

Agricultural Sciences

Further Education & Training



Alternative Farming Systems in a
Carbon Conscious World

This resource is produced and published by
The Humane Education Trust
in co-operation with
Compassion in World Farming



Pioneering a New Food System

The case for Alternative Farming Systems

Special thanks to...

Andrew Ardington, Founder / Director
REGENERATIVE AGRICULTURE ASSOCIATION SOUTH AFRICA



Mike Bosch, Founder / Director
BOSCHVELD FREE RANGE CHICKENS



World renowned regenerative farmer Angus McIntosh
FARMER ANGUS, SPIER



Philip Lymbery, CEO : COMPASSION IN WORLD FARMING



Through Nature-based Education learners are empowered to respond to the appeal by UN Secretary-General Antonio Guterres for all nations to 'make peace with nature' in the global fight against climate change and biodiversity loss.



Climate change has forced us to confront the actual costs of our industrialised world and the way we produce food.

To do this, we need to consider True Cost Accounting which includes 'external' costs that are not reflected in the price of food to the customers at the check-out till. Cheap food often comes at a high cost.

External costs of industrialised production systems may include, for example...

- **environmental degradation**
- **biodiversity loss**
- **species extinction**
- **animal abuse**
- **desertification**
- **climate change**
- **food waste**
- **antibiotic resistance**

Scientists around the world agree that global warming is one of the external costs of our industrialised food system. Indeed, the United Nations Food and Agriculture Organisation (FAO) estimates that one-third of the greenhouse gas (GHG) emissions responsible for global warming are generated by the way we produce food. While many countries are attempting to reduce the worst offending greenhouse gas emissions by weaning their economies off fossil fuels as sources of energy (coal and gas), more and more attention is now being focused on the way we produce food.

It is for this reason that alternative farming systems that support nature and sequester the powerful greenhouse gas CO₂ back into the soil, are gaining ground.

But first, let us understand how industrialised agriculture came about and its impact in terms of True Cost Accounting.



How the dominant industrialised model of food production came about

For more than 10 000 years mankind was dependent on the quality of soil and the cycles of rain to grow food.

Then in 1909 two German scientists discovered that atmospheric nitrogen (N₂) combined with tiny particles of hydrogen (water) produces ammonia which transforms the vital plant nutrient of nitrogen into a plant-available form. This became known as the Harbour Bosch Process. The result was animals were no longer needed to provide fertilizer to grow plants. Suddenly a lot more food could be grown at much less cost.

By the 1960s agri-chemical poisons like pesticides and herbicides also entered the market. Moreover, powerful tractors replaced oxen and allowed for the ploughing of much more land and the potential to feed many more people.

Indeed, harvests of grains were so prolific that for the first time, surpluses beyond human need became available and facilitated the feeding of grain to animals too. This was the birth of industrialised agriculture.

The Green Revolution as it was called, came to dominate agriculture in the global north and soon spread to the global south.

Industrialised agriculture (factory farming) is, to this day, the dominant food system on which humans rely, for themselves as well as for farmed animals.

Farmed animals, for their part, experienced another kind of revolution. Starting in the 1950's, they were taken off the land, crammed into cages, stalls, sheds and feedlots and, contrary to their digestive needs, their food changed from grasses, herbs, and shrubs to grains.

This freed-up the land and made way for the growing of even more grain crops. Idyllic images of happy cows lowing lazily in the fields with chickens pecking alongside them, became a far cry from reality although such images continue to be found as illustrations in children's books, even today.

Animals became 'units of production' as part of a highly efficient production line, totally under man's control.

The economies of scale provided animal-derived products at cheap prices, so cheap in fact, that meat, especially chicken meat, turned into a daily staple. Human populations grew, and continue to grow exponentially.

Industrialised agriculture continues to be viewed as a necessity in order to feed the exploding human population. The true costs to planet Earth and to future generations, have been ignored. The so-called Green Revolution was a misnomer. In reality, cheap food is anything but cheap. It is literally costing the Earth.

The next chapter explains how the external costs of industrialised agriculture have ravaged our Earth and why a new approach to food production has of necessity, come about.



Here are examples of the true costs of industrialised farming

Section 2

Food Waste



The Council for Scientific and Industrial Research has valued this loss at R61.5 billion annually

<https://www.wwf.org.za/?uGlobalSearch=food+waste&uGlobalLang=en>

Ecosystem and Biodiversity Loss



Making way for crops has wiped out 60% of mammals, birds and reptiles since 1970

— WWF

<https://www.fao.org/3/i2373e/i2373e01.pdf>

Water Consumption



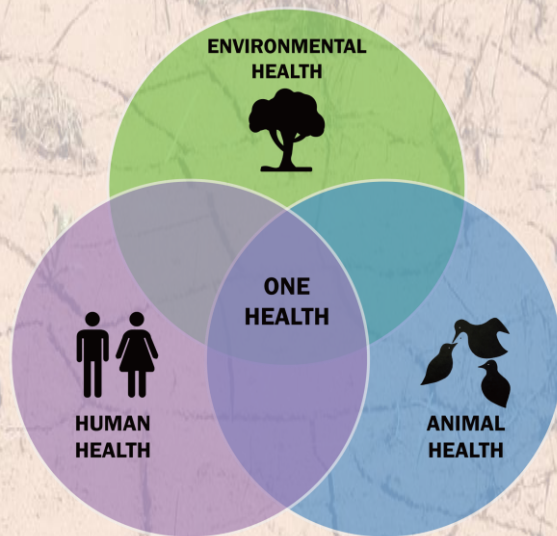
62% of the available water resources in South Africa are used for the irrigation of crops – *Farmer's Weekly*.

www.farmersweekly.co.za | New irrigation systems making do with less

The 2020 figures for SA's maize harvest show that 5.4 million tonnes was used for human consumption and 5.7 million tonnes for animal feed.

www.allaboutfeed.net | South Africa produces 2nd highest corn crop

The United Nations recognises the **interconnection between people, animals, plants and their shared environment**, with the health of one being dependent on the health of the other.



