Selected thoughts on the status of soil fertility research for development in Africa

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IITA
Research to Nourish Africa

This is our time….

AGRA
Growing Africa's Agriculture

Soil Health Program
Soil Health Consortia

african green revolution forum

BILL & MELINDA GATES foundation

AfSIS, ASHC, N2Africa, COMPRO

USAID
FROM THE AMERICAN PEOPLE

…to deliver!!

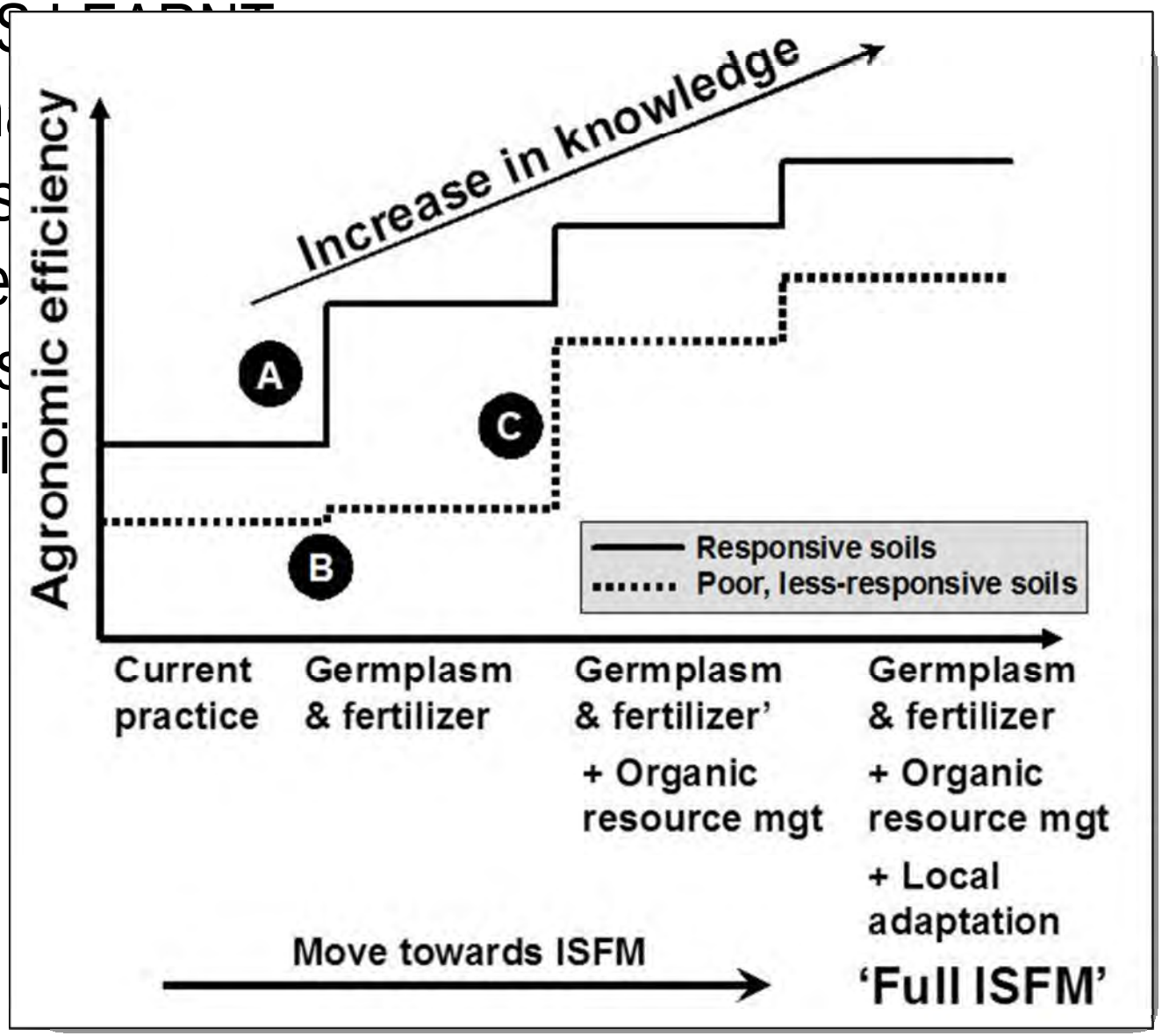
1. We have understood important principles for improved and sustainable soil management

