Building capacities for agricultural challenges of the 21st century

Specific or generic competencies for young professionals in agricultural development

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Introduction

- **The genesis of this study** : A demand coming from the "pedagogical team" preparing the curriculum for a new Master's degree (MSc) in "Climate change"
- **Why define a new degree?**
- *In general:* There is a need for new professionals to answer to new challenges coming from the field
- *Particularly:* There is a need to prepare these future professionals that will be working in agriculture in the context of climate change
- **There is a new job sector which demands a full new set of skills and competencies**

Matter of investigation

- How to **identify skills** and competencies for curriculum development ?
- How to **match the offer** of the training curriculum with the needs of the job market ?
- At the end, a new degree must have an **employability** objective
- However on the academic environment this question is not enough considered during the process of **curriculum development**.
- Most of the time the needs of the job market are identified on a **theoretical way**.

Research objectives

- To take a **pragmatic approach** in obtaining information about skills and competencies coming from the **job market** and especially from potential employers
- And this way collaborate to the design of a Master's degree which will set a strong basis for its **graduates' employability**

Methodology

1) Identify several **professional profiles** that the diploma will lead to
   - What will their mission be?
   - What activities will they need to carry out to accomplish their mission?
   - What technical knowledge will they need to carry out those activities? → **Hard skills**
   - How will they need to carry out those activities? What pedagogical tools to communicate the technical knowledge? → **Soft skills**

