

# Sugarcane sustainability in Pakistan: Why and How?



# Sustainability: Ability to maintain / sustain over time

## Definition:

Sustainability means meeting our own needs without compromising the ability of future generations to meet their own needs.

The goal of sustainability is to maintain the process indefinitely without endangering natural biotic system. Damaging the environment or anything else at the cost of maintaining the process, goes against the definition.



# Sustainability in Agriculture



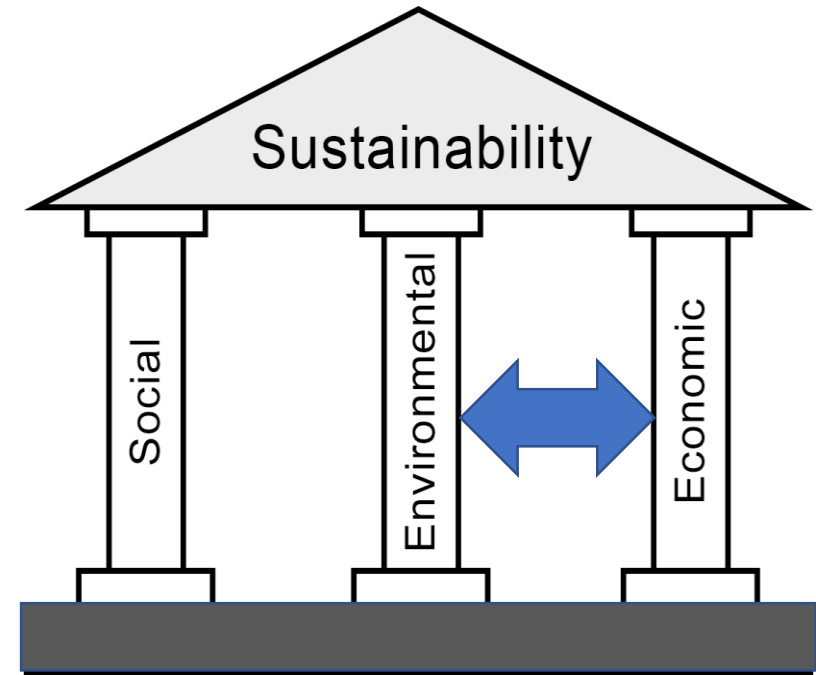
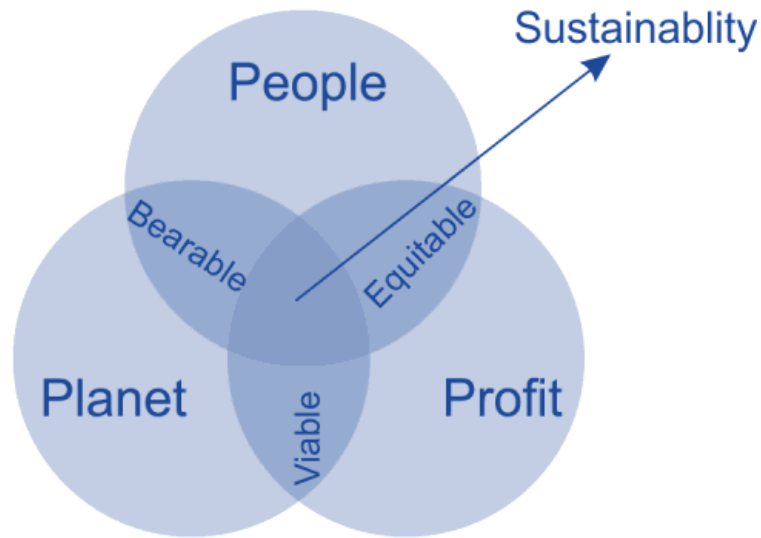
By ensuring business **p**rofitability



