Coresta 2013

Sustainable Tobacco Production In Africa

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Tunisia
Morocco
Algeria
Libya
Egypt
Lebanon
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West Bank / Gaza
Syria
Iraq
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Jordan
Kuwait
Qatar
Bahrain
Saudi Arabia
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Cape Verde
Mauritania
Mali
Niger
Chad
Sudan
Eritrea
Djibouti
Somalia
Ethiopia
Senegal
Gambia
Gunlea Bissau
Guinea
Burkina Faso
Togo
Nigeria
Cote d'Ivoire
Sierra Leone
Liberia
Ghana
Benin
Cameroon
Central African Rep.
Equatorial Guinea
Sao Tome & Principe
Gabon
Congo
Democratic Republic of Congo
Uganda
Kenya
Rwanda
Burundi
Tanzania
Angola
Zambia
Malawi
Mozambique
Zimbabwe
Namibia
Botswana
Madagascar
Mauritius
Swaziland
Lesotho
South Africa

Tobacco Production in Africa

COUNTRY	FARMERS	HECTARES	VOLUME ('000)
MALAWI	750 000	180 000	230 000
ZIMBABWE	65 000	84 000	128 000
TANZANIA	116 000	72 000	120 000
MOZAMBIQUE	112 000	69 000	75 000
ZAMBIA	22 500	36 000	41 000
KENYA	35 000	17 000	22 000
UGANDA	75 000	14 000	22 000
SOUTH AFRICA	177	5 500	15 000
ETHIOPIA	3500	6 200	4 800
TOTAL	**1 180 000**	**485 000**	**656 000**

Farmer Profile

- Small Scale Growers
  - 0.25 Ha to 1 Ha Avg 0.4 ha
  - 1 000 000 farmers
  - 460 000 000 kg
- Commercial Farmers
  - 10 to 100 Ha Avg 40 ha
  - 1000 farmers
  - 120 000 000 kg

Sustainable Tobacco Farming

Survey form Role Players

- Define sustainability of tobacco production.
- What do you see as the biggest challenges we face?
- What are the positives we need to exploit as a region?
  - Small scale farming
  - Commercial farming

Sustainability

Provide long term security of tobacco supply through successful farming communities (financial, social, health and education) whilst making a net positive impact on the environment and ecosystem on which the agricultural landscape we operate in depends.

Challenges (small scale farming)

- Land tenure – ownership, security for loans
  - Access to credit, crop security
- Poor regulatory environment.
- Infrastructure – roads, equipment, etc.
- Training
  - Training material
  - Literacy
  - Training the trainer
  - Effective training and measuring effectiveness of training
  - Awareness to agricultural best practices (start in schools?)
  - Training the benefit of integrated cropping as a benefit over tobacco on its own - crop rotation – cash and food crops
  - Teaching the farmer financial management
- Productivity
  - Measuring productivity
  - Improving crop productivity and crop margins
- Biodiversity and environmental care
  - Planting trees
  - Land clearing and river systems
  - Responsible agricultural practises
- Understanding the African culture
- External factors

Positives (small scale farming)

- Availability of land
- Huge population of farmers
- The level of productivity is very low at the moment – huge potential to improve
- The COP of small scale growing is relatively low
- Market stability and contracting
- Farmer margins
- Farmer training and minimum standard growing packages.
- Biodiversity programs

Challenges (commercial farming)

- Cost of Production
- Labour
- Alternative Crops

Positives (commercial farming)

