



# GREEN INITIATIVES OF BOGAWANTALAWA TEA ESTATES PLC

**Case Study Presentation** 

Journey to the Climate-Smart Agriculture





Mr. Dinesh Ambani The Group Chairman







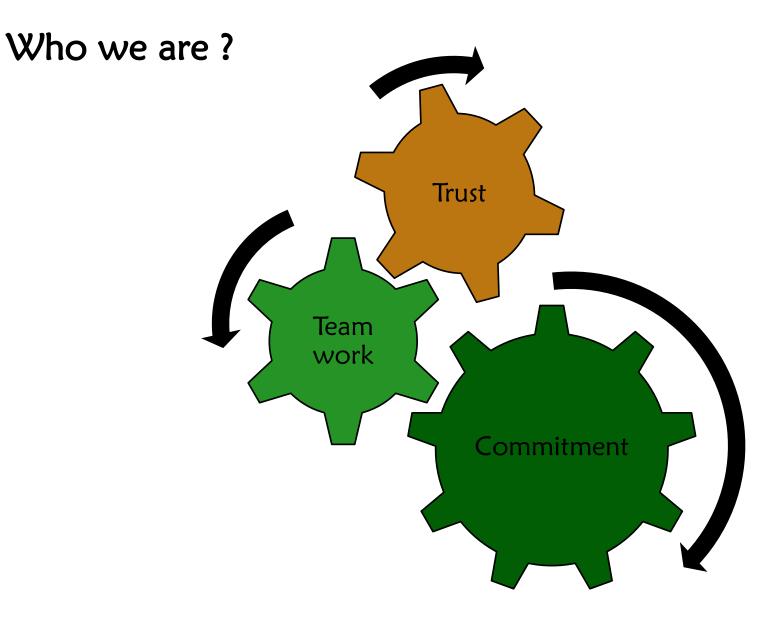
THE GOLDEN VALLEY OF CEYLON TEA



## VISION

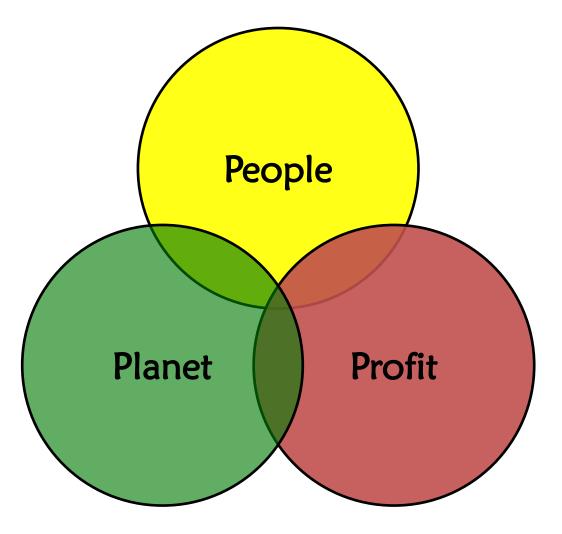
## "Bogawantalawa Tea Estates PLC aspires to be the world's best tea growing and marketing company"





# **Development Framework**







Bogawantalawa

### **GREEN INITIATIVES**

"Pursue knowledge and practices that can lead to more environmentally friendly and ecologically responsible decisions and practices, which can help protect the environment and sustain its natural resources for current and future generations"

We define : Maintain of factors & practices that contribute to the high quality of environment on long-term basis





# Green practices can help you ...

- 1. Lower cost / save money
- 2. Win new business
- 3. Enhance reputation
- 4. High return on investment
- 5. Long term business sustainability
- 6. Healthier lives
- 7. More sustainable world
- 8. Quality of life
- 9. Development in new areas









If you cannot measure it ! You can not manage it !

