



CICD

GAIA COURSE

2008 - 2009





Dear Participant



Welcome to the Gaia course at CICD!

You have a period in front of you full of education, training, fun and experiences, challenges, hard work and a sense of achievement.

You are coming to an environment with some of the best people in the world - activists who want to change the world for the better, and who have a conscience towards the least fortunate people on this planet. We have trained Development Instructors since we started in 1998, and so far more than 500 have been educated at CICD. They have made a real difference in the fight against poverty.

We started the Gaia course in 2003 as a response to the growing concern for the environment among people worldwide. We wanted to create a course, where people can come together to learn about and discuss the consequences of climate change and what to do about it. We have learned a lot since then and have constantly developed the curriculum to reflect the seriousness of the issues involved. We are very happy to offer this course - the world needs environmental activists on all levels.

The Gaia course is theoretical and practical. You will study and learn, and you will do plenty of practical actions - some that we have decided, and some that you can invent yourself. You will be located at CICD at Winestead Hall or in one of our satellites in Newcastle and Birmingham. The Gaia course has become very popular, and we can no longer accommodate all participants at Winestead Hall. The basic programme runs over 4 months, but you can join for shorter or for longer. You can start at the beginning of every month.

Be prepared for an untraditional school! A school for activists, where "Development" and "Change" are headlines. Be prepared for challenges and for the unexpected, don't get upset when things change, and get to know your own power to make things happen and create changes. Expect to learn and change in many ways: academically, physically, personally. Serious studies, lectures about global warming, washing up, budgeting, doing presentations, learning yoga, working hard on your Gaia projects, building up a team spirit in your group - all of these things form the education.

The GAIA Course is open to everyone. No specific qualifications or previous experience are needed. But an open mind, a desire to learn new things, and a readiness to create development through working with others, are essential.

The education and training at the GAIA course is also very relevant for participants, who are planning to train as Development Instructors, and can be used as a preparatory course for the DI programme.



We look forward to working together with you

Teachers, staff and participants at College for International Co-operation and Development.



Background

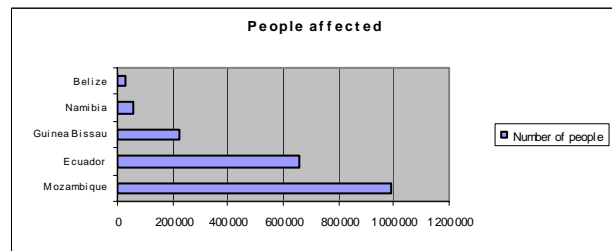


Much has been said and written about climate change over the past few years. It is difficult to know what to think. Climate change has always happened - we all know about the ice ages. Are we heading for a disaster, or is the present situation really "business as usual"? We have not got all the answers, but we do know it is not an issue we can just forget about.

The following are a few facts and figures to get you started on the questions you will be investigating, studying, discussing and doing something about.

The major threats are:

- Rising sea levels
- Floods and extreme weather
- Lack of water
- Soil degradation
- Droughts
- Decrease in food production



Rising sea level

It is predicted that sea levels will rise 1-2 meters before year 2050.

With the present development, sea levels will rise 5 metres before year 2100. The above graph shows the consequences of this for some countries.

Floods and extreme weather

The surface of the oceans has become 0,25-0,5°C warmer. This leads to a rise in the number of severe storms and hurricanes.

FAO estimates that 75-250 millions of people could be at risk of floods in 2020.

The duration and the strength of the hurricanes have increased with 50% within the last 30 years.

Between 1994 and 2003 2.5 billion people were affected by hurricanes, floods, earthquakes and other natural disasters. This is an increase of 60 %.



Disappearing water reserves because of melting glaciers

The glaciers are melting. In Himalaya they are declining 10-15 m / year and will probably almost disappear within this century. Ganges, Indus, Bramaputra, Salween, Mekong river, Yellow river (Yantze) and Huang He river are supplied with water from glaciers in Himalaya.

These rivers supply 2 billion people with water in China, Nepal and northern India.

