

The VETIVER SYSTEM in AGRICULTURE



**Global applications for small medium and large
landholdings**



THE PRINCIPLE

IMPROVES:

- On farm soil retention by reducing rainfall run-off velocity and erosion processes.
- yield through better soil structure and fertility.
- moisture retention and water quality.
- works with nature to reduce pesticides.



CROP YIELD INCREASES

- On 6% slopes in Nigeria, results of trials over a 3 yr period using vetiver hedgerows showed soil physical and chemical conditions improved.
- Crop yields increased 11 – 26% for cowpea; 50% for maize under vetiver treated plots.
- Soil loss and runoff water at the end of 20m runoff plots were 70% and 130% higher respectively in non-vetiver plots than vetiver plots.

(Babalola *et al.* 2003).



SOIL MOISTURE RETENTION

- Vetiver hedgrows increased soil moisture storage by a range of 1.9% to 50.1% at various soil depths.
- Those soils eroded and collected from on non-vetiver plots were consistently richer in nutrient contents than soil collected from vetiver plots. Nitrogen use efficiency was enhanced by about 40%.
- (Babolala *et al.* 2003).



In agriculture, vegetable beds produce more when vetiver is planted along borders (Thailand)



Control section of banana plantation demonstration site: (without vetiver, Gouloumbou, Senegal)



Same site : banana WITH vetiver hedge

With better moisture retention, harvest was 2 months earlier than control



Vetiver hedge as a windbreak protects seedlings (China)



Note size of plants near and far from hedge



A TAMARIND TREE



One year old Tamarind,
circled with vetiver,
Chiangrai Research
Station, Thailand.

Tree of the same age,
without help from vetiver.



Dune invasion of banana plantation (Les Niayes, Senegal)