- Security of supply
- High level of productivity
- Quality
- Volumes

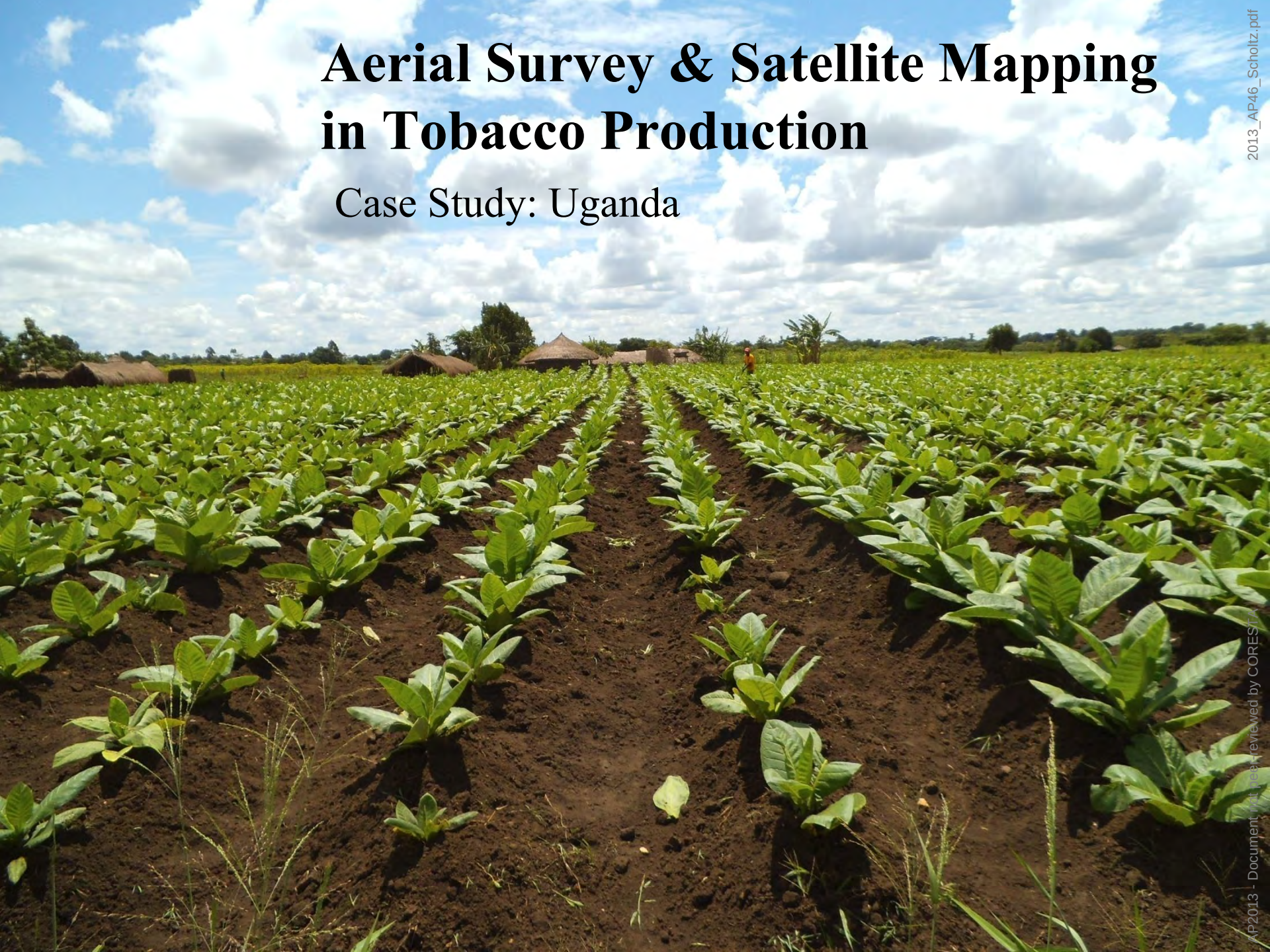
External factors

- WHO
  - FCTC Article 17
    - Provision of support for economically viable alternative activities
  - FCTC Article 18
    - Protection of the environment and the health of persons
- Illicit trade
- Regulation

What is really happening with farming, the environment and the farmers?

Aerial Survey & Satellite Mapping in Tobacco Production

Case Study: Uganda

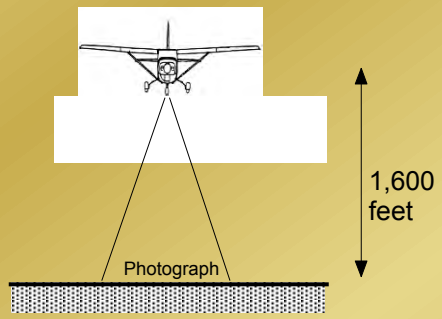


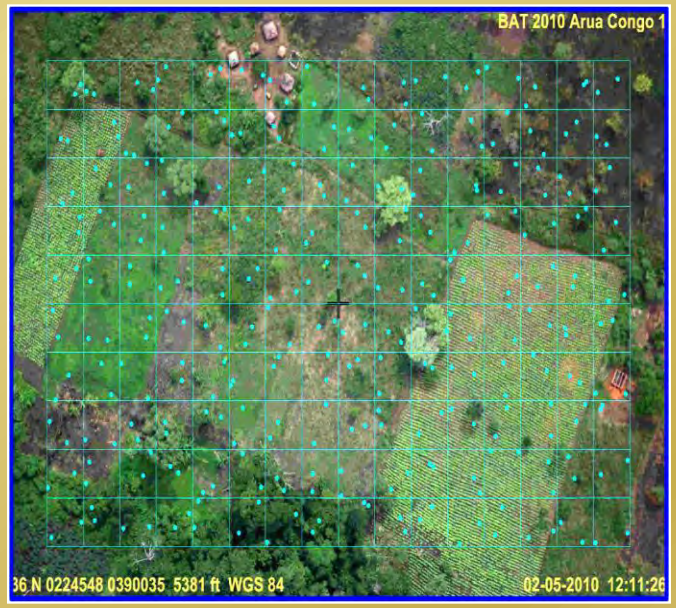
Aerial Survey & Satellite Mapping in Tobacco Production

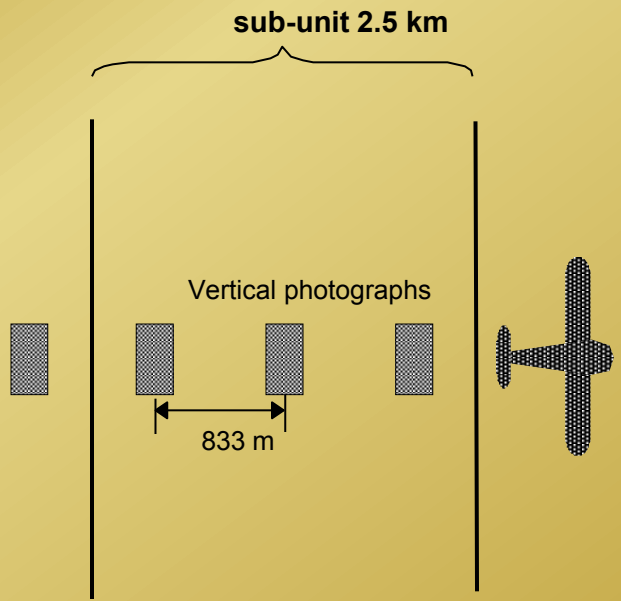
Case Study: Uganda

Aerial Point Sampling is a quick and effective method to assess crop density and distribution. In the APS method, high resolution aerial photographs are taken at regular intervals along parallel transects over the landscape, within designated survey blocks.

