

# Exploring the potential for *cocoa* *carbon* in Ghana



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# **Biodiversity Conservation and the Millennium Development Goals**

Sachs *et al.* (2009)

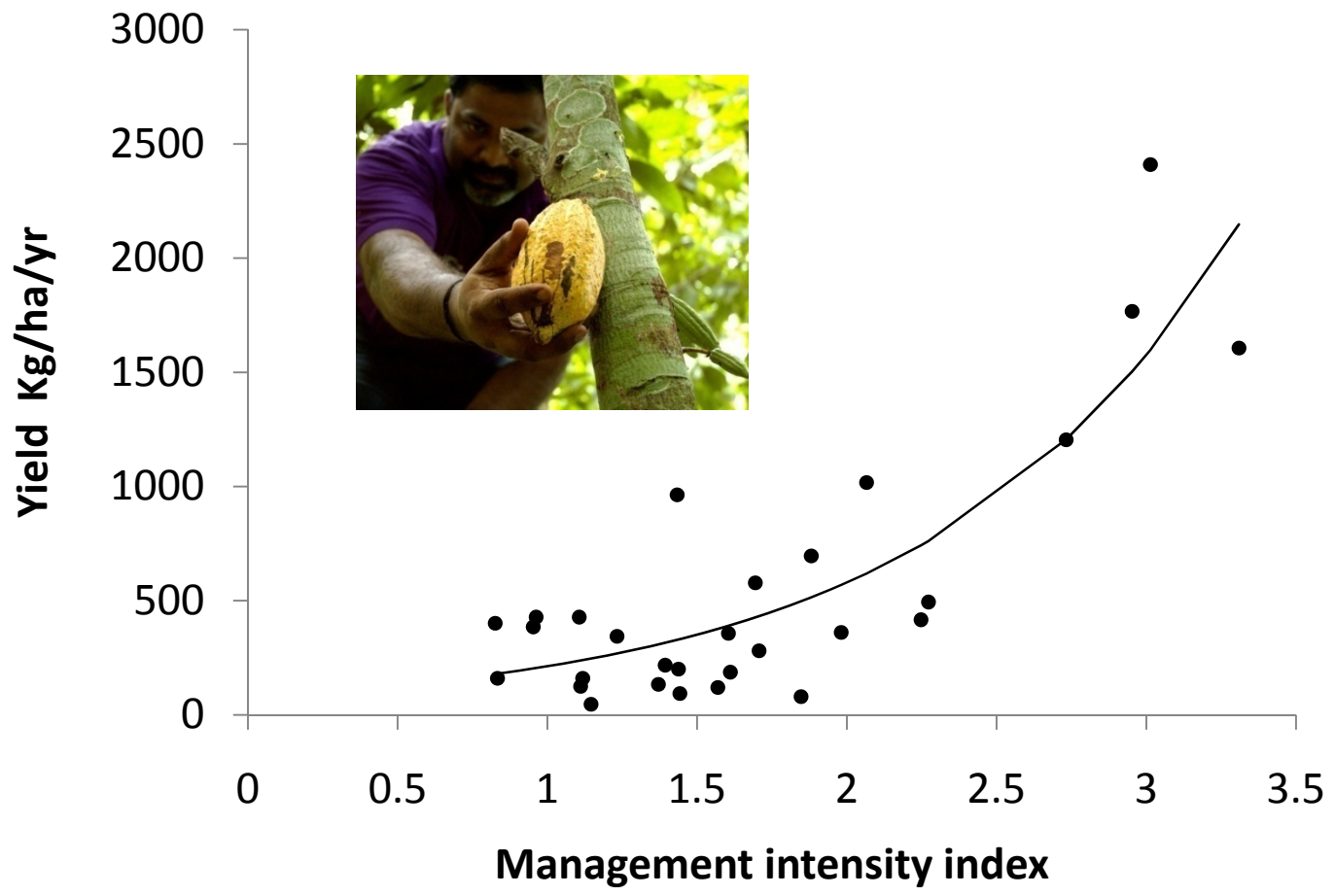
“we need further integration of the poverty alleviation and biodiversity conservation agendas”

