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# Welcome...



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# **ADAPTATION TO CLIMATE CHANGE.**



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# INTRODUCTION

## ADOPTION:

- Adoption is a decision to make full use of an innovation as the best course of action available. Rejection is a decision not to adopt an innovation.

## MITIGATION:

- The action of reducing the severity, seriousness, or painfulness of something.



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# ADAPTATION AND ITS TYPES

Adaptation is the act of changing something or changing your behavior to make it suitable for a new purpose or situation.

Most living creatures are capable of adaptation when compelled to do so.

## **Types of adaptations:**

- Structural Adaptations
- Behavioral Adaptations
- Physiological Adaptations



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# CLIMATE CHANGE:

Climate change refers to significant changes in global temperature, precipitation, wind patterns and other measures of climate that occur over several decades or longer.

These include warming temperatures and changes in precipitation, as well as the effects of Earth's warming, such as:

- Rising sea levels
- Shrinking mountain glaciers
- Ice melting at a faster rate than usual in Greenland, Antarctica and the Arctic
- Changes in flower and plant blooming times.



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# CLIMATE CHANGE

## INFOGRAPHIC



### SOLAR RADIATION

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### TEMPERATURE

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### GLACIERS

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### POLLUTION

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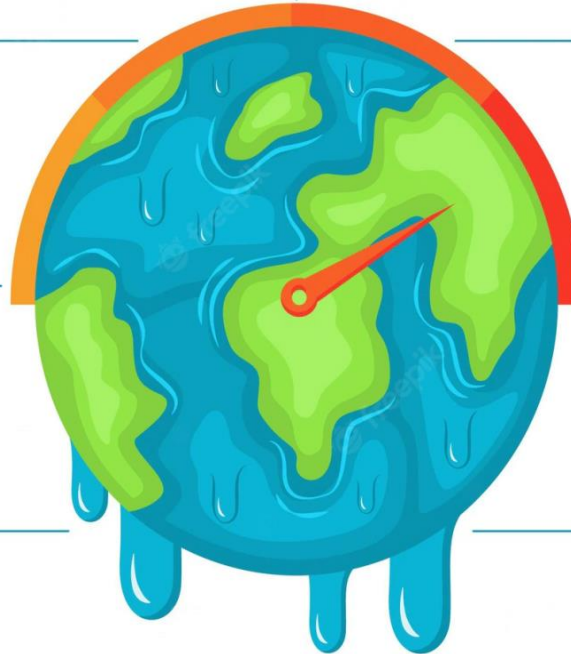
### VEGETATION