Loss of melting water reduces the water by 2/3 in the Ganges river during the summer, causing water shortage for 500 million people and 37% water of India's irrigated land.

Most big cities in Ecuador, Bolivia and Peru rely on melting water from the glaciers for water supply.

Each year the gap between water consumption and sustainable water supply widens by over pumping from the ground water reserves, and each year the drop of ground water level is greater than the year before.

In northern China (the bread basket of China) the ground water drops 2,9 m/year

In India it drops 1-2 m per year

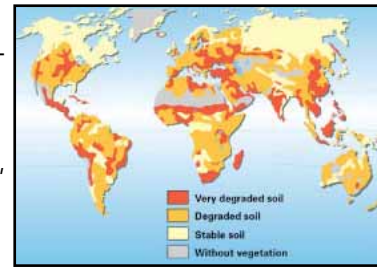
In Texas, Oklahoma and Kansas it has dropped 30 m over 3 decades leaving thousands of farms dry.

Beijing takes its fresh water from 1.000 metres deep.

The Capital of Yemen with 2 million inhabitants will have no more ground water in 2010 – they have drilled 2.000 metres deep without finding more water.

Land degradation

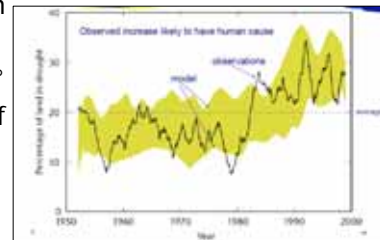
10 million hectares of arable land are lost each year due to unsustainable production methods. An area that can feed 50 million people
23% of globally used land has been degraded 1945-1990
1957-91 China lost an area equal to all crop land in Denmark, Germany, France and the Netherlands due to land degradation



Droughts

With an increase in the average temperature of 0,7 °C today, we can already see an increase in droughts.

The temperature could be expected to increase with an average of 4-6° C in this century, which would in some areas mean an increase of much more than 6°C.



These figures lead to serious considerations. Can we continue to feed the world's growing population? What do we do in the areas most at risk? What do we do about environmental refugees, who can no longer survive in their home countries due to climate change?

We face a decrease in food production due to:

- Less arable land
- Less rain
- Less ground water / irrigation
- Soil degradation
- Floods and extreme weather

The decrease of food for millions of people as a result of climate change will be a major question in our defence action for food security. India could expect 30-40% lower food production in 2080. Africa and Latin America could expect 20-30 % lower food production in 2080.

Ground water irrigated land produces 50% more than channel irrigated land. In China the food production has decreased since 1997, partly because of less access to ground water irrigation.

In India 25% of the food production comes from land irrigated by over pumping from the ground water. It is only a question of time, when it will not be possible anymore.

In the diagram you can see how much food is needed to grow 1 kilo of grain different places in the world.

If the grain is used to feed animals, the consumption is huge!

In 2080 the population could have increased with 40-50% (up to 9-10 billions) or more.

Water consumed for food production (litres evapotranspired per kilogram)						
	USA	France	China	India	Japan	World
Wheat ^a	1,390	660	1,280	2,560	1,350	1,790
Rice ^a	1,920	1,270	1,370	3,700	1,350	2,380
Maize ^a	670	610	1,190	4,350		1,390
Beef ^b	10,060	7,740	12,600	14,379	9,540	9,680
Pork ^b	3,370	1,940	2,520	7,560	4,080	3,680

^afrom Fraiture et al (2004) ^bChapagain and Hoekstra (2003)

This is without considering big catastrophes due to climate change

🌸 *Why do we call it the Gaia course?* 🌸

We have used the Gaia theory as the basis for taking action. Gaia is the name from Greek mythology for Mother Earth and was used by the English chemist James Lovelock to describe his theory that the Earth is alive. That the atmospheric gasses, rocks and water are regulated by the activities of living organisms. That the Earth is more than the elements it contains because of the interactions and symbiosis. That all organisms, humans included, are not separate, independent units but depend very much on the others for continued survival on earth. From the millions of viruses in every bit of seawater to the elephants. From the fungus in the soil to the giant redwood trees. The balances are threatened by human activities. The examples are numerous and well documented. The biological systems of the Earth - the systems that temper climate, purify and store water, recycle waste and produce food - are at risk.

