



AGRICULTURE AND GRASSLANDS: PARTNERS IN CONSERVATION



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PART TWO: A BRIEF HISTORY

AGRICULTURE AND GRASSLANDS ACROSS TIME



WHERE DOES OUR FOOD COME FROM?



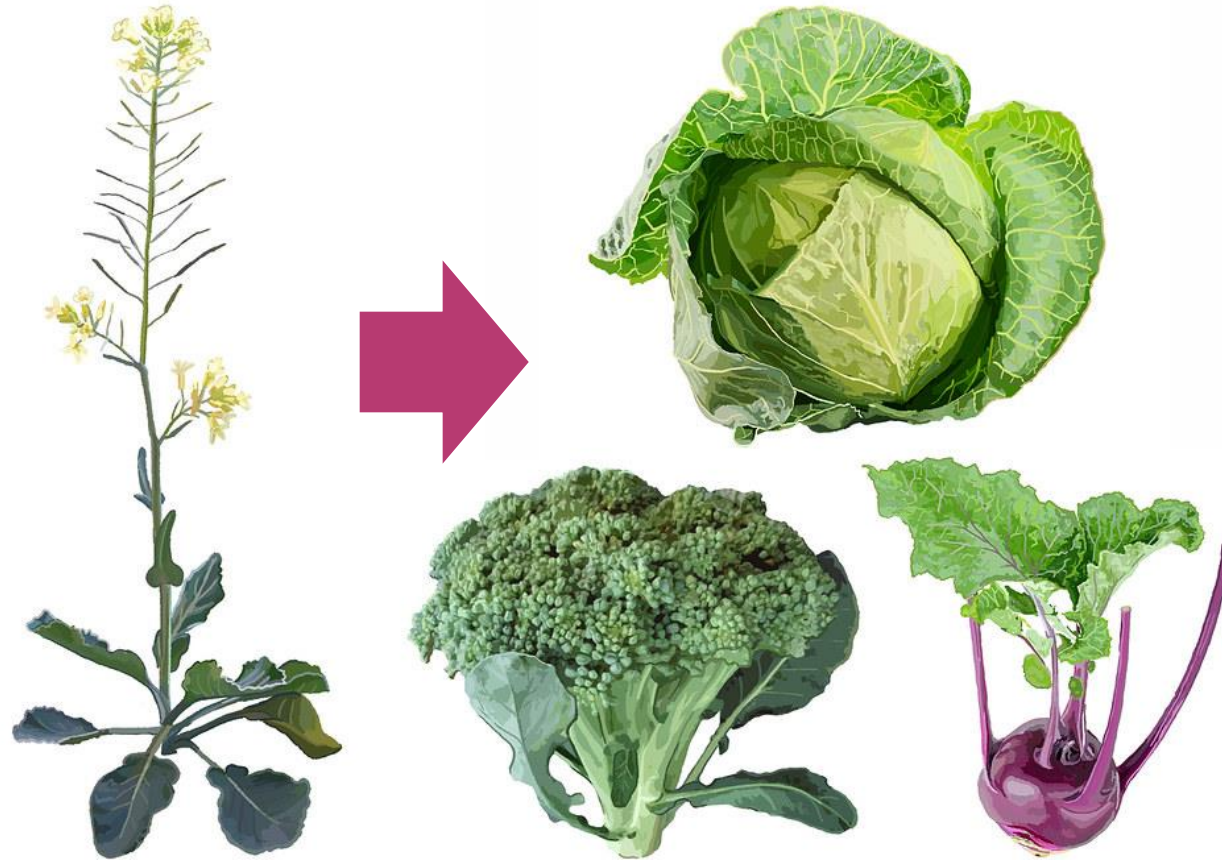
WHAT IS **AGRICULTURE**?

The practice of farming – cultivating soil to grow **crops** (plants grown for food) and the raising of animals for food, wool, and other products.