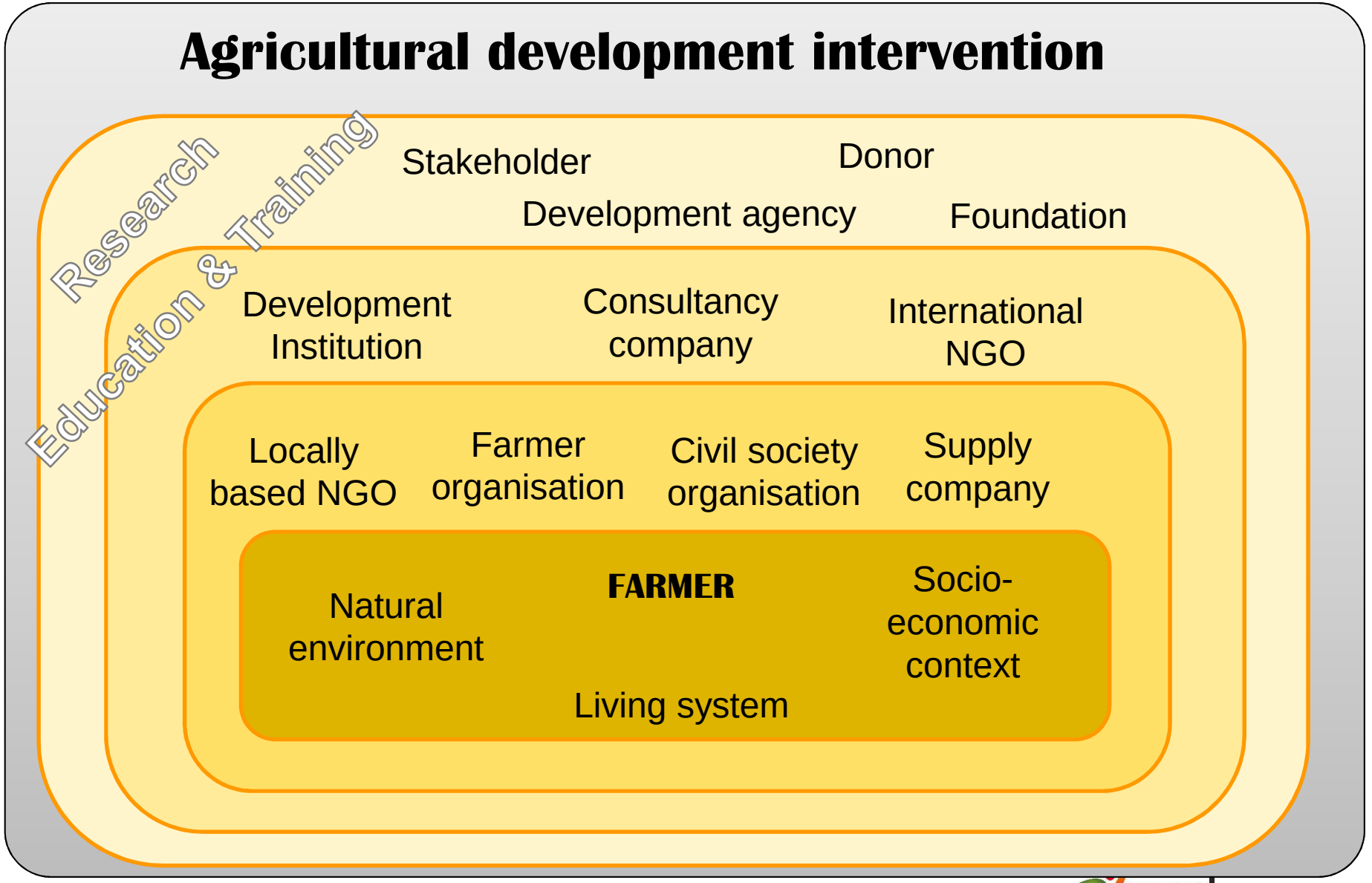
Theoretical approach

Methodology

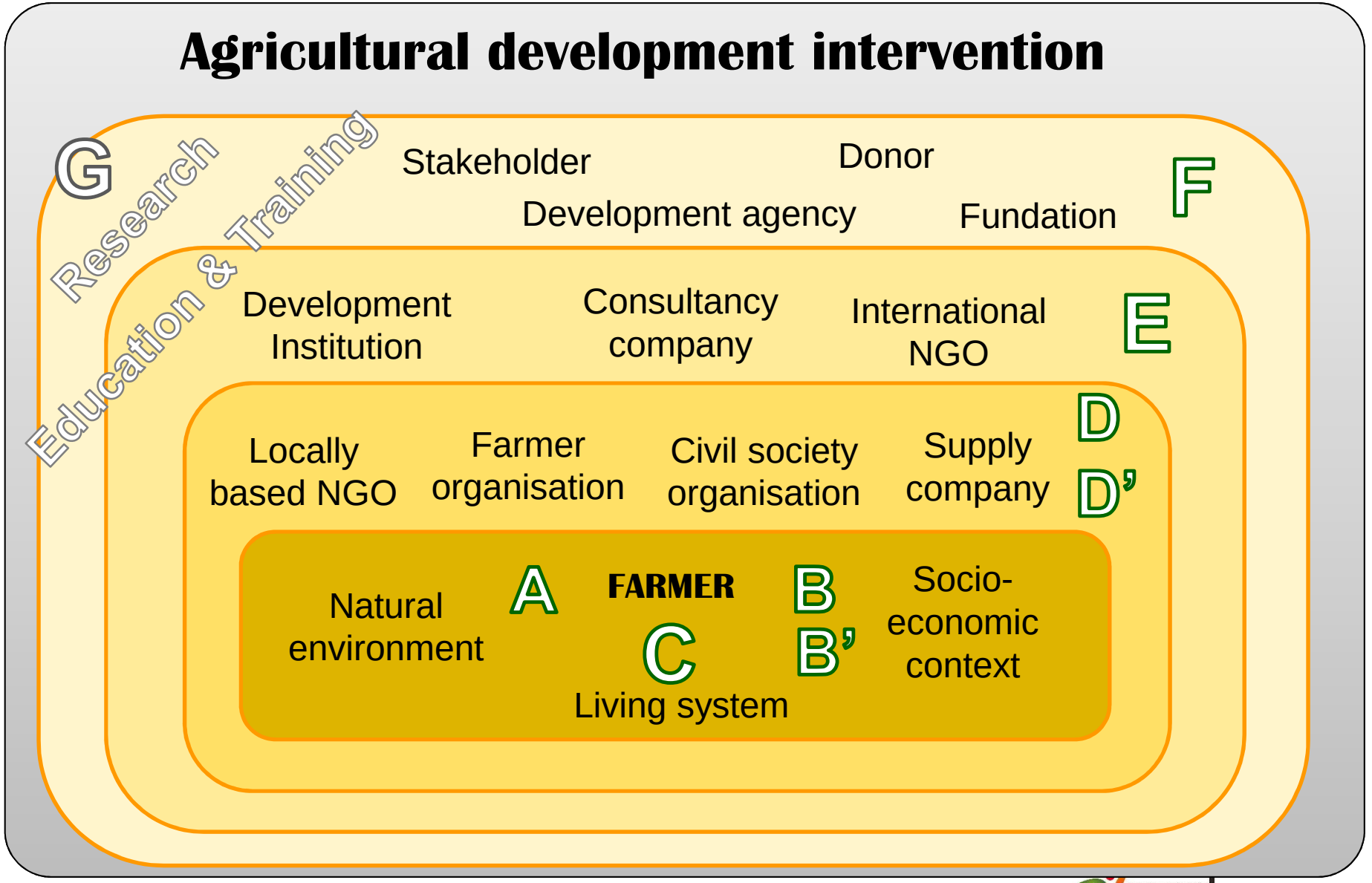
2) Find **junior experts** with those profiles beginning their career : they can highlight their needs on further training
3) Analyze the upcoming **job vacancies** of those professional profiles
4) Interview **senior experts** looking for candidates to fulfill those profiles