The conditions must be changed, and we are the only species with the ability to change them. We have or must develop the technology that allows us to stop the destructive activities and reach a dynamic equilibrium to the benefit and future of all organisms on Earth.

This is what we want to work for.

James Lovelock writes:

"We have inherited a planet of exquisite beauty. It is the gift of four billion years of evolution. We need to regain our ancient feeling for Earth as an organism and revere it again. Gaia has been the guardian of life for all its existence; we reject her care at our peril. We can use technology to buy us time while we reform, but we remain accountable for the damage we do. The longer we take, the larger the bill. If you trust in Gaia, it can be a commitment as strong and as joyful as that of a good marriage - one where the partners put their trust in one another. The fact that they are mortal makes that trust even more precious".



Elements in the programme

There is an extensive study and practical programme at the Gaia course. Be prepared to be extremely busy!

Studies

Your programme contains at least 15 organised study hours every week. At Winestead Hall, the Gaia team has its own class room. In the satellites in Newcastle and Birmingham some of the studies and lectures take place in the house, where you live, but most of them takes place in facilities outside the house (to get enough space!).

The learning will take place through lectures, investigations, individual studies, discussions and debates. We also encourage love of nature and the countryside by having field trips. Most of Gaia team participants come from abroad, and English tuition is part of the curriculum.

Once a month the whole Gaia team has 2 intensive study days at Winestead Hall. On these occasions up to 40 people get together to learn and discuss. This is also an opportunity for participants from the satellites to meet up with the Development Instructors.

Practical projects

The Gaia programme is project orientated - we do something about the things we discuss and learn about. Some projects are ongoing and decided by CICD. The Gaia team operates our door to door collection of second hand clothes, and it is also part of maintaining and developing the park at Winestead Hall.

Besides, many smaller projects have found their way into the Gaia team programme - practical exercises in building wood saving stoves and solar heaters, composting and other kinds of recycling, beach and park cleaning actions, "green" campaigns.

Daily life

Our courses are residential, so you share daily life with a number of team mates. You will be part of running the school / satellite. All chores and daily tasks are organised in responsibility areas and are shared between teachers and participants. You learn a lot about team work from making daily life work, and you learn a lot about your own strengths and weaknesses.



The study programme

The study programme is organised in blocks of 1 months duration. The headline for the month contains theoretical and practical work aimed at reducing the impact of climate change.

The headlines are:

- Earth science and the Gaia theory
- Climate change
- Reducing the impact of climate change
- Environmental justice

Each block is a self contained unit and can be taken on its own or in combination with one or more of the other blocks. A block covers at least 60 hours of teacher presentations, films, group work and discussions. At the end of each block you must complete an assignment about the work carried out during the block.

Earth science and the Gaia theory

In this block you will learn about the Earth's systems and the fine balance between them. This balance is what is keeping it all together and is the condition for all life on earth, as we know it.

We study James Lovelock's Gaia theory and examine the consequences of climate change to the Earth in the light of this.

Another task during this month is to look at examples of small environmental actions, which are already taking place. Small actions can have a great impact, when many people implement them. In villages in Africa people learn to build wood saving stoves, construct simple water filters using local plants, implement ways of conservation farming etc.

The Gaia movement has worked with implementing environmental solutions for clean water, soil, food and energy at many small development projects in rural Africa. In the book "4 Green World Actions" many of these actions are described. We will carry out some of them in practice during this month.

Climate change

In this block we study the history of climate change, look into how the climate has changed in the past, what caused these changes and what consequences it had on life on Earth.

We compare the situation today, where climate change has come about as a result of man's actions during the past 100 years. Which consequences will this have for the environment and for us? Scientists predict that global temperature will rise between one and six degrees over the next century. We study material, where scientists have made projections, degree by degree, showing how life will change on a hotter planet.

The consequences of a global rise in temperature of six degrees are frightening!