10,000 YEARS AGO

DOMESTICATION OF **PLANTS**



*Illustration by Andi Kur
(Mabry et. AL., 2021)*



9,000 YEARS AGO

DOMESTICATION OF PLANTS

Natural domestication



Teosinte
(Wild Plant - Zea Mays)



Mutated Hybrid
(Primitive or Intermediate Maize)
Natural Landrace



Maize
(Modern Corn)



9,000 YEARS AGO

THE THREE SISTERS

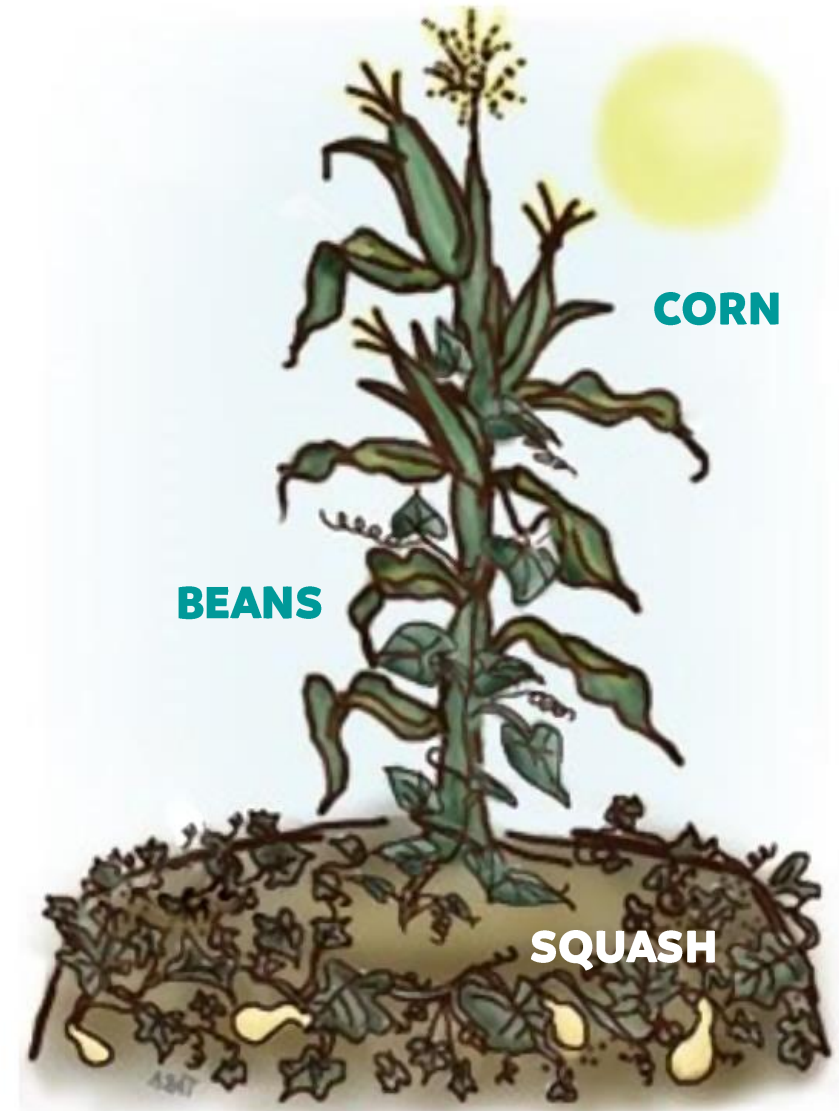


Image credit: University of Illinois Extension





NEW MEXICO

HUMANS AS HABITAT MANAGERS

Waffle gardens: A grid of squares surrounded by raised mounds of dirt. This would help to:

- direct the flow of water directly to the plants
- protect plants from wind
- reduce the amount of water needed



Photograph: Jesse Nusbaum





WEST COAST

HUMANS AS HABITAT MANAGERS

Clam gardens: clearing and terracing beaches and building rock walls in the intertidal zones created a habitat where clams could be harvested.