CFP - Green Initiatives of The Golden Valley of Ceylon Tea



## Bogawantalawa Tea Estates PLC is

the world's first tea growing, manufacturing and marketing company offering uncompensated Carbon Neutral Teas from its state of the art Carbon Neutral Facilities





## **Broad Objective**

Contributing to manage global warming and climate change

## Specific Objectives

- 1. Minimize GHG emissions
- 2. Improve quality of product
- 3. Improve energy use efficiency
- 4. Promote organic fertilizers
- 5. Waste management
- 6. Harnessing of renewable energy
- 7. Management of cost of production

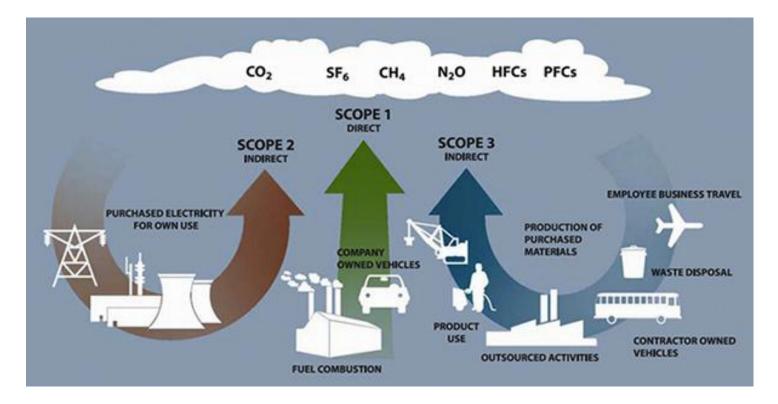


# Product



# Organization





## Hotspots







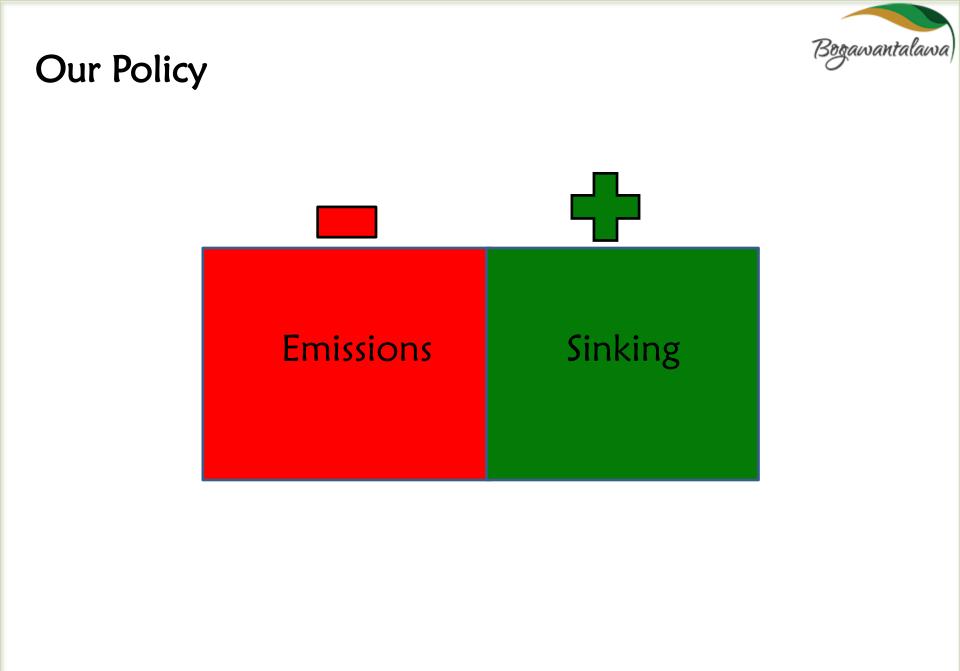


#### **Packing Materials**











# Key strategies

- 1. Renewable energy
- 2. Energy saving
- 3. Towards organic production
- 4. Agroforestry activities
- 5. Latest technologies
- 6. Awareness / training programmes
- 7. Setting up emission targets
- 8. Group responsibilities

