital based; indicating a lack of government support and regulatory frameworks for digital transformation (Trendov et al., 2019).

The factors such as power supply, IT infrastructure, e-literacy, among others as indicated by Trendov et al. (2019) that could drive agricultural digitization are grossly deficient in Nigerian economy more critically, in the rural sector. Even when the IT infrastructures are available, the issue of epileptic power supply as being currently experienced would not make them to fully benefit from it. This is a reflection of poor investments and neglect in these areas by the Nigerian government. In addition, the data on digital agriculture in the country particularly on rural and urban sectors are still grossly unavailable. Another limiting situation of ensuring most of the smallholder farmers in rural Nigeria enjoy the benefits of digital agriculture is the e-illiteracy factors since majority of the farmers are ageing. Those who use mobile phones primarily use them for making calls. In addition, the mobile phones might not be internet connectible which could limit their access to market and innovations thereby impeding food security. It is therefore necessary for all government and private sectors to encourage youth involvement in agriculture by giving out incentives in order to eliminate e-illiteracy and to take full benefits of digital agriculture. Investments in infrastructural development are additionally critical to the success and sustenance of digital agriculture in Nigeria in order to close the digital divides. Achieving food security and productivity would remain a mirage in Nigeria if these critical factors are not put in place.

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## Junko Nakai, FAO, Italy

I think there are at least two kinds of digital agriculture. One is on value chain, linking farmers to other value-chain actors and markets by providing information on prices as well as location and demand/preference of actors/potential buyers. Under this category, we can put giving farmers access to formal finance programmes/institutions through mobile phones.

Another type deals with information more related to production itself. While weather forecast based on the latest meteorology and climatology is of great use to the farmers, it should not replace their ability to observe the fields and their surroundings and to deduce weather, climate and the state of the environment (e.g., soil moisture, temperature) from observations. We should encourage complementarity between (digital) technology/science and farmers’ on-the-ground knowledge, just as western science and indigenous knowledge have drawn benefits from each other. Citizen monitoring of the environment has been noted for its financial and technical effectiveness, but also for raising awareness and instilling sense of responsibility. It could be said that farmers’ involvement in observing, recording and sharing information on the environment is a type of citizen monitoring.

We should also ensure farmers’ involvement in development of digital information, which would boost usefulness to the end users, i.e., farmers, and their interest in the products. Given that the youth are very much adept at ICT and that IT related jobs are considered attractive by them, digital agriculture provides a means for keeping the youth in rural areas. In remote areas, where the technicians in charge of meteorological stations cannot visit often, involving farmers in weather station installation and other related information sharing could well lead to farmers’ acting as guardians of the stations. With proper training, they may be able to conduct simple repair, which can also be of interest to the youth.

The related issues of infrastructure and education are often mentioned, but we should also consider the increases in energy demand (and also water, in case fossil fuel continues to be used) that would be required to support any digital system.

Thank you,

Junko Nakai

## Delphine Babin-Pelliard, Ministère des Affaires étrangères, France

Original contribution in French

Vous trouverez ci-dessous la contribution de la France au questionnaire en ligne dans le cadre de la mise en place d’un Conseil numérique pour l’alimentation et l’agriculture :

Tout d'abord, la notion de "technologies" n'est pas définie dans les questionnaires et le processus de consultation peut être biaisé par des conceptions différentes autour de ce mot très large.

**Question 1. Quels sont les points d'entrée potentiels qui permettraient aux gouvernements de relever les défis et de favoriser le développement de l'agriculture numérique ?**

- D'une manière générale, les points listés ne paraissent pas des points d'entrée puisqu'ils sont tous formulés de manière négative. il faudrait donc retourner de manière positive les points énoncés. Par exemple : "accès inadéquat à l'information" deviendrait " rendre un accès adéquat et égal à tous les agriculteurs à l'information / améliorer l'accès de tous les agriculteurs à une information adéquate"

- L'accès inadéquat à l'information : Il faut retourner la question. Il s'agit non pas de constater que l’information est inadéquate, mais plutôt de s'assurer et mettre en œuvre les moyen permettant la production, la mise en forme et la mise à disposition de connaissances utiles, facilement compréhensibles et exploitables par leurs bénéficiaires potentiels , quelle que soit la compétence initiale de ceux-ci ;

- Une inadéquation de la culture numérique : la main-d’œuvre est encore loin d'être compétitive dans un monde où les technologies numériques sont capables de remplacer la main-d’œuvre humaine.