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### SEA LEVEL

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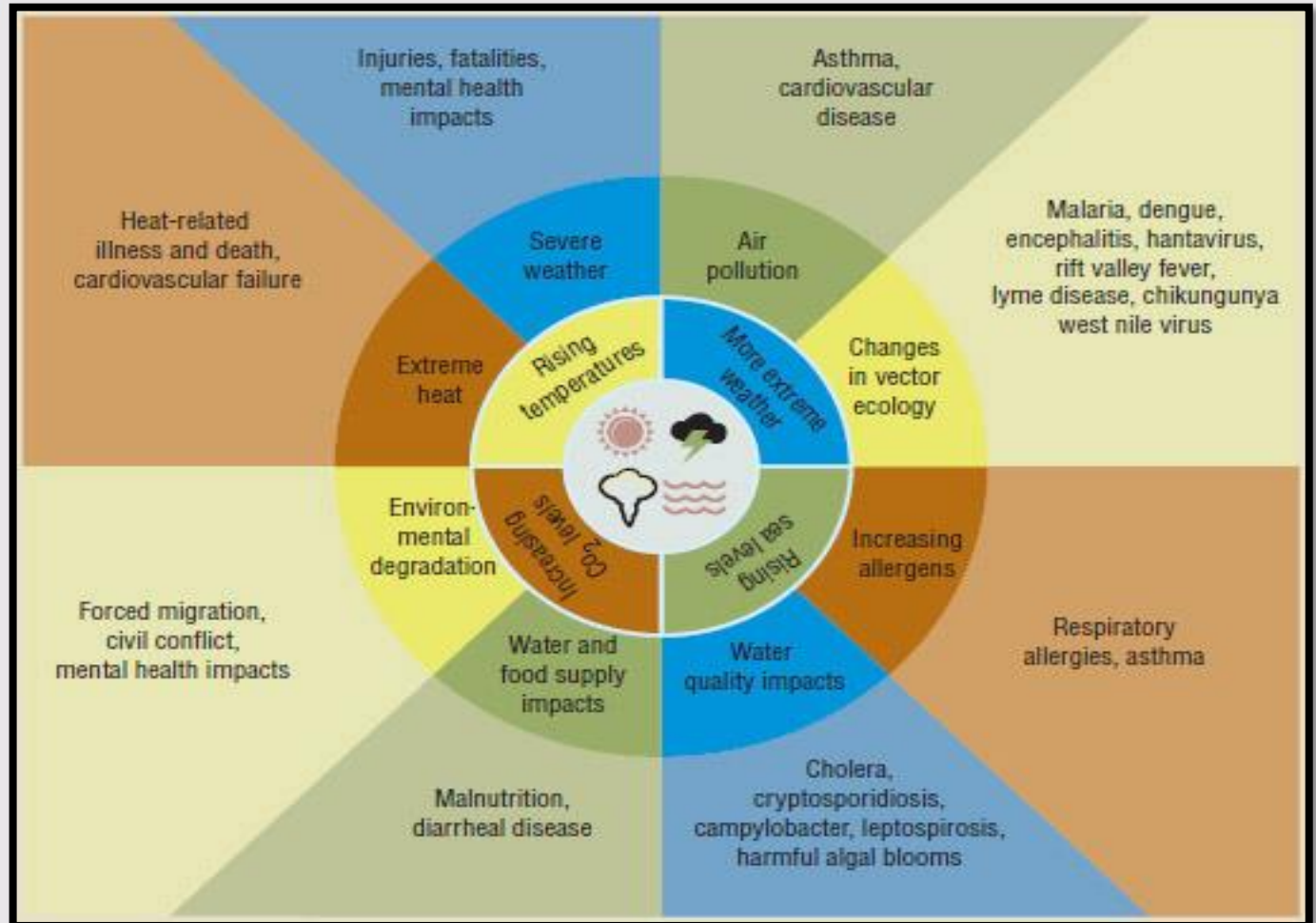




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# Cont..