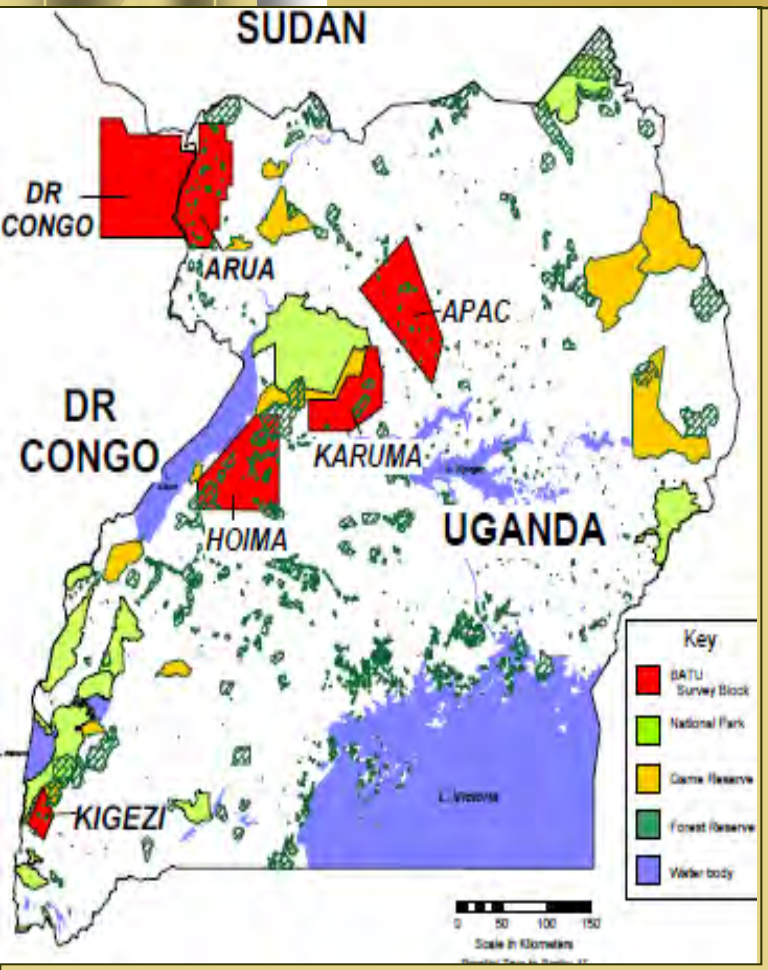
Aerial Point Sampling



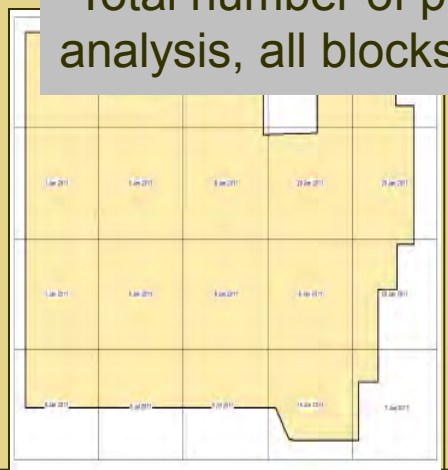




2011 Survey Blocks (red).



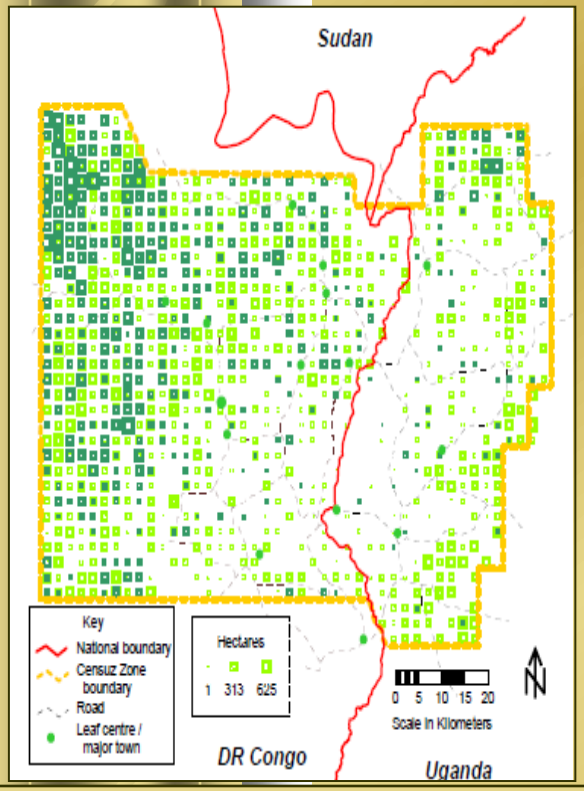
- 1,700,000 Ha surveyed
- Flying height above ground: 1,600 feet
- Photograph interval: 15 seconds
- Area covered by each photo: 3.8 Ha
- Total number of photos used in survey analysis, all blocks: 6,998