“ Humanity is waging war on nature. This is suicidal. Nature always strikes back and is already doing so with growing force and fury. Biodiversity is collapsing. One million species are at risk of extinction. Ecosystems are disappearing before our eyes. Making peace with nature is the defining task of the 21st century. It must be the top, top priority for everyone, everywhere. ”

— UN Secretary-General Antonio Guterres

Nature offers “services” for free

These services include:

- Carbon sequestration (the process of pulling carbon into the soil)
- Food
- Wood
- An intact water cycle
- Clean air
- Waste removal
- Biological pest and disease control
- Pollination
- Medicinal resources
- Animal Welfare

Farming with Nature takes many forms.

What they all have in common is the fertility of the soil:

Organic Agriculture:

At its core is the belief that we can produce healthy food for people without the use of synthetic salt-based fertilisers and poisonous chemicals.

Regenerative Agriculture:

An agricultural system that involves many practices, all of which ensure that the farms and ecosystems are in a state of constantly improving ecological health.

Organic, Permaculture, Agroecology and Bio-Dynamic are all forms of regenerative agriculture.

Some regenerative practices include rotational grazing of livestock, minimum tillage of the soil, fertilizer reduction and so on.



Soil is not dirt

Section 4

Soil is a powerful piece of the jigsaw puzzle in solving the climate crisis.

Since the 1990s an understanding of soil as a living entity has mushroomed. We are just beginning to discover the relationship between soil microbiology and plants. Soil is not dirt with a few chemicals thrown in. Soil is a living entity with more than 1 billion living organisms within one teaspoon of healthy soil.

The symbiosis between soil, plants, animals, and ourselves is at the cutting edge of modern agricultural science.

The role of animals in soil health

Put animals in confinement and their dung and urine become major pollutants for both greenhouse gases in the atmosphere and contaminants to our water and ground water.

But, back on the fields animals digest plants and the stubble waste from crop production into soil fertility. Through eating, dunging and trampling, the microbiology of the animals becomes part of the microbiology of the soil's food web.



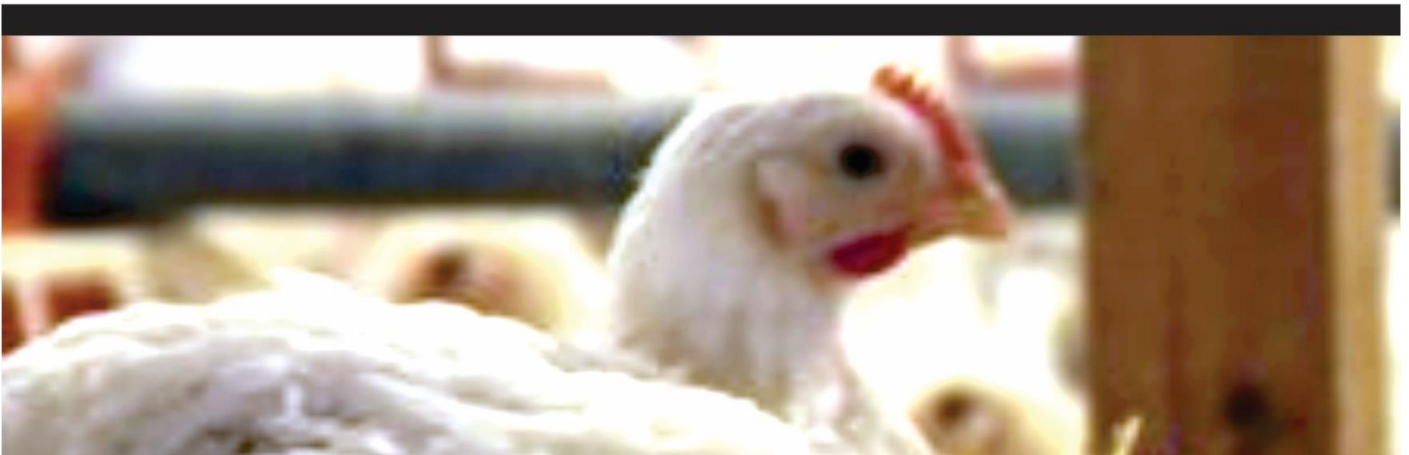
“Outdoor Egg farming is my way of contributing to a better world for my family and the people of South Africa. In a world where micronutrient deficiency is said to affect some 2 billion people, every mouthful counts! Eggs contain all the micro nutrients essential to life... but outdoor eggs more than others...”

— Thobelani Mngomezulu

With a **sense of justice for nature in mind**,
ask the learners to engage in a
‘Thought Experiment’
as follows:

Each learner **imagines** a world in which he or she is
reincarnated as a broiler chicken on a factory farm.

Each learner then **researches the challenges** that they,
as a broiler chicken, may face.



The Life of a Broiler Chicken



I have been **altered by selective breeding** to reach slaughter weight in half the natural time.

I've been **bred to be obese** with an **over-development** of breast meat.

I am one of about 1 billion broiler chicks in South Africa at any given time.

I spend my 38 - 42 days of life crammed into a shed, **never to see the sun,** soil or a blade of grass.



Lights are kept on 23 hours a day to encourage me to **eat constantly** and as we all grow, the shed fills up until **movement** becomes more and **more impossible**.



BREAST MEAT

BREAST MEAT

BREAST MEAT

BREAST MEAT



Young as I am, **I often experience leg pain and lameness** because **my legs are forced** to support much more than a natural body weight.

Antibiotics are included in my feed and water **to help me grow faster**. They also help me stay healthy despite the lack of exercise, sunshine and the stress of over-crowding.



Painkillers are often routinely included in my feed too **because of my leg problems**.

If you see these **black marks on my feet**, you will know that the litter on which I was reared, was extremely dirty and **my feet were burned by the ammonia** in the litter from all our droppings.



BREAST MEAT

BREAST MEAT

BREAST MEAT

BREAST MEAT

I would like to be a free range broiler chicken

because then, if the farmer is a genuine free range farmer, I will have access to...

*Open **air** and **grassy** runs*

*I will **not** be crowded **in a shed***



I would like to be a free range broiler chicken

*as I will be **able to sleep** better because the lights won't be on 23 hours a day*



*With **exercise**, my **legs will become stronger** and be more able to carry my weight **without the pain***





**Write down
what you think
this broiler chicken
is saying to the judge.**

Regenerative agriculture supports global concern for the welfare of animals.