It is urgent that we take action to cut back on carbon emission to avoid the worst impacts of climate change. How do we do this? As individuals, as an organisation, as world citizens? We read, we discuss, we hear presentations, watch films and get a better understanding of what has to happen. We assess our carbon footprint and decide on actions that we can take to become carbon neutral.

We will also investigate what actions world leaders and large companies plan to take to stop the rise of carbon emission into our atmosphere. Finally, we decide how we can act as individuals to promote a cleaner environment.

Reducing the impact of climate change

In this block we look at ways to reduce the impact of climate change, both individually and collectively. We study the principles of geothermal energy, ocean energy and solar energy and see examples of technologies that put these energy sources to use. We look at windmills, find out more about the use of solar thermal energy, the development of tidal power and wave power, the production of bio fuel etc. We discuss the implications of changing to clean energy in different circumstances - the household or the industry - and try to come up with good solutions. We investigate plans in the local community to increase the use of renewable energy and talk to people about cutting down CO₂ emission.

In our part of the world, consuming is a life style, which puts a lot of pressure on the environment. Recycling is an obvious step to take to reduce waste and to give the products a longer life. Many initiatives to recycling exist. Let us learn more about them and promote them.

A part of this month's programme is also to work with practical examples of how to set up affordable systems for waste, energy and nature preservation in rural Africa from the Green World Action Manual.

Environmental justice

In this block we look at the consequences of climate change, which have a direct impact on human life. We also look at how poverty and climate change are interlinked, and how richer countries and global corporations can help and hinder the consequences of climate change.

For several decades water resources have been declining, lost through pollution , overgrazing, depletion of underground reservoirs, erosion and other natural or manmade causes. At the same time the number of people living on Earth continues to rise , putting even more pressure on water resources.

The problems thus created hit those who can least afford it the hardest. When the poor farmer loses his land to drought or flood, he cannot feed his family. When clean drinking water is not available, the children and the weak are the first to contract waterborne diseases. When forest turn into dry land, endangered species of plants and animals are lost forever from the living earth. Water flows freely across borders. Problems of lost control can affect others far away. When control of water is lost on the high hills due to logging, rivers can turn into violent floods that sweep across downstream communities. When farm land turns into desert, people are turned into refugees and water resources elsewhere come under increased stress. When forests are lost, rain patterns and climate might change, upsetting entire regions.

The challenges of sustaining the water cycles on which life depends are of immense scale and are linked in many ways. Solutions require global action of people and communities. Such large scale action is possible, because the knowledge and technology of how to make a difference, of how to improve the water cycles exist.

🌸 *Ongoing Gaia projects* 🌸

We run two larger Gaia projects permanently.

Recycling of clothes

We operate a door to door collection of second hand clothes, and this is run by the Gaia team. We sell the clothes to Eastern Europe, and the proceeds are placed in our scholarship fund.

Some people in this part of the world get through a lot of clothes. In England, one million tonnes of textiles are thrown out every year. This is enough to fill up Lake Windermere in Northern England! 1.5 billion gallons of oil are used to produce 1 tonne of textiles, so reusing the clothes would save a lot of the precious oil. At the same time there are people in England and other places in the world in great need of clothing. Most of the discarded clothes still represent a value and can be reused rather than filling up dump sites.

We put leaflets into people's letterboxes explaining about our scholarship fund and asking them to donate their surplus clothes to us. A couple of days later we drive the same route with a van and pick up the bags that people have put outside. Once collected, the clothes are packed in large bags - cap sacks - which are loaded onto trucks.

Most of the participants in the Gaia team continue as Development Instructor trainees at CICD or at one of our sister schools in Scandinavia. Applications from Gaia team members take priority to get scholarships from the door to door fund. Participants, whose efforts have resulted in amounts equivalent to the Development Instructor course fees being placed in the scholarship fund, are guaranteed a place.



"30 acres of East Yorkshire" - maintaining and developing the park and gardens at Winestead Hall.

CICD is situated in East Yorkshire between the North Sea and the Humber Estuary. It is placed in 20 acres of magnificent parklands, with 83 different types of trees and many different shrubs and bushes. In one of the two walled gardens is a large green house with connected workshops. A herb and vegetable garden is established in one of the gardens.