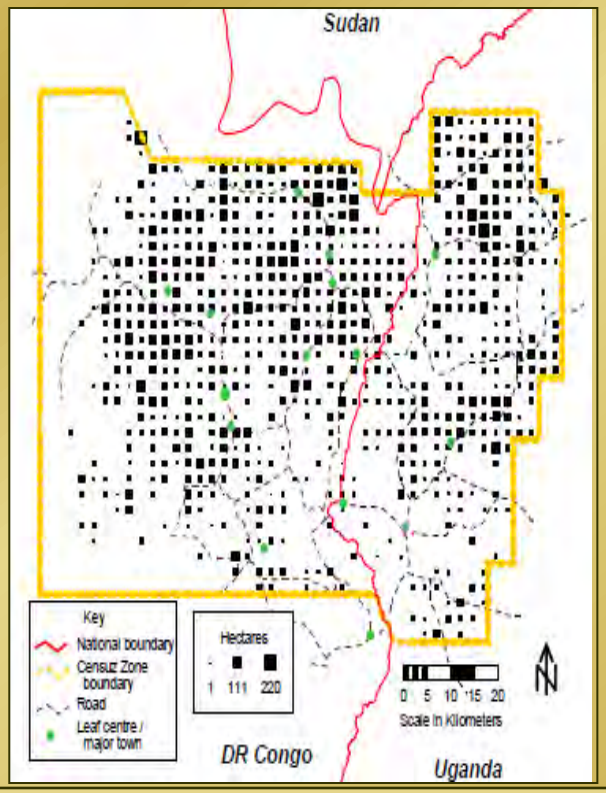
Survey Variables (approx. 70)

- Land Use – Water, Roads, Cultivated Land, Bushland, Wetland, Woodland
- Cash Crops – Tobacco, Sunflower, Tea, Coffee, Rice
- Food crops – Maize, Cassava, Sorghum, Groundnuts, Fruit Trees
- Housing – Tin / Thatch Roofs
- Wood Use – Charcoal Pits, Brick Kilns

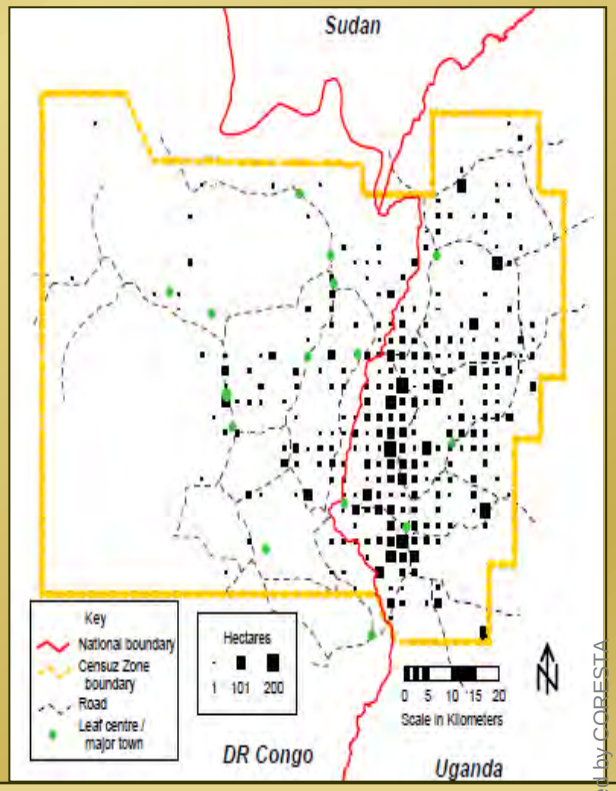
2011 Results – NW Uganda / E Congo Block



Extent of Natural Woodland & Forest with canopy cover 11-60 percent (pale green) and greater than 60 percent (dark green)