(Anderson, 2020)



Prairies

HUMANS AS HABITAT MANAGERS

Fire was used to:

- clear the land for agriculture
- improve grazing and forage for species
- direct the migration of species for hunting



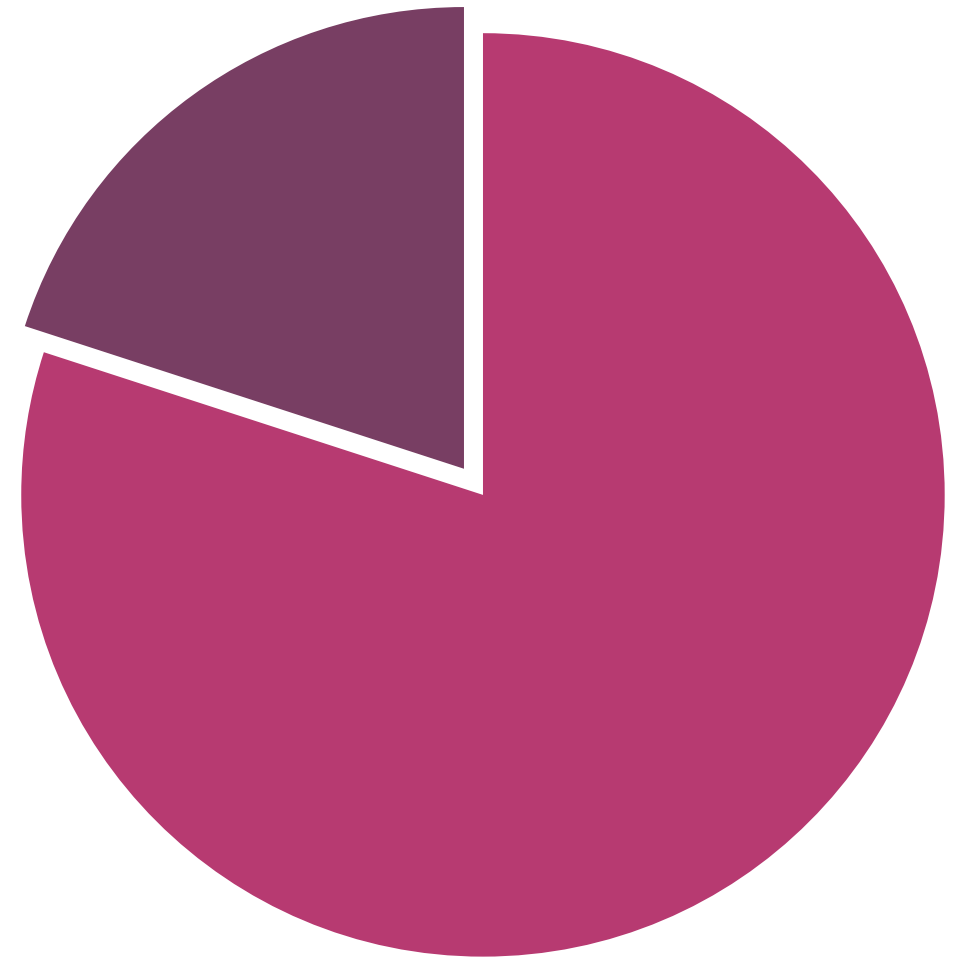
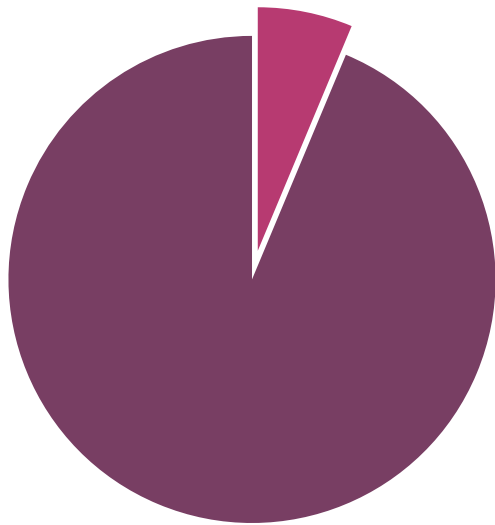
*Photo: Mikaela MacKenzie /
Winnipeg Free Press*