THE FIVE FREEDOMS FOR ANIMALS

FREEDOM
from
HUNGER and THIRST
by ready access to
fresh water and a diet
to maintain full
health and vigour

FREEDOM
from
DISCOMFORT
by providing an
appropriate
environment
including shelter and
a comfortable
resting area

FREEDOM
from
**PAIN, INJURY or
DISEASE**
by prevention
or rapid diagnosis
and treatment

FREEDOM
to
**EXPRESS (most)
NORMAL BEHAVIOUR**
by providing
sufficient space,
proper facilities
and company of the
animal's own kind

FREEDOM
from
FEAR and DISTRESS
by ensuring
conditions and
treatment that
avoid mental
suffering

The Five Freedoms for Animals, as endorsed by the **World Organisation for Animal Health (WOAH)**, are considered a satisfactory benchmark for farmed animal welfare. The essence of the Five Freedoms is that animals in our care should thrive and not simply survive.





Lesson Plan

Study the information in this lesson plan, do further research if necessary, and then prepare a presentation to persuade classmates as to why regenerative agriculture is preferable to industrialised agriculture.

NatureBased
E D U C A T I O N 

A DIVISION OF THE HUMANE EDUCATION TRUST





The Liquid Carbon Pathway

Study the information in this lesson plan, do further research if necessary, and then prepare a presentation to persuade classmates as to why regenerative agriculture is preferable to industrialised agriculture.

Soil is not dirt.

Healthy soil presents a powerful piece of the jigsaw in solving the climate crisis.

- ✓ Carbon is an element that is a key ingredient in all life on Earth. It is part of every single biological molecule.
- ✓ Carbon is stored in vegetation, soils and in the oceans.
- ✓ Carbon dioxide, CO₂, is a chemical compound that exists in the atmosphere and is composed of two oxygen atoms bonded to one carbon atom. CO₂ is utilized by plants during the process of photosynthesis.
- ✓ In the atmosphere CO₂ acts as a blanket trapping infrared energy coming off the earth. Without CO₂ Earth might be too cold to support human life. With too much CO₂, earth may heat up to intolerable extremes.
- ✓ Human activities are blamed for the accelerated release of CO₂ into the atmosphere resulting in global warming. The burning of coal, a fossilised carbon formed over millions of years from the remains of dead animals and plants, releases carbon into the atmosphere, as does the clearing of forests and the disruption of soil in general.
- ❖ Soil carbon sequestration is a process in which CO₂ is removed from the atmosphere and stored in the soil carbon pool. This process is primarily mediated by plants through photosynthesis and is viewed as a major mitigation against climate change and global warming.
- ❖ Plants grow by using sunlight to synthesize nutrients from carbon dioxide (CO₂) and water. Through photosynthesis plants also manufacture fluids known as 'exudates'. For example, sap is an exudate.
- ❖ In this way, CO₂ is transformed by plants into a liquid carbon and is exuded from plant roots into the soil where it assists in the decomposition of plant and animal matter to form humus. Humus is rich in nutrients and retains moisture in the soil.

- Since there is no sunlight, the vast fungal networks in the soil cannot make their own food through photosynthesis. Instead fungi take nutrients from the exudates.
- The fungi use the exudates to create their own sticky carbon exudate called Glomalin which is essential for soil chemistry.
- Glomalin is critical in binding soil particles together with pores for air and water storage. Glomalin stabilises soil so that it resists water and wind erosion and provides an environment supportive of plant growth.
- Farming practices like ploughing, leaving soil bare, growing monocrops, and using synthetic fertilisers all disrupt the liquid carbon pathway from CO₂ to Glomalin.

In focus :

The role of farm animals in the mitigation of global warming





Cattle have received a bad rap lately!

They stand accused of heating up the planet by burping out methane as part of their digestive process.

Resourceful as ever, humans developed burp-catching face masks to be fitted snugly over the nostrils of cattle. The face masks are designed to capture and oxidize methane as it is exhaled.



Before we create yet another pollution nightmare with used-up mucousy face-masks manufactured for the world's billion belching and farting ruminants we should look instead to how **Nature and ruminants together** have captured carbon over the millennia.



Nearly 60% of Mother Earth is grassland beneath which lies carbon-rich soils built up by the digestive processes and cloven hooves of countless herds of ruminants across the ages.

Carbon capture is one of Nature's free services.



It's a service that we overlooked as the industrialization of farming took animals off the land and into sheds and feed-lots where, instead of grass, they were forced to eat grains for rapid weight-gain and slaughter.


Restoring Nature's Free Services is easier than one may think!



Learn more about the amazing hidden world beneath our feet and to see why nature-based farming supports healthy soil

 [theguardian.com](https://www.theguardian.com) | Secret world beneath our feet

See video on measuring soil carbon content

 [YouTube](https://www.youtube.com) | Soil Organic Carbon – Everything you need to know

Read **Sixty Harvests Left : How to reach a nature-friendly future** by *Philip Lymbery*

 [philiplymbery.com](https://www.philiplymbery.com) | Sixty Harvests Left

Guided by Issue 86 of the national publication Animal Voice of South Africa as reprinted in the following pages...

 www.animalcoice.org | Magazines

*Note to
Teacher*

*Ask the learners to write about the way in which **people around the world are changing their perceptions of animals.***

*What are the **implications** of this change in world view?*

Meaning of

perception

The way in which something is regarded, understood, or interpreted



1 How are people around the world **changing their perceptions of animals?**

2 What are the **implications of this change?**

For the Love of Kin

is a fictionalised version of what really happened in South Africa in 2024 when *Compassion in World Farming* CEO, **Philip Lymbery** accepted an invitation from pioneering food company **Newform Foods** to sample its cultivated lamb meatballs. The fact that a very happy, healthy sheep, still enjoying life at the **Greyton Farm Animal Sanctuary** had provided the meatballs, was motivation enough for him to break his 40-year fast from meat.

 <https://www.naturebased.education/kin>





ANIMAL VOICE

SOUTH AFRICA

www.animalvoice.org

Animal Voice looks
back at *3 decades*
of seeking some
measure of

justice

for animals...

and forward,

*as we invite leading animal advocates and lawyers
to envision how the law may have
restructured our relationship with
animals by the year 2050.*



e^ditorial

by Louise van der Merwe

How might it be for animals in the year 2050 ?