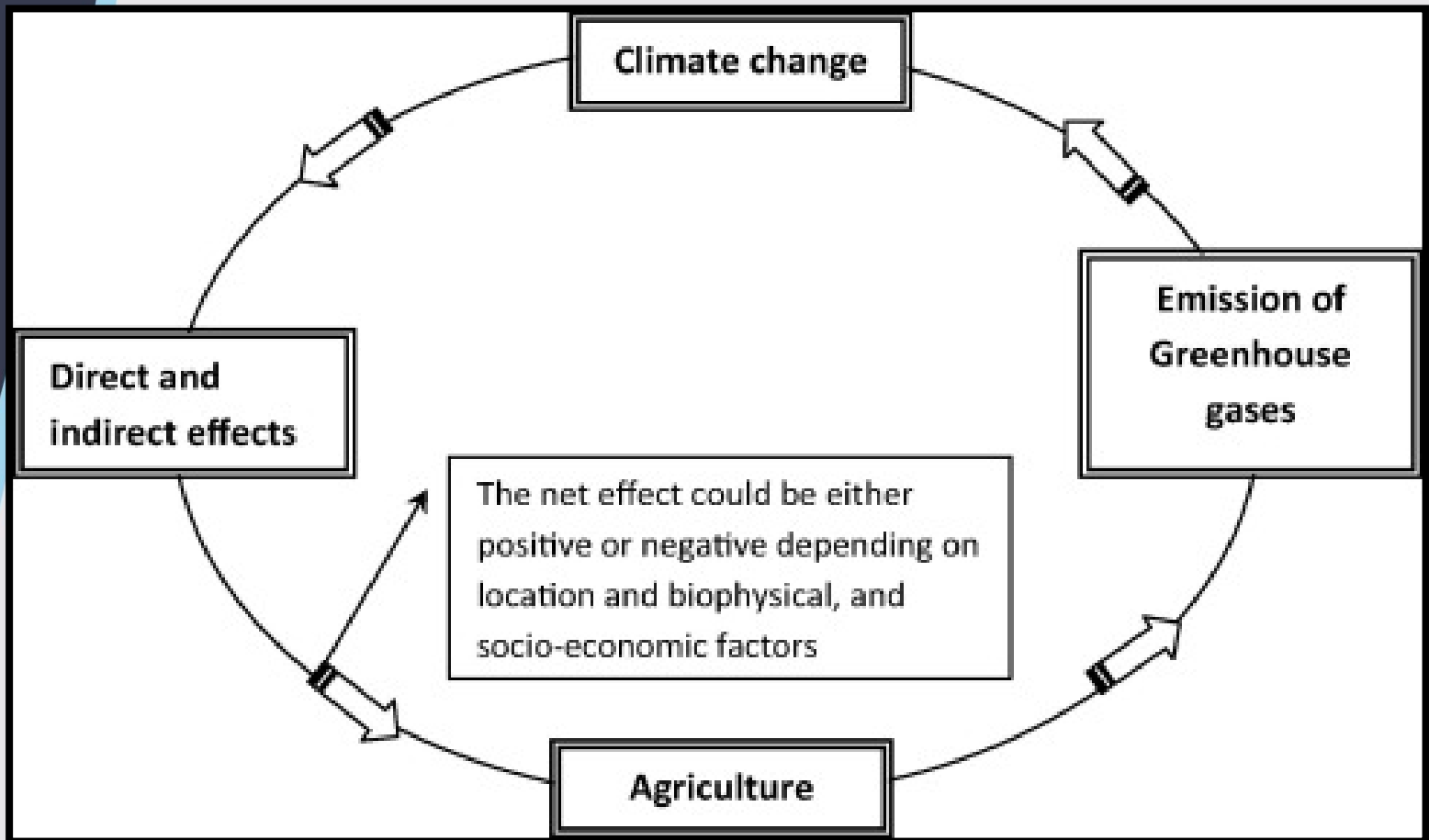




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# ADAPTATION TO CLIMATE CHANGE:







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Climate change adaptation refers to actions that reduce the negative impact of climate change, while taking advantage of potential new opportunities.

It involves adjusting policies and actions because of observed or expected changes in climate.

Adaptation can be reactive, occurring in response to climate impacts, or anticipatory, occurring before impacts of climate change are observed.



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## Cont..

In most circumstances, anticipatory adaptations will result in lower long-term costs and be more effective than reactive adaptations.

Adaptation is not a new concept . Canadians have developed many approaches to effectively deal with the extremely variable climate. For example, communities in the Prairie provinces have been designed to withstand extreme differences in seasonal temperatures.

Adaptation and mitigation are necessary complements in addressing climate change.



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The Earth's climate is changing.

Some of this change is due to natural variations that have been taking place for millions of years.

Human activities that release heat-trapping gases into the atmosphere are warming the planet by contributing to the “greenhouse effect.”



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# THREE PILLARS OF CLIMATE CHANGE:

1. Mitigation.
2. Adaptation.
3. Means of implementation.

## THREE PILLARS OF CLIMATE SMART AGRICULTURE(CSA):

1. Mitigation of GHG emissions from agriculture.
2. Adaptation of agricultural practices to climate change.
3. Sustainable maintenance or increase of agricultural productivity.



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# PILLARS OF CSA

## The 3 pillars of CSA

**Sustainably increase  
agricultural productivity  
and incomes**

1



**Adapt and build resilience  
of people and food  
systems to climate change**

2



**Reduce and/or remove  
greenhouse gas emissions,  
where possible**

3



**Climate-Smart Agriculture (CSA) has strong potential to contribute to the achievement of the 17 Sustainable Development Goals (SDGs).**

**A critical precondition for realizing this scope is to identify potential synergies and trade-offs between the 3 pillars and 5 implementation steps of CSA and the SDGs.**