LESSONS LEARNT

→ Soil m… many factors

→ Farme… all about returns

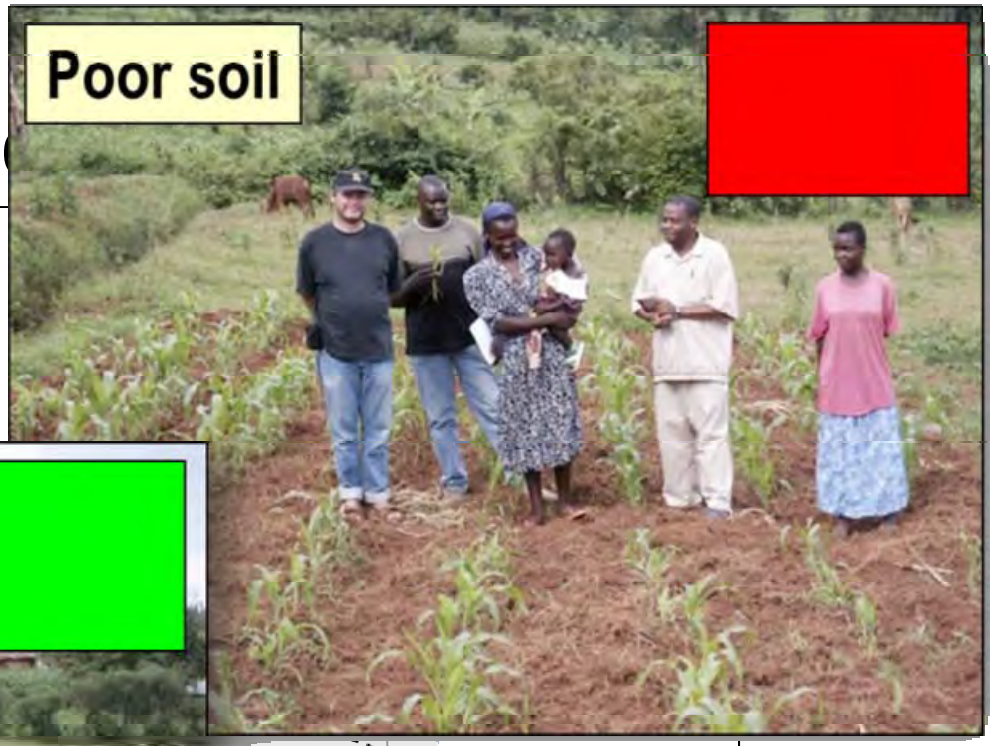
→ Combi…

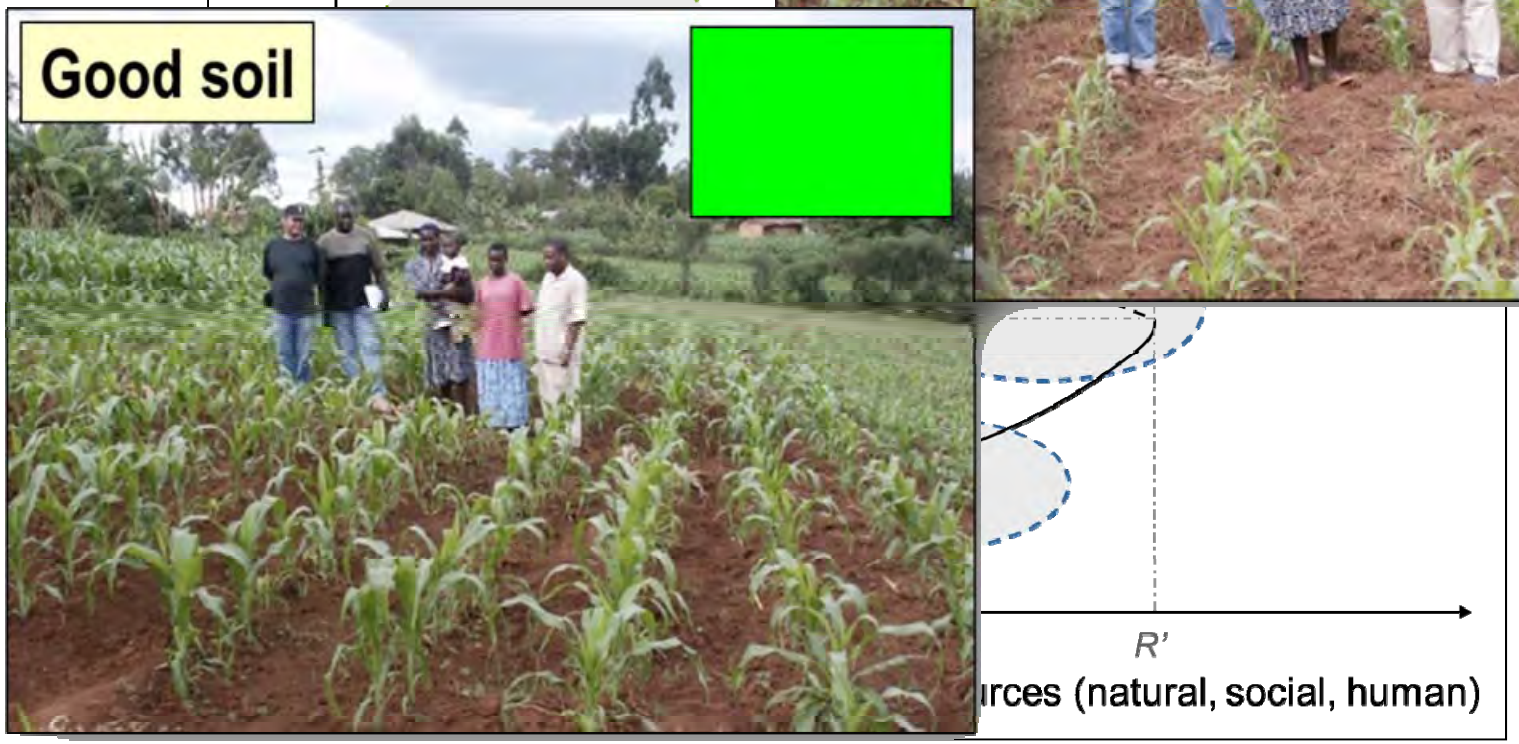


1. We have understood important principles for improved and sustainable soil management

LESSONS LEARNT

→ Embrace variability (typol