By 2050, will the new app to measure the emotions of farmed animals * be in everyday use internationally? Will we even be eating animal parts and products by then? Or will cultured meat and plant-based proteins have taken over?

By 2050, will the rights of animals be entrenched at UN level, a full century after the recognition of human rights? Will laws for the protection of animals have undergone a dramatic reinvention, reflecting a more evolved understanding of our relationship with those that share the breath of life alongside us? Or will we still commodify 'them' as opposed to 'us'?

A retrospective on three decades and 85 issues of *Animal Voice* ** gives insight into the struggle for justice on behalf of our fellow earthlings. In this time, as editor, I have come to wonder if it is any worse to have decimated indigenous human communities and robbed them of their land and power, than it is to have done so to nonhuman communities?

Imagine if, instead of the institutionalised butchery of nonhumans, we had spent our energies down the centuries on discovering their cultures. Imagine if we had lived by the philosophy that animals are other cultures, caught with ourselves 'in the net of life and time.'



Imagine if we had set ourselves boundaries on what we could, or could not take from other species?

We can take heart though, that the trajectory of moral evolution does indeed seem to bend towards justice ***. How much longer then, will it be before shudder-inducing unspeakably horrific, dehumanising practices like our treatment of sows and their piglets, like shipping our animals to slaughter in foreign countries, are outlawed? ****

We depend on the law to reflect the evolution of society's morals and values, and the 21st century has given rise to a rapidly burgeoning new branch of the law – Animal Law. It is to these pioneering law and sociology professionals and academics that this issue of *Animal Voice* is dedicated. Here, some of them have kindly agreed to give their vision of how the world might be for animals, in the year 2050.

Sincerely,
Louise van der Merwe
Editor



Read how the law will change the future as it begins to include animals within our circle of social justice. Sri Lanka is doing it already. Read on.

WATCH NOW
A [new short film](#),
commissioned by
Compassion in World
Farming, shows why
caged farming must end.

Cormac Cullinan

Practising environmental attorney
based in Cape Town, South Africa

Author: Wild Law - A Manifesto for Earth Justice
Founder: Global Alliance for Rights of Nature
Director: Wild Law Institute



“Human welfare is directly dependent on the health of our planet and climate change is a dramatic symptom of the failure of governments to regulate reckless human behaviour.

This insight has been slow to penetrate the world of law and politics because, other than ourselves, life on Earth is regarded as mere property, commodities, and resources to be exploited to our advantage, bought and sold, irrespective of the expense to Earth.

It is far past time that we should limit the rights of humans so they cannot unjustifiably prevent nonhuman members of Earth's communities from playing their part.

In the absence of such regulatory mechanisms, an oppressive and self-destructive regime will inevitably emerge. As indeed it has.

What if we were to live in a society in which nature had rights entrenched in law?

What if the fiduciary responsibilities of directors included obligations to the whole natural world with personal and/or corporate liability to restore any damage caused to natural communities? As we look into the future, individual and collective human rights must be contextualized and balanced against the rights of other members and communities of earth.

Small emerging shoots of what might be termed 'Earth democracy' are pressing upward despite the odds. The day will come when the failure of our laws to recognise the right of a river to flow will be as reprehensible as allowing people to be bought and sold.

After the horrors of the Second World War, the nations of the world adopted the Universal Declaration of Human Rights which recognises that every human being has certain inherent and inalienable human rights. This provided the foundation for the establishment of a system of binding treaties and institutions to uphold those rights, which has been a powerful means of protecting people against abuse by the powerful.

I believe that in the 21st Century, legal systems throughout the world will impose duties on humans to respect and uphold the inherent right of all members of the great community of life we call "Earth". ”

“Small emerging shoots of what might be termed 'Earth democracy' are pressing upward despite the odds.”



Dr Jean-Marc Neumann

French lawyer, lecturer and consultant in animal law

Founder and editor: website *Animal et Droit*

Independent consultant: *Animal Protection*

Trustee: *Society of Zoosemiotics*

(the study of animal communication)

Author: *'L'ours polaire et le droit'*

(The polar bear and the law) published in 2020

Executive secretary and co-Ordinator: *Education Group for Animal Law Studies (EGALS)*

Team member: launch of the first *French Animal Law Programme* (including a Master's Degree in Animal Ethics)

Lecturer: *Animal Law* at the University of Strasbourg

“With Global warming and the emergence of pandemics, the future of humans and animals has become inextricably linked as set out in the UN's One Health approach. The Covid-19 pandemic has forced an awareness on us of the urgent need to change our relationship with animals and the environment. The way we treat animals and exploit their territories is no longer acceptable.

I am quite optimistic that by 2050 the world will be much more animal-friendly. There is simply no other option in the common interests of all living beings.

Education and legislation are the two pillars for a better future for all living beings because reconceptualising laws is only possible if people are educated to understand that animals are not things or commodities, but sentient beings.

We also need a collaborative international approach as proposed, for example, by the Global Animal Law (GAL) Project which calls on the UN to adopt a convention on animal protection.

“Education and legislation are the two pillars for a better future for all living beings.”

The Polar Bear and the Law – Warning Signs

by Jean-Marc Neumann

The polar bear is the largest land carnivore. It reigns supreme over the icy expanses of the Arctic and fascinates with its beauty as well as its adaptation to one of the most hostile environments on our planet.

After being driven to the brink of extinction by intensive hunting, its population was able to recover thanks to the implementation of tools for the protection and management of the species. Today, the polar bear faces new threats, all of which are man-made. It has become the iconic animal illustrating the consequences of climate change. The species is weakened and its long-term future gives rise to serious concerns. **Protecting the polar bear and its natural environment today represents a formidable challenge. It is not only the polar bear's future that is at stake but also that of all humanity. ”**





Dr Birgitta Wahlberg PhD

Lecturer: *Public Law and Animal Law,*
Åbo Akademi University, Finland

President: *Finnish Animal Rights Lawyers Society*
for fundamental rights of animals



“**M**any years ago, I followed the slaughter of cattle in a slaughterhouse to gain a greater understanding of what the welfare provisions meant from an animal's point of view. I realized that however we do it, it is the systemic killing of sentient beings, and that this is unnecessary for our own survival.