Pragmatic / Practical approach

Results → Our approach :



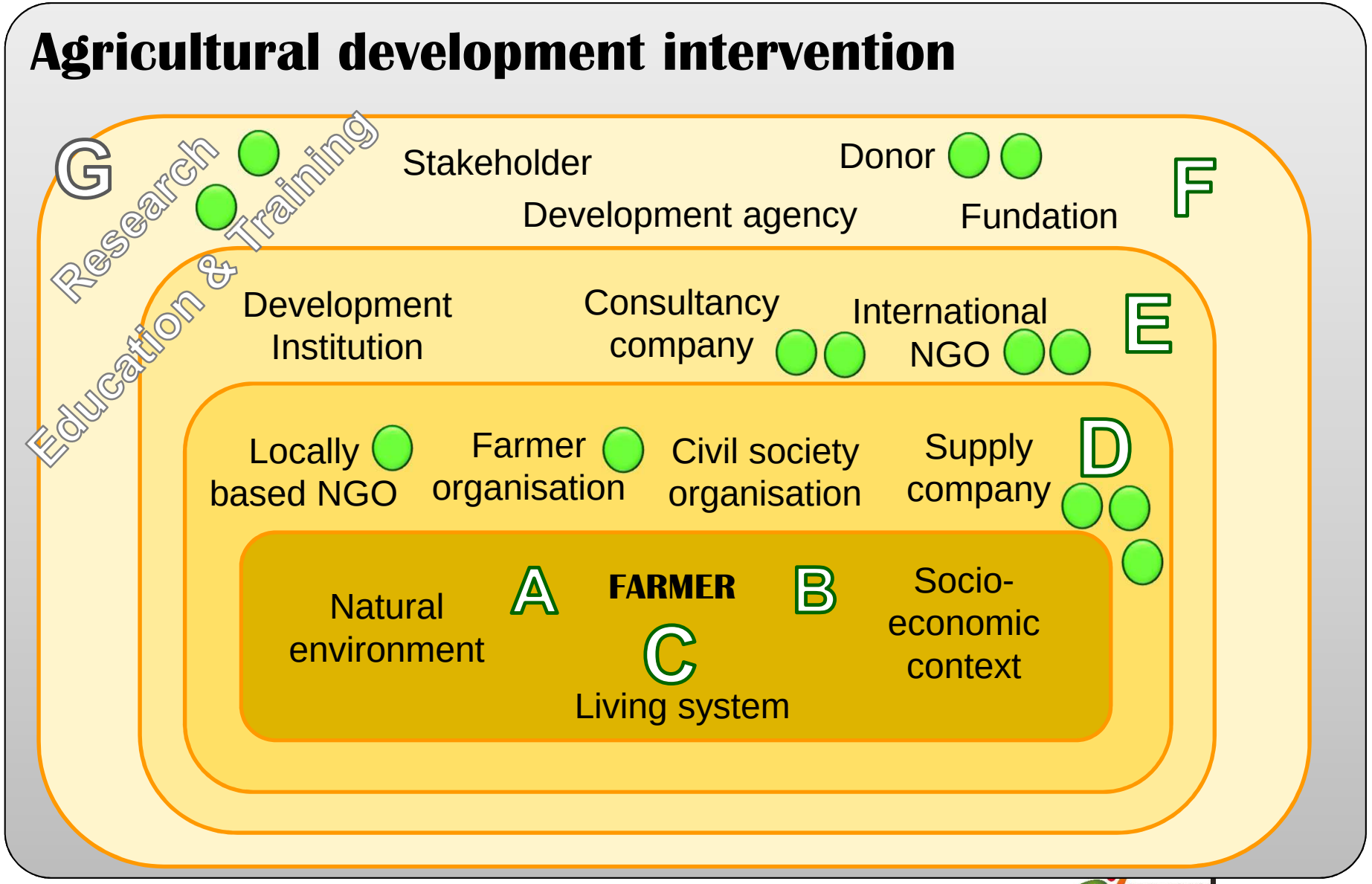
Results → Professional profiles (I)