Cette phrase très générique sur le remplacement de la main d'œuvre humaine par "les technologies numériques" est très généraliste et donc potentiellement dangereuse car n'est pas explicite. de quoi parle-t-on ? Les technologies doivent être développées pour créer des outils (cognitifs, physiques ou numériques) visant à accompagner la main d’œuvre et lui permettre d'accomplir des tâches moins pénibles ou créant davantage de valeur, et non pas seulement pour remplacer la main d’œuvre (dans certains pays, cette main d’œuvre n'a pas d'autre ressource que le travail de la terre, soit pour ce qu'elle produit, soit pour le salaire qu'elle en reçoit).

- L'accès inadéquat aux ressources financières : il faut ajuster la nature et le niveau des investissements initiaux à la capacité financière et aux besoins des bénéficiaires. L'investissement (par les agriculteurs ou les structures qui les représentent) dans les technologies numériques doivent produire rapidement une valeur ajoutée concrète par rapport à leur système de production et d'information actuel. Un bon indicateur serait la capacité à réinvestir dans une technologie subventionnée à titre pilote par exemple.

- Soutien inadéquat du système d'innovation : Il ne faut pas réduire la mise en place des innovations à des normes et cadres réglementaires. il s'agit également de mettre en place des dispositifs d'information et de formation qui permettent aux différents acteurs de bénéficier des systèmes d'innovation mis en place

- Faible niveau d'investissement dans les pays non développés : la diversité des modèles de production agricole et agro-alimentaire a pour effet que les solutions technologiques ne sont pas universelles (sauf à vouloir des modèles uniformes, ce qui ne profiterait qu'aux gros fournisseurs mondiaux de produits, d'équipements, de semences, de services numériques, etc.) ; il faut partir du marché pour concevoir des réponses technologiques adaptées. Si le marché existe et correspond effectivement à des besoins, le privé effectuera les investissements nécessaires pour le développement de solutions numériques pour lesquelles il espère un retour sur investissement.

- Confiance en l'information : en sus des risques de manipulation ou de déficit de qualité des informations, l'utilisateur ne doit pas être tributaire d'un fournisseur unique, ni pour les connaissances accessibles, ni pour les données produites et réutilisées par son exploitation (enjeu de portabilité). Des systèmes de contrôle de la véracité de l'information et de sa diffusion doivent être mis en place et contrôlés par des structures indépendantes.

- Propriété des données : le paysan producteur de données doit pouvoir être libre de donner ou pas des données le concernant, d'y garder un accès constant et être protégé contre toute réutilisation de ses données qui se ferait à son détriment ou au détriment de son exploitation.

**Question 2. Comment la création du Conseil numérique peut-elle contribuer à lever les nombreux obstacles à l'adoption de ces technologies ?**

- Principe d'accessibilité : L'accessibilité aux technologies numériques doit être assurée, non seulement aux femmes et aux jeunes, mais aussi aux "seniors" qui sont souvent les premiers victimes de la fracture numérique. Il serait plus juste de trouver une formule visant tout groupe social qui serait marginalisé ou laissé pour compte suite à une transformation technique. Le fait que les jeunes accèdent plus vite à la technologie que leurs aînés a une implication forte de déstructuration des processus de transmission du savoir, qui impacte fortement la cohérence sociale. il faut insister sur la transmission intergénérationnelle et bi-directionnelle des savoirs, en utilisant non seulement les outils numériques, mais sans se couper d'autres sources traditionnelles de connaissances.

**Question 3: Pensez-vous que les rôles assignés au Conseil numérique sont appropriés pour faire face aux défis des systèmes alimentaires décrits ci-dessus ?**

Un troisième rôle de suivi-évaluation du rôle et de l'impact des technologies numériques sur le développement durable et l'atteinte des ODD pourrait être ajouté.

**Question 4. Quelle structure de gouvernance convient-il de mettre en place pour que le Conseil puisse remplir sa mission? Estimez-vous que le scénario de gouvernance proposé est politiquement réalisable ?**

Juste quelques questions d'éclaircissement.

Dans le conseil exécutif, que faut-il comprendre dans "une représentation équilibrée d'intervenants critiques de niveau intermédiaire à supérieur" ?

Il manque des précisions sur le nombre de membres et la composition du secrétariat.

Bien cordialement

Delphine Babin-Pelliard

Conseillère agricole et sécurité alimentaire

English translation

Please find below France's contribution to the online questionnaire as part of the process of setting up a Digital Council for Food and Agriculture.

First of all, the notion of "technologies" is not defined in the questionnaires and the consultation process may be biased by the different conceptions surrounding this very broad word.

**Question 1. What are the potential entry points for government to address challenges and foster the development of digital agriculture?**

- Generally speaking, the items listed do not appear to be entry points since they are all formulated in a negative way. It would therefore be necessary to positively reverse the points raised. For example : The phrase "inadequate access to information" would become "adequate and equal access to information for all farmers / improve access to adequate information for all farmers".