*Photo: Josh Neufeld /
Gathering Voices Society*

AGRICULTURE ACROSS CANADA

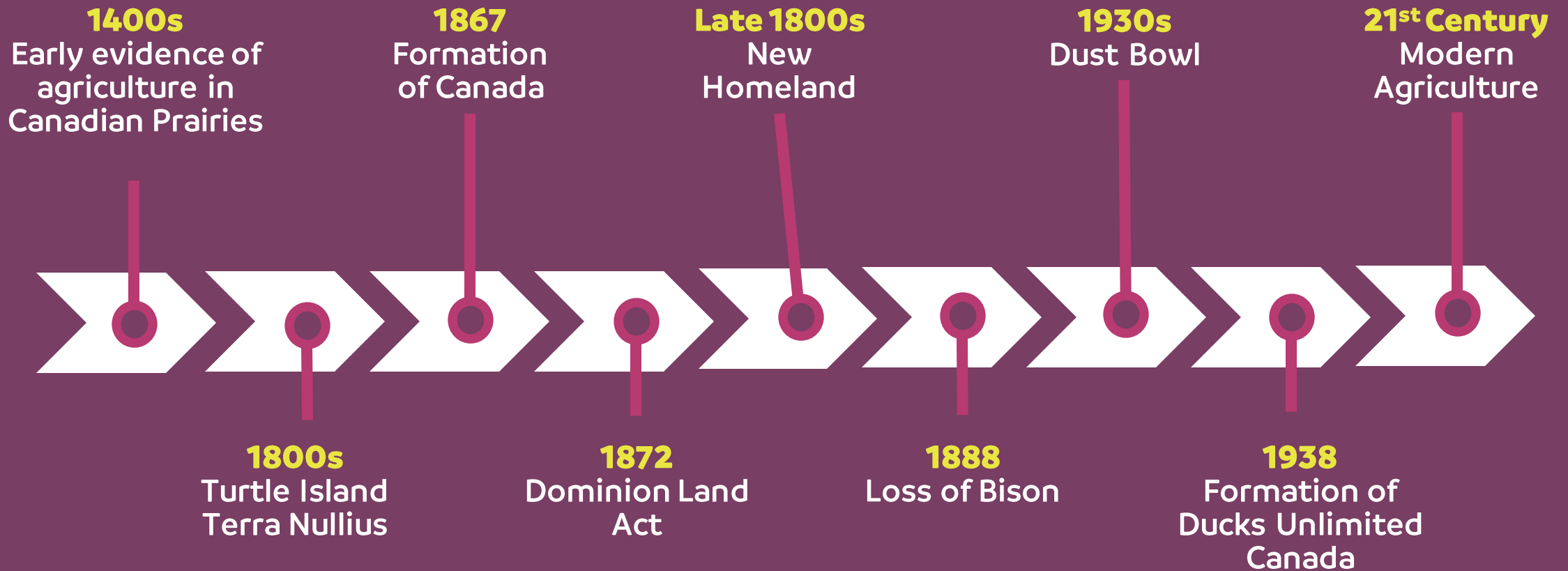
In 2022, farms covered 62.2 million hectares in Canada. **That's only 6.3% of Canada's land area...**



But **more than 80%** of Canada's farmland is located in the Prairies (Manitoba, Alberta and Saskatchewan).



CANADIAN PRAIRIE **TIMELINE**



1400s

Evidence of farming by Indigenous Peoples in some areas of the Prairies dates back as far as the 1400s.

Right: A team of researchers from Brandon University and the Manitoba Archaeological Society has uncovered unique farming tools dating back to the 1400s and early 1500s at the Pierson Wildlife Management Area south of Melita.



