



# Naturland

## News International

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## FORWARD



**Dear Naturland members and partners throughout the world,**

**For many years now Naturland has been involved in matters concerning organic agriculture the world over.**

Back in 1986 Naturland started its pioneering work in co-operation with GEPA, the fair trade company, helping tea gardens in Sri Lanka to convert to organic agriculture, which lead finally to sustained partnership with Naturland. This was followed by certified tea growers in India who exerted significant influence on the development of the fair trade sector – and are active in this field even today.

In addition to sustainable organic management, social responsibility has always been regarded as a crucial factor by Naturland. Besides the commitment of Naturland's partners to protecting our environment, the basis of all life, by practising organic agriculture, they believe that this must also go hand in hand with the improvement in people's living conditions.

This means it is their obligation to ensure that those people whose work provides the world's food supply receive just payment for their efforts,

can avail themselves of opportunities for further education, need not fear losing their livelihood, and can work in harmony with nature.

Whilst global agribusinesses are annexing land and markets to an increasing degree, at the same time customers are asking ever more insistently about production and working conditions. For example, it is not enough nowadays to show a pretty picture of a tea garden. The public have grown tired of being treated like idiots – whether this be by politicians or when shopping for daily necessities.

The conversion of its first tea plantations was the germ of Naturland's successful international projects. At that time a seminal model was established for the improvement of the organic, social and economic living conditions of tea pickers in India, to the benefit of both the environment and the people working there, and which has now been adopted in many other production sectors.

To date, 55,000 farmers throughout the world have opted to farm their land to Naturland's standards.



## Naturland at trade fairs

- **IGW**, 22nd – 30th January, 2011, in Berlin
- **BioFach**, 16th – 19th February, 2011, in Nuremberg
- **Boston Seafood**, 20th – 22nd March, 2011, in Boston

Naturland's vision for the future is that agriculture be 100% organic. Encouraged by increasing demand and the growing interest of the general public, Naturland and its partners are committed to pursuing this aim with all the energy at their command, to bring it to a successful conclusion.

On behalf of the steering committee and all those working at Naturland, I should like to thank you most sincerely for

your confidence in us, your encouragement and your cooperation, and to wish you the best of success for 2011.

Steffen Reese  
General Manager, Naturland e. V.

## NEWS ABOUT NATURLAND

### Assembly of delegates strengthens Naturland International Unanimous decision to institute an "International Advisory Council"

The assembly of delegates is Naturland's supreme decision-making body. The delegates elect the board of directors and the standards and certification committees, and passes resolutions on the budget and the standards. In proportion to the number of members, two delegates currently represent the international members: Mr. Gabriel Lyatuu (Tanzania) and Mr. Michael Stark (Shetland). The assembly of delegates is elected for a period of three years. The next legislative period is from 2011 to 2013.

In order to increase the international members' opportunities for participation and their degree of influence, Naturland has instituted a more effective structure for its international delegates, starting with the next election period. The following instruments are contemplated:

#### 1. National Meeting of Members

In countries where several Naturland members are, annual or bi-annual national meetings of members are to be held. The agenda would cover reports by Naturland and topics specific to the hosting country, but would also provide for a spokesperson to be elected or a delegate proposed.

The national meeting of members would give Naturland members specific opportunities to present their concerns and proposals to the assembly of delegates, on the understanding that they would thereupon be informed of the decision arrived at by the assembly of delegates. In all likelihood national meetings of members will be held in Mexico (to include Central America), Ecuador, Peru, India, Egypt, Italy and Ireland.