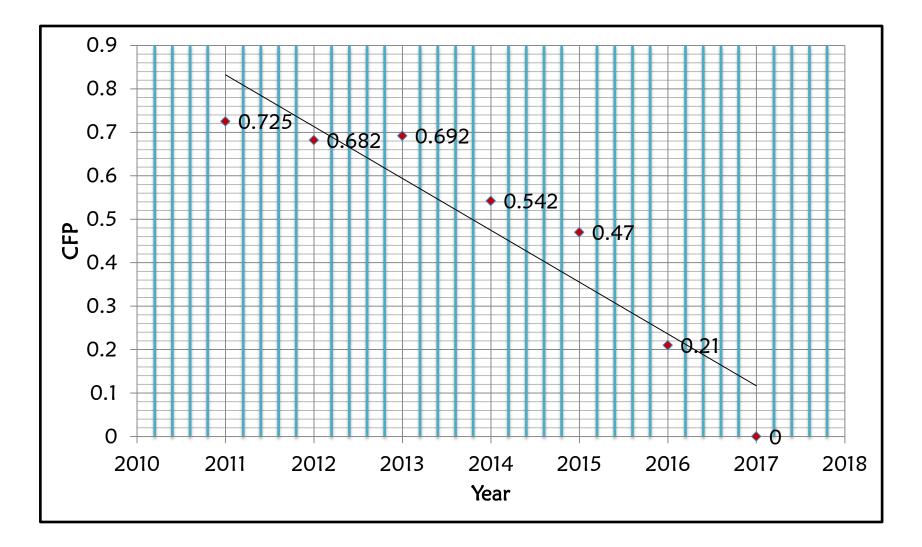






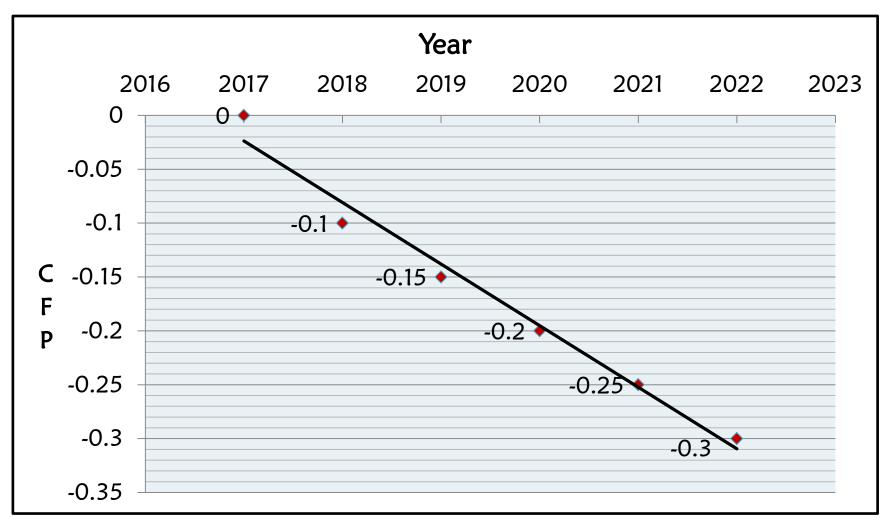
## Milestones Product CFP





## Forecast Product CFP





#### 2018 onwards - Beyond Sustainability



# **Product CFP**

Protocol : PAS 2050

Scope : Cradle to Gate

Verified by : Sri Lanka Climate Fund / Ministry of Environment

Out put : Carbon Neutral Tea

Neutralized By : Sri Lanka Climate Fund







Stages of Tea Marketing Division





#### **PRODUCT CARBON NEUTRAL CERTIFICATE**

Bogawantalawa Tea Estates PLC Bogawantalawa Tea Marketing (Pvt) Ltd.

Sri Lanka Climate Fund certifies that Bogawantalawa Tea Estates PLC and Bogawantalawa Tea Marketing (Pvt) Ltd. have internally offset its product carbon footprint of 0.21 Kilograms of CO<sub>2</sub>equivalent per Kilogram of made tea for the year 2015/2016 from their own Sri Lankan Certified Emission Reductions (SCER's) of Bogawantalawa Small Scale Hydropower Project, which has been validated and verified in accordance with Sri Lanka Carbon Crediting Scheme.

Certificate No.: SLCF/CNC/0008Date of Certification: 17/04/2017Period of Product Carbon Footprint Assessment: 01.04.2015 - 31.03.2016



Chief Executive Officer Sri Lanka Climate Fund

CFP - Green Initiatives of The Golden Valley of Ceylon Tea

Bogawantalawa



# **Organization CFP**

Protocol : ISO 14064 – part 1

Scope : Cradle to Gate

Verified by : Sri Lanka Climate Fund / Ministry of Environment

Out put : Carbon Neutral Facilities

Neutralized By : Sri Lanka Climate Fund

All units of Bogawantalawa Tea Estates PLC & Bogawantalawa Tea Ceylon (Pvt) Ltd are

covered under this certificate





#### **CARBON NEUTRAL CERTIFICATE**

Bogawantalawa Tea Estates PLC Bogawantalawa Tea Marketing (Pvt) Ltd.