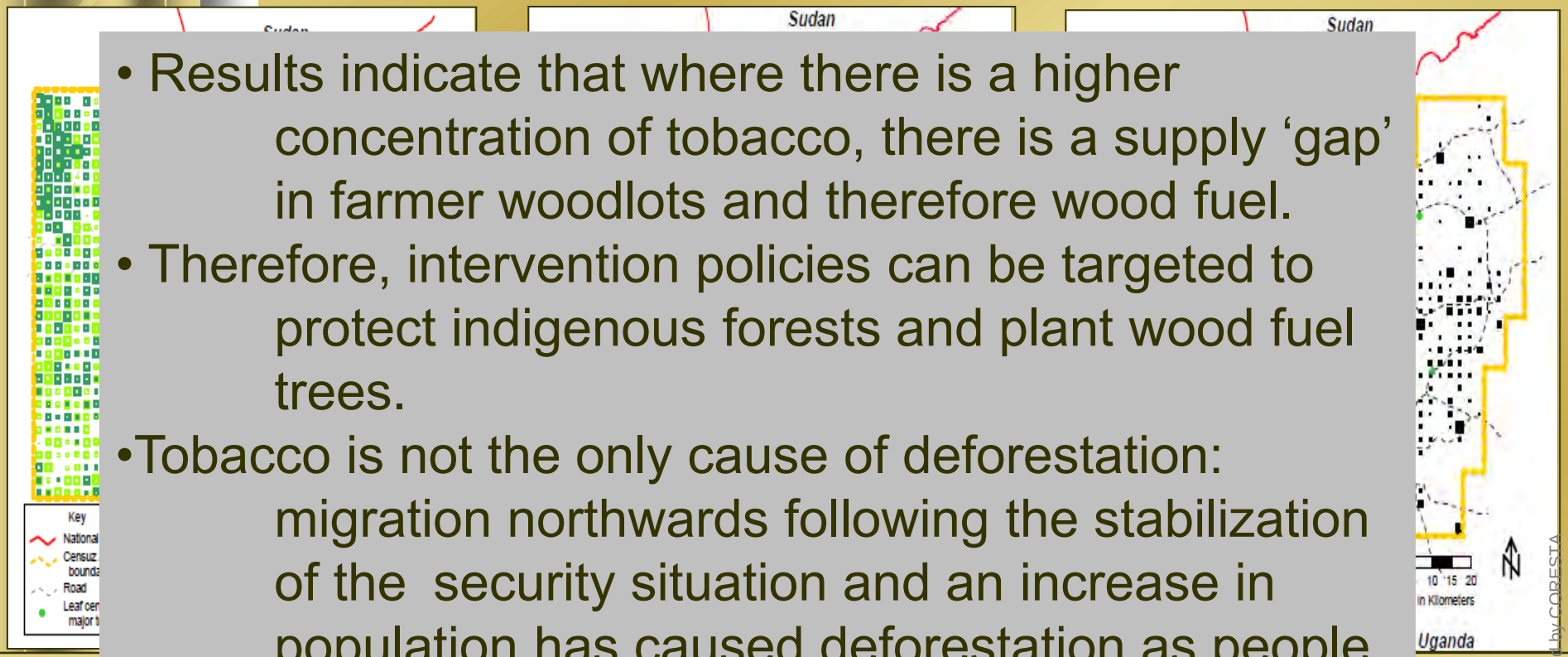


Distribution of Tobacco



Distribution of Woodlot and Eucalyptus Plantation

2011 Results – NW Uganda / E Congo Block

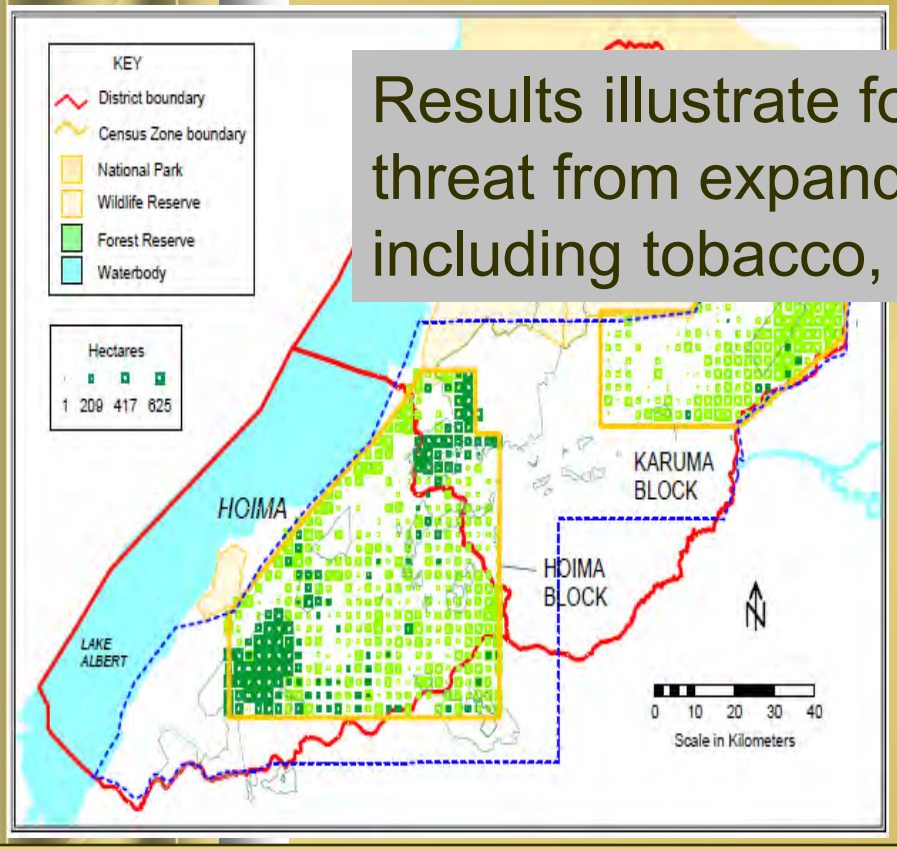


- Results indicate that where there is a higher concentration of tobacco, there is a supply 'gap' in farmer woodlots and therefore wood fuel.
- Therefore, intervention policies can be targeted to protect indigenous forests and plant wood fuel trees.
- Tobacco is not the only cause of deforestation: migration northwards following the stabilization of the security situation and an increase in population has caused deforestation as people have looked for land to farm.

Exten dlot and
Fores on
60 percent (pale green) and greater than 60 percent (dark green)

2011 Results – Hoima and Karuma Blocks, Western Uganda

Results illustrate forest reserves are under threat from expanding farm cultivation, including tobacco, cassava, groundnut etc.