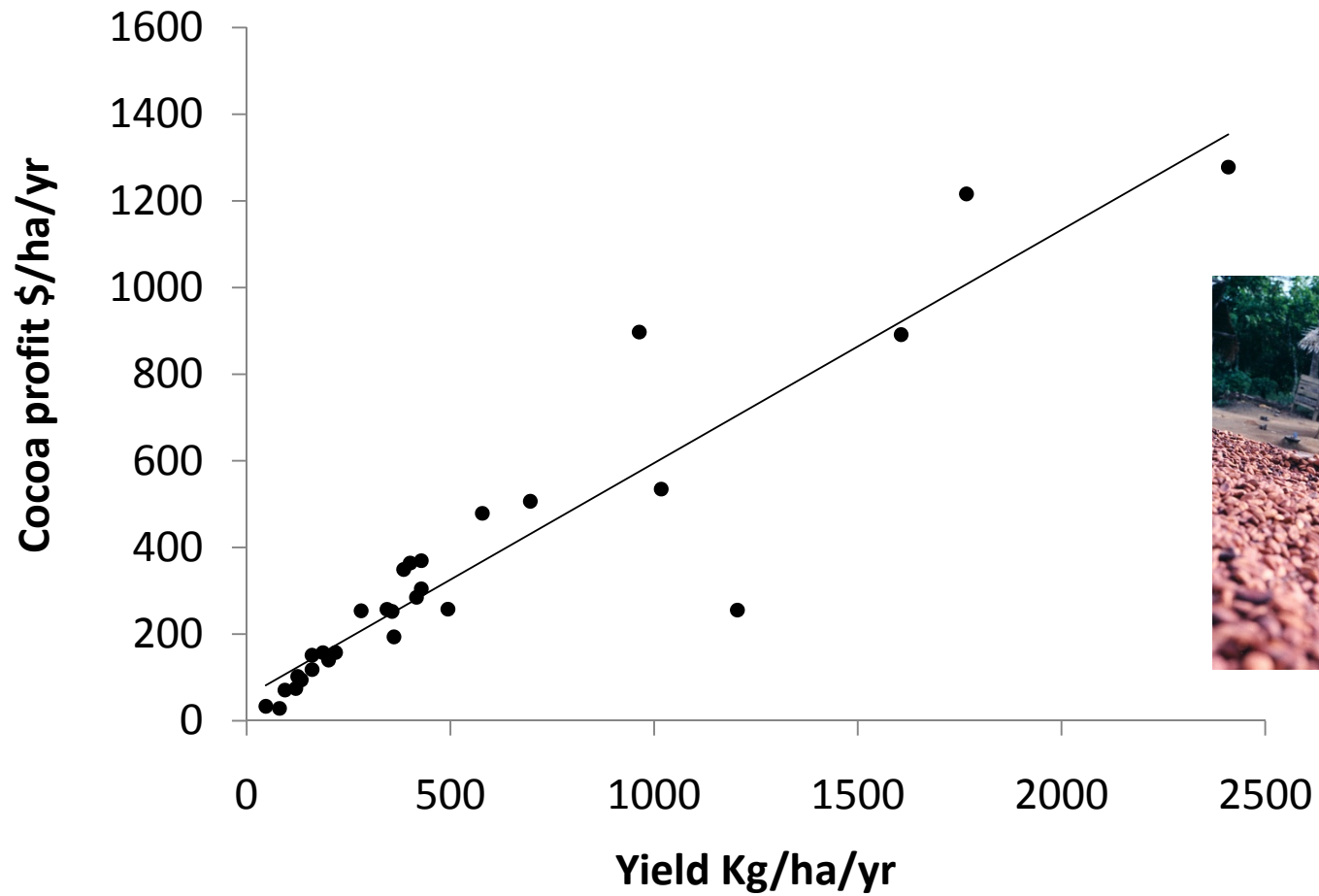
*Science*, September 2009

What is the potential for cocoa farming systems in Ghana to engage with and benefit from this integrated agenda?