That was the moment when I decided that I would dedicate the rest of my life to promote respectful coexistence between humans and other animals. I made a list in my mind of how to proceed towards this goal.

Firstly, I would develop an online, open access journal where legal scholars from around the globe could publish articles about different topics of animal welfare.

This has become the Global Journal of Animal Law (GJAL):

<https://ojs.abo.fi/ojs/index.php/gjal/index>

“The Principle of Necessity, forces both the legislator, authorities and courts to balance different interests and to develop an ethos in society that offers a less oppressive coexistence between humans and animals.”

Secondly, I would offer Animal Law courses at Finland's universities. Currently students can take courses in Animal Law at three Finnish universities, namely Åbo Akademi University, Helsinki University and University of Eastern Finland. A new online AniLex program at the Åbo Akademi Open University consists of nine online Animal Law courses (in English) and offers a total of 45 ECTS credits:

<https://blogs2.abo.fi/anilex/>

Thirdly, I would join up with like-minded colleagues to write a proposal on the fundamental rights of animals and promote the recognition of these rights as an amendment to the Finnish Constitution:

<https://www.elaintenvuoro.fi/english/>

This proposal, in particular the Principle of Necessity, forces both the legislator, authorities and courts to balance different interests and to develop an ethos in society that offers a less oppressive coexistence between humans and animals.

This Proposal, I think, is the most important step forward from the perspective of animals and the law. The Principle of Necessity is also deeply relevant as a measure, internationally, in the fight against climate change, biodiversity loss and zoonosis.

I believe it will take just one country to adopt The Principle of Necessity, and others will follow. ”

Dr Sabine Brels

International Animal Lawyer



“ Ultimate tool of justice, the law can enable humanity to rise up and build a new justice for all. ”

PhD: [Animal Welfare Law in the World](#)

Laval University, Quebec, Canada.

Legal Advisor: World Federation for Animals [WFA](#), working at policy level towards global transformation to a world where the well-being of all nature, humans and animals, is respected and protected at UN level.

Lectures: Professor of International and Comparative Animal Law in universities in France, Spain, Canada and the USA.

Co-founder: Global Animal Law [Global Animal Law \(GAL\)](#) association in 2014, an independent worldwide pioneering authority for the protection of animal welfare and interests through the law.

Consultant: Improvement of animal laws globally and specifically at UN level, including consultancy for WWF International and the Secretariat of the Convention on Biological Diversity/United Nations Environment Programme (UNEP)

Initiator and leader (2014 – 2021):

[Animal Welfare Legislation Database](#) listing the legislation related to animal welfare protection worldwide, at national, European and international level.

[Global Animal Law Expert Group](#) bringing together more than 100 animal lawyers internationally [UNCAHP project](#) for a UN Convention on Animal Health and Protection (note: to date there is no legislative global protection for animals.) The proposed Convention on Animal Health and Protection would break new ground in recognising the need to protect animal welfare and interests and would be legally binding for UN member States.

“When I was a child, I was taken to bullfighting events in the South of France where I had to watch the torture to death of a bull. Even at that early age it was beyond my understanding that people around me could have fun in attending such a bloody spectacle.

The cruelty I witnessed was such that it set me on a life's mission to protect animals from all avoidable suffering and I was determined to build my career to give effect to this.

When the time came in 2009, I was elected to do my PhD on *Animal Welfare Law in the World* to show the big picture of its past, present and future possible evolution worldwide.

We need the law, on a global basis, to recognize animal sentience, animal interests and bring an end to all inhumane practices towards all animals everywhere in the world. Solutions exist to end avoidable suffering for animals.

Positive incentives should be introduced for the adoption and development of animal friendly alternatives on an international scale.

Acknowledging the interconnectedness of humans, animals and the environment, as endorsed in the One Health/One Welfare concept, is a key step forward, not only for the animals but also for humans and our planet alike. Ultimate tool of justice, the law can enable humanity to rise up and build a new justice for all. It's up to us to make this vision a reality!

Let us aim for a world in which, by 2050, we are well on the way to aligning ourselves to the UN goal to live in [harmony with Nature in 2050](#) It's up to us to make this new vision become reality!

Everyone counts in the building up of a better world for us all, humans and non-humans. ”

Marita Giménez-Candela

Author: Animal Transition in Spain

Professor of Law: Autonomous University of Barcelona

Director: Master in Animal Law and Society

Director: International Centre for Animal Law and Policy (ICALP)

<https://www.derechoanimal.info/en/icalp/activities/2021/icalp-supports-legal-decosification-animals>

Founder and Chief Editor: Animal Law website

www.derechoanimal.info

Founder and Chief Editor: *Journal on Animal Law*, published since 2009, and indexed in the prestigious scientific journal SCOPUS

<https://www.derechoanimal.info/en/activities/chronicles/landing-page-scopus-journal-da-derecho-animal-forum-animal-law-studies>

Organiser: *Global Animal Law Conference* (Barcelona in 2014 and Hong Kong in 2018)



“ I started the International Centre for Animal Law and Policy (ICALP) to study and analyse the legal status of animals in Spain and around the world. The many publications by researchers who use this forum reflect the legal reality in which other species live. It is a reality which often leaves them helpless in the face of abuse or exploitation because they are considered as objects.

In 2009 when I first started publishing research on animal law, there were very few jurists who dared to speak out about the treatment of animals. There were very few who would even consider that the legal reclassification of animals as ‘sentient beings’ was an imperative that had to be addressed. A detailed analysis of this legal conundrum is set out in my book ‘Animal Transition in Spain’.

Those were pioneering and ground-breaking years.

“ Back in 2009 there were very few jurists who dared to speak out about the treatment of animals. ”

Even today some jurists still consider legal studies on animals and their welfare as something to be tackled in the future. Yet Animal Law is now an undeniable and irreversible reality, accepted within the 21st Century legal system.

This is the result of countless pioneering doctoral theses, scientific articles, and competitive research projects. Legal reform and the process of de-objectification of animals, is underway.