#### 2. More international delegates

The number of international operations has increased to 360, which means that three international delegates will have to be elected for the next election period, 2011 – 2013. An amendment to the statutes was passed to the effect that those candidates who receive the most votes are elected as representatives of the continents of Africa, America, Asia, Australia and Europe. International Naturland members will be represented in the assembly of delegates by one delegate each from three of these continents. The amendment to the statutes eliminates the risk of all the delegates coming from one continent.



coffee farmers from Mexico



goat farmer from Greece



sugar processing in the Philippines



rooibos tea harvest in South Africa

### 3. World Advisory Board

Naturland's statutes now provide for a further body, an "World Advisory Board". This can be made up of up to five members. International delegates are (automatically) members of the World Advisory Board, with further members representing the continents in which Naturland is represented but which have not appointed a delegate. These are elected for a period of two years by the assembly of delegates, on the recommendation of the board of directors. The World Advisory Board advises Naturland in matters concerning the promotion of orga-

nic agriculture and fair trade throughout the world, and initiates research and development projects and other innovative measures.

In passing these amendments, Naturland emphasises the significance and importance of its international members. Towards the end of the next legislative period, the success of these improvements will be evaluated and possibly new measures worked on. We shall be informing our members of further details and impending elections in early 2011.

## „It's not blood, but tea, that flows through our veins“

### Interview between Mr. Ashok Lohia (Chamong) and Anne-Catrin Hessenland (Naturland)

*Since six generations your family is in the tea business now. Before the so called green revolution, tea was produced in a traditional way. What were the impacts of the modern agriculture*

Yes, our family has a long tradition in tea. Since 1916 we have been associated in Assam and 23 years in Darjeeling Tea Industry. To increase the production and keep the costs low, chemicals were introduced in the Indian Tea Industry in 1965/66. The farmers knew that with increased production, due to use of chemicals, the quality will suffer and the natural flavors' will reduce. The end-product in a tea cup will be like coloured hot water without any taste. For survival, there was no alternative. The use of chemical fertilizers has made the soil weak and in the hills of Darjeeling, top soils have been washed out. The growth got stagnated and to rejuvenate is required organic inputs.

### *What was your initiation to change to organic agriculture?*

Late Ranjeet Choudhary, a renowned Tea Taster from Tocklai Tea Research Station, could identify the name of the Estate, just by sipping the tea. His sense of taste was so sensitive that he told once a tea garden manager: "Keep the dogs away", since the tea had picked up the sweat smell of his dogs. Tea is very sensitive. For improving the quality of Darjeeling teas and its flavor, he was of the opinion that he could see the decline in flavor after use of the chemicals in Darjeeling teas. Hence, he was of firm opinion to go Organic and in 1993 we took a



Mr and Mrs Lohia talking to Anne-Catrin Hessenland

conscious decision to convert for saving the plantations and improving quality. I thought if my forefather has done organic or traditional agriculture, without chemicals before in Assam, why shouldn't it be possible to practice it also in Darjeeling. We started one project in Assam and one in Darjeeling. Since then the soil, flora, fauna and quality has improved, but the production declined. I am sure if the chemical experiment was not started, the plants would be in much better conditions. Because of the input, the reproduction system of the plants became weak. But it will be improved if there are new roots built. The soil must be protected now by good intercropping and rotation. The poison need to be discharged from the plants and it must be seen like homeopathy. So we are optimistic.

*As agriculture before the seventies was done in a traditional way, how would you say this traditional knowledge is implemented in the way of organic farming?*

When the plantations were treated in the traditional way the soil was not weak and exhausted. So the knowledge of the traditional way is limited. Now it is like being a recovery center and it is more hard work. The Organic gardens are like Ayurveda centers with yoga or homeopathy for the plants. My friend Andre Vollers told me: "First thing in organic: You must be honest to yourself to succeed". So we have faith on what we are doing now.

*The Chamong group has 10.000 workers in Assam and Darjeeling employed. How do you ensure, that they are satisfied and that they stay with your company?*

Our company philosophy says: "A satisfied worker will improve the production and quality". My mother was very spiritual. In India it is the obligation of the son, to take parents to pilgrimage. My mother was sick, so she could not go to visit temples, and therefore I had once asked her what she would like to do as charity. She said: "Since I cannot travel, after my death: "whatever charity you want to do, do it for your workers and no one else, since you are their guardian."