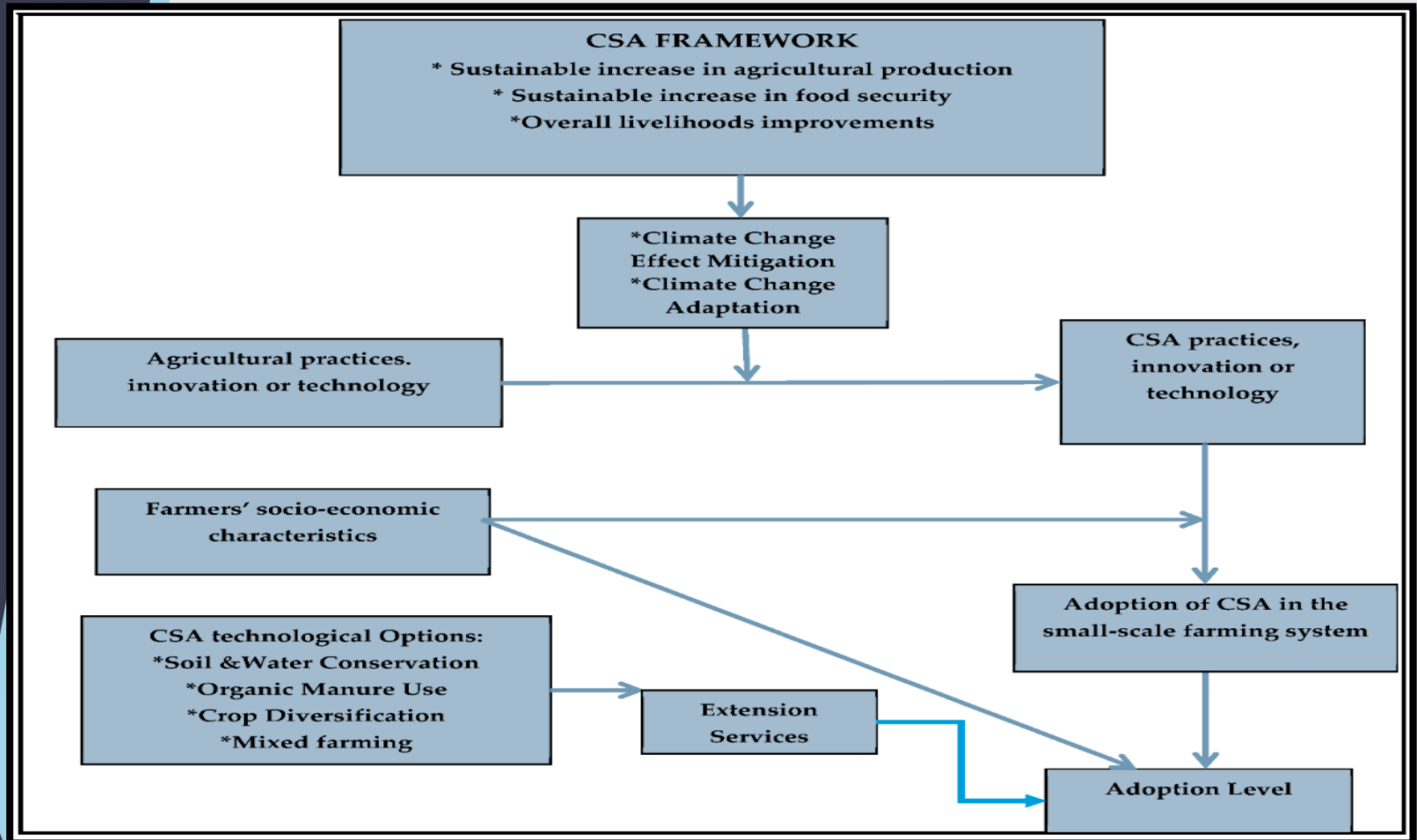
**These provide entry points for targeted CSA planning, so as to enhance synergies and reduce trade-offs.**



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# CSA FRAMEWORK





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# HOW EXTENSION CAN CONTRIBUTE TO UP SCALING CLIMATE SMART AGRICULTURE

Up scaling Climate Smart Agriculture (CSA) entails changing the behavior, strategies and agricultural practices of millions of agricultural producers.