2. We have effective technologies to deal with low soil productivity and nutrient mining

LESSONS LEARNT

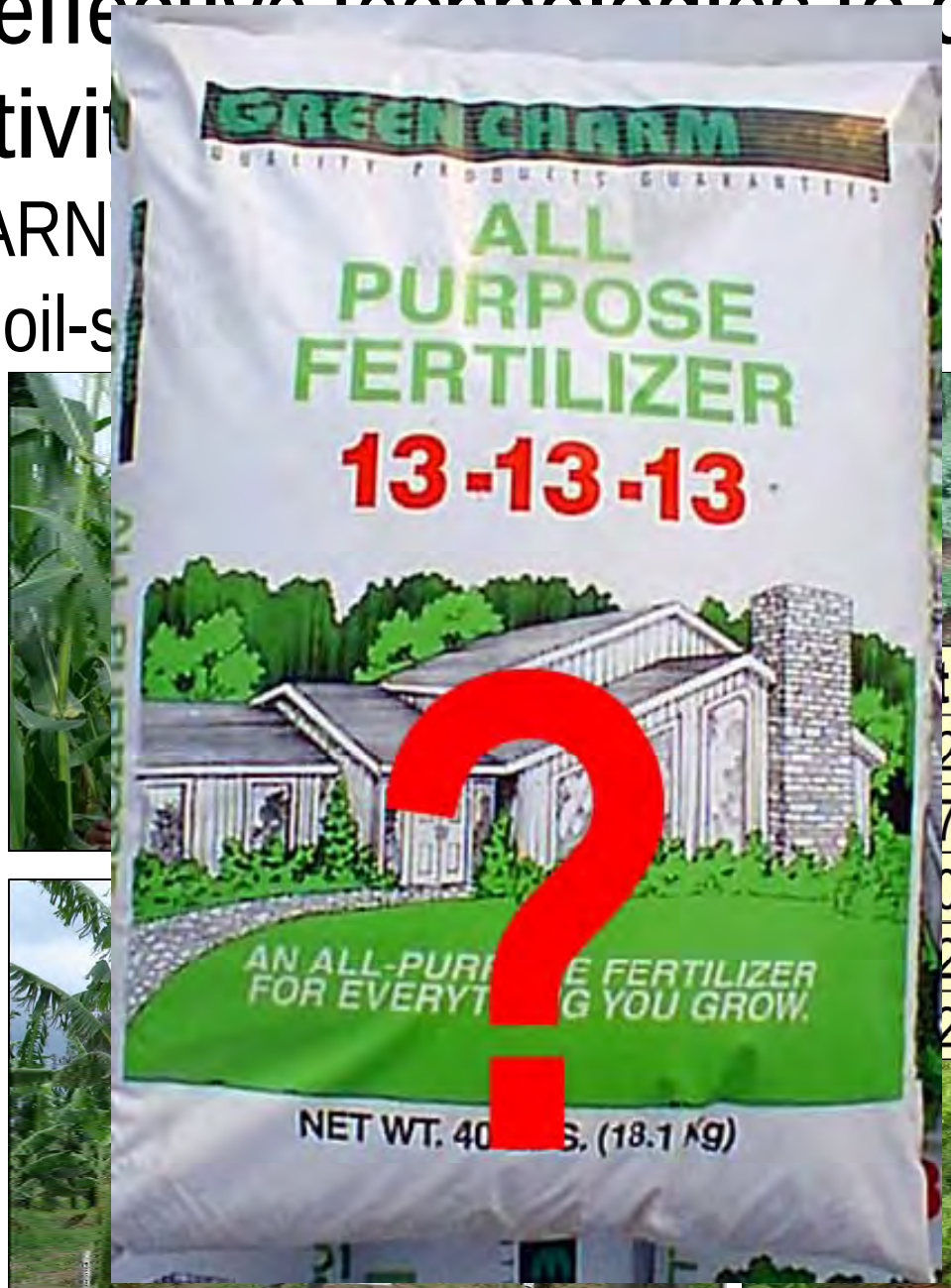
→ Various technologies, based on above principles, have been adapted in certain areas in Africa

→ Technologies exists for the major crops in Africa, including maize, cassava, banana, and sorghum/millet