Sri Lanka Climate Fund certifies that Bogawantalawa Tea Estates PLC and Bogawantalawa Tea Marketing (Pvt) Ltd. have internally offset its carbon footprint of 4651 tCO<sub>2</sub>eq for the year 2015/2016 from their own Sri Lankan Certified Emission Reductions (SCER's) of Bogawantalawa Small Scale Hydropower Project, which has been validated and verified in accordance with Sri Lanka Carbon Crediting Scheme.

Certificate No.: SLCF/CNC/0007Date of Certification: 12/04/2017Period of Carbon Footprint Assessment: 01.04.2015 - 31.03.2016



Chief Executive Officer Sri Lanka Climate Fund

CFP - Green Initiatives of The Golden Valley of Ceylon Tea



# Solar power

RE - Green Initiatives of the Golden Valley of Ceylon Tea



## **Ongoing Projects**

S/N	Tea Processing Center	Capacity (kW)	Annual Generation (kWh)
1	Wanarajah	200	281,798
2	Lethenty	190	265,619
3	Bogawantalawa	100	139,015
4	Poyston	50	73,854
5	Norwood	240	332,074
	Total	780	1,092,360

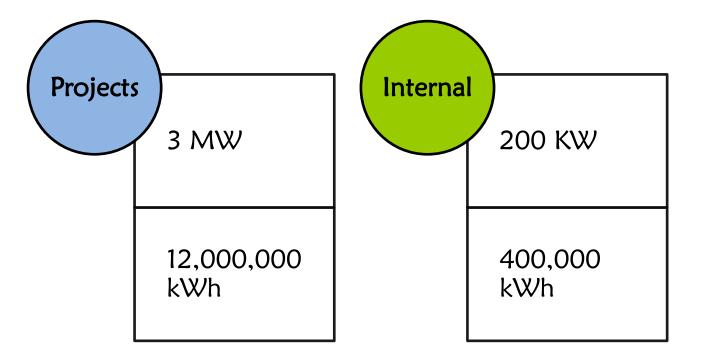


### **Upcoming Projects**

S/N	Tea Processing Center	Capacity (kW)	Annual Generation (kWh)
1	Kotiyagalla	200	228,000
2	Bogawana	150	171,000
3	Illukthanna	50	57,000
4	Sapumallkanda	300	342,000
5	Welisara Packing plant	400	552,000
	Total	1100	1,350,000