Extension and Advisory Services (EAS) can play a very important role in up scaling CSA, but they need to be better organized to do so.

Extension can play a crucial role in helping the farmers to deal with the various impacts of global climate change by using the appropriate approach to make awareness and make them aware of the various adaptation and mitigation strategies.



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## Cont..

Several organizations are generating new agricultural knowledge, but a wide gap persists between the knowledge generated and the knowledge used.

Extension and Advisory Services (EAS) were established primarily to address this gap.

Although the EAS approach has contributed much to agricultural development by disseminating technologies, it has been less successful at up scaling new knowledge.





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## Cont..

New knowledge is often adopted by a limited number of farmers only, and even successful pilots tend not to have a far-reaching impact.

Moreover, “projects, programmers and policies are often limited in scale, short-lived and without lasting impact”



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# CSA

## What is CSA?

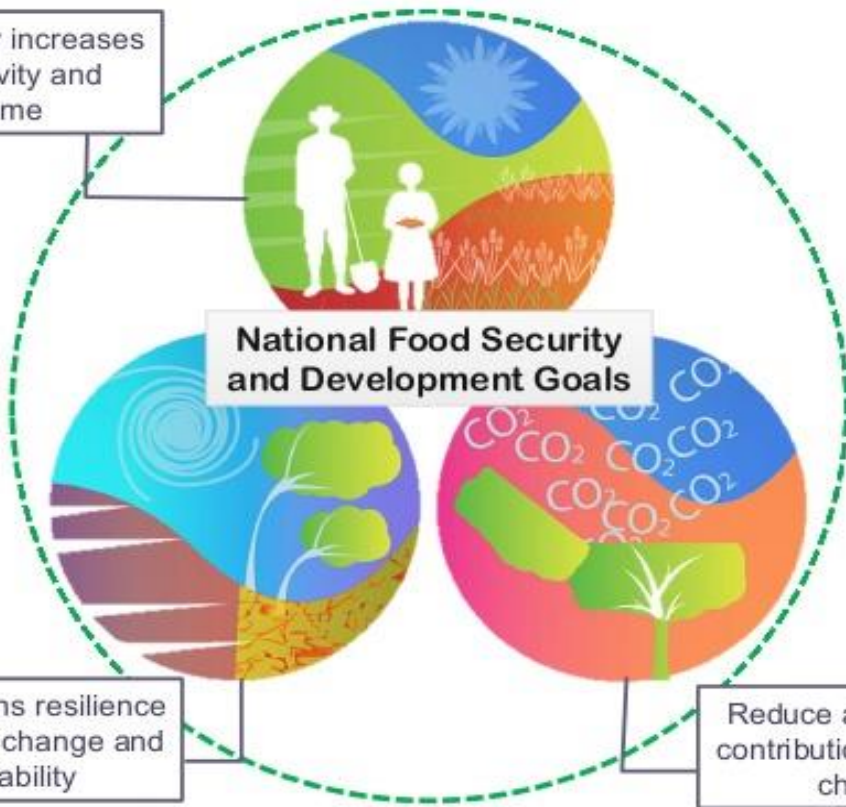


Sustainably increases  
productivity and  
income

**National Food Security  
and Development Goals**

Strengthens resilience  
to climate change and  
variability

Reduce agriculture's  
contribution to climate  
change





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# FAMILY FARMS:

Family Farming (which includes all family-based agricultural activities) is a means of organizing agricultural, forestry, fisheries, pastoral and aquaculture production which is managed and operated by a family and predominantly reliant on family labor, including both women's and men's.

A family farm is generally understood to be a farm owned and/or operated by a family; it is sometimes considered to be an estate passed down by inheritance.

FAO works through a multi-dimensional approach to address the challenges that poor family farmers face in their daily lives and increase their income generating capacity with a view to reducing rural poverty.



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# SEVEN PRIORITY ACTIONS TO SUPPORT FAMILY FARMING:

- 1) Looking beyond a strict vision of farms
- 2) Improving and securing access to productive resources
- 3) Valuing local knowledge
- 4) Guaranteeing jobs for young people
- 5) Promoting and valuing quality production
- 6) Strengthening organizations representing and defending family farming
- 7) Investing massively in family farming