



Cocoa Production Strategies and the Conservation of Globally Significant Rainforest Remnants in Ghana

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Biodiversity Hotspots and Conservation

What areas are the most immediately important for conserving biodiversity?

The Guinean Forests of West Africa identified as one of the 25 global priority areas

Myers, N, et al. Biodiversity Hotspots for Conservation Priorities. **Nature** 403, 853-858(24 February 2000)

Once covered 1.3 million sq. km

Today only 128,000 sq. km remain

Of which only 20,000 sq km are nominally protected.

Ghana's forests, which stood at about 82,000 sq km in 1900 had dwindled to only some 8,000 sq km in 2001



Biodiversity Conservation Policies in Ghana

Ministry of Lands, Forestry and Mines

- Restructured autonomous Forestry Commission
- National Resource Management Programme (NRMP)
 - Component 1 - High Forest Resource Management (HRM)
 - Component 4 - Biodiversity Conservation in the High Forest Zone
 - Botanical survey identified Globally Significant Biodiversity Areas (GSBAS) among existing forest reserves
 - Among the expected key results of NRMP
 - Community and farmer adoption of improved land and water management techniques;

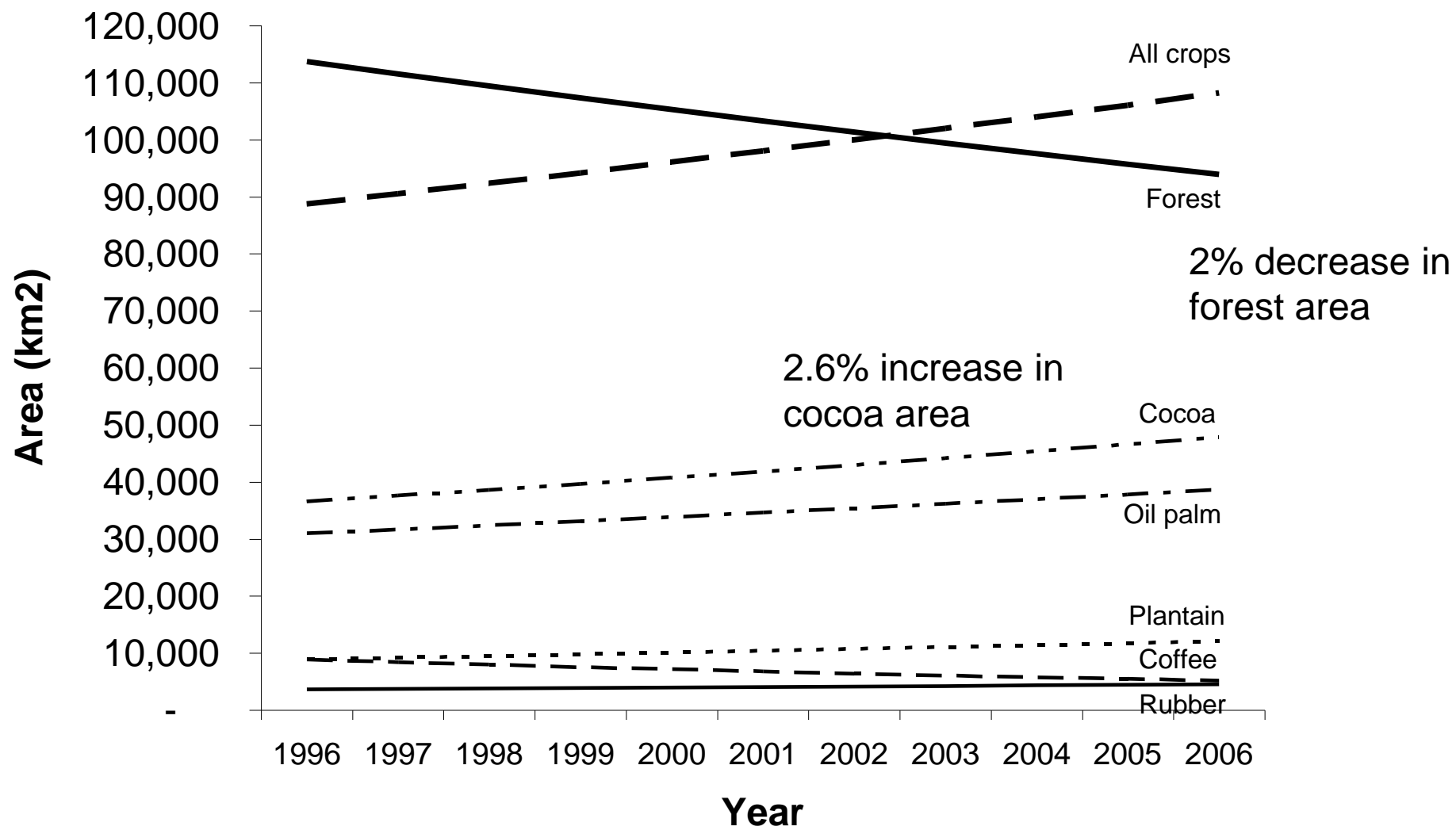


Western Region Protected Areas

- Nini Suhein National Park
- Ankasa Resource Reserve and
- Bia National Park and Resource Reserve located in the high forest zone of the Western Region.
- Krokosua Hill Forest Reserve