## Hydro Power Projects

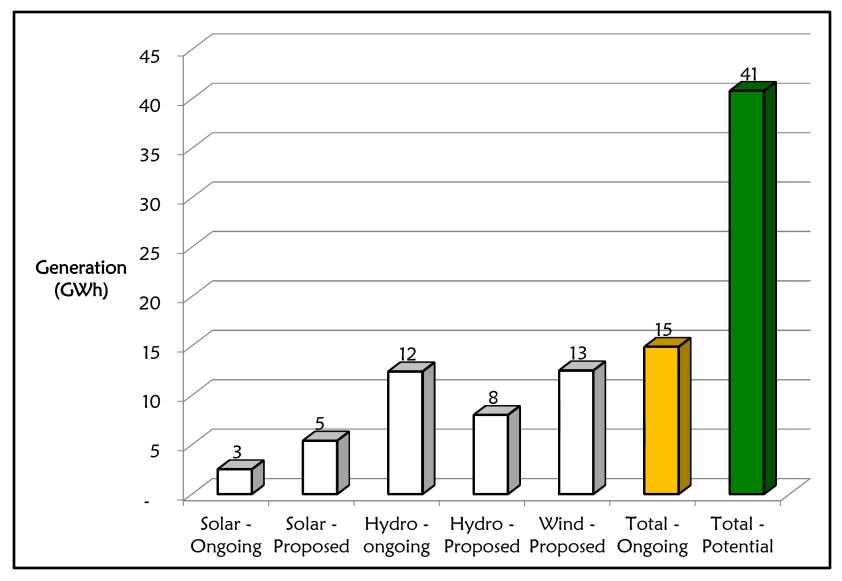




RE - Green Initiatives of The Golden Valley of Ceylon Tea

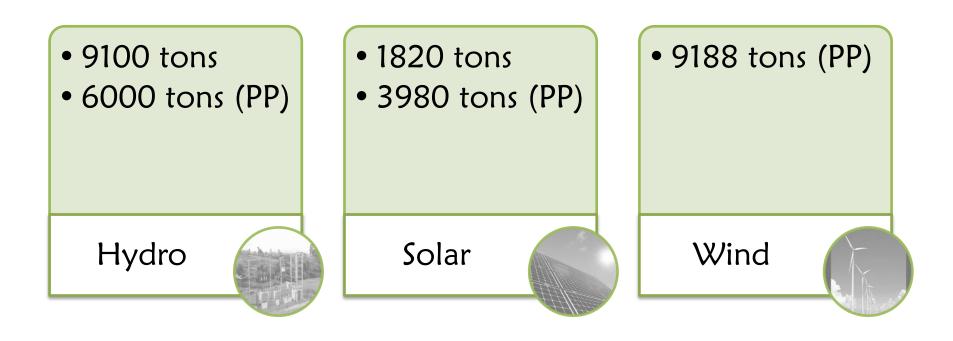
## Annual power generations







# Annual GHG emission reductions



## Total potential - 30,088 tons



# **ENERGY MANAGEMENT**

### **Conserve Energy Today**





# GOALS

• Improve energy use efficiencies,

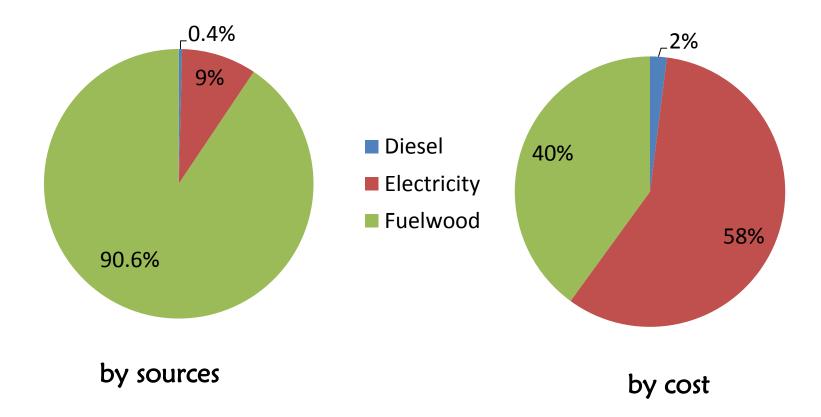
Electricity	- 20%
Diesel	- 5%
Firewood	- 15%

- GHG emission reduction by 1200 tons / annum
- Save Rs. 30 to 32 million of energy cost / annum





## SHARE OF ENERGY



## ENERGY COST

Annual Cost (Rs.)
90,318,630
3,957,697
65,316,284
159,592,611

EM - Green Initiatives of The Golden Valley of Ceylon Tea

DOGADDAN



**Revenue growth divisions** 

## STRATEGIES

**f**)

- a) Identify hotspots
  - b) Quantify losses
  - c) Minimizing losses
  - d) Improve efficiency
  - e) Use latest technologies for production
    - Awareness / training programmes
  - g) Setting up emission targets



# Electricity











EM - Green Initiatives of The Golden Valley of Ceylon Tea

#### Electricity

- New technology
- Factory development
- Daily monitoring
- > Group targets
- > Rewards

#### Firewood

Sustainable sources / own sources

sogawai

- Quality standards
- Increase surface area
- Solar drying
- Proper storages

Norwood – Green Tea Processing Center



# PLANTATION FORESTRY



## **Objectives**

- 1. Production
- 2. Protection
- 3. Recreation



# **Central Nursery**

- > 165,000 Seedlings / year
- > Timber, firewood, native, herbs,

fruit plants...etc.

> Largest timber nursery in Sri Lanka

## Planting

- ➤ 600,000 trees are available
- > 100,000 plants / year
- ➤ 1 million trees by 2020







- Conservation of sensitive areas
- Biodiversity enrichment
- Conservation of water shed areas
- Conservation of water sources
- Improve ecosystem stability
- Awareness programmes
- > Training programmes

# Social Forestry

- Planting programmes with schools
- > Awareness programmes
- > Training programmes
- Planting programmes in public places
- Planting materials distribution
- Enrichment of line gardens
- Promote organic vegetable farming

# Highlights









# Highlights





Bogawantalawa)