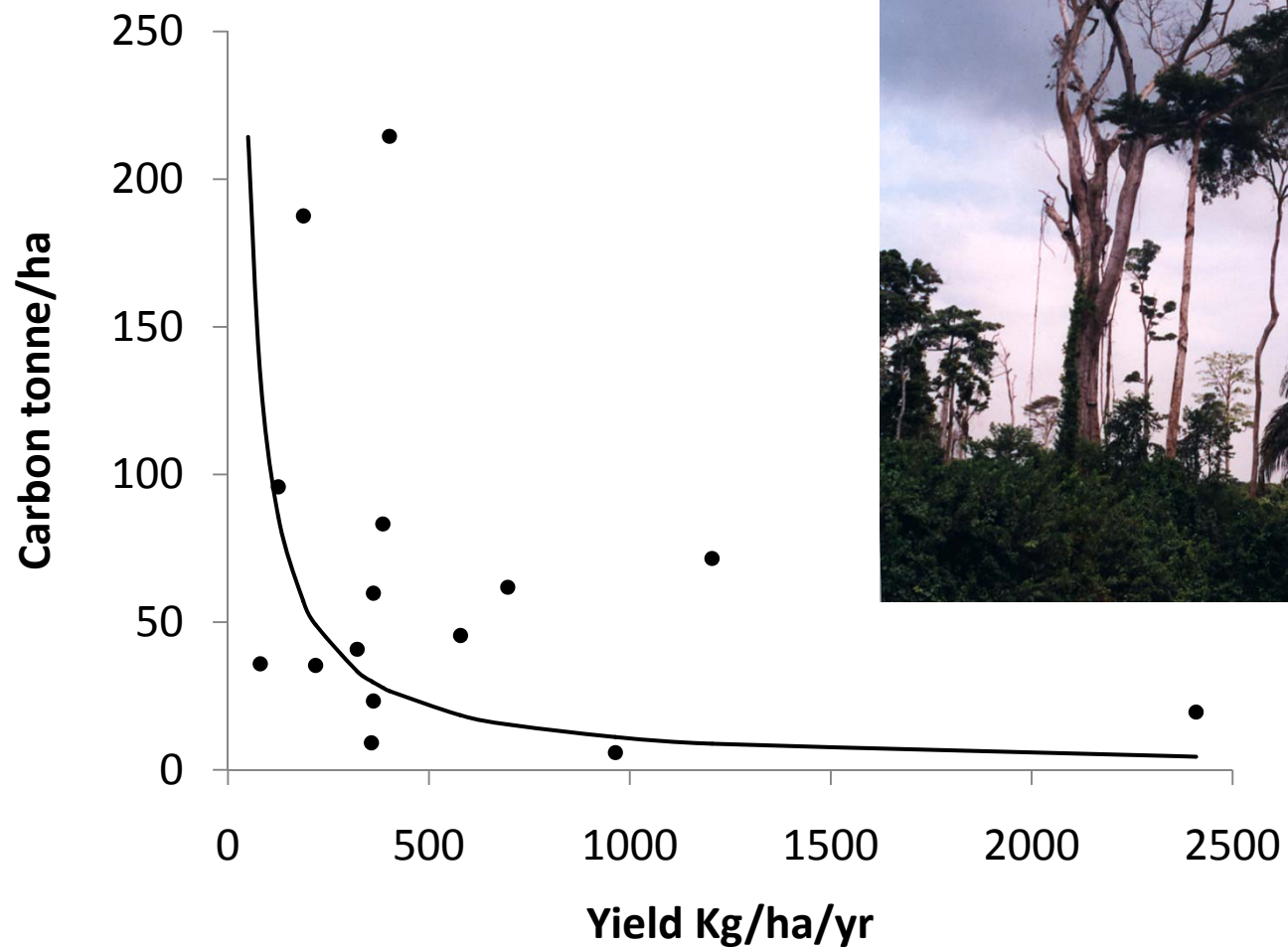
The main problem.....

