



Transition paths to sustainable legume-based systems in Europe

# Pulses in Short Food Supply Chains

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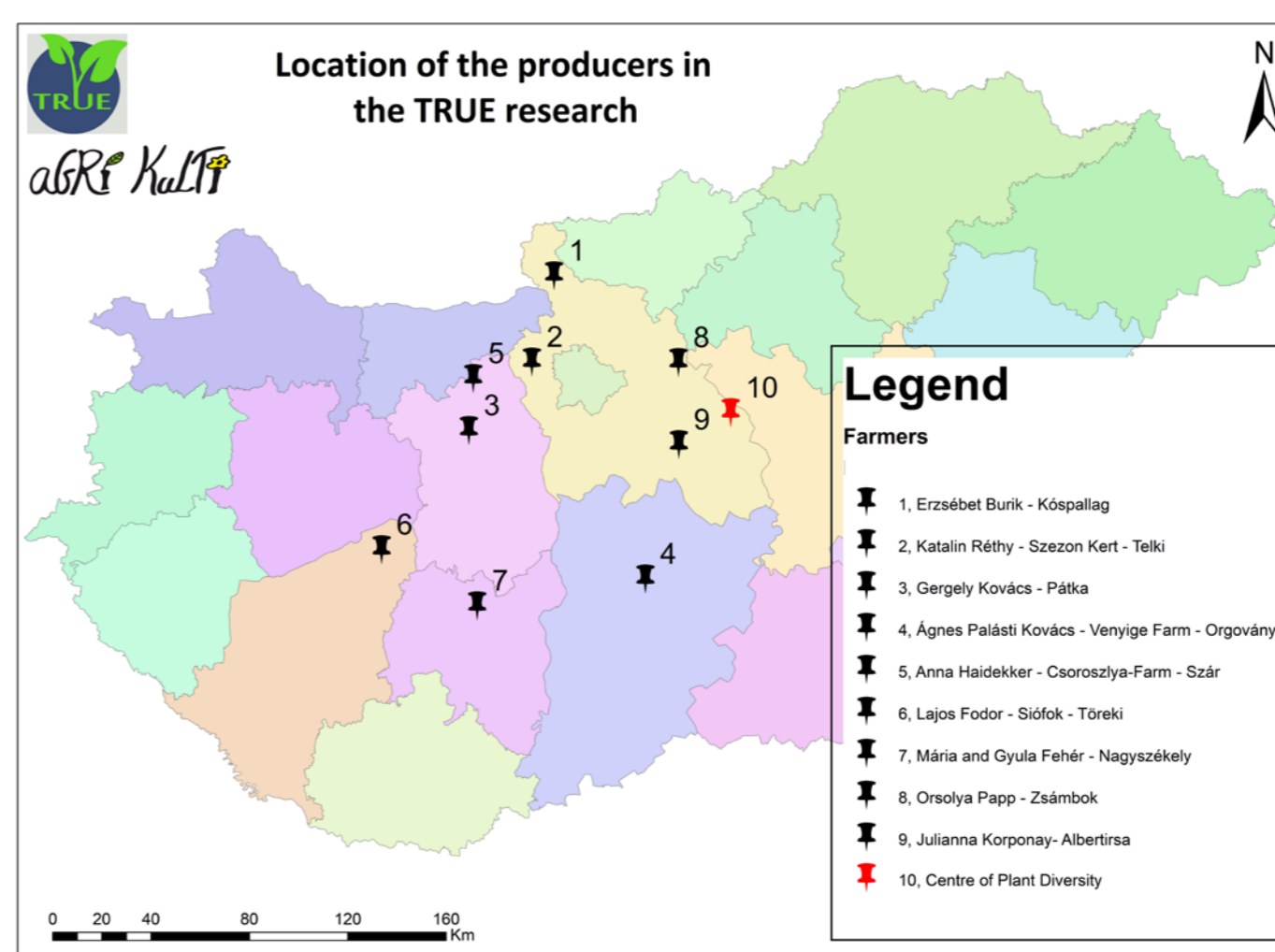
## Main Objective(s)

- Consumption of legumes is rather low in Hungary, and even this comes mostly from imported sources;
- Hungarian Centre for Plant Diversity stores more than 10.000 different legume land races (e.g.: 4300 common beans; 1000 lentils; 1100 chickpea);
- We know little about the specific agro-ecological requirements, physiognomy of these varieties and even less about the original/traditional and potential possibilities of use.
- The aim of our CS is to test these legumes at different small-scale farming locations and try them in the kitchen to (re) introduce into urban gastronomy
- Our case study covers the **whole (short) Supply Chain**, from the Farm to Fork..



