Background material

The establishment of the International Digital Council for Food and Agriculture

**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.

1. **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

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

None