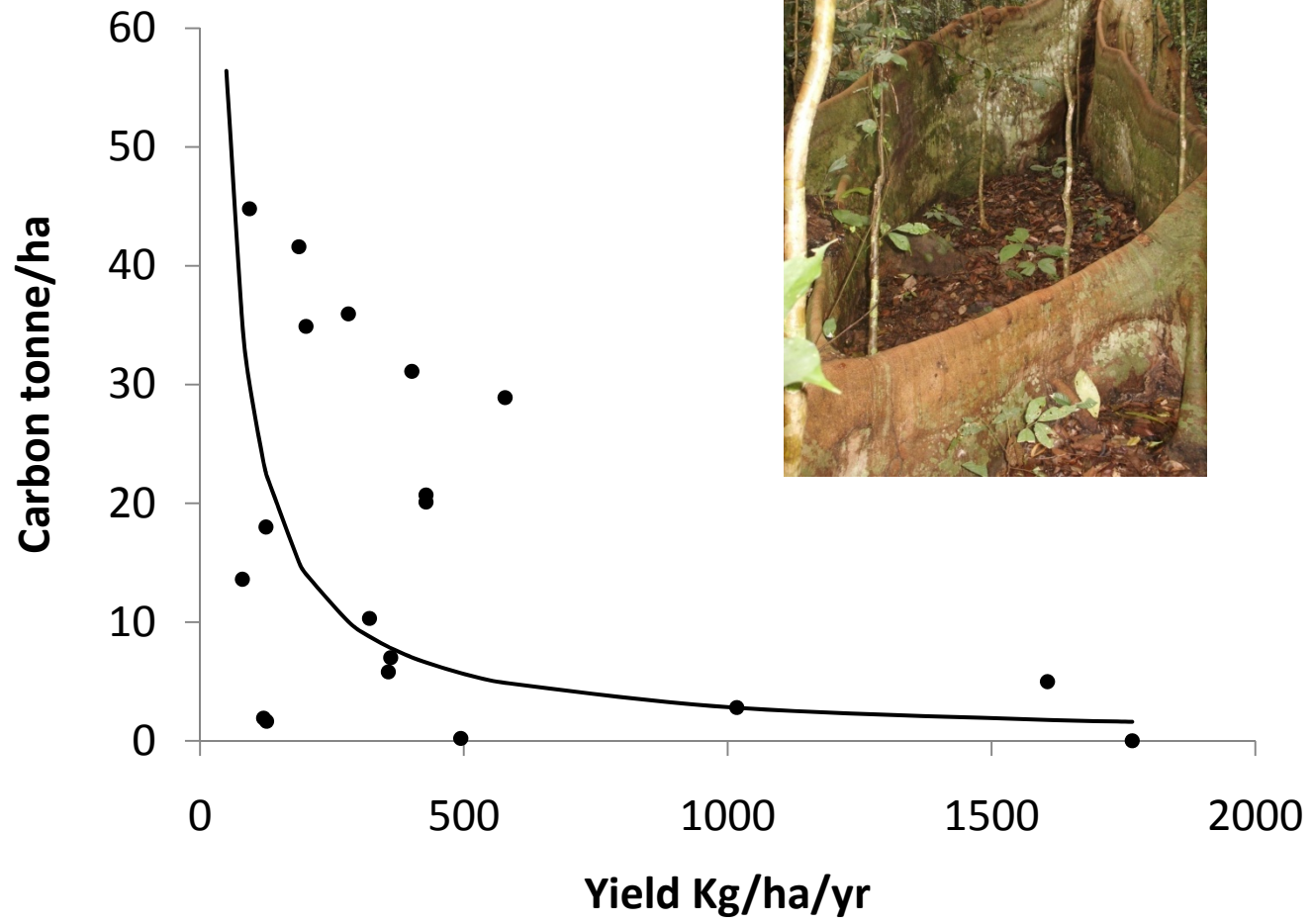




# Rural livelihoods can be improved by increasing yields

- *Knowledge*
- *Knowledge transfer*
- *Institutional support*





# Increasing yields causes ecosystem degradation

- *Loss of biodiversity*
- *Reduction in ecosystem services*
- *Undermines the long-term sustainability of the farming system*

# Payments for ecosystem services might change this process

- *Climate change and Carbon trading*

How might this affect cocoa farmers in Ghana?