For example, judgments are recognising legal personhood of some animals; shared custody of companion animals is now part of domestic disputes; production animals, even fish and bees are all gaining attention. We are edging closer to the welfare state we want so much for them – the animals - as subjects of the law, not objects of the law.

ICALP is a dossier of what we have published in the last 10 years on the subject of changing the legal status of animals in the civil code.

It was founded precisely to facilitate access to all the information and studies that will help us understand the future that awaits the animals within international jurisprudence, as is increasingly being demand by society. ”



Pei F. Su

Founder and CEO of ACTAsia: an organisation dedicated to creating change in China through humane education

Founder: Life Conservationist Association (1991) Lobbied and campaigned for China's first *Animal Protection Law* (passed in 1998)

Orchestrated a ban on tiger farming and horse racing

Fur farming and bear bile farming are on the agenda

www.actasia.org

“In 1989, Taiwan emerged from the grip of Marshall Law, giving hope and opportunities for a more caring and compassionate society.

In 1991, I became a founder member of a new organisation ‘Life Conservationist Association (LCA)’. At the time there was no effective legislation relating to animals, wildlife and habitats, other than public health regulations.

We lobbied for changes to the Wildlife Protection Law, to prevent the commercial use of captive-bred endangered wildlife.

Subsequently, the law was amended to ‘conserve the species and not for human utilisation’. Tiger farming was also banned, and penalties increased for offenders exploiting other endangered wildlife.

For 5 years we lobbied and campaigned for an Animal Protection Law, to include shelter management, animal warden controls, humane euthanasia. The law passed in 1998, and has since been amended on 3 occasions. It includes a ban on horse racing.

“Many children in Asia grow up assuming animals exist to serve us, feed us, entertain us and clothe us; animals are useful ‘moving objects’, a literal translation of the Chinese word for animal.”

Although public demonstrations and protests draw attention to a cause, often such action does not help to create a meaningful dialogue with decision-makers and can sometimes create a barrier between NGOs, government departments and the general public.

In contrast, schools’ education and public awareness education enables people to understand the meaning of animal sentience and why the law should be followed.

In 2008 ACTAsia researched, prepared and distributed a report ‘Changing China’, the first report to inform how legal systems function in China. We also held forums to inform and discuss the need for animal protection laws.

During the current pandemic, ACTAsia arranged a series of webinars to debate legislation needed to ban fur farms in China.

By the year 2050 I envisage a world where comprehensive animal law is considered an essential part of each country’s national agenda.

But to reach this point, I am convinced the sustainable route, is through the power of education.”



Judy Muriithi

Attorney
Nairobi, Kenya

Master's Degree in *Animal Law*,
Lewis & Clark Law School, 2019

Legal Affairs officer at *Wildlife Direct*

Co-author:

The Impacts of Industrial Agriculture in Sub-Saharan Africa: next steps for Research and Engagement

A new report released in September 2021 urges policy-makers around Africa to connect with the emerging global movement *away from factory farming*.

Co-authored by Kenyan attorney Judy Muriithi and project manager Judy Bankman of the policy action tank **Brighter Green** the report calls on African policy and decision-makers to regulate against the expansionism of industrialised factory farming on the African continent.

Titled **The Impacts of Industrial Agriculture in Sub-Saharan Africa: Next Steps for Research and Engagement**, the report states: “In many African countries, factory farming is expanding, and meat and dairy consumption are rising. Most African governments see large-scale animal agriculture as a net good for their economies and food supply, and as a potential avenue for export-led trade”.

“Most African governments see large-scale animal agriculture as a net good for their economies and food supply, and as a potential avenue for export-led trade.”

However “a growing global consensus is emerging that industrial animal agriculture must be curbed in order to protect animals, ecosystems, and Earth’s climate.” The report points out that leading global institutions including the UN Food and Agriculture Organization (FAO) and the UN Environment Programme (UNEP) have reached consensus that food systems must rapidly shift towards more sustainable, equitable, and climate-compatible diets.

According to the report “research also showed that connecting with the global movement for animal welfare and establishing an intersectoral approach are necessary to prevent the exportation of an unjust, unsustainable model of livestock production to the African continent.”

African policymakers and decision-makers are urged to better understand the harms of the industrial livestock model for the sake of human health and livelihoods, environmental sustainability, and animal welfare.

For more information see:

<https://brightergreen.org/news/engaging-academics-to-counter-the-growth-of-factory-farming-in-africa/>

<https://brightergreen.org/africaff/>

<https://brightergreen.org/>

Yevai Kahari

Zimbabwean

Currently studying for her LLM in *International Business Law: Climate Change and Corporations*, at Vrije Universiteit, Amsterdam

Consultant at *Animal Law Reform South Africa (ALRSA)*
<https://www.animallawreform.org/>



“My interest in animal rights began at the age of 15 after my high school had the students watch a documentary on animal testing in the cosmetics industry. It was an extremely eye-opening experience for me. But I was never sure how I could contribute to the plight of animals considering that I come from a background that does not perceive animals as having rights especially in view of the many, many other problems facing the people of Africa as a whole.

In 2019, while studying for a postgraduate diploma in Law at the University of the Witwatersrand (Wits), in Johannesburg. I decided to adopt a more plant-based diet as a personal token of my concern. Then in 2020, I was introduced to Animal Law Reform. I immediately volunteered to assist in their research projects and this was the beginning of my journey into the field of animal law.

Once I complete my master’s in International Business and Climate Change Law, I hope to work with policymakers towards a fairer environment for nonhuman animals. It is tremendously important that governments and corporates realise that animal welfare, human rights and climate change are interlinked –and the neglect of one is at the detriment of the other.

I believe that as we head towards 2050 and as we become ever more aware of the environmental issues facing us, the rights of animals will be strengthened – if not for the sake of the animals themselves, then as a ‘by-product’ of environmental protection. Our attention to animal welfare issues will also depend on our progress in regard to human issues.”

“Climate change may well drive policy decisions to the benefit of both humans and animals.”



Peter Stevenson

Economist, lawyer and Chief Policy Advisor
for the International NGO
Compassion in World Farming

Peter was awarded an OBE in 2020
in recognition of his services to
the welfare of farmed animals.