(Bettens, 2022)



1800s

TURTLE ISLAND

TERRA NULLIUS



'Into the Night' by First Nations Mi'kmaq artist Loretta Gould – Original Woodland Art style painting presented by DaVic Gallery of Native Canadian Arts

FORMATION OF 'CANADA'

1867



1872

THE DOMINION LAND ACT

The **Dominion Land Act** sold land to new settlers who could build a home and clear the land for farming. This brought in a mass amount of new settlers to Canada's West to clear the land and cultivate wheat.



“THE NEW HOMELAND”

Late 1800s

Federal land acts made it possible for pioneers to try their hand at farming in the Prairies.

They were encouraged to travel west as part of the “Civilizing the West” movement.



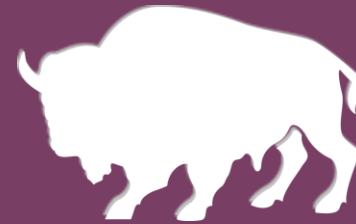
(LAC, 2017)



Overhunting of the bison

30 million bison
roamed the Great Plains
in the 1800s.

EXTIRPATED BY 1900s



Fewer than 1,000
bison remained
by 1879.

1888



A CHANGING LANDSCAPE

1900s

LOSS OF GRASSLANDS



**LOSS OF BISON
A KEYSTONE SPECIES**



LOSS OF WETLANDS



**LOSS OF TRADITIONAL
ECOLOGICAL KNOWLEDGE**



Illustration by Luisa Rivera/Yale E360

The Dust Bowl

Long periods of drought caused dust storms in the Canadian Prairies which damaged ecosystems and agriculture.

1930s



The Creation of Ducks Unlimited Canada

Our vision: Clean water and healthy wetlands
for all waterfowl, wildlife and people.

1938





463
ACRES

AVERAGE
CANADIAN
FARM SIZE:
1971

820
ACRES

AVERAGE **CANADIAN**
FARM SIZE: 2016

1,404
ACRES

AVERAGE **PRAIRIE**
FARM SIZE: 2016

1940s–present



- **Forage:** crops such as hay and grass that are grown to provide food for livestock
- **Greenhouse crops:** indoor crops that are grown such as tomatoes, cucumbers, lettuce, and peppers
- **Horticulture:** growing plants such as fruits, flowers and vegetables
- **Oilseeds:** crops such as soybean, sunflowers, flax and canola

2017

TOP COMMODITIES BY PROVINCE AND TERRITORY




Map: Agriculture and Agri-Food Canada, 2017



WHERE DOES OUR FOOD COME FROM?



IS AGRICULTURE AN ECOSYSTEM?