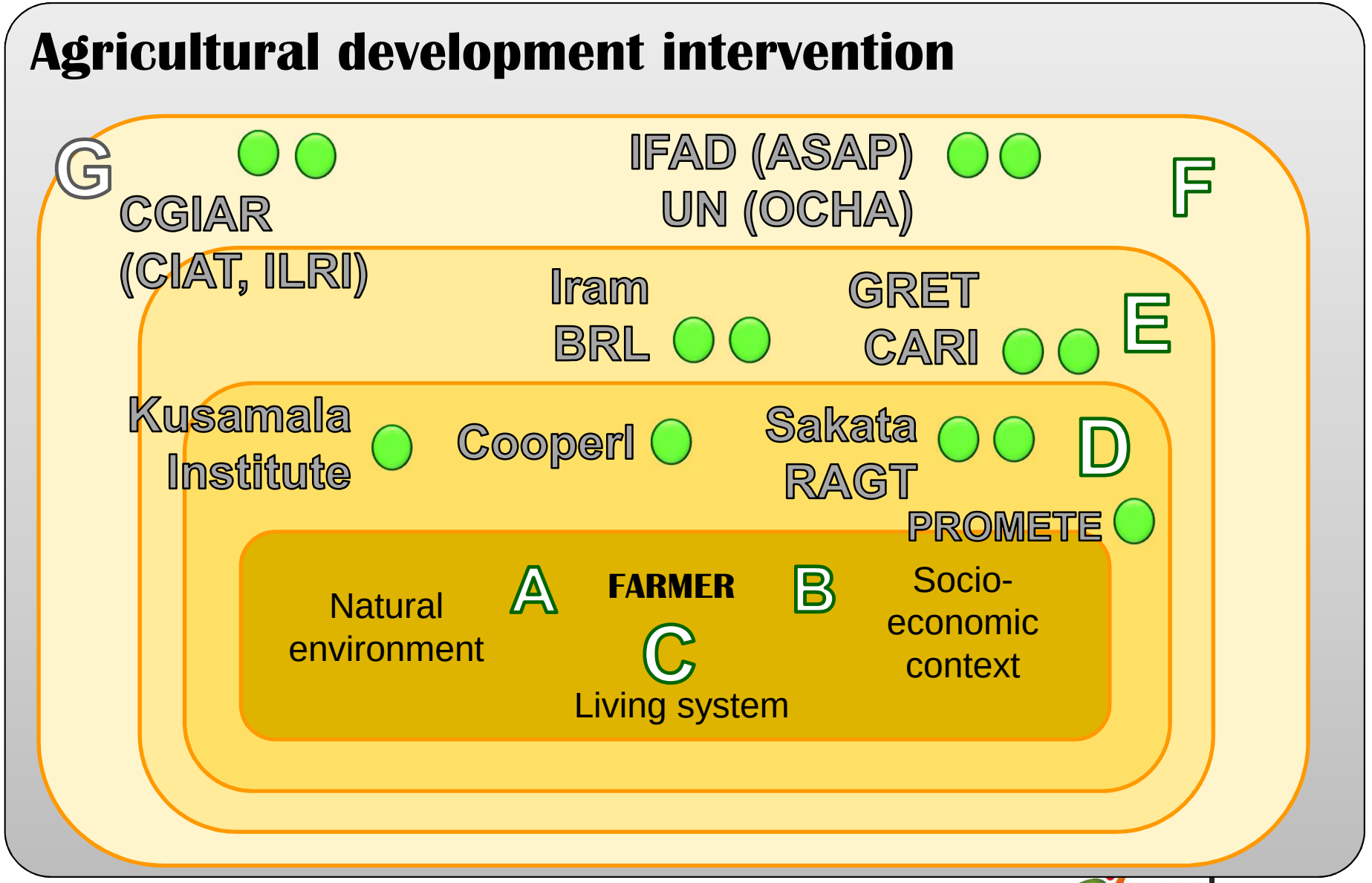
Results → Professional profiles (II)