## Celebrating 20 years of Naturland tea from Darjeeling



*tea estate in Darjeeling*

**Dr. Richard Storhas, a founding member of Naturland and its first general manager, relates the story of Naturland's first steps on the international arena.**



*Dr. Richard Storhas*

In 1988 Mr Mohan, a tea grower from Calcutta, the heart of India's tea trade, travelled to Europe to find out more about market opportunities for organically produced tea. He was keen to convert his tea gardens to organic and was looking for experts who could help him with advice on site and later assist him with the certification procedure. His search took him to Naturland's offices in Graefelfing, near Munich, Germany, where intensive discussions were held between Mr Mohan and Dr. Storhas, Naturland's then general manager. The subject of their talks was aspects

of future co-operation and major stages for the conversion of the first tea garden, in Darjeeling, northern India, to organic criteria.

A year later, Dr. Storhas visited the Darjeeling region to take a look at Singell, the state tea garden run by Mr. Mohan. "The first impressions were breath-taking," says Mr Storhas. "Narrow winding roads in the Himalayan foothills, tea bushes growing on steep slopes as high up as 6,500 feet, against a backdrop of the ice-covered peaks of some of the 26,000ers in Sikkim and Nepal."



*Mr Binod Mohan*

The year before, Dr. Storhas had acted as adviser to the Stassen company, helping them initiate the first organic tea project in Sri Lanka. "Although the climate in Darjeeling is totally different from that of Sri Lanka, the experience I had gained there the year before proved to be of great use."

The first major task was to establish a compost management system and to ensure a supply of nutrients on a natural basis. The semi-natural management of the tea gardens was an issue close to Mr Mohan's heart and he was able to contribute much experience and knowledge derived from many years of practice. Moreover, he was open to any suggestions. For example, joint discussions were held on a concept for composting organic waste produced by a small town in the close vicinity. Another idea was to introduce cattle to the tea garden, in order to obtain sufficient manure for the areas to be managed. For various reasons neither idea could be realised in this



tea estate in Darjeeling

case. The decision was nevertheless made at least to collect the manure produced by the cattle kept in the tea garden workers' farms, and to purchase further quantities as required. The open areas between the tea shrubs

were planted with legumes and elephant grass, for nitrogen fixation, and with shade trees as a long-term project.

Another topic of discussion was the social situation of the tea workers and pickers, and how this could be improved. In the ensuing years Mr Mohan contributed many productive ideas on the further development of health care and of the schools run by the company.

In 1990, upon successful completion of inspection of the Singell tea garden, the first Darjeeling tea certified to Naturland's organic standards was introduced to the market.

This pioneering project was the start of a long partnership between Naturland and the Mohan family, the happy outcome of which has been the conversion of several more tea gardens to organic management in successive years.

## PROFESSIONAL INFORMATION

### FAO Survey: Culture of Fish in Rice Fields

**Rice-fish culture, i.e. the cultivation of fish and crustaceans in rice fields, can make an important contribution to the livelihood of those living in rural areas. In this form of polyculture, the water used in wet rice cultivation or when the rice fields are flooded in the rainy season is put to supplementary use. In this connection the word "fish" by no means refers strictly to fin-fish. Rather, it signifies any creatures that live in water, including crustaceans, such as freshwater shrimps (*Macrobrachium*) and other tropical prawns or crabs, all of which can be cultivated using different systems:**

- the simultaneous production of rice and fish in the rice field
- the rotation system, meaning that freshwater shrimp, for example, are bred in the rainy season, and rice cultivated in the dry period
- a system in which, for example, shrimp are bred in ponds which border directly on the rice fields. In this case the water resources are divided and exchanged



rice/shrimp polyculture with water channels between the rice paddies

between the two areas cultivated. The water has already been "fertilised" by the fish and is therefore highly nutritious, thus making additional fertilisation superfluous.

Rice-fish culture is an effective method of producing carbohydrates, animal protein and valuable fatty acids on a limited area. The positive effect on income and nourishment can be significant. The fish harvested can be offered for sale or, alternatively, replace other farm animals kept for food. The livestock thus no longer required can also be traded and converted into cash.