***Agriculture is another type of ecosystem
which just has the incorporation of
people!***

Illustration by Luisa Rivera/Yale E360



HUMANS AS MODERN HABITAT MANAGERS

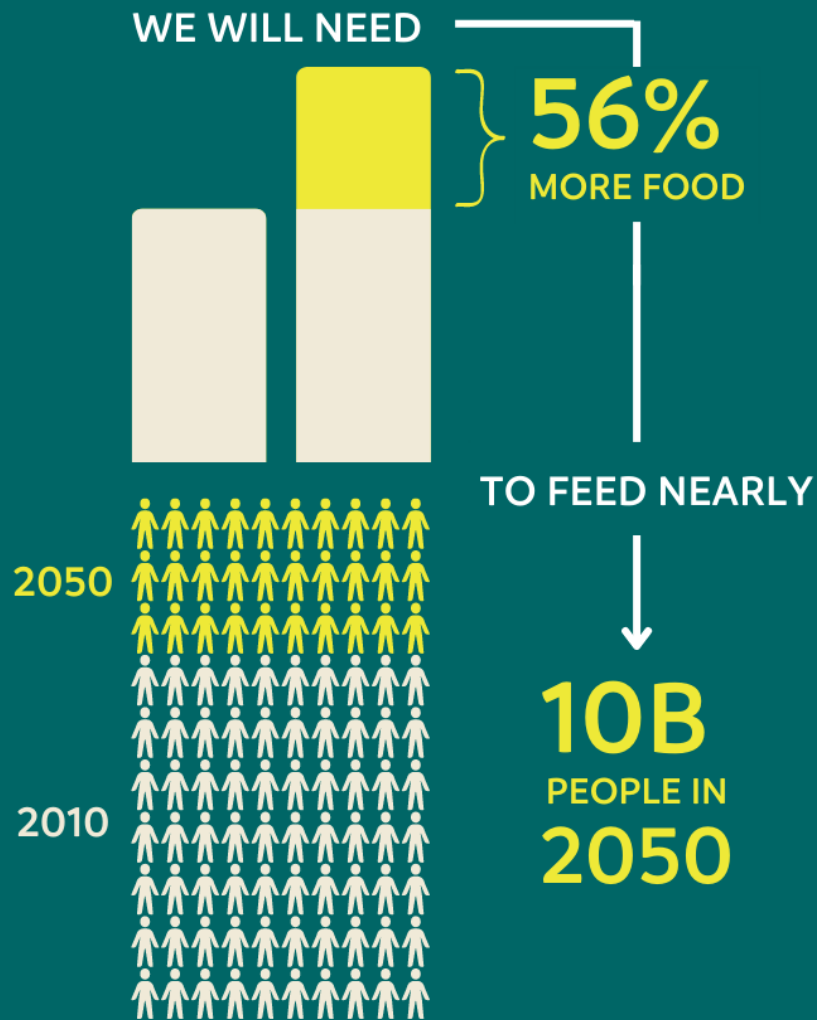
Illustration: Fao/sailendra Kharel; Fao/luohui liang; Peter rosset; ciat/neil Palmer



***Traditional
Ecological
Knowledge
&
Western Scientific
Knowledge***



HOW DO WE FEED **10 BILLION** PEOPLE...



...WITHOUT USING MORE LAND, **SUSTAINABLY?**

WE NEED TO PREVENT AGRICULTURE
FROM EXPANDING



WE CURRENTLY USE

~50%
OF THE WORLD'S
VEGETAED LAND
FOR AGRICULTURE

TO PROTECT IMPORTANT
ECOSYSTEMS SUCH AS
OUR GRASSLANDS

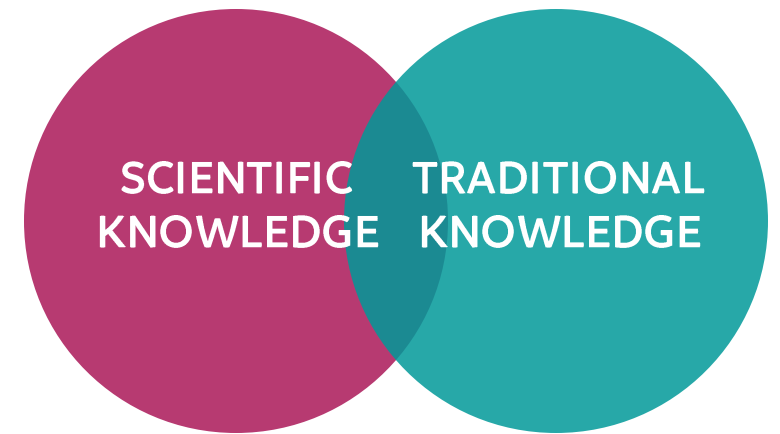
THE FORTRESS



THE RIVER



THE GARDEN



RESTORING NATURE

A weaving of our two knowledge systems can help to lead to a more sustainable and regenerative future for agriculture!

*How can we restore nature to benefit all ecosystems and ecosystem services? Go to **Module 3: Grasslands and Sustainable Agriculture to the Rescue***