2. We have effe deal with low soil productivit

LESSONS LEARN

→ Crop- and soil-s



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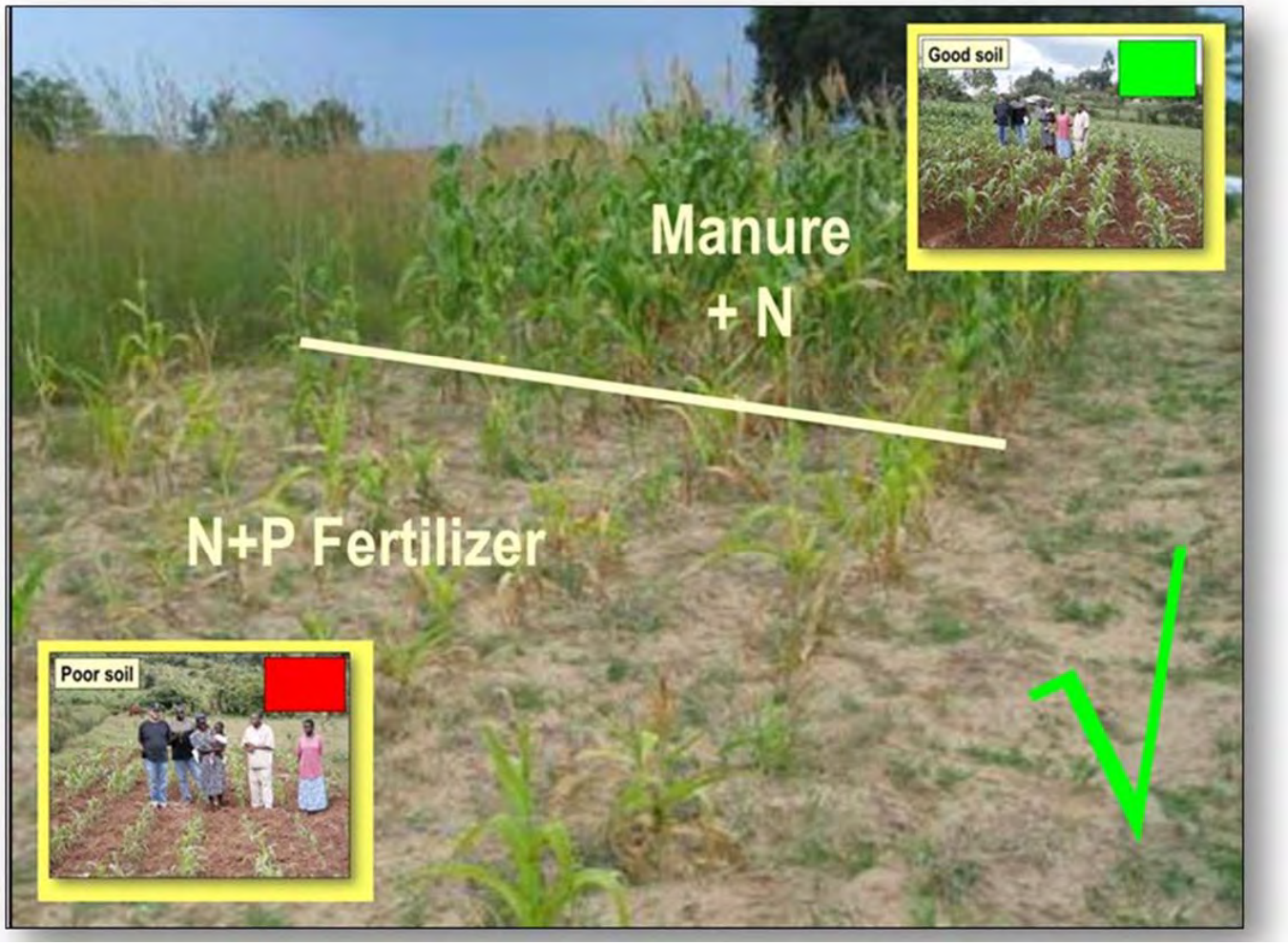
2. We have effective technologies to deal with low soil productivity and nutrient mining

CHALLENGES

→ Diagnosis and management of non-responsive soils



2. We have effective technologies to deal with low soil productivity and nutrient mining

CHALLENGES

→ Diagnosis of soil constraints

Local indicators
Sensitivity?
Extrapolation?

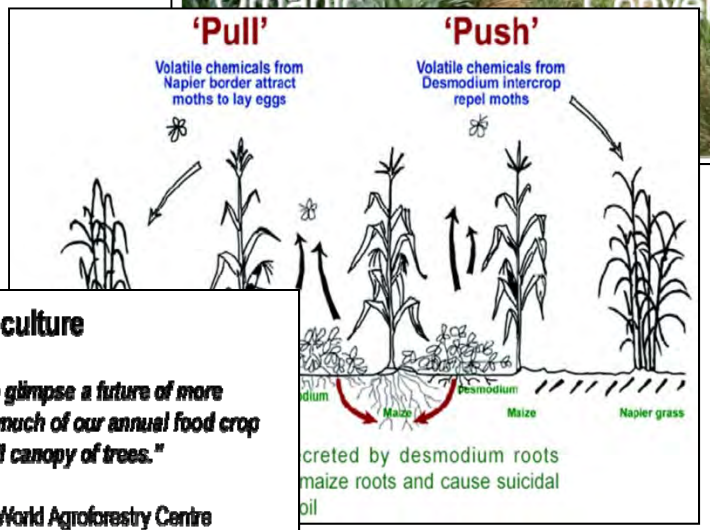
Test kits
Accuracy?
Cost?