Prof. profiles	Brief description
A	Agronomist → Working on innovation → Applied research
B	Data management → ICT → Decision making tools
B'	Modelling and simulation → Scenario planning & foresight
C	Breeding development agent
D	Project officer working on the field
D'	Breeder
E	Project manager / Consultant → Headquarters position
F	« Advocacy position » → working on Public policies
G	Research engineer

Results → Interviewing employers (13)



Results → Interviewing employers



Results → Professional profiles (conclusion)

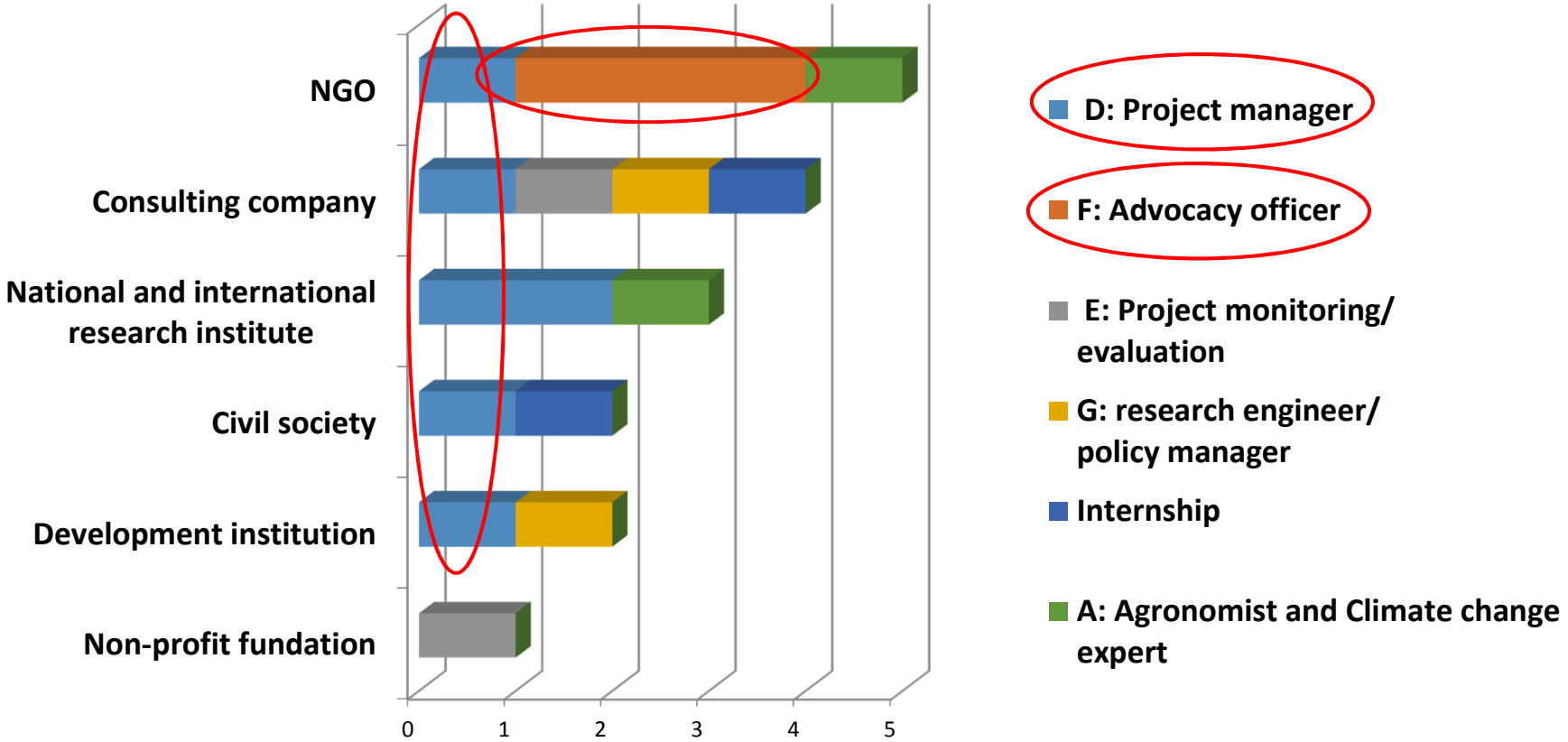
Prof. profiles	Already existing positions The generalists	New positions The multidisciplinaries
A	☆	
B		★ Agro + ITC
B'		★ Agro + Climate + Model
C	☆	
D	☆	
D'	Agro + Genetic	
E	☆	
F		★ Agro + Climate + Economics
G	☆	

Results → Job offer analysis

- Data collection date: from February 17th to March 14th 2015.
- Place: internet (generalist websites, personal contacts, social media…)
- Criteria of search: key word "climate change" and "climate smart agriculture" in English/Spanish/French.
- Sample size: 17 offers (small size) - 6 offers in French/1 offers in Spanish and 10 offers in English (59%)
- Offer validity: 2014-2015