By strengthening the **p**eople / stakeholders

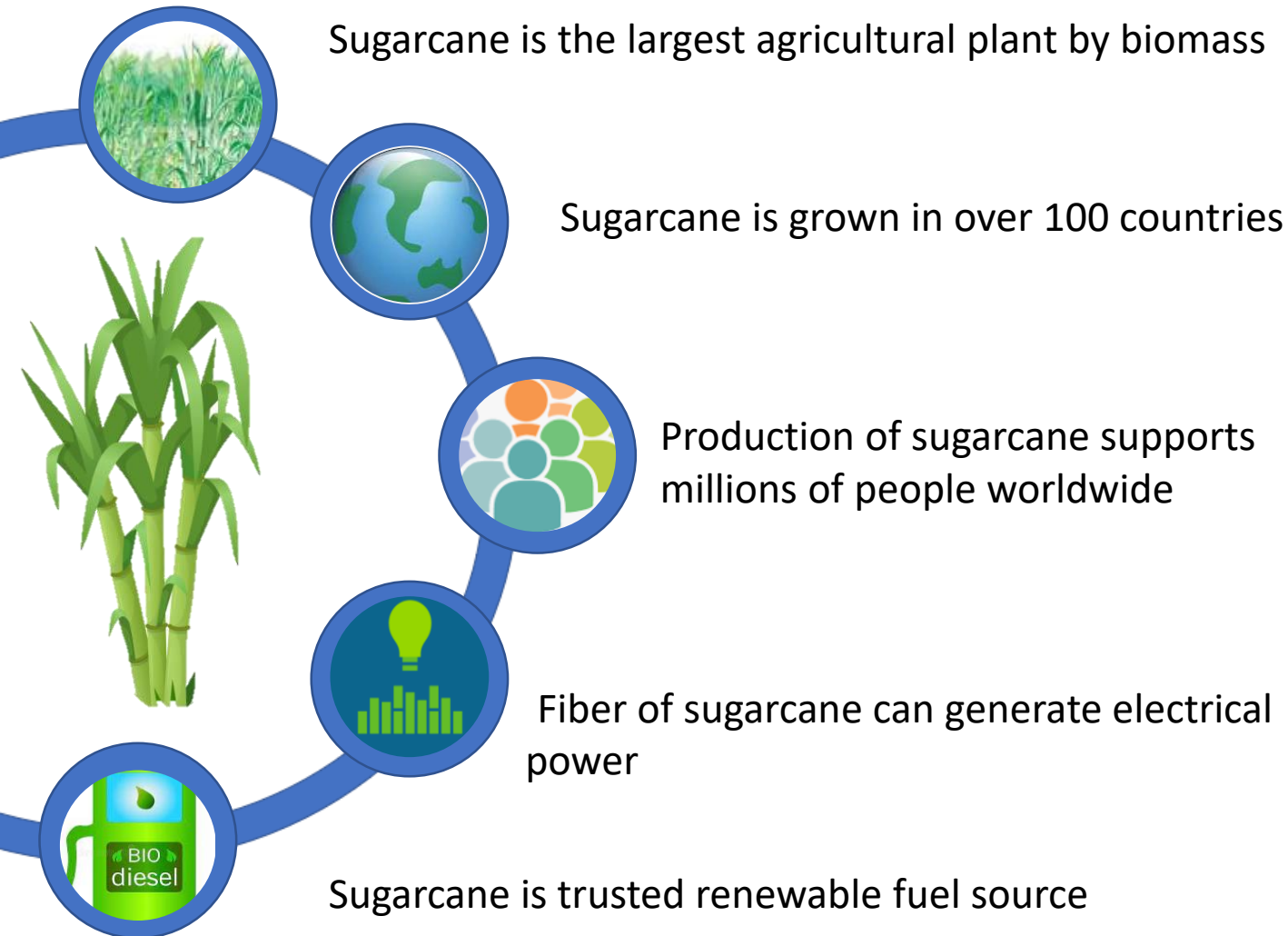


By protecting the **p**lanet/ nature / environment

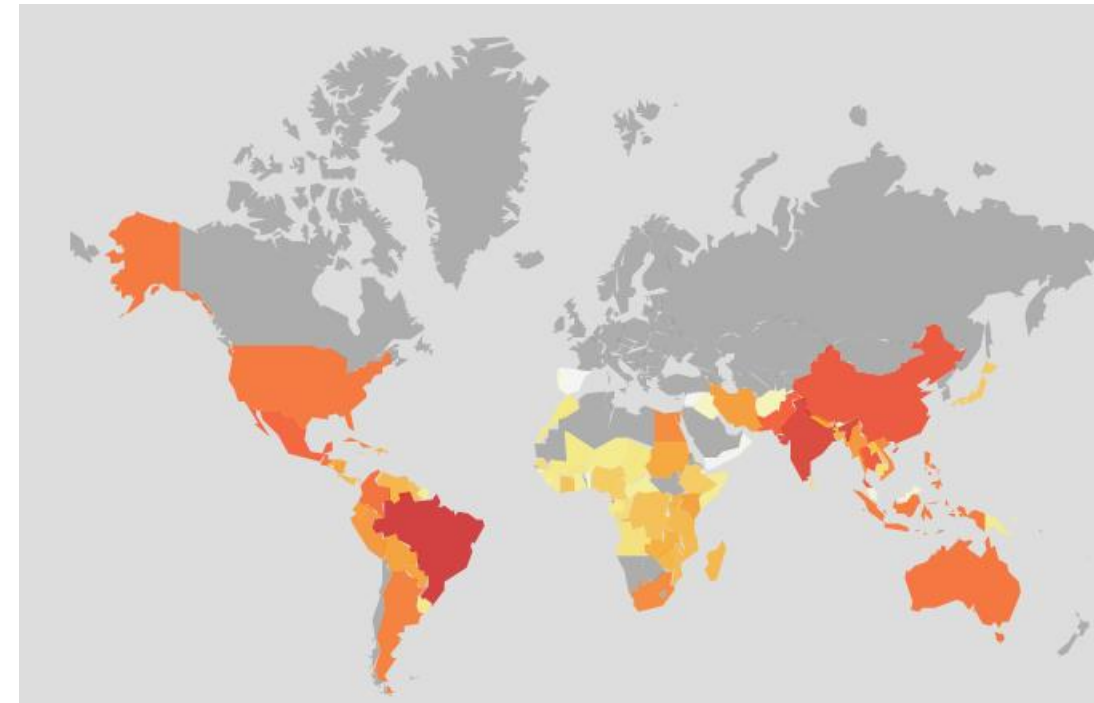


Improving environmental factors can be achieved through resource-use efficiency, which compliments economic gains.

# Why sustainability for Sugarcane? Global perspective



Worldwide 1,889,268,880 tons of sugarcane is produced per year.



