

Complex systems, simple solutions?

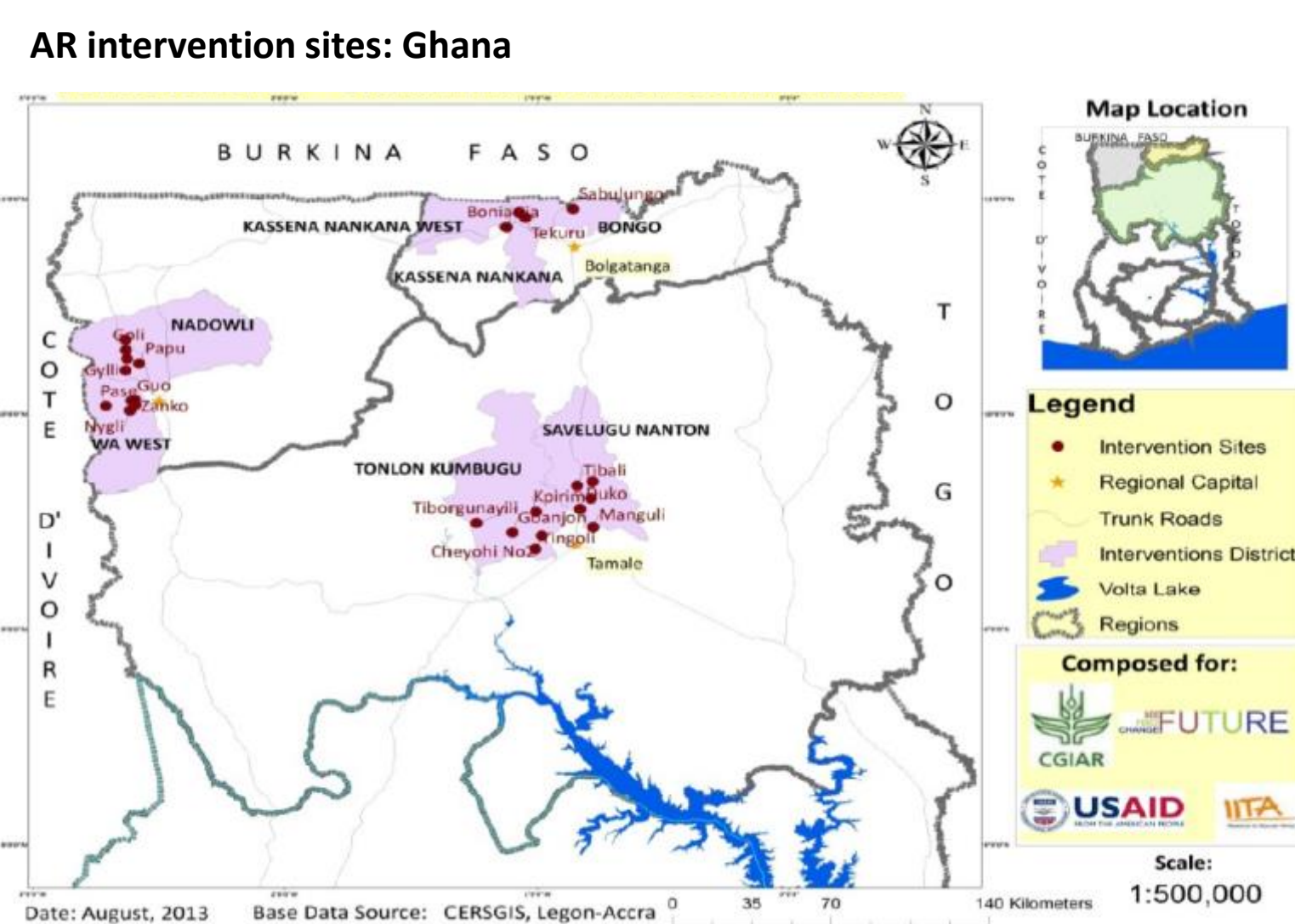


RESEARCH PROGRAM ON Integrated Systems for the Humid Tropics

Operationalizing diversity to understand technology adoption

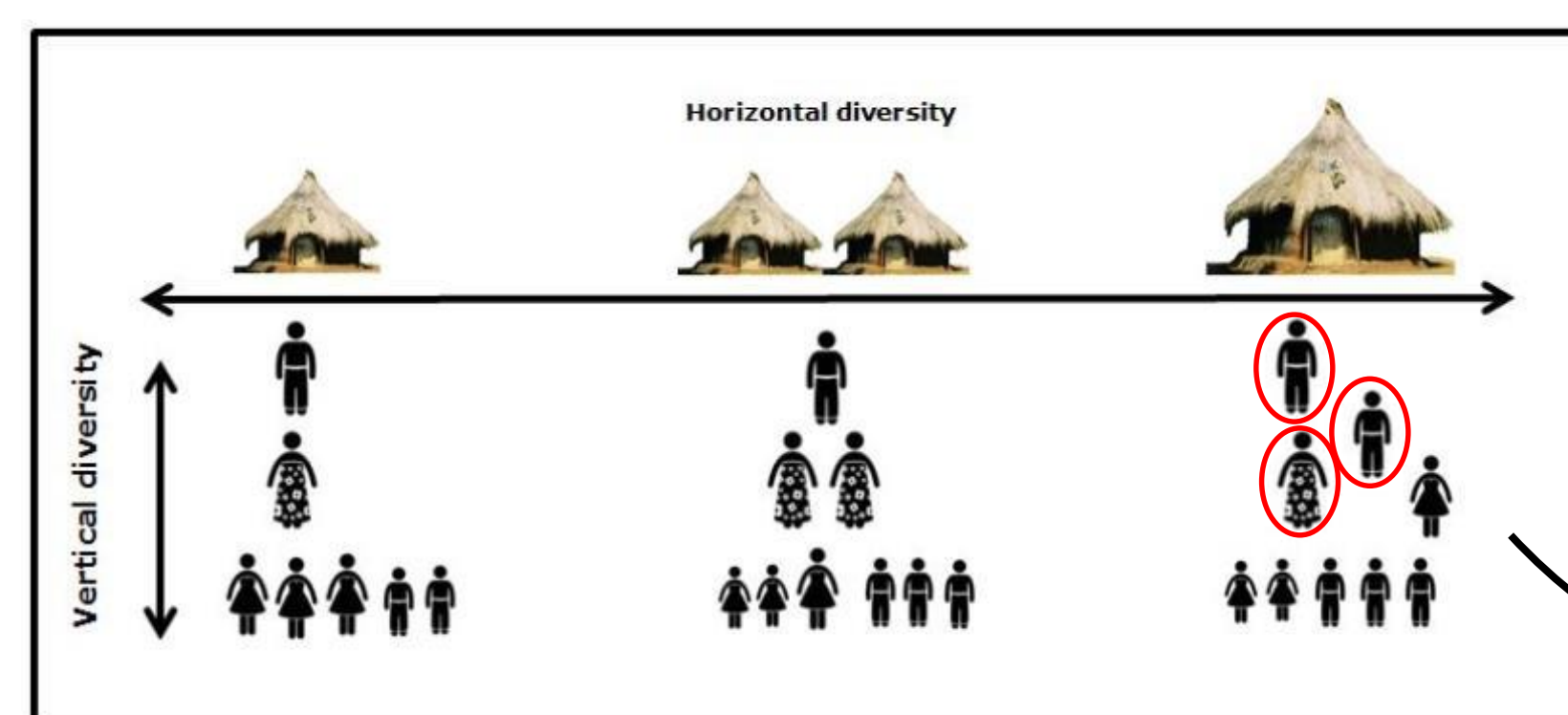
Introduction

For Africa RISING (AR) we conducted an evaluation of the AR technology packages per farm type and per region. Farming systems are diverse and so are their pathways towards sustainable intensification.



Results and outputs

Inter and intra-household diversity



Intra-household differences: "Ask the male household head, his wife and the oldest son or daughter. They are like the three stones under a fire." (social fundament)