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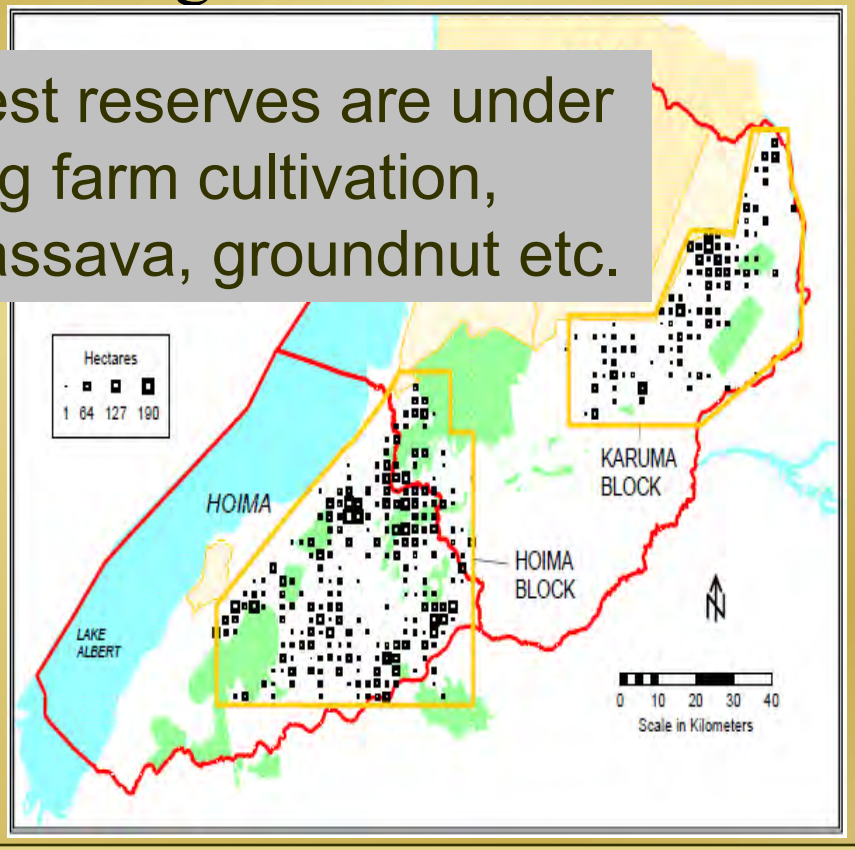


Distribution of Tobacco

2011 Results Summary – Hoima Block, Western Uganda

- Area 320,000 Ha
- Natural grasslands, woodlands and forests 147,000 Ha = 46% area
- Conversion to agricultural land at 1,000 Ha p.a. since 2008
- Number roofs = 311,000 up 9% p.a. since 2008
- Fallow Land 92,500 Ha; 29% area
- Tobacco 6,200 Ha
- Maize 13,500 Ha
- Cassava 9,500 Ha
- Bananas 3,500 Ha
- Beans 6,150 Ha

- In terms of sustainability, the results from the aerial survey and satellite mapping,
  - can help to target areas which are most in need.
  - Identify areas where there is a high concentration of tobacco, but no woodlots or plantations.
  - Focus on forestation programs in these areas .
- Evidence that farmers (not only tobacco farmers) are moving into the designated forest zones, clearing the tropical high forest to grow crops.
- Ensure that buffer zones are put around forests for protection.
- Farmers are clearing the river systems which will lead to erosion and silting.
- Tobacco is a minor element of the crop production system
- Why are farmers moving into forests when so much fallow land exists?
  - Lack of training, awareness or land availability / tenure issues?

A Case Study in Zimbabwe

- In 2002 small scale growers accounted for just 8% of the national tobacco crop.
- Projected figures for 2013 indicate that this sector is likely to produce in excess of 65% of the total crop
- The area of land required to produce this crop will be in the region of 115 000 ha

	Volume (M Kg)	Yield Kg/ha	Hectares
Large Scale	60	3000	20 000
Small Scale (contracted)	45	1200	29 000
Small Scale (not contracted)	65	1000	65 000

- Sustainable Forestation Programme (SAP) with objectives to include that „all timber for curing of Virginia tobacco in Zimbabwe must be from sustainable sources by 2020".
- These regulations include the requirement for growers, each year, to plant 0.3ha of Eucalyptus plantations for every 1ha of tobacco planted.
- Growers will need to plant in excess of 30 000 ha of timber per year.
- This is a massive ask, will it be achieved in the small scale rural areas.