Agricultural expansion in the moist forest zone of Ghana, Nigeria, and RCI





Cocoa production in Ghana

- National output increased by 6.2% p.a. between 1991-2005 (Cocobod)
- Area planted to cocoa has increased by 7.1 % (FAOSTAT)
- Implication is a decline in yield of -0.9% p.a.
- Western region output expanded by 7.8% p.a., accounted for 57% of total output in 2005/2006
 - Pan-territorial pricing is effectively subsidizing the cocoa expansion in the West and putting additional pressure on forest resources.



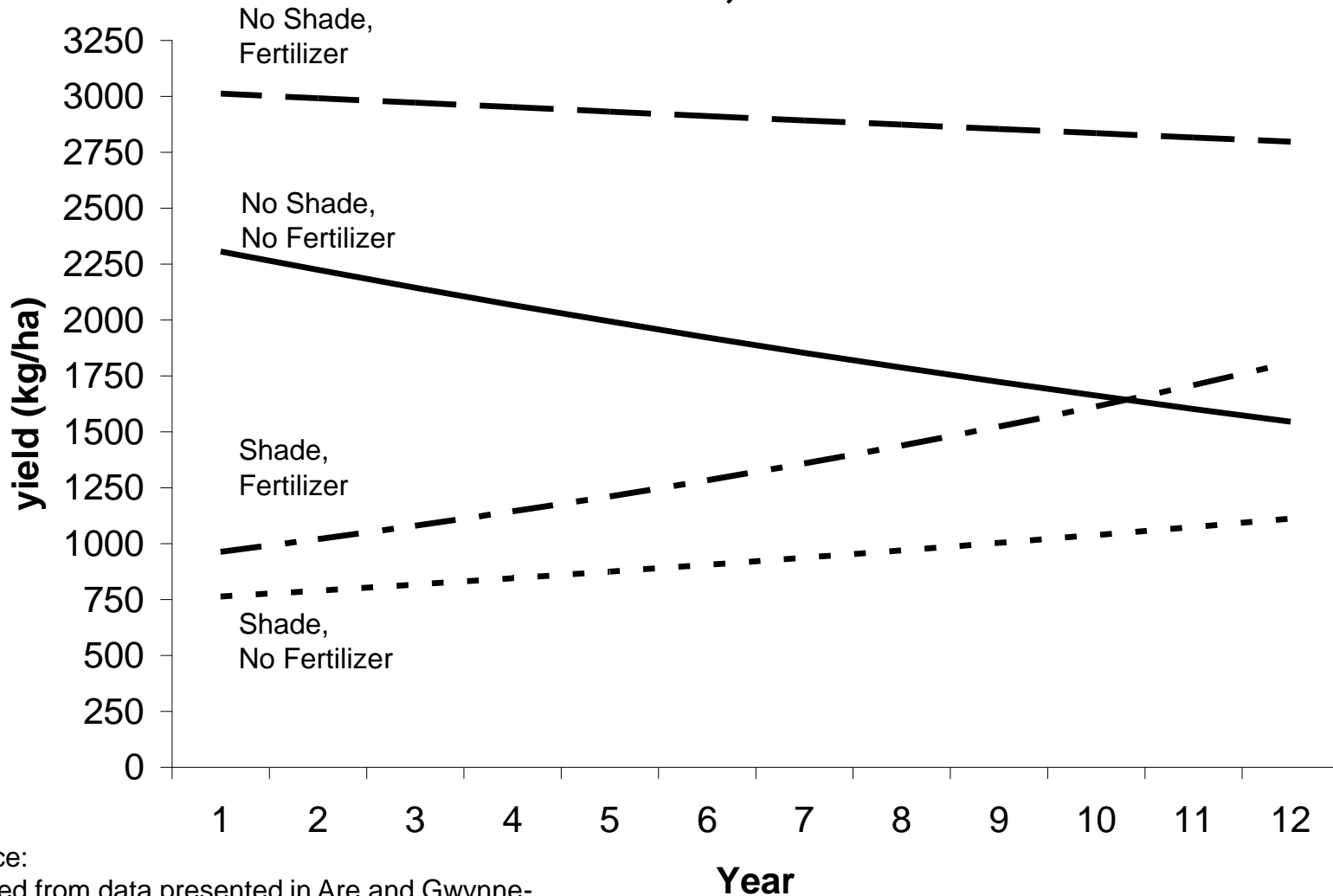
Production systems and biodiversity impacts

- Estimated proportion of cocoa area with no shade
 - Western region 27% of producing area
 - Ashanti region 13%
 - Brong Ahafo region 14%
 - Eastern region 7%
- Most common method of establishment (82% of area planted) was to slash and burn the forest and then plant a cocoa-food crop association

