

Disruptive and Incremental Innovation in Agriculture: Socio-cultural Factors in Technology Adoption in the Developing World



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Basic proposition

Smallholders' assessment of a potential new technology is highly dependent on how that technology aligns with socio-cultural infrastructure

If it is viewed as socially or culturally disruptive, then introduced technologies can be resisted despite obvious material gains from adoption such as increased returns to labour.

The context of agriculture in the developing world

- **Farming practices structured by relations of gender, generation and kinship**
- **Technology adoption and innovation are usually associated with modernisation and development**

Passive / Incremental Innovation

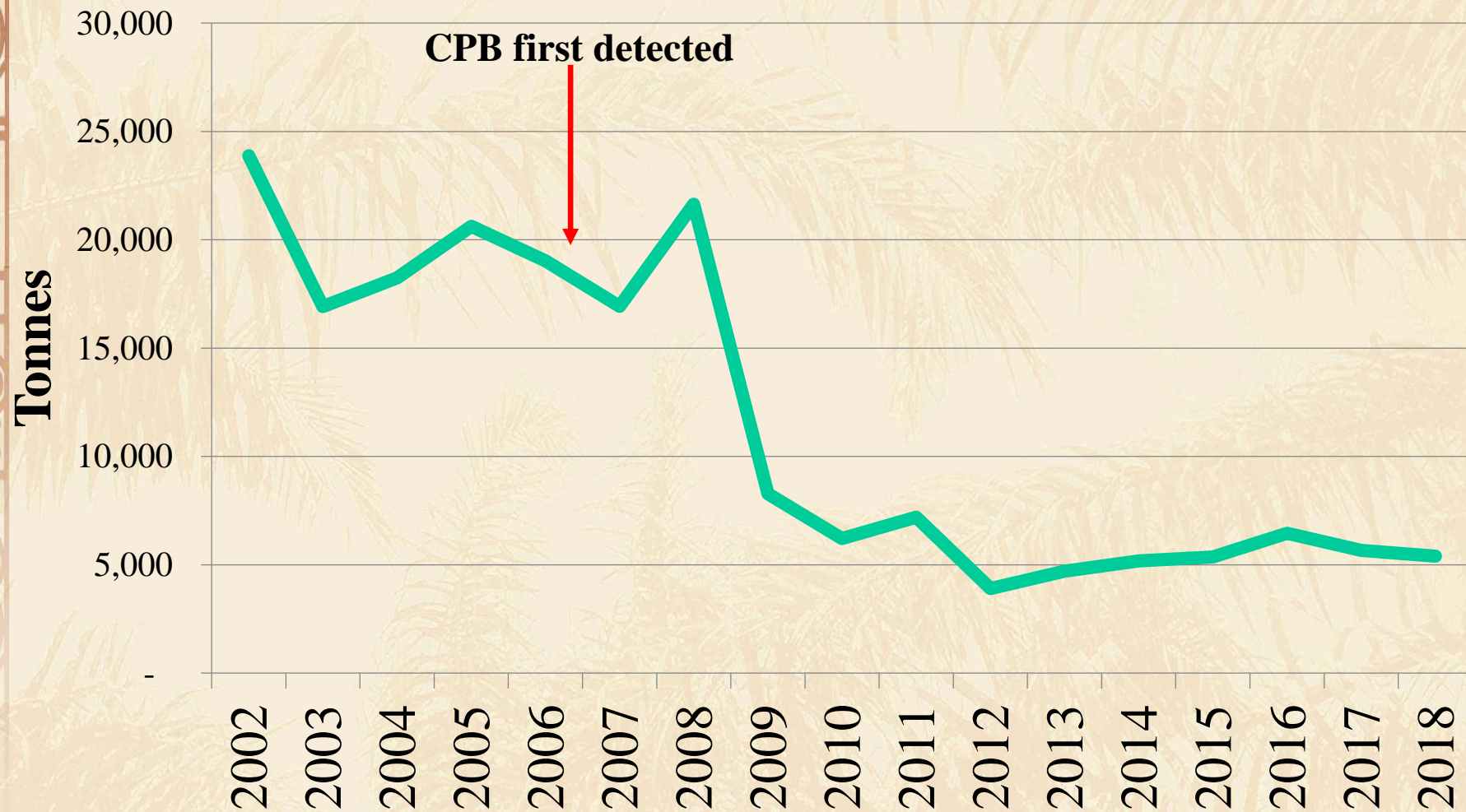
- **Adoption and innovation occurs easily**
- **Can occur over decades**
- **Minimal disruption to economic, political or social order**

Disruptive Innovation

- **Transformative (socially, culturally, economically & environmentally)**
- **New ways of combining the factors of production (Brookfield)**
- **Often in response to livelihood breakdown**
- **May take a generation or more to accept**