“For me, the journey with animals started at birth when my mother named me after her dog. Luckily, he was not called Fido. And dogs have been a key thread running through my life. Pleb, Ruaridh, Jamie, Jodie and now Frankie and Rufo have given me so much warmth, fun and joy.

In the 1980s I became aware that the African elephant faced extinction. I was deeply troubled that so magnificent a creature could be lost for ever. Gradually I became aware that I wanted to work in the field of animal welfare having previously been a theatre director, including at the Space Theatre in Cape Town, and a solicitor. I began working for Compassion in World Farming thirty years ago. The organisation has made great progress, helping to get animals recognised as sentient beings by the EU Treaty and winning bans in the EU and UK on barren battery cages, sow stalls and veal crates.

Legislation is a crucial element of the road to respecting the well-being of animals. Legislation not only reflects society's values, but can help shape those values. Like great politicians and leaders, it can inspire us to operate at our best.

“the law should insist that each animal must be treated as an individual with her or his own qualities and characteristics...”

What will the law regarding animals look like in 2050?

I hope that by then – indeed, long before - legal systems throughout the world recognise animals as sentient beings and place a duty on governments, in formulating and implementing all their policies, to pay full regard to animal welfare.

Specifically on farm animals, legislation will hopefully acknowledge that our welfare responsibilities are not limited to preventing cruelty and suffering, but extend to ensuring that animals have positive experiences of life - fresh air, daylight, the warmth of the sun on their backs, the feel of the breeze moving across their bodies, pleasure, confidence, a sense of control, caring for their young, being raised by their mothers.

Also, the law should insist that each animal must be treated as an individual with her or his own qualities and characteristics; they are not just anonymous members of a herd or flock.

I hope that well before 2050 legislation in all countries will:

- prohibit the use of cages and crates so narrow that animals cannot turn round
- require animals to be farmed in ways that enable them to engage in their core natural behaviours. Systems in which pigs cannot root and hens are unable to peck and scratch in the ground are unacceptable

Continued next page

Peter Stevenson (continued)

- forbid the use of mutilations such as tail docking and beak trimming aimed to make animals 'fit' inappropriate systems; farming methods must be designed to meet animals' needs and wants
- prohibit genetic selection for fast growth and high yields where, as so often, this leads to ill-health or pain
- prohibit long journeys. Animals should be reared as close as possible to the premises on which they are born and slaughtered as close as possible to the farm of rearing
- insist that all slaughter methods are genuinely humane. All too often the term 'humane slaughter' masks slaughter methods that inflict immense pain, fear and suffering on animals.



Our future law should be grounded in an integrated rights-duty paradigm that recognises that animals are entitled to live their own lives with limited human intrusion, and that where we use them, we have a duty to do so in ways that minimise their suffering and even, at best, bring benefits to their lives. Like us, animals are part of the fabric of the natural world and until we rediscover respect for that world, we risk being prey to disasters, climate change biodiversity loss and pandemics. ”

The **United Nations** hosts a first-of-its-kind **Food Systems Summit** to transform the way the world produces and consumes food



Philip Lymbery is appointed a 'UN Food Systems Champion'

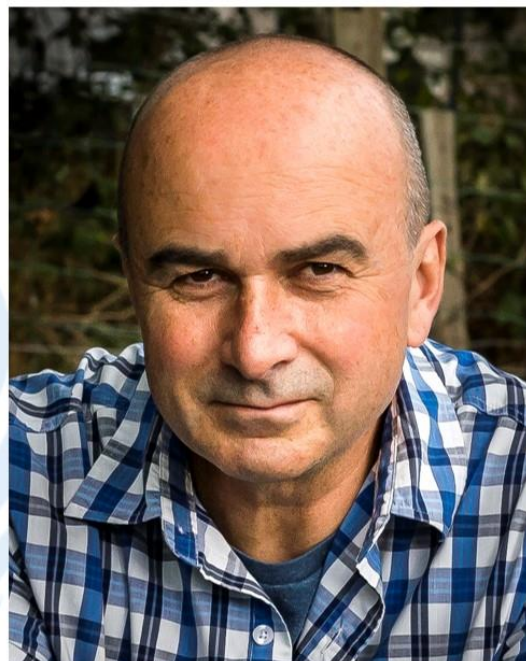
Chosen by the UN as a Food Systems Champion, global CEO of *Compassion in World Farming*, **Philip Lymbery** notes that *"for decades, there has been a marked complacency about food and the way we produce it.*

Governments have seen cheap food at any cost as a meal ticket to popularity.

"But now UN Secretary-General Antonio Guterres has done something extraordinary. He has used his office to raise the issue of food on the political agenda. He has pointed to the urgency."

From climate change to coronaviruses, from hunger to the collapse of biodiversity, Philip Lymbery states that all are rooted in the way the world produces food and that *"without a move away from industrial animal agriculture - factory farming - crucial Sustainable Development Goals will be rendered unreachable."*

Read Lymbery's article here: [How To Transform The Way The World Produces, Consumes & Thinks About Food](#)



The Humane Education Trust is honoured to have Philip Lymbery as its patron.

We are starting to understand animal culture,
just as it disappears before our eyes

The survival of species is rooted in
culturecultureculture

**Conservationists are beginning to understand that
repopulation efforts of critically endangered species may not,
in themselves, be enough to ensure survival.**

According to *The Guardian* of 13 August 2021, research suggests that species survival is rooted in culture, in shared memories and shared knowledge acquired over centuries and passed down through generations.

Philippa Brakes, a PhD student at the University of Exeter, UK, who is researching social learning and culture in non-humans, explains that hunting a single individual **“can have a much wider knock-on effect than just minus one from your population.”** It is also a loss of shared knowledge.

Says Brakes: **“We are just starting to understand what culture is in other species and just starting to develop methods for measuring and analysing culture, as we are seeing it disappear before our eyes.”**

<https://royalsocietypublishing.org/doi/10.1098/rspb.2020.2718>

<https://www.theguardian.com/environment/2021/aug/13/culture-shock-how-loss-of-animals-shared-knowledge-threatens-their-survival>



Giraffe

Culture



How often do trophy hunters claim that the giraffe lying crumpled at their feet was 'old' and 'culling' it was a 'kindness' ?