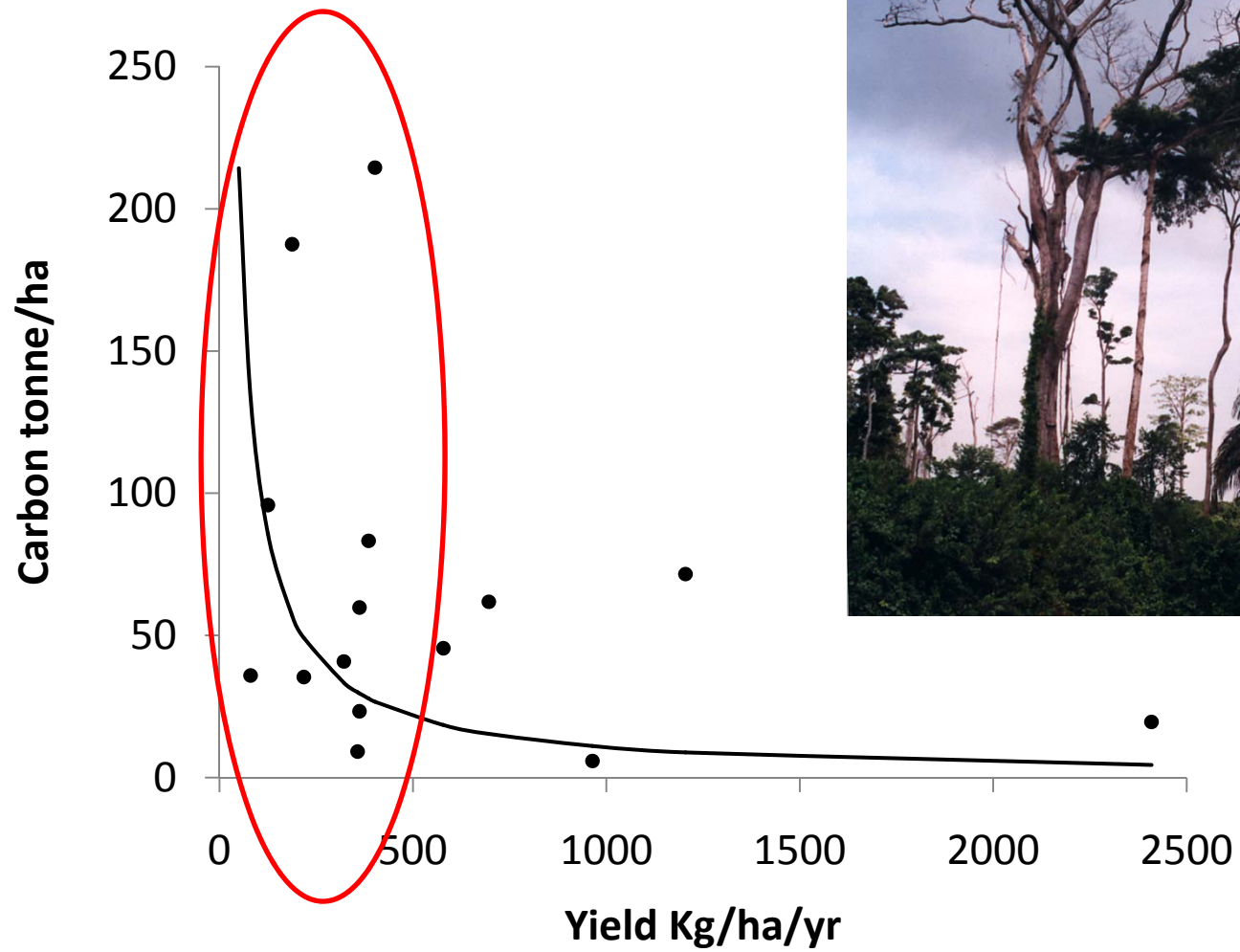
## Without Carbon payments

Net Farm Income	Number of Farms	%
\$0-1.25/day	12	38.7
\$1.25-2/day	11	35.5
>\$2/day	8	25.8