Our garden is an ecosystem. The diverse combination of plants provides a rich habitat for wildlife and biodiversity, and you can find an amazing lot of living creatures, from insects and slugs to rabbits, mice, badgers and many different birds. If you are up early enough in the morning, you can even see deer.

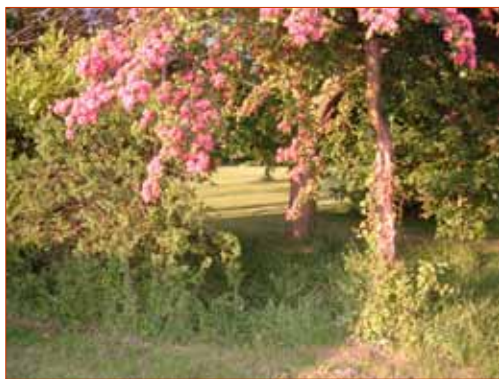
We aim to protect and develop the park and have made this a practical part of the Gaia programme.

Under this headline you will work with tasks that will vary with the seasons. In early spring and summer you will plan the vegetable rotation for the year and prepare the soil for planting. You will plant - bulbs and seeds for flowers, vegetables and herbs, you will prune fruit trees and shrubs, cut grass and weed, clear the pond from algae, harvest summer vegetables and herbs etc.

In autumn and winter you will prepare garden and grounds for the winter, pick blackberries, raspberries, apples and cherries, and harvest winter vegetables.

Throughout the year you will use environmentally friendly solutions to the use of fertilisers and protecting the crop from being eaten by insects or larger animals.

You will also take part in special projects to enhance biodiversity in our garden.



Week structure

This is the week structure 3 weeks a month at Winestead Hall and in the satellites:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

This is the week structure 1 week a month, when everybody get together at Winestead Hall:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday



August

Week 32	Week 33	Week 34	Week 35
The Earth - its systems, its natural value	The Gaia theory Science of the living Earth	World regions	Climate and weather

Earth systems science and the Gaia theory



September

Week 36	Week 37	Week 38	Week 39
Biodiversity and the development of life	Reasons for climate change	The carbon footprint	Consequences of global warming

Climate change



October

Week 40	Week 41	Week 42	Week 43	Week 44
The history of energy production	Using sustainable energy sources	New technology for clean energy	Reducing the impact of climate change	The water problem

Reducing the impact of climate change



November

Week 45	Week 46	Week 47	Week 48
Food and agriculture	Refugees on the blue planet	End of poverty	The Earth - its systems, its natural value

Environmental justice



December

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Week 49	Week 50	Week 51	Week 52
The Gaia theory Science of the living Earth	World regions	Climate and weather	Christmas holiday

Earth systems science and the Gaia theory



January

Week 1	Week 2	Week 3	Week 4	Week 5
Christmas holiday	Biodiversity and the development of life	Reasons for climate change	The carbon foot print	Consequences of global warming

Climate change



February

Week 6	Week 7	Week 8	Week 9
The history of energy production	Using sustainable energy sources	New technology for clean energy	Reducing the impact of climate change

Reducing the impact of climate change



March

Week 10	Week 11	Week 12	Week 13
The water problem	Food and agriculture	Refugees on the blue planet	End of poverty

Environmental justice



April

Week 14	Week 15	Week 16	Week 17	Week 18
The Earth - its systems, its natural	The Gaia theory. Science of the living	World regions	Climate and weather	

Earth systems science and the Gaia theory

May

Week 19	Week 20	Week 21	Week 22
Biodiversity and the development of life	Reasons for climate change	The carbon footprint	Consequences of global warming

Climate change

June

Week 23	Week 24	Week 25	Week 26
The history of energy production	Using sustainable energy sources	New technology for clean energy	Reducing the impact of climate change

Reducing the impact of climate change

July

Week 27	Week 28	Week 29	Week 30	Week 31
The water problem	Food and agriculture	Refugees on the blue planet	End of poverty	

Environmental justice



**College for International Co-operation and Development
(CICD)**

Winestead Hall, Hull, England