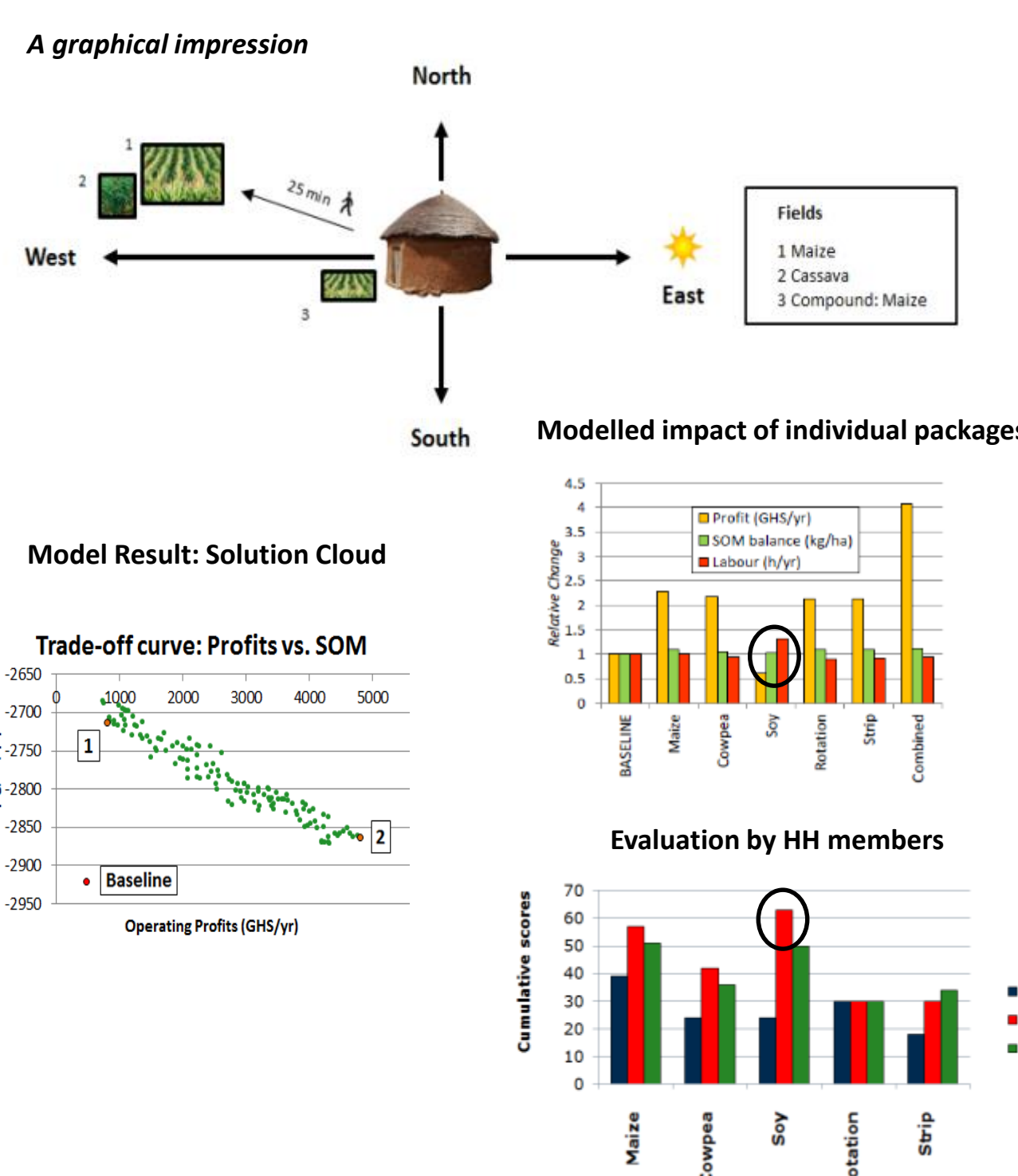


AR Technologies at Baby Trial Stage	Upscaled AR Technologies
P1: Optimized Fertilizer Application on Maize	P4: Maize-Legume Rotations
P2: Optimized Spraying Regimes on Cowpea	P5: Maize-Legume Strip Cropping
P3: Integrated Soil Fertility Management on Soybeans	