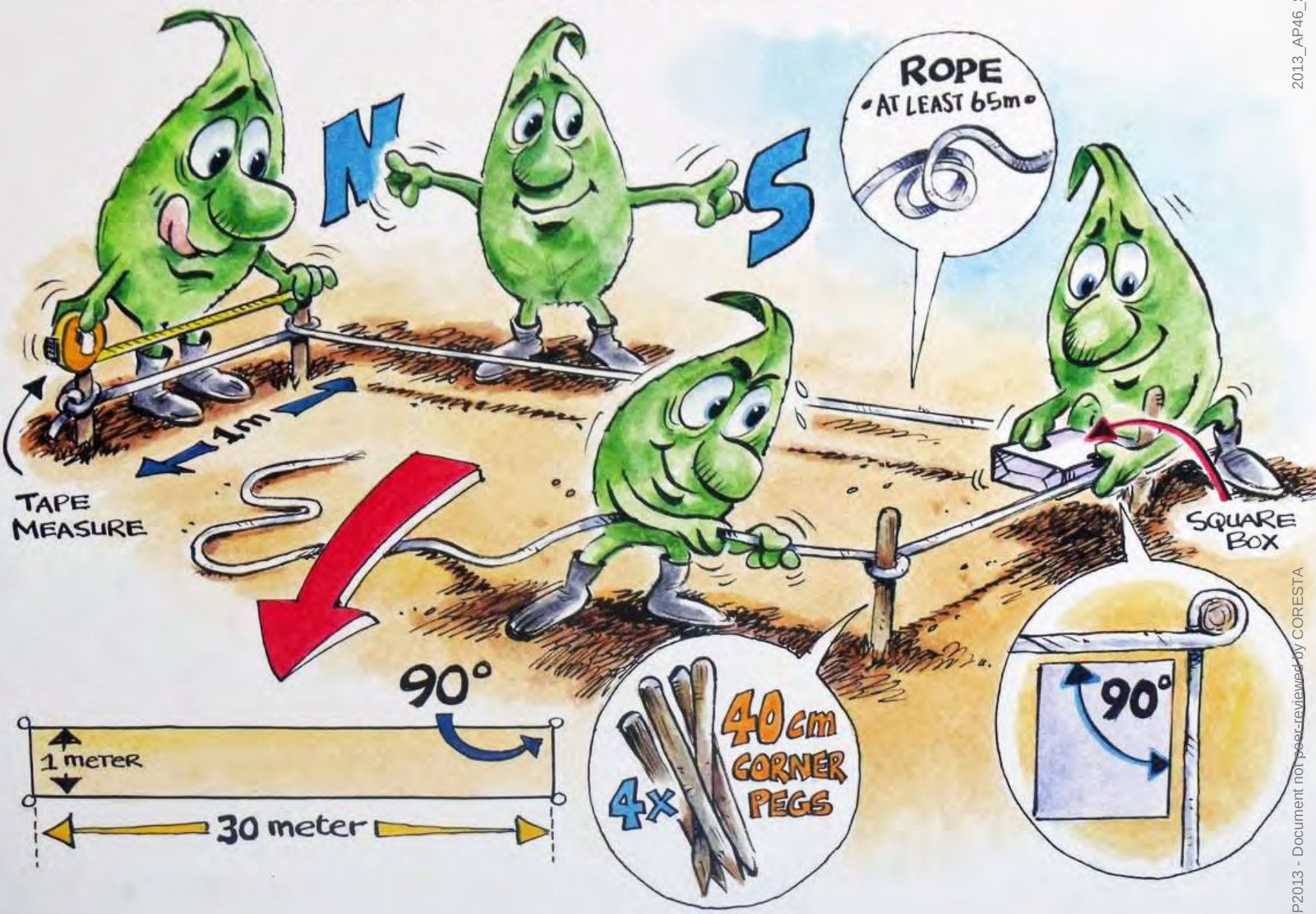
Capacity Building

- There are major capacity building opportunities in rural areas for development of more fuel efficient traditional barns.
- Timber savings of up to 50% are quite feasible by ensuring correct furnace, flue and chimney design as well as installation of furnace and barn doors.
- Coal is not considered a sustainable fuel by the tobacco industry but has an essential role to play where available in the interims while developing forestation initiatives.