Before. Note condition of banana



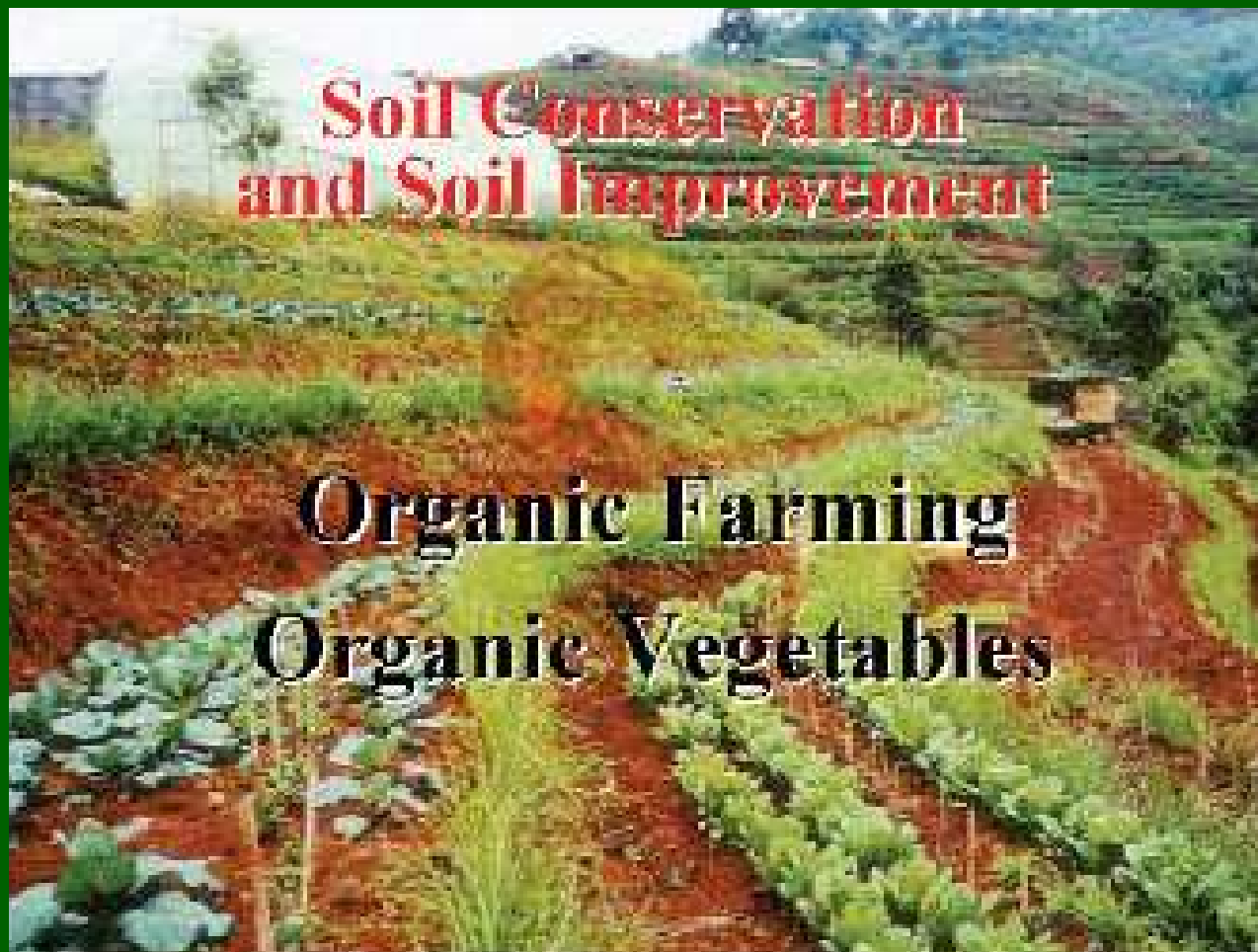
Dune stabilized with one vetiver hedge



Preparation of a raised-bed banana plantation using vetiver to reduce root disease and excessive soaking during heavy rains (Casamance, Senegal)



VS used in organic farming (Thailand)



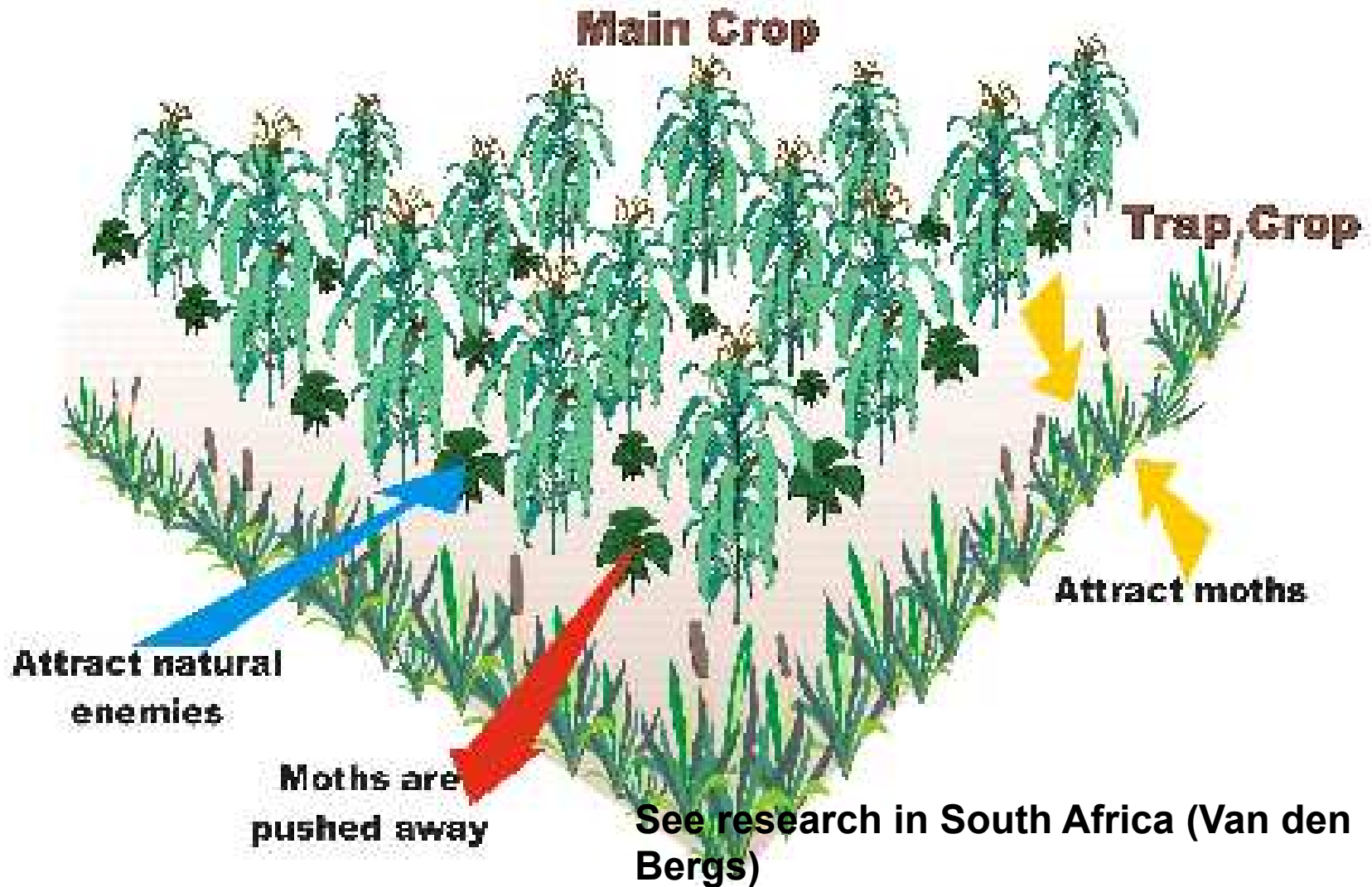
VS protects this maize field in Ghana in more ways than one:

- As soil & moisture conservation measure;
- As host to stem borers whose larvae die when associated with vetiver



Habitat management system with Vetiver

PUSH-PULL SYSTEM



Stem bore larvae dropping from vetiver leaves, unable to survive