This isn't true!

Scientific research from the University of Bristol informs us that giraffes – like orcas, elephants and humans – live well beyond their reproductive years. In fact, giraffe 'grandmothers' spend up to 30% of their lives in a post-reproductive state, playing a vital role in 'child-care' and co-rearing of the young, so as to help facilitate survival of their families in tough predator-filled ecosystems.

HANDS OFF OUR GIRAFFE GRANNIES

Explains **Zoe Muller**, study author and biologist at the University Of Bristol's School of Biological Sciences:

"The most surprising thing for me is that it has taken until 2021 to recognize that giraffes have a complex social system... it is baffling to me how such a charismatic and well-known species as the giraffe could have been so understudied until recently."

The study found that giraffes appear to have a matrilineal society with females maintaining long-term relationships with other females and their own offspring. Close bonds form between females and their calves, who are sometimes cared for by other females in a kind of crèche.

Giraffe numbers have declined by 40% since 1985 and are listed as vulnerable by the International Union for Conservation of Nature.
<https://www.cnn.com/2021/08/04/africa/giraffes-complex-behavior-scn/index.html>

Nature's universal language



An understanding of numbers and the ability to use language have been viewed over the centuries as distinctly human faculties that set us apart from all other animals.

But now, as increasingly more complex numerical abilities in animals is uncovered, science is amending our perspective on animal cognition. From primates to birds to fish to insects, numbers and simple arithmetic – even a grasp of the tricky concept of ‘zero’ – are seemingly part of a universal language hardwired into all of Nature.

In an article in its August 2021 online issue, Quanta Magazine states that *“rigorous experiments during the past two decades have shown that even animals with very small brains can perform incredible feats of numerical cognition.”*

Even in tiny brains like those in bees or ants, says [Brian Butterworth](#), a cognitive neuroscientist at University College, London, *“there is a mechanism that enables the creature to read the language of the universe.”*

[Scarlett Howard](#), a postdoctoral research fellow at Deakin University in Australia who studies numerical cognition in honeybees, says: *“Once you realize that almost every animal, or maybe even every animal, has some ability to do a numerical task, then you start wanting to know ... what’s the threshold? What’s the limit?”*

Read here:

<https://www.quantamagazine.org/animals-can-count-and-use-zero-how-far-does-their-number-sense-go-20210809/>



“Mathematics is the alphabet with which God has written the universe.”

- Galileo Galilei, Italian astronomer often regarded as the father of modern science.



Sri Lanka sets the bar for legal reform for animals

Sri Lanka has introduced wide-ranging new animal protection laws including strict regulations for its 200-odd working and domesticated elephants. Announced by Wildlife Protection minister *Wimalaweera Dissanayaka* on 21st August 2021, **the new laws require all captive elephants...**

- to have their own biometric identity cards
- to enjoy a daily two-and-a-half-hour bath
- their mahout (rider) may not be under the influence of drink or drugs
- baby elephants may not be separated from their mothers
- baby elephants may not be used for work, not even for cultural pageants
- logging elephants cannot work for more than four hours a day and may not be put to work at night
- elephants in the tourist industry can carry no more than four people at one time and must be fitted with a well-padded saddle
- no elephant may be used in films except for government productions under strict veterinary supervision
- all captive elephants must be afforded a medical check-up every six months



Those who violate the new laws face a three-year prison sentence and will have their elephant taken into state care. Capturing an elephant from the wild is a capital offence.

<https://www.france24.com/en/live-news/20210821-sri-lanka-bans-drunk-driving-of-elephants-in-new-protection-law>

As the world turns against cages, the South African Bureau of Standards (SABS) is working on new standards for chickens

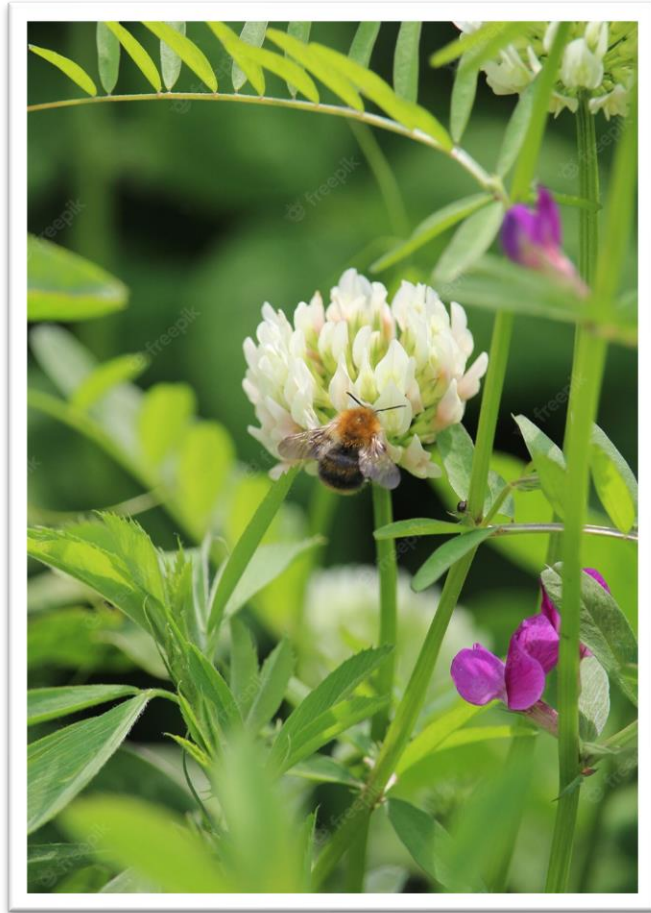


On 30th June 2021, the European Commission made a historic commitment to phase out cages by 2027 for all farmed animals across the EU by 2027.

See [here...](#)

In early September Yum! Brands (KFC and Pizza Hut), added their name to the many others and [announced](#) it would be 100% cage-free for laying hens in the USA by 2026, and would work with global partners to transition to 100% cage-free eggs by 2030.

Please see Animal Voice's 5-part pdf series for laying hens on our [website](#)



Our education system needs change, for us...
and the rest of earth's inhabitants too!
A different outcome depends on
teaching for a different outcome.