Case Study 1: Cocoa Pod Borer in East New Britain, PNG

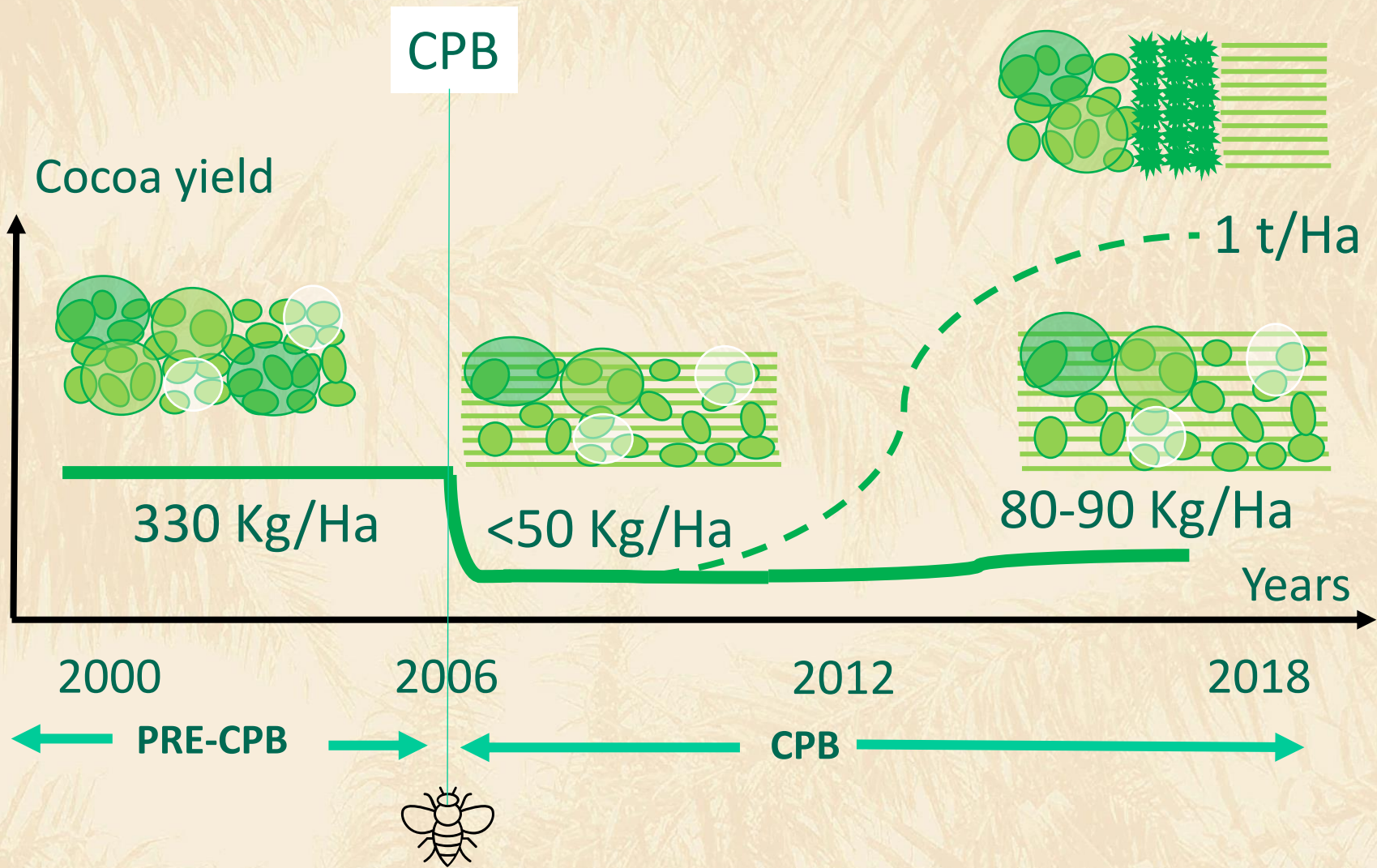
Cocoa Production





The Response to CPB





Case Study 2: Land pressure on differential adoption rates of cocoassie yam (*Dioscorea praehensilis*) in Ivory Coast



Ethnic group	Migrant status	Land access	Adopted cocoassie yam?	Dietary change ?
<i>Bété</i>	Customary landowners	Good	No	No
<i>Burkinabé</i>	Labour migrants	Limited (1-5 ha) – small plots of land using indigenous mechanisms of accessing customary land of customary landowning ‘hosts’	Yes – now primary food source	Yes
<i>Baoulé</i>	State-sponsored settlers	Good (100 ha) – large areas of government leasehold land	Partial – for feeding migrant labourers	No

Case Study 3: Resolving gender and family conflicts through disruptive innovation: smallholder oil palm in PNG