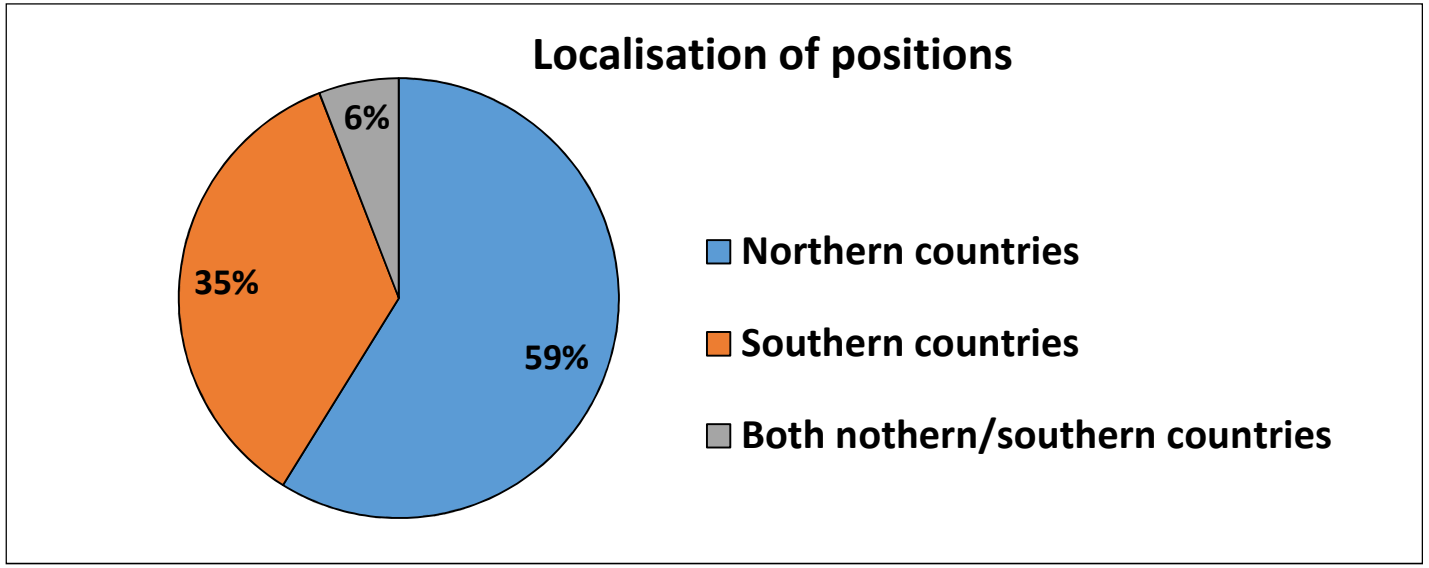
Results → Job offer analysis

Is there an emerging position?



Results → Job offer analysis

- Are the positions localized in Northern or Southern countries? Rather in Northern countries!

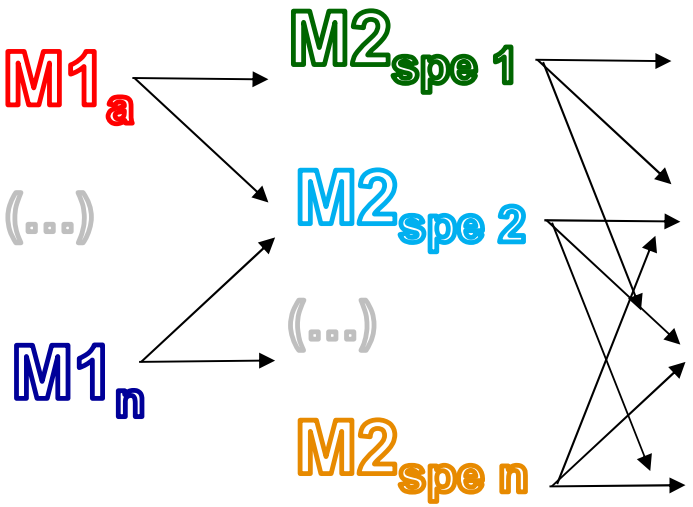


Our recommendations for the curriculum development

1 How many M2 will they be necessary to prepare to these profiles ?

2 How many M1 will open access & prepare to the specific M2?

3 As a result **an admission degree** must be required : what the entering degrees for the new Master will be ?



Prof. Profiles
A
B
B'
C
D
E
F
G

Conclusions

- Employers take for granted that **hard skills** are given, but how to ensure so in a **multidisciplinary** degree ?
- The importance of **soft skills** is capital and for acquiring them **teaching methods** are crucial → Are present lecturers prepared to answer to these pedagogical aspects ? How to motivate them ?
- Will the demand of the **job market** be different on Southern and Northern countries ?
- Would our results have been different without précising **"climate change"** ? → Can we shift them for **bio-economy** in general ?

Thank you for your attention

It's time for discussions !!

☺

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