Map of Countries by Sugarcane Production

# Why sustainability for Sugarcane?



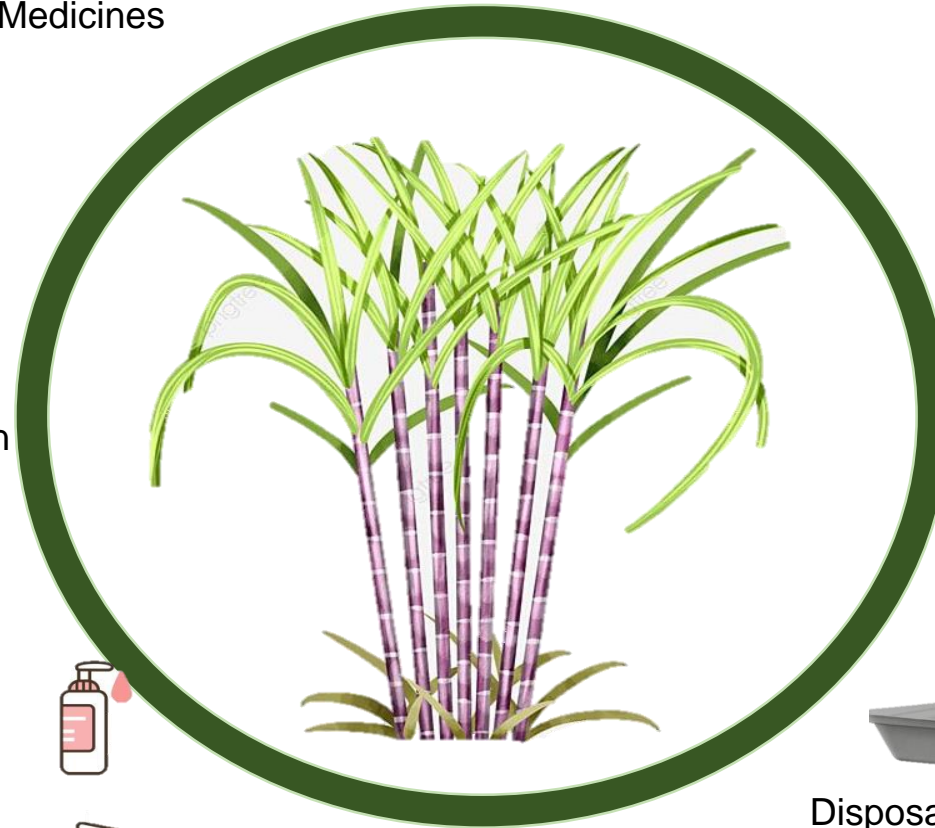
Medicines



Organic fertilizers



Alcohol production



Forage



Cosmetics

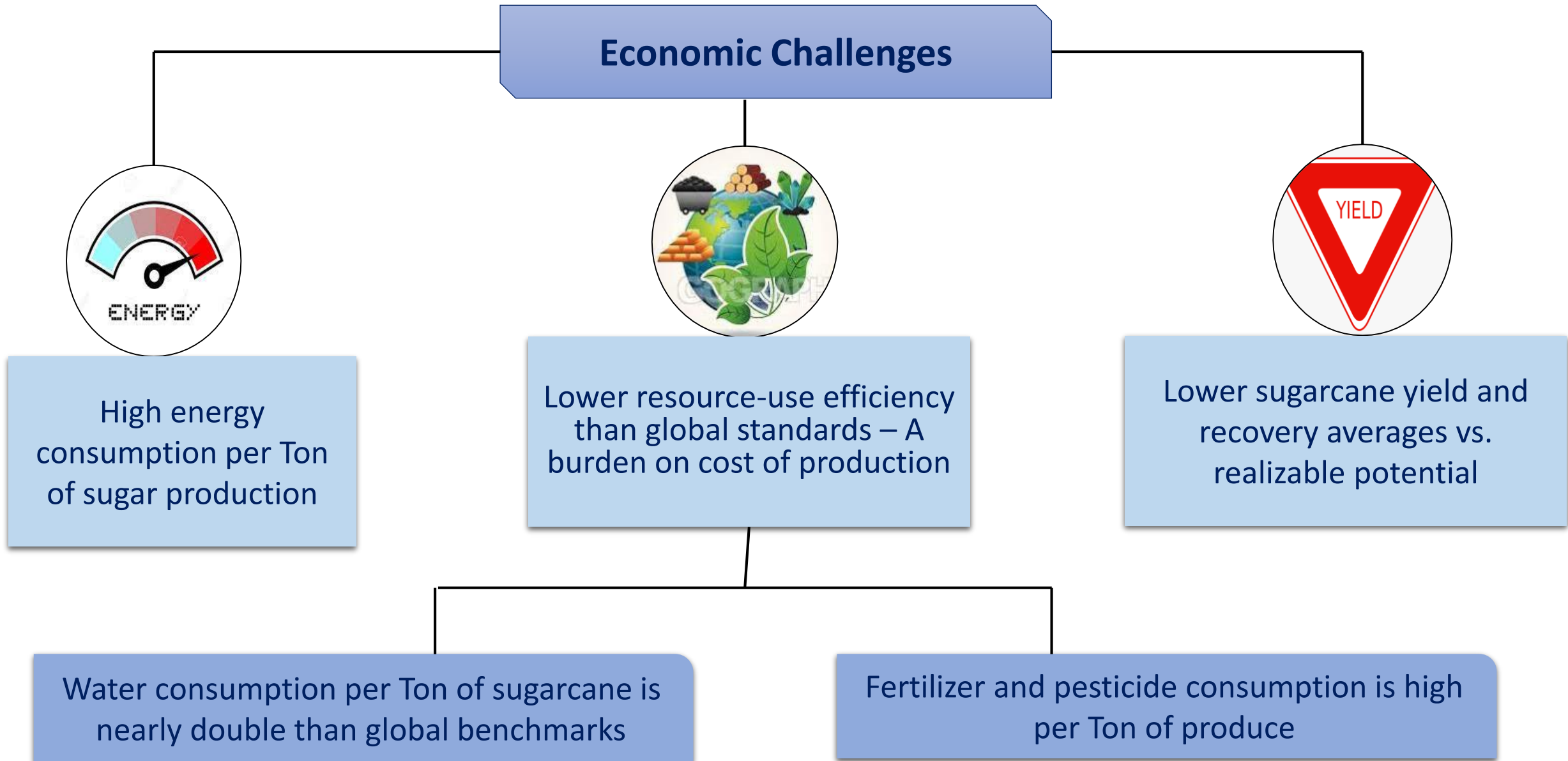


Disposables from bagasse



As thatch

# Major sustainability challenges of sugarcane



# Major sustainability challenges of sugarcane

## Environmental Challenges



- High GHG emission per ton of sugar / sugarcane production
  - A burden on environment:
    - Impact of diesel used in tillage and irrigation and ;
    - Impact of high fertilizer usage per ton of sugarcane production;
    - Less efficient means of transportation from field to mill.
- Waste disposal at industry and farm level;
- Crop residue (trash) burning at farms.
- Overall environment stewardship – Biodiversity and other related issues.