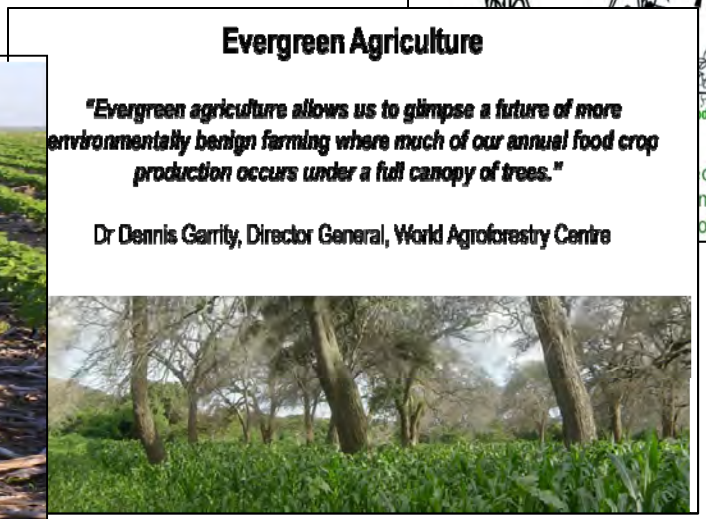
Laboratory
Cost!
Time!

3. We need a ‘unifying theory’ of sustainable soil management

LESSONS LEARNT

→ Various combinations of best practices often framed as specific ‘paradigms’





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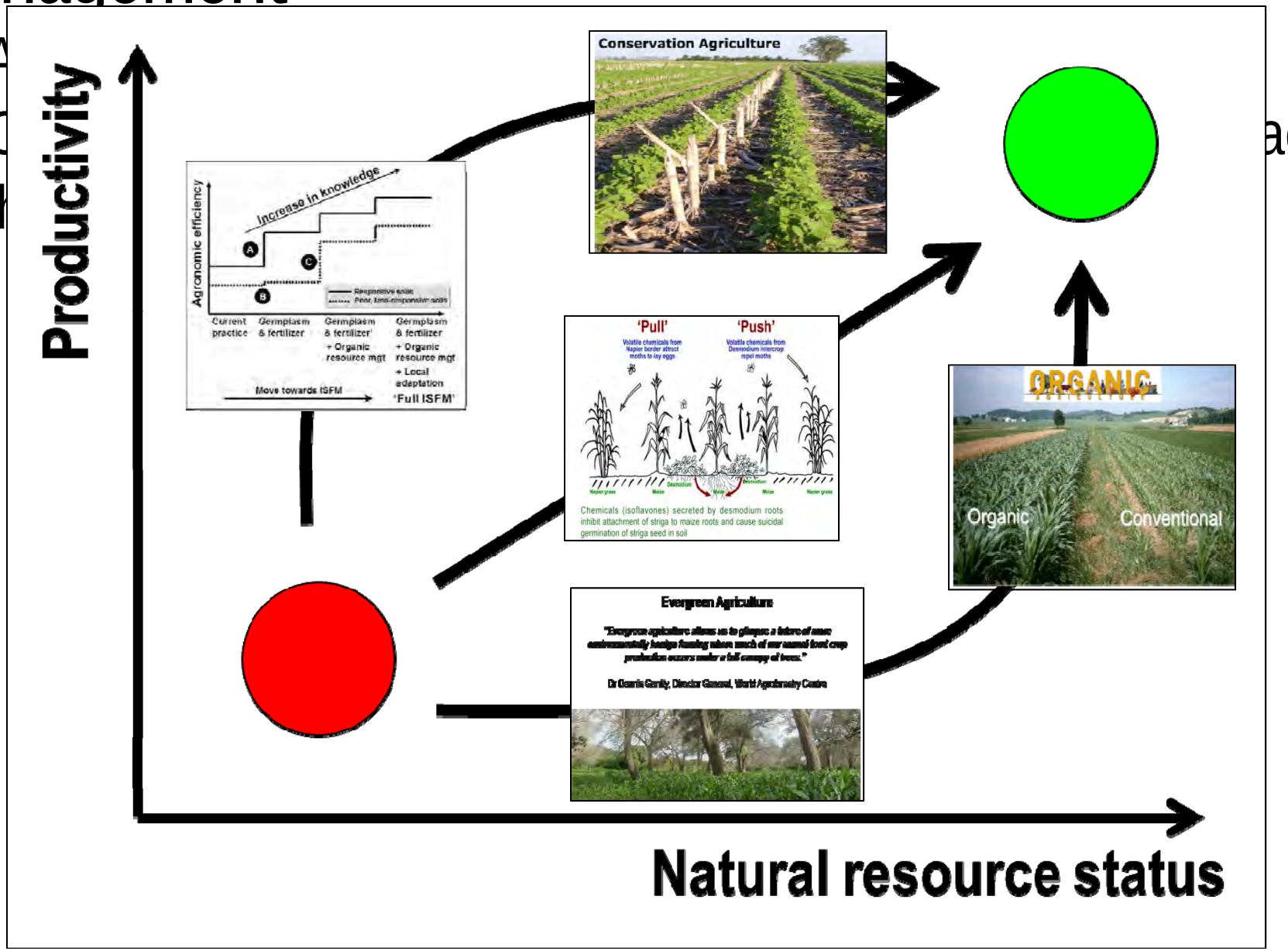

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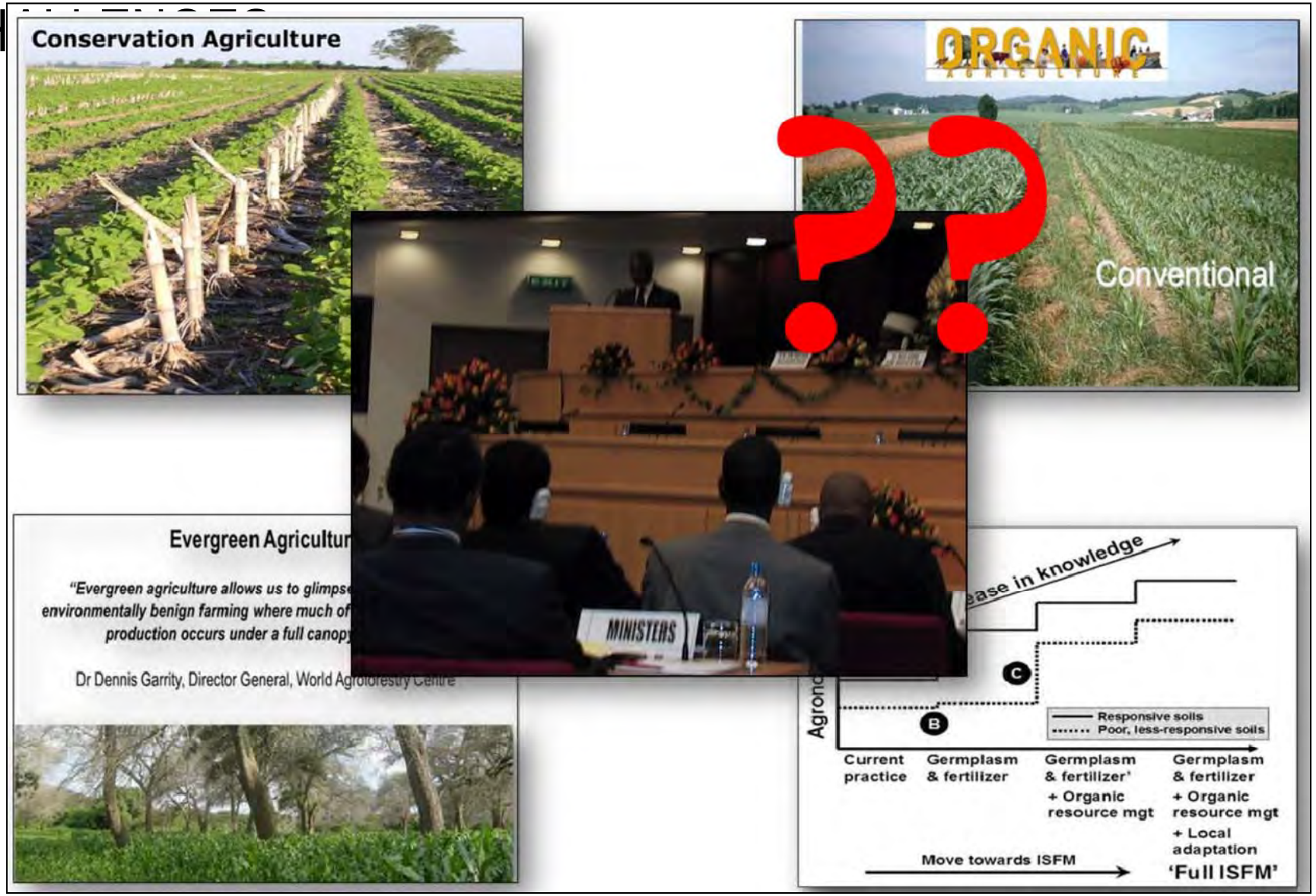


4. We need to engage with value chains to make investments in soil management profitable

LESSONS LEARNT

→ Intensification = investing in the soil!

→ Cost of inputs is high (often 5 x world market price)

→ Maximal use efficiency = maximal value:cost!

4. We need to engage with value chains to make investments in soil management profitable

LESSONS LEARNT

→ Innovative models exist (e.g., CASE, VBAs)

→ Small packs of inputs (for initial micro-dosing)

→ Private sector interest in producing specific blends packed in relatively small packs

Small packs

Village-based advisors

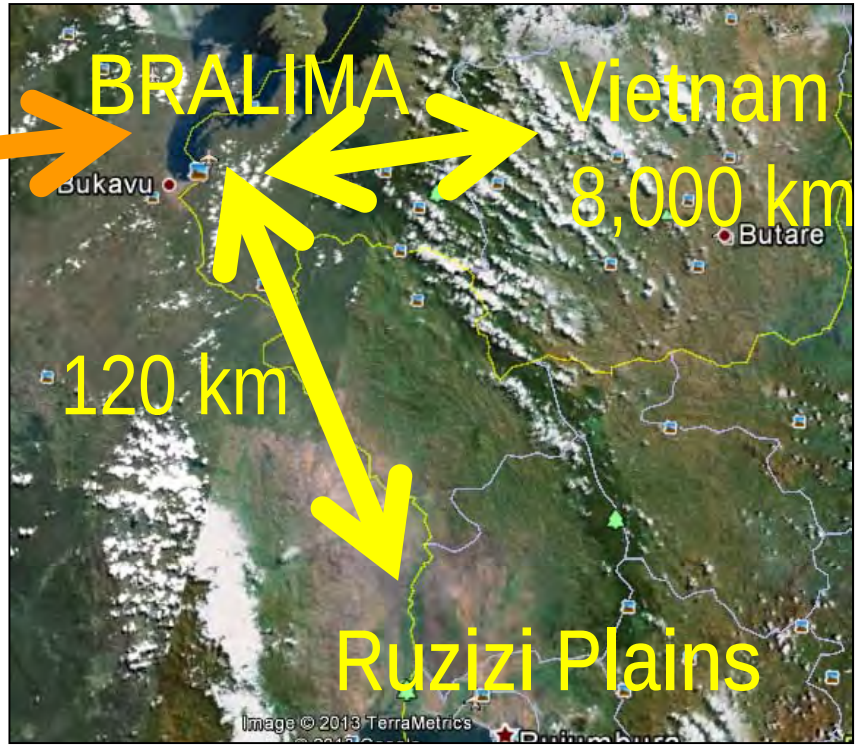
4. We need to engage with value chains to make investments in soil management profitable

CHALLENGES

→ All actors should be simultaneously engaged

→ Input: Cost of fertilizer (formulation, volume, transport, etc)

→ Output: Quality and volume of output produced

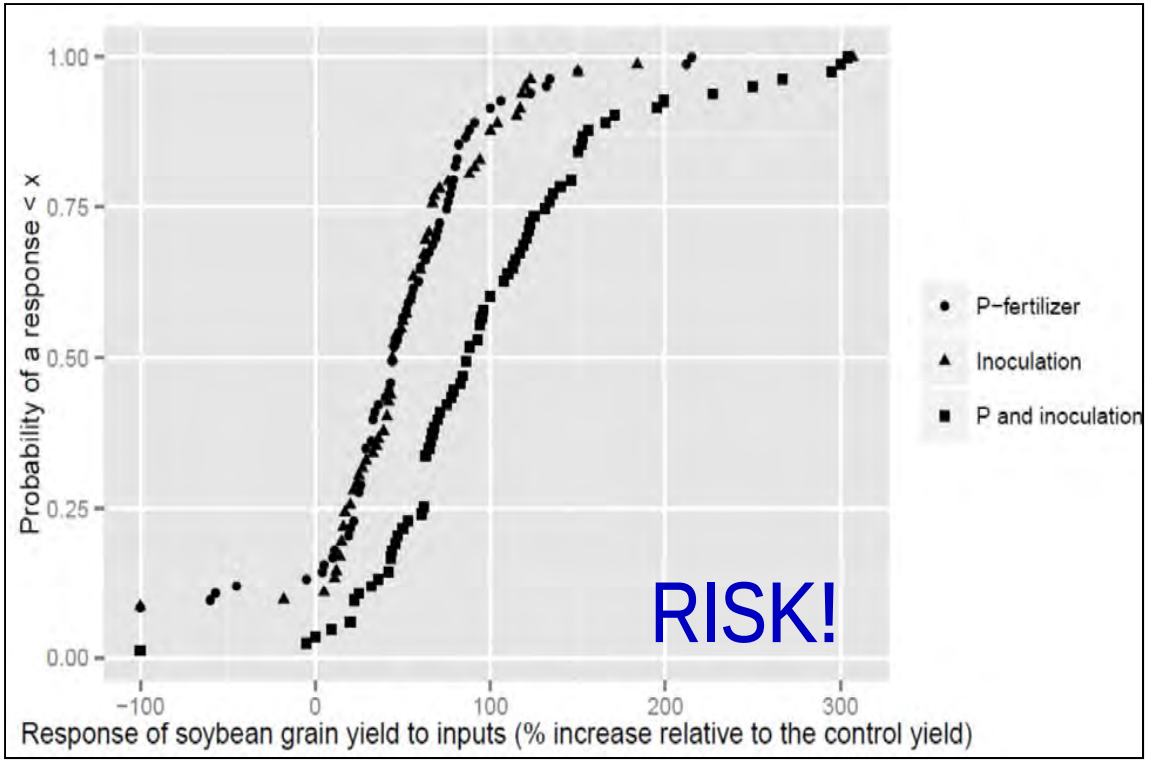


5. We have experienced bottlenecks with engaging a large number of farmers

LESSONS LEARNT

→ Learn from the performance of best practices, tested with farmers under their management

→ Better-off families can take more risk



→ Limitations of Farmer Field Schools, Radio, demonstration plots, etc

→ ICT tools can be effective for ‘simple’ knowledge (e.g., Nutrient Manager tools)