## **TOWARDS ORGANIC FARMING**

Towards organic farming is a win, win, win



Science shows that organic farming protects us from toxic pesticides, is more profitable for farmers, and conserves the soil, water and biodiversity that we need to feed the world for generations to come



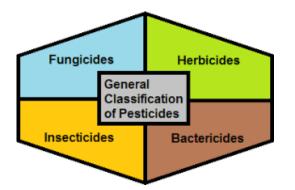
OF - Green Initiatives of The Golden Valley of Ceylon Tea

### **Conventional farming**





#### Emission 0.73 Kg of $CO_2$ (eq) / kg VPUM 1020 - 0.43 kg of $CO_2$ (eq) / kg



Emission 3.9 kg CO<sub>2</sub> (eq) / kg

# Our strategy



### Fertilizers

- > SSFR
- Organic fertilizers
- High efficiency

## Pesticides

- Site specific approaches
- Integrated P & D management
- Organic products development

# Ecology

- Biodiversity enrichments
- Minimize the use of resources
- Mini forests
- Conservation
- Pollution control
- Circular economy

## Care

- Safety measures
- Avoid contaminations
- > CSR
- Opportunity to learn and earn
- Avoid child labours
- Zero hunting

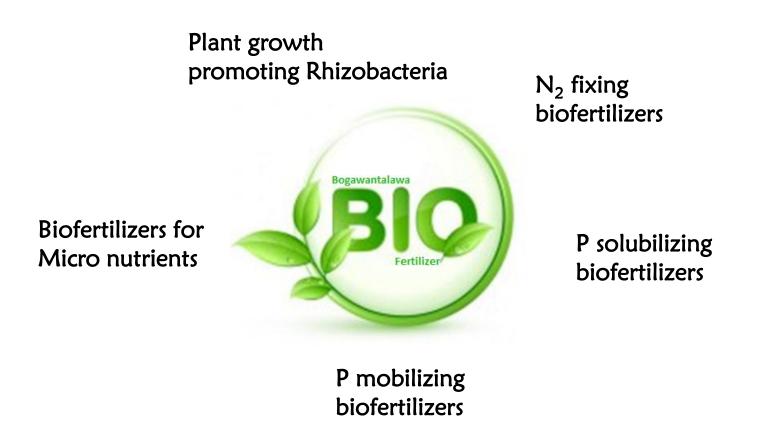






### **Bio fertilizers**

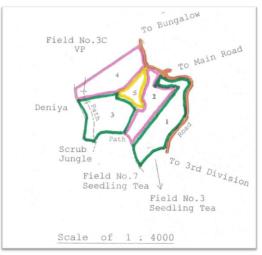
Living cells or latent cells of efficient strains of microorganisms that help crop plants' uptake of nutrients by their interactions in the rhizosphere when applied through seed or soil



# **Experiments**







Treatment	Block No.	Extent (He.)	
TR1	1	0.63	
TR2	2	0.37	
TR3	3	0.54	
CR1	4	0.49	
CR2	5	0.17	

BF - Green Initiatives of The Golden Valley of Ceylon Tea





#### **GREEN WATER**

Volume of rainwater consumed during the production process

#### **BLUE WATER**

Volume of surface and groundwater consumed as a result of the production of a good or service

#### **GREY WATER**

The grey water footprint of a product is an indicator of freshwater pollution that can be associated with the production of a product over its full value chain

Water Audits

Awareness programmes

Water conservation measures

### Rainwater harvesting



WFP - Green Initiatives of The Golden Valley of Ceylon Tea



## 1. We Measure

Weather parameters

Solar radiations and intensity

Soil parameters

Ground water table

Air quality

Biodiversity

Farming and yields

Animal husbandry

Forestry and related factors

P & D outbreaks

Weeds and intensity





## 2. We analyze

AER	Annual RF	RF Variability	Temperature °C	Soil
WU2a	- / ST	> 10%	0.65	Degraded
WU2b	- / ST	>10%	0.72	-do-
WM1a	NS	NS	0.95	Highly Degraded