# Major sustainability challenges of sugarcane

## Social Challenges



Work conditions and workers' rights



Demonstrated rights of land and water use

Issues of child, bonded and forced labor



Wages, work hours and work environment





# Where does Pakistan stand?

## Importance of Pakistan in global sugarcane production

- One of the 10 largest sugarcane producing nations, which collectively produce roughly 75% of world sugar production.
- Sugarcane is a vital cash crop, and provide raw material to the second largest agriculture-based industry of Pakistan after textile.
- In Pakistan, sugarcane production was 80,963,078 tons (2020-2021) in an area of 1,164,112 hectare.

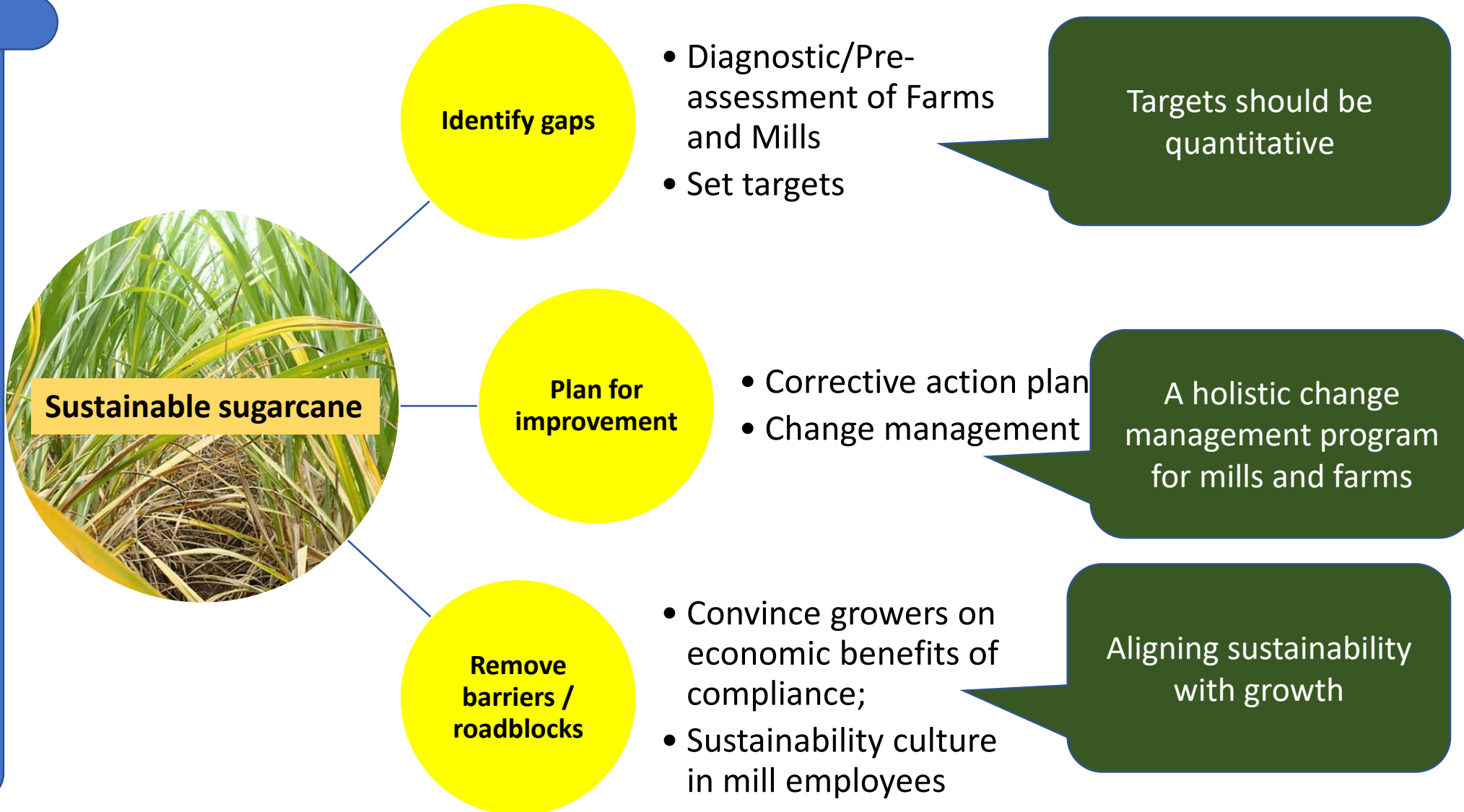
## Commitment to sustainability

- Pakistan is in a central position in Asia and its sugar industry and multinational buyers have shown commitment and leadership in their desire to achieve Bonsucro certification (the most widely accepted sugarcane sustainability standard);
- Two sugar mills in Punjab achieved first ever Bonsucro certification in Pakistan in April 2021
- Many producing groups and industrial buyers have a strong interest and/or commitment to sugar sustainability as a way to improve productivity by overcoming prevalent and future social, economic and environmental challenges and to meet customer requirements.



# Roadmap to sugarcane sustainability

**Our experience:**  
Sugarcane sustainability can be achieved by improving input-use efficiency thus leading to high profits:  
**A win-win scenario**



# Profit

- Improve profit by attaining efficiency in:
  - Cultivation operations at farms;
  - Crushing operations at mill.
- Reduce cost of production by
  - Minimizing energy consumption per ton of sugar and sugarcane production;
  - Improving input-use efficiency: land, water, fertilizers and agrochemicals etc.
- Reduce field and mill losses:
  - Maximize sugar content in cane;
  - Reduce kill to mill time;
  - Maximize sugar recovery;
  - Maximize value per ton of cane.



What needs to be done?

# People

- Manage health and safety hazards for mill and associated farms:
  - Provide access to free of cost Personal Protective Equipment, first aid and emergency response to workers of mill and farms and train them accordingly;
- Improve working conditions:
  - Access to safe water, adequate sanitation facility and up to standard accommodation;
  - Provide better employment conditions: working hours, overtime and minimum wage;
  - Get rid of social evils like child labour, forced labour, discrimination and harassment;