## Progress of the work during the second reporting period

- Altogether 53 land races from 11 legume species tested in organic cultivation @ 12 small-scale producers between 2018 and 2020
- On-farm protocols and technological description for each species
- Completed protocols from 2018 and 2019
- Project and CS presented @ various events
- Professional meetings organised by Agri Kulti and ÖMKI – Sharing experiences and knowledge; lecture on legume diseases
- Kitchen tests are ongoing
- Preparation of 'Transition cookbook' – serving also as a CS summary - is in progress



## List of cultivated species and number of land races during the project period

Scientific name	Name	Nr of land races in 2018	Nr of land races in 2019	Nr of land races in 2020
<i>Phaseolus vulgaris</i>	Common Bean	10	7	8
<i>Phaseolus coccineus</i>	Runner Bean	2	2	2
<i>Phaseolus lunatus</i>	Lima Bean	3	3	4
<i>Vicia faba</i>	Faba Bean	3	1	0
<i>Vigna unguiculata</i>	Cowpea	6	6	7
<i>Vigna unguiculata ssp. Sesquipedalis</i>	Yardlong Bean	0	2	3
<i>Cicer arietinum</i>	Chickpea	6	3	3
<i>Phaseolus acutifolius</i>	Tepary Bean	0	1	1
<i>Lens culinaris</i>	Lentil	3	0	0
<i>Lablab purpureus</i>	Lablab	0	0	1
Sum		33	25	29

## Next steps:

- Kitchen tests and cooking events
  1. attractive and edible flowers, as food ornaments – runner bean, chickpea, cowpea;
  2. green chickpea, favourable nutrition content, unique and rather expensive ingredient in the US;
  3. fresh cowpea and yardlong bean pods, tasteful, special alternative to green bean;
  4. lima bean, little-known in Hungary but very well accepted by premium restaurants;
  5. bean-mix 'legumi misti' of species and varieties of different shapes and colours, as a marketable product in Hungary;
  6. drought-tolerant, small-scale species with relatively stable yield in organic production.
- Transition Cookbook
  - why transition pathways are needed in food systems and how this can be accomplished in everyday kitchen practice
  - introductory part highlighting the main aspects/elements and practicalities of transition (from short supply chains through organic farming to local/seasonal food alternatives),
  - 2nd part with ca. 50 novel recipes focusing on different kinds of legumes and many other sustainable food components.

## Barriers inhibiting greater uptake of this approach

- Significant year effect due to relatively short project period
- Effects of climate change – conditions are getting dry for many species/land races
- Controlling the diseases and pests (specially Aphis and Helicoverpa armigera)
- Encouraging full completion of protocols by farmers
- Since the closure of Házikó's kitchen (mid 2018), kitchen testing has become more difficult
- Shaping the attitude of the restaurants/chefs and consumers about legumes

## Innovations

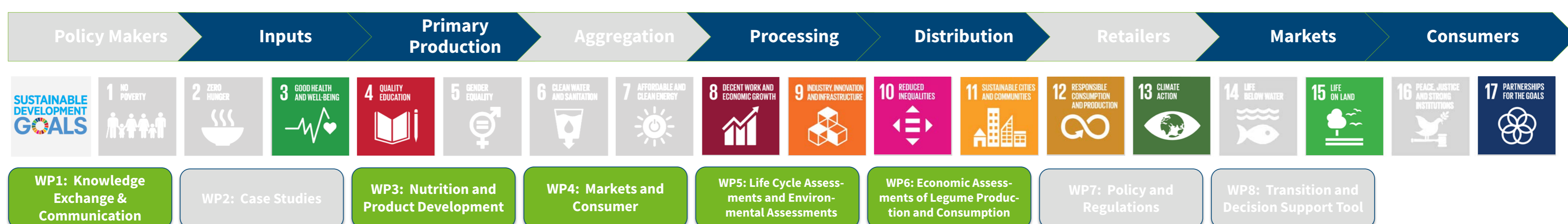
- 40-50 recipes, using different kinds of neglected and underused legume varieties
- Cooking events and kitchen tests
- Guidance document on the small-scale organic cultivation of legume species, with practical information on seed management, cultivation, diseases and treatment.
- Transition Cookbook

## Recommendations to realise this transition in practice

- Understand thoroughly consumers' expectations, preference and reluctance towards legumes and legume-based food
- Develop new and innovation marketing channels and tools for legumes and legume-based meals
- Develop cooperation with specific market players, such as: restaurants or restaurant associations, hotels, public canteens in order to boost the market performance of legumes and legume-based meals
- Develop further cooperation with community initiatives – such as decentralized gene banks, urban farmers, home growers, farm-to-fork initiatives
- Develop specific subsidy systems for the cultivation of agro-ecologically grown food legumes

## Impact

- Boosting consumption of legumes in restaurants and of individuals
- Provides a professional basis and/or inspiration for further Hungarian and international projects on neglected and underutilized crops and short supply chains.



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