- Inadequate access to information :

The question must be turned around. The idea is not to find that the information is inadequate, but rather to ensure and implement the means to produce, shape and make available useful knowledge that is easily understandable and usable by its potential beneficiaries, regardless of their initial competence;

- Inadequate digital literacy:

labour is not yet competitive in a world where digital technologies are able to replace human labour.
This very generic sentence on the replacement of human labour by "digital technologies" is very broad and therefore potentially dangerous since it is not explicit. What are we talking about? Technological development must aim at creating tools (cognitive, physical or digital) to support the workforce and enable it to perform less arduous or more value-creating tasks, and not only to replace labour (in some countries, this labour force has no other resource than working the land, either for what it produces or for the wages it receives from it).

- Inadequate access to financial resources:

the type and level of initial investments must be adjusted to the financial capacity and needs of the beneficiaries. Investment (by farmers or their representative entities) in digital technologies must rapidly produce concrete added value compared to their current production and information system. A good indicator would be, for example, the ability to reinvest in a pilot subsidized technology.

- Inadequate support by the innovation system:

The implementation of innovations must not be reduced to standards and regulatory frameworks. It also involves setting up information and training systems that allow the different actors to benefit from the innovation systems implemented.

- Lack of investments in non-developed countries:

the diversity of agricultural and agri-food production models implies that technological solutions are not universal (unless the aim is to have uniform models, which would only benefit large global suppliers of products, equipment, seeds, digital services, etc.); it is essential to start from the market to design appropriate technological responses. If there is a market and if it actually corresponds to needs, the private sector will make the necessary investments for the development of digital solutions for which a return on investment is expected.

- Trust of information:

besides the risks of manipulation or a lack of quality of information, the user must not depend on a single supplier, neither for the accessible knowledge, nor for the data produced and reused by his or her operation (portability issue). Monitoring systems to ensure the veracity of information and its dissemination must be set up and supervised by independent structures.

- Data ownership:

the data-producing farmer has to be free to give or not to give data about himself, to keep constant access to such data and to be protected against any re-use of his data which would be detrimental to his own interests or to his exploitation.

**Question 2. How can the establishment of the Digital Council address the numerous barriers to adoption of these technologies?**

- Be accessible:

Accessibility to digital technologies must be ensured, not only for women and young people, but also for " elders " who are often the first victims of the digital divide. A more appropriate approach would be to find a formula for any social group that is marginalized or left behind as a result of a technological transformation. The fact that young people access technology faster than their elders has a strong implication in terms of disrupting knowledge transmission processes, which in turn has a strong impact on social coherence.

**Question 3: Do you think that the roles identified for the Digital Council are suitable for facing the food systems challenges outlined above?**

An additional third role could be added to monitor and evaluate the role and impact of digital technologies on sustainable development and the achievement of the SDGs.

**Question 4. What governance structure should be in place in order for the Council to serve its purpose? Do you think the proposed governance scenario is politically feasible?**

Just a few questions for clarification.
In the Executive Council, what must be understood by " a balanced representation of critical mid- to senior-level voices "?
Details on the number of members and composition of the secretariat are lacking.

Sincerely yours,

Delphine Babin-Pelliard

Agricultural and Food Security Advisor

## Ministerio de Agricultura Ganadería y Alimentación, Guatemala

Sirva el presente para enviar la Nota Verbal N° 6998/19M16-FAO, mediante la cual se transmiten comentarios del Ministerio de Agricultura, Ganadería y Alimentación, sobre la creación de un Consejo Digital Internacional para la Alimentación y la Agricultura.

<http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/20191122103503002.pdf>

## Permanent Representation of P.R.China

We received from our capital some comments on the draft concept note towards the establishment of an International Digital Council. Those comments are attached to this email in Chinese. It would be appreciated if you could give due consideration to them while preparing the document.

<http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/CommentsPRC.doc>

With best regards

1. [https://www.sciencedirect.com/science/article/pii/S0743016718307769#](https://www.sciencedirect.com/science/article/pii/S0743016718307769)! [↑](#footnote-ref-1)
2. <http://www.fao.org/cfs/cfs-hlpe/news-archive/detail/en/c/1198609/> [↑](#footnote-ref-2)
3. <https://www.livemint.com/politics/policy/after-100-literacy-kerala-aims-for-internet-in-every-household-11573118379273.html> Also see: <https://www.medianama.com/2017/08/223-kerala-free-wifi-net-neutrality/> [↑](#footnote-ref-3)
4. <http://www.fao.org/3/ca4985en/ca4985en.pdf> p.37 [↑](#footnote-ref-4)
5. <http://www.fao.org/3/ca4985en/ca4985en.pdf> p.77 [↑](#footnote-ref-5)
6. <https://www.etcgroup.org/sites/www.etcgroup.org/files/files/blockingchain2.png> [↑](#footnote-ref-6)