Source: STCP 2001/2002
Cocoa Belt Survey



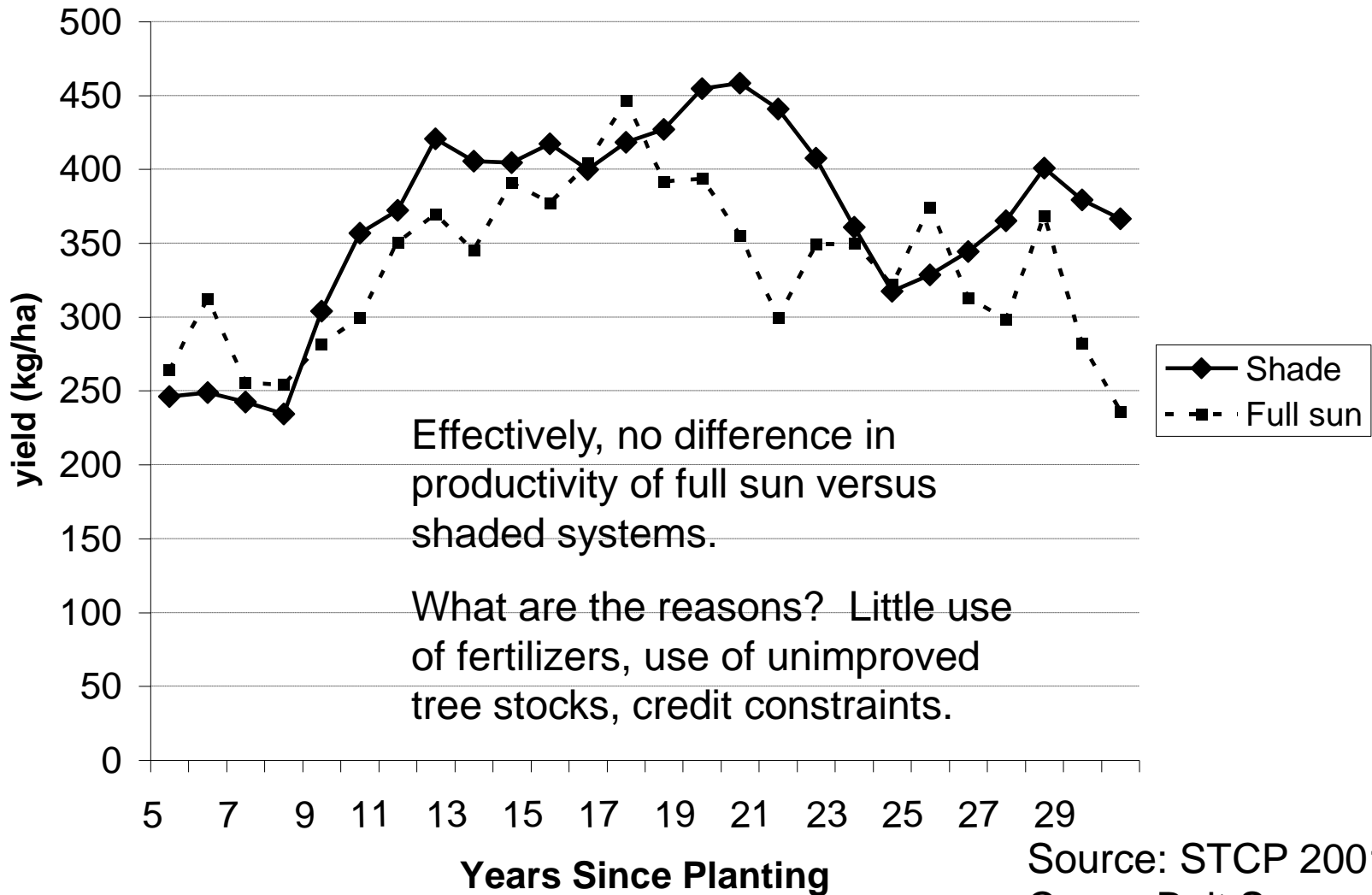
The Productive Potential of Full Sun Systems: The CRIG Shade-No Shade fertilizer trial, 1958 to 1969



Source:
Derived from data presented in Are and Gwynne-Jones (1974).



Evidence on the Field Performance of Full Sun Systems



Source: STCP 2001/2002
Cocoa Belt Survey



What if . . .

- Yield gap (1600 kg / ha or 80%) that exists today were only 50%?
- Then 10,100 sq km of forest land would have been saved, increasing the forest resources of Ghana by 125 percent.



Conclusions

- Cocoa has been a serious agent of deforestation in Ghana and its continued expansion in the Western Region is threatening globally important protected areas and the integrity of the ecosystem
- Productivity growth through intensification must be part of the equation. Achieving a yield gap of 50% would have saved more forest than what remains.
- Panterritorial pricing is subsidizing the destruction of Ghana's forest resources
- Cocoa silvacultural systems and agroforests likely to have a role in creating corridors between protected areas especially in Western Region.