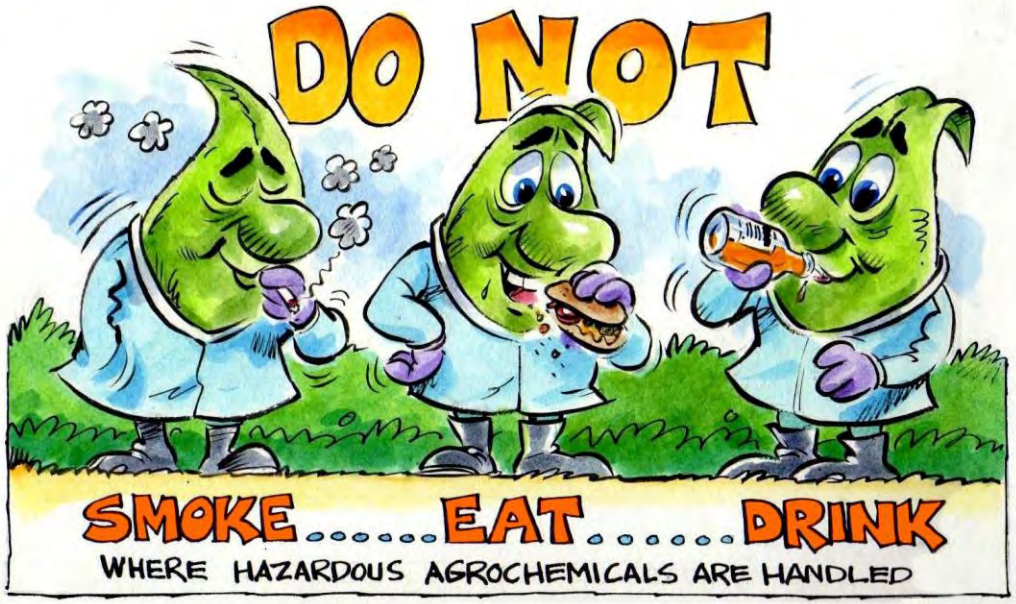
Making a difference

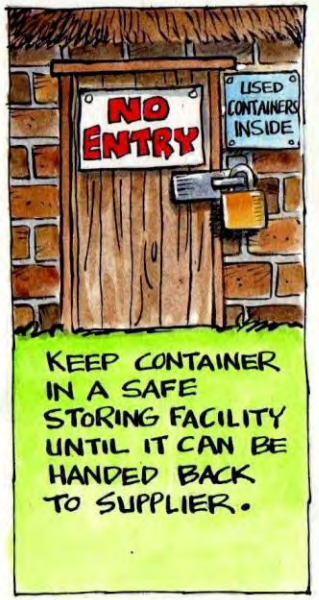
- Leaf Extension Technicians
  - Profile
    - Data Collector vs. Semi Skilled Agronomist
  - Ratio
    - 1 : 300 farmers vs. 1 : 100 farmers
- Training
  - Development of training material
    - Modular training programmes
    - One page documents
    - Cartoons
  - Implementation
    - Measuring results
- Minimum standards programmes
- Food and Tobacco

MARKING THE BEDS.

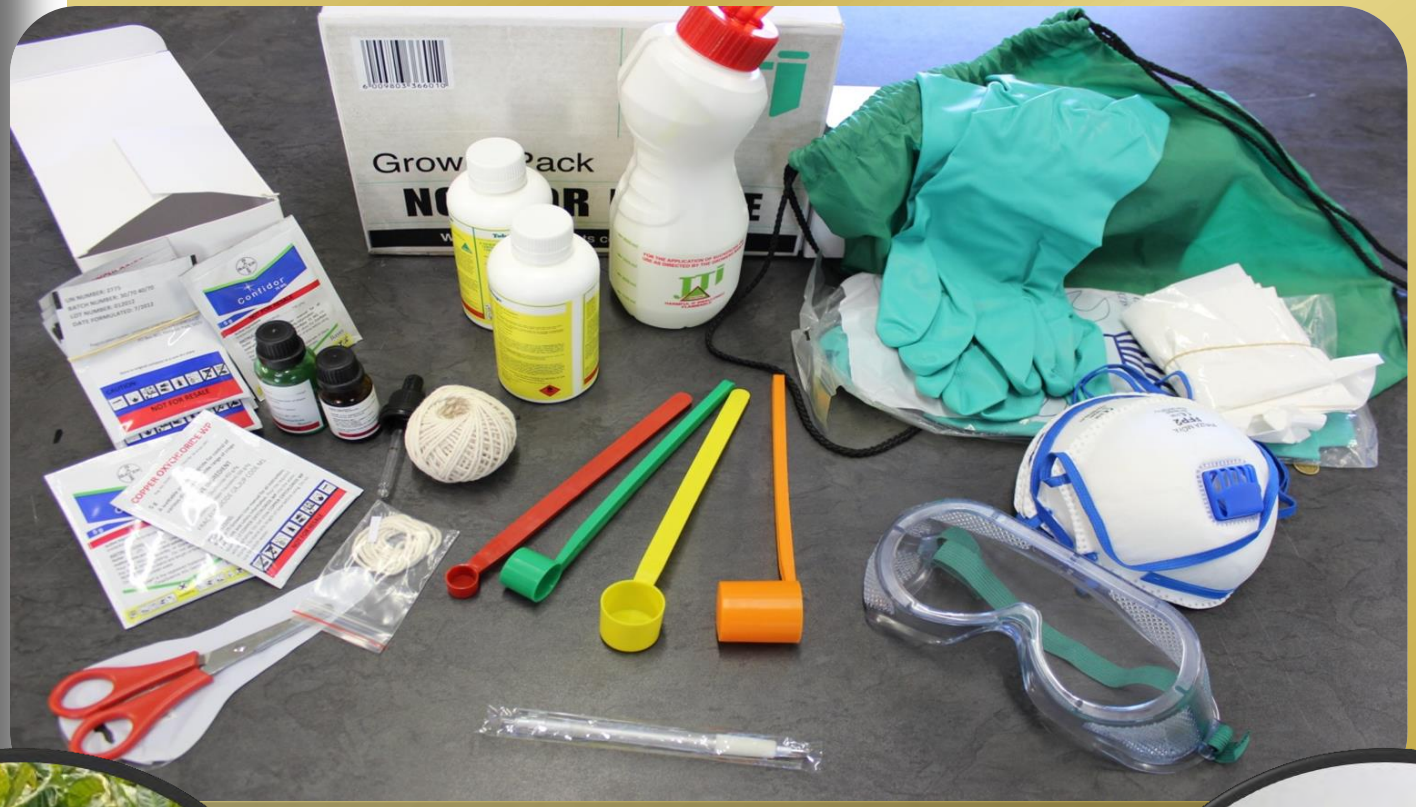


HAZARDOUS AGROCHEMICALS.





Minimum Standard Production Kit



TMV and Nematode Resistant Varieties
NPK Fertilizer
Top Dressing
Hybrid Maize Seed

Results

Commercial Farming

Sustainability

High cost of production necessitated higher efficiency and productivity, resulting in very high yields.
Higher nitrogen levels and the effect on leaf chemistry needs to be managed.
Be careful that we don't become too good.

THANK YOU

Acknowledgement
AOI Zambia
BAT Uganda
BAT Zimbabwe
JTI RSA
TISA
ULSA