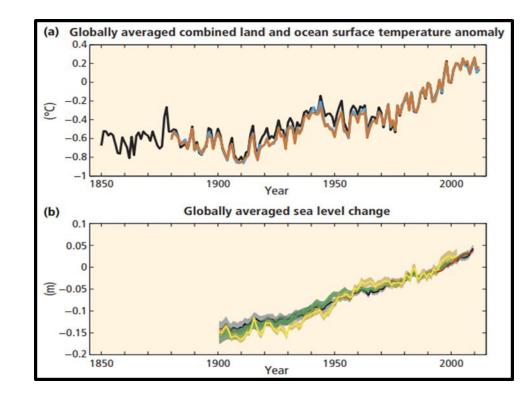






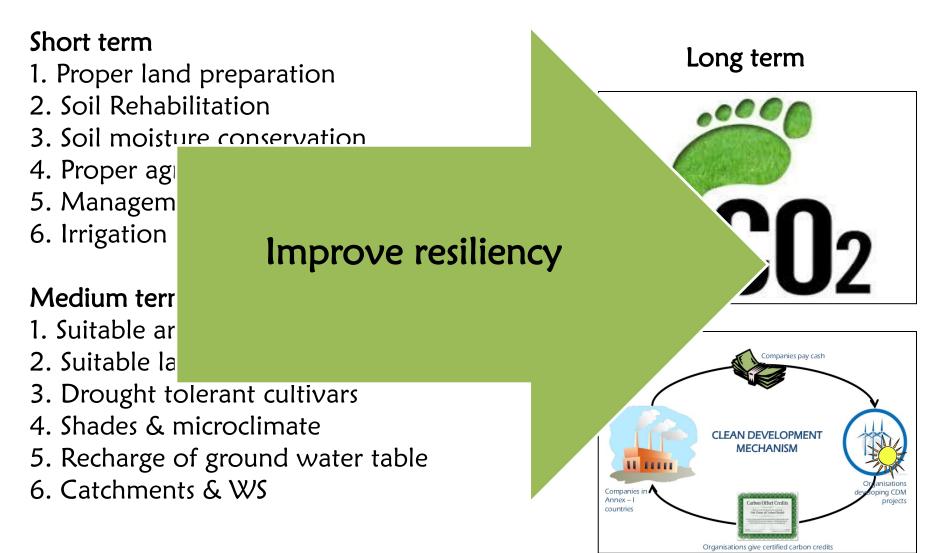
### 3. We Predict !!!

- 1. High RF intensity
- 2. High RF variability
- 3. Prolong droughts
- 4. Increase temperature
- 5. Moisture stress
- 6. Soil degradation
- 7. Abnormal P & D outbreaks
- 8. High weed competition
- 9. Less fertilizer use efficiency





# Adaptation strategies





# WATER SCARCITY



# DISASTERS

# FOOD SECURITY

...in

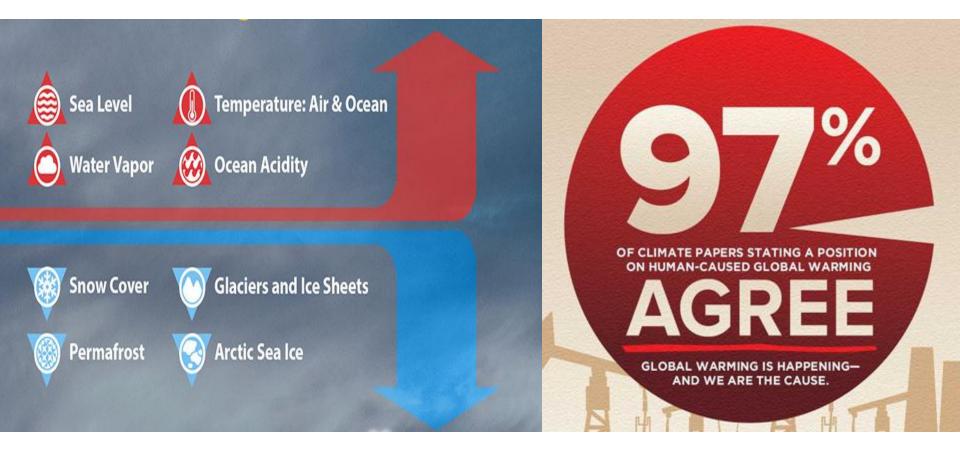
Bogay

Green Initiatives – The Golden Valley of Ceylon Tea

0



# CLIMATE CHANGE IS A REALITY !!!!





### It's time to do something...

QUARTZ

TIMEX

Green Initiatives – The Golden Valley of Ceylon Tea



# Nature doesn't need people. People need nature.

Green Initiatives - The Golden Valley of Ceylon Tea