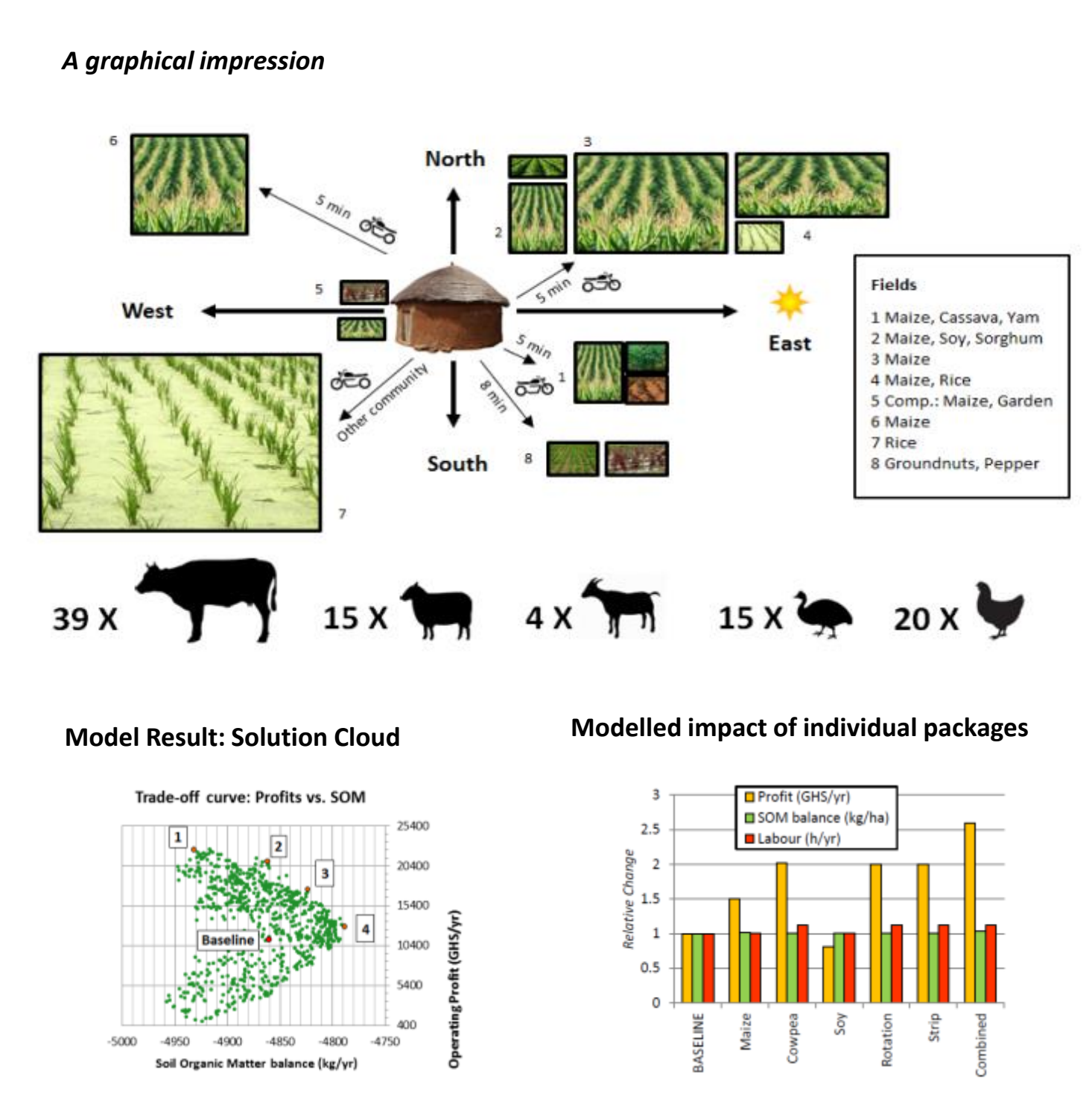
Utility

A better understanding of farm and farmer diversity allows efficient targeting and a nuanced impact assessment of technologies (technical) and techniques (managerial).