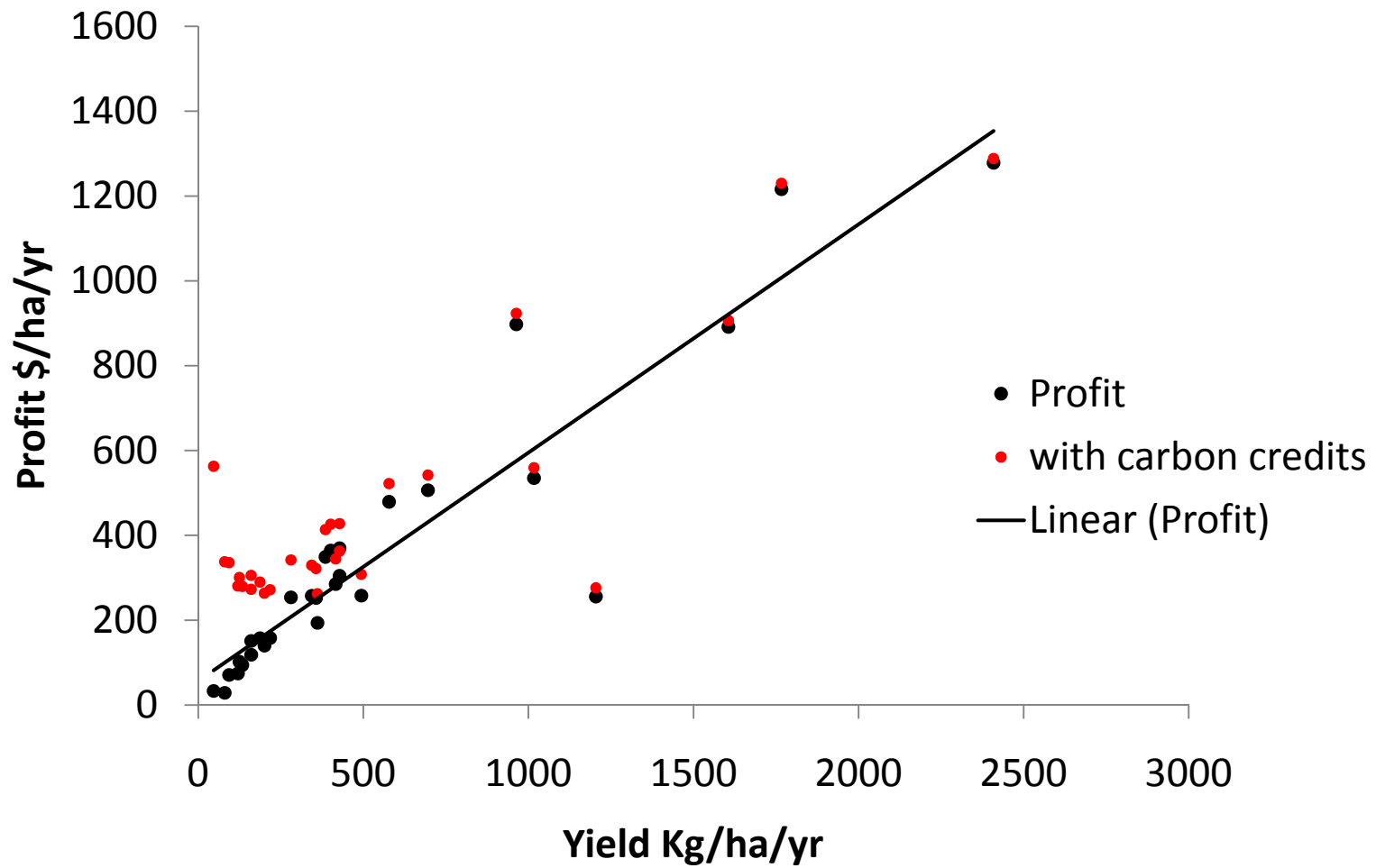
## With Carbon payments<sup>1</sup>

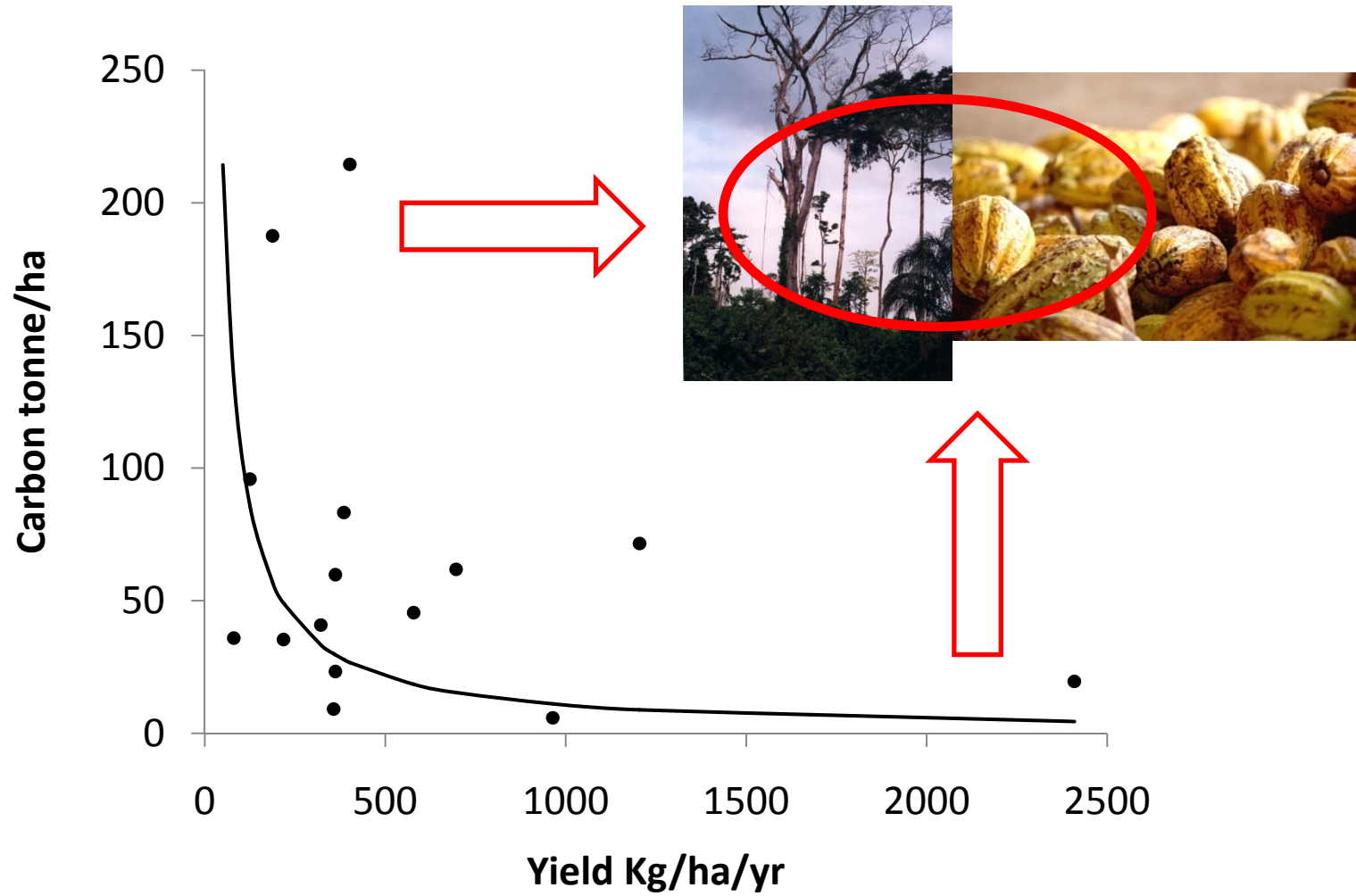
Net Farm Income	Number of Farms	%
\$0-1.25/day	6	19.4
\$1.25-2/day	7	22.6
>\$2/day	18	58.1

<sup>1</sup>There are significant uncertainties in these figures!!



Payments for ecosystem services  
could benefit the poor





# Uncertainties are large.....

- *Carbon cycling in cocoa farming systems*
- *Types of carbon project (e.g. REDD, AF)*
- *Socio-economics*
  - *international markets*
  - *impact on rural livelihoods*
- *Policy and societal support structures*

# Nevertheless.....

- *Cocoa farming systems in Ghana support biodiversity and ecosystem services*
- *Potential to generate payments for these and improve rural livelihoods*
- *Improve productivity in cocoa farming systems of high biodiversity and ecosystem service value through integrated agricultural and environmental research*

The potential benefits to cocoa farming in Ghana arising from integrating the conservation and development agendas are significant

Many thanks for your attention!