5. We have experienced bottlenecks with engaging a large number of farmers

CHALLENGES

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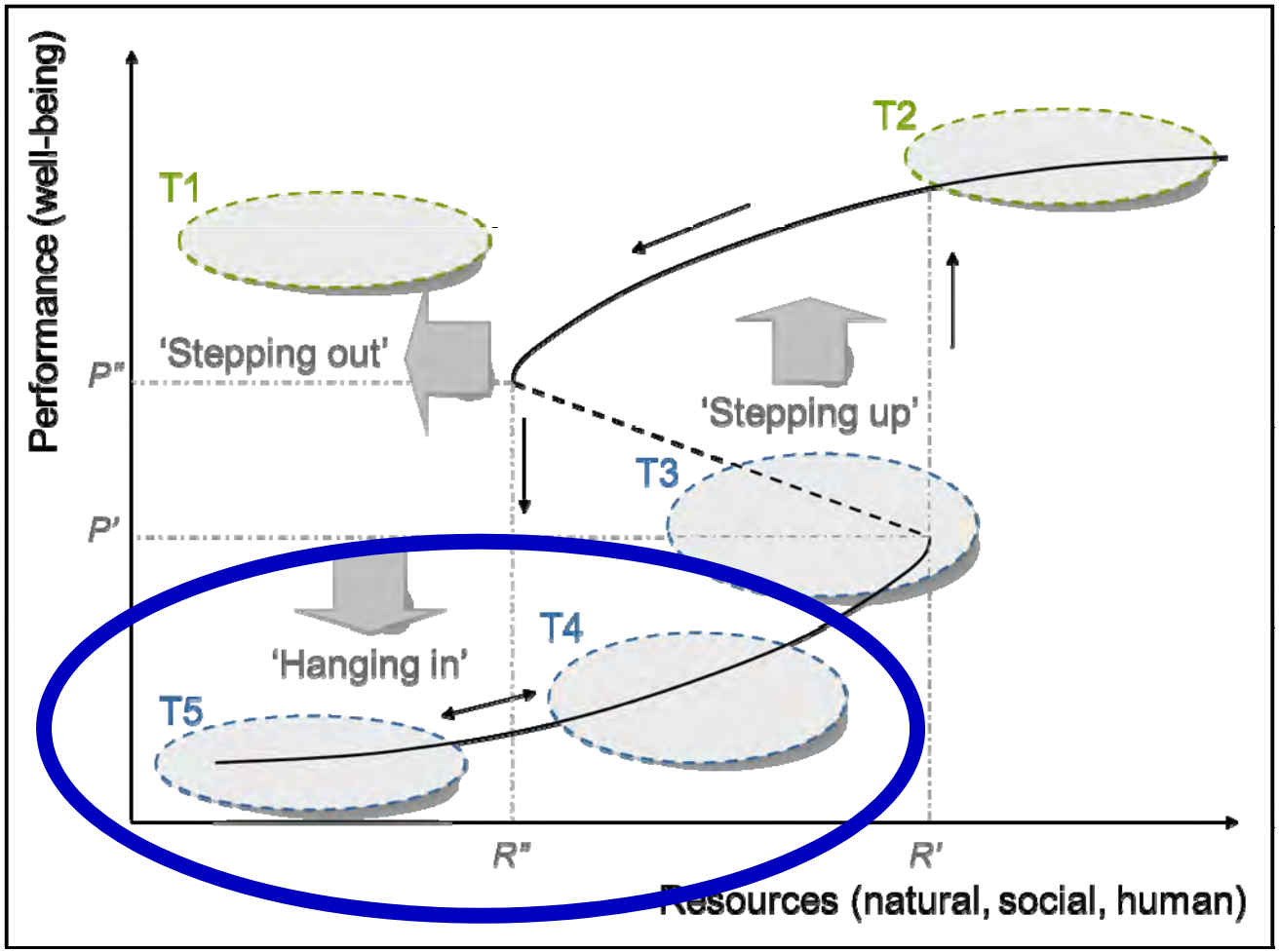

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Is there a role for the GSP – Africa Chapter?

YES…

→ The 5 GSP pillars are very relevant for Africa:

a) Promote sustainable management of soil resources.

b) Encourage investment, technical cooperation, policy, etc

c) Promote targeted soil research and development

d) Enhance the quantity and quality of soil information.

e) Support harmonization of methods, measurements, etc

→ Link soil initiatives in Africa to the global soils community

→ A direct voice to policy makers in national, regional, and pan-African fora

→ Ensure Africa's voice is heard at politically important events (e.g., the World Soil Day)

→ Etc *[hopefully during this meeting]*

Is there a role for the GSP – Africa Chapter?

BUT…

→ Focus its specific agenda based on identification of gaps; depending on the outcome, it could be decided if a continental GSP suffices or if regional GSPs are needed

→ Be a honest broker of best soil management practices (let the farmer decide!)

→ Etc *[hopefully during this meeting]*

Now back to the GSP – Africa Chapter

Pillar	On-going activities	Gaps to be addressed
a) Promote sustainable management of soil resources.	Various (CGIAR, NARS, etc)	
b) Encourage investment, technical cooperation, policy, education awareness and extension in soils.	AGRA (Soil Health Consortia), etc	
c) Promote targeted soil research and development focusing on identified gaps and priorities.	NSF-Bread (non-responsive soils), etc	
d) Enhance the quantity and quality of soil data and information.	AfSIS, ATA, etc	
e) Support harmonization of methods, measurements and indicators for sustainable soil management…	WLE CRP, Vital Signs, etc	

Integrated Soil Fertility Management:

Important

Strategy for

Farmers to produce

More

Thank you!

Asante sana!