Low Resource Endowed

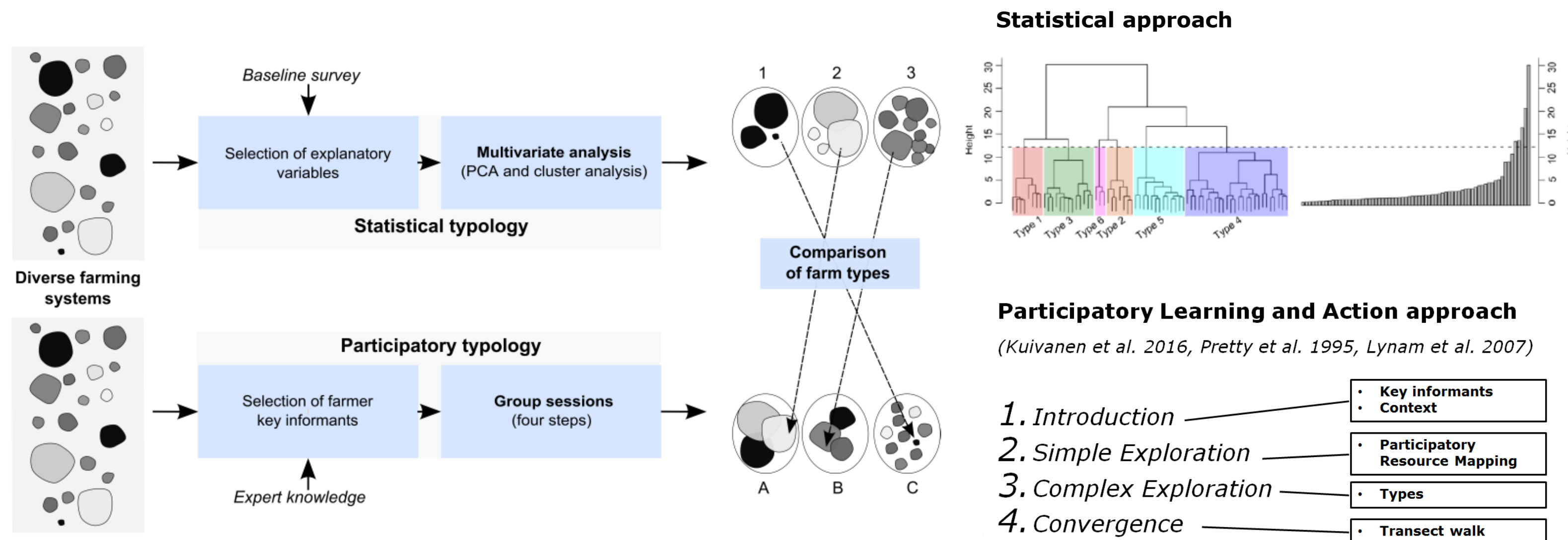


High Resource Endowed



How does it work?

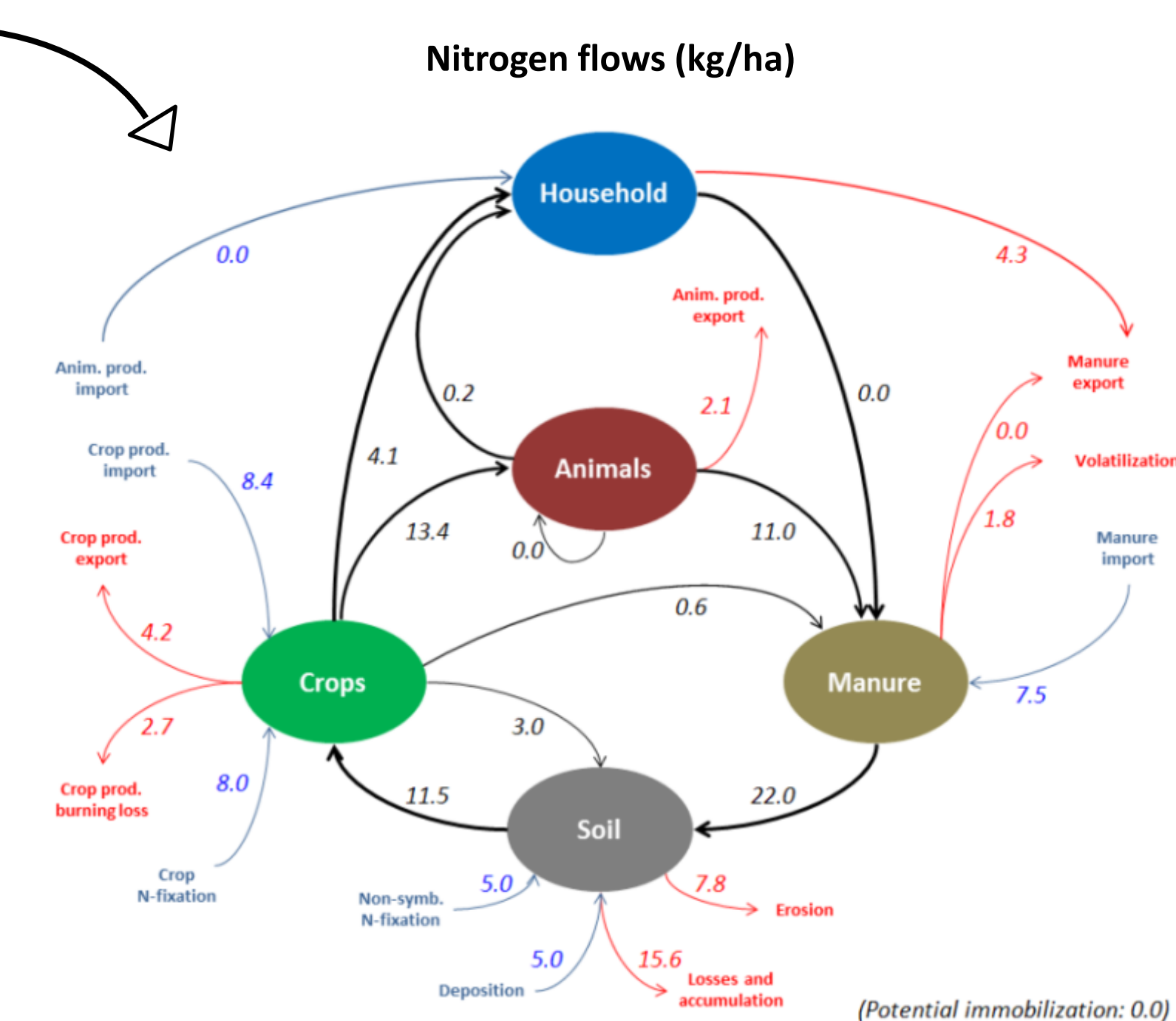
1. Typologies



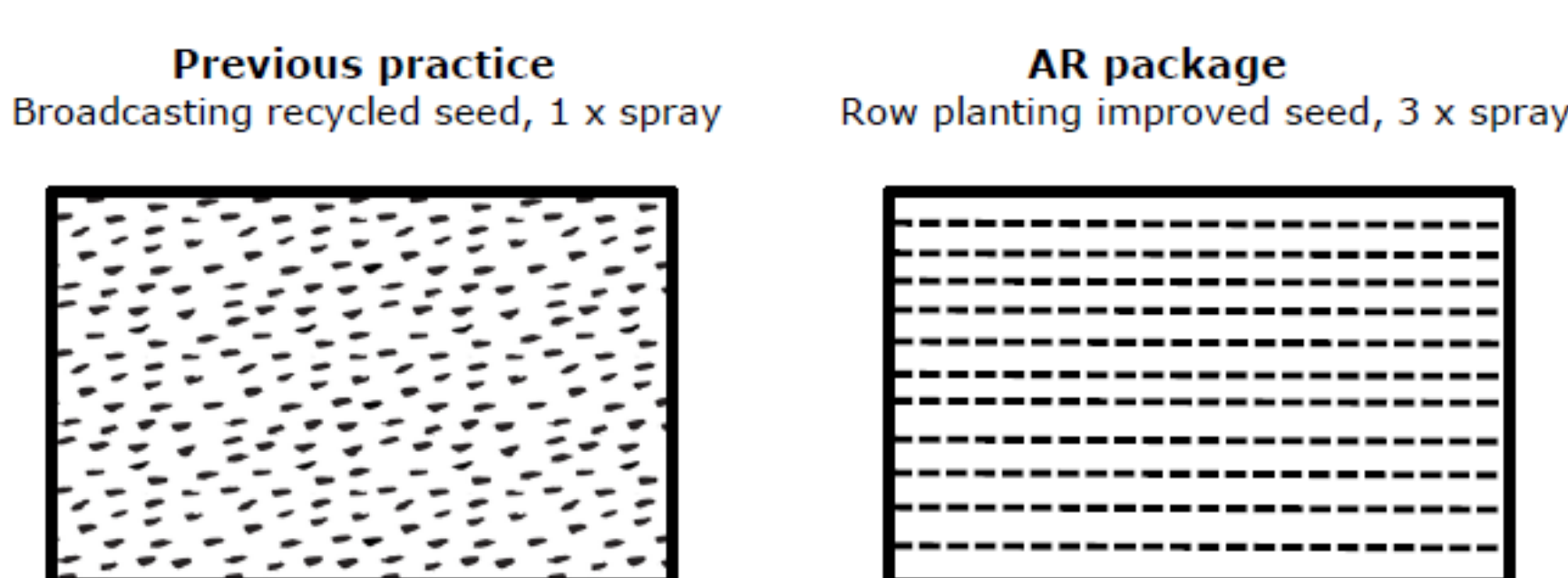
2. Impact assessment and exploration with whole-farm model Farm DESIGN

3. Personal evaluation of technology packages

Africa RISING technology	Affordability	Labour	Acceptability	Accessibility	Ease of application	Increase of yields	Improvement of soil fertility	Improvement in product quality
P1: NPK/SA on maize	3	3	1	3	2	3	2	1
P2: Spraying on cowpea	-2	-5	0	5	8	10	7	6
P3: ISFM Soybean								
P4: Maize-legume Strip Cropping	-6	-15	0	15	16	30	14	6



Differentiate: Technologies vs. Techniques



e.g. What makes a package expensive? Is it the extra labour for row planting? The improved seeds? The additional sprays?

Who is the legacy product useful for?

The approach is useful for development projects and businesses that want to test or promote new technologies or techniques among smallholder farmers. It also is a crucial element for successful upscaling.

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