  - Respect freedom for collective bargaining.



**What needs to be done?**

# Planet

- **Reduce GHG emissions per ton of sugar and sugarcane production.**
  - Minimum tillage
  - Soil test based fertilizer application
  - Irrigation scheduling
  - Efficient cane transportation from farm to Mill
- **Protect biodiversity:**
  - Conserve natural and fabricated ecosystem services;
  - Reduce detrimental effects of waste discharge.
- **Efficient use of natural resources:**
  - Improve soil health by balanced use of fertilizers and by recycling crop residues for soil nourishment;
  - Water stewardship, maximize water efficiency per product mass and increase irrigation productivity.
  - Develop medium to long-term soil management plans based on soil characteristics;
- Train employees of mill and associate farms on handling of hazardous material:
  - Selection, storage, usage and safe disposal.



What needs to  
be done?

# BONSUCRO BUYER GROUP: MESSAGE TO MARKET

*As Bonsucro members committed to sourcing sustainable sugarcane products, we encourage and will support improvements in our supply chain. We encourage you as suppliers/processors to:*

1. Participate in the Bonsucro platform and work with your supply chain partners to identify key issues impacting sustainable production of sugar and sugarcane.
2. Participate in a Bonsucro accelerator and regional programs or develop your own action plans to deliver meaningful, verifiable sustainability related improvements. The ultimate goal of any program should be to drive environmental, social, and economic outcomes with positive impact at the farm, mill, and community levels.
3. Verify (through certification or other assurance) your sugarcane-related products to the most widely accepted, credible, and feasible system. Bonsucro Certification and Bonsucro Endorsed schemes demonstrating continuous improvement are preferred verification systems, and in many cases are specifically required by some end users. We also encourage you to participate in Bonsucro origin programs to demonstrate continuous improvement. Any program and verification should demonstrate continuous improvement.
4. Work with us on this journey, as we anticipate celebrating your success.



MARS

CSC SUGAR



Pernod Ricard



PEPSICO

The Coca-Cola Company

FERRERO

Nestlé



HERSHEY'S



BARRY CALLEBAUT



GENERAL MILLS

Thank you

Any  
Questions?



<http://agnovate.com/>  
<https://bonsucro.com/>

We can help!

**AGNOVATE**   
INNOVATE. SUSTAIN. PROSPER.

  
**BON  
SUCRO**

The global sugarcane platform