In 2006, Naturland, in collaboration with SIPPO (Swiss Import Promotion Programme) and MPEDA (The Marine Products Export Development Authority of India) initiated the "Indian Organic Aquaculture Project" (IOAP). The

prime objectives were the development and expansion of organic aquaculture in India and providing growers with better access to the market by obtaining certification as organic. During the course of the project, several rice-shrimp growers, generally small groups with 5 - 10 members, in Andhra Pradesh (south-east India) and Kerala (south-west India) were certified by Naturland. In most cases the larvae are bred from existing stock. Their feed is produced on the farm itself too, or supplied by a feed producer. This means that the entire value chain, i. e. the shrimp producers, the breeding facilities and the feed producers, is certified. At the moment the total yield is still low. However, forecasts indicate that a growth in yield, with additional project partners, can be expected.

The extensive polyculture systems described are practised in many Asian countries. The FAO (Food and Agriculture Organisation of the United Nations) has published a survey of this form of agricultural production in different countries, such as China, Cambodia, Laos and Vietnam. It includes the results of five case studies on the availability and use of fish and crustaceans produced under rice-fish polyculture conditions as well as information on management measures on a local level. Should you re-

rice/shrimp polyculture field after the rice harvest



giant freshwater prawn (*Macrobrachium rosenbergii*)

quire further information on the surveys, please contact [Matthias.Halwart@fao.org](mailto:Matthias.Halwart@fao.org) or [Devin.Bartley@fao.org](mailto:Devin.Bartley@fao.org).

Source: Halwart, M. and Gupta, M.V. (Eds.) *Culture of fish in rice fields*. FAO and WorldFish Center, Penang, Malaysia. 2004  
[www.worldfishcenter.org/Pubs/CultureOfFish/Culture-of-Fish.pdf](http://www.worldfishcenter.org/Pubs/CultureOfFish/Culture-of-Fish.pdf)

## Facts about tea



Harvest of tea leaves

Tea is grown under various ecological conditions depending on the location, in the tropics and subtropics. Ideal conditions for the growth of tea are annual mean temperatures of 18 – 20° C, average sunshine of about 4 hours a day, and precipitation distributed evenly throughout the year of at least 1,600 mm.

**Camellia sinensis var. sinensis** is a shrubby, small-leaved highland plant with good resistance to cold. It came originally from China but is also cultivated in Darjeeling, India.

**Camellia sinensis var. assamica** grows more rapidly and has larger leaves. This shrub was first discovered in Assam, India, in 1830. Since that time it has been cultivated throughout India and also in Sri Lanka. However, in the meantime ever more hybrid strains are stealing a march on this variety.

**Green tea is not fermented. Black tea is fermented.**

Green tea differs from black tea in its preparation, its taste and the contents and effect of the brew, but not in the plant it originates from. The difference lies in the way it is processed after being harvested. The leaves of the variety "sinensis" are preferred to those of "assamica" for green tea, since the small-leafed, more delicate strains

are more suitable. Most of the tea produced in China, and all of the tea from Japan, is green tea. In India, Ceylon, Africa and South America, it is mainly black tea which is produced, which, in contrast to green tea, is fermented

**White tea** consists solely of young tea leaves which have been left to wither and then dried gently so as to leave their silvery hairs intact. In this way the fine taste can develop and more valuable substances are retained. White tea nowadays is produced in almost all the tea-growing areas. Besides China, for example, it is also cultivated in Assam, Darjeeling, Nilgiri, Sri Lanka, Malawi and Kenya. Its properties depend on where it is grown and can differ greatly.

### Many teas are named after the areas in which they originate



tea processing workers

**Darjeeling** is a light, fine, aromatic tea. It is cultivated in north-east India on the southern slopes of the Himalayas at heights of between 800 m and 2,000 m.

First flush tea (harvested in March and April) has a tender, flowery aroma. Second flush tea (picked between the end of May and the end of June) has an intense, strong aroma. Rain tea, harvested during the monsoon season, has a strong taste, which diminishes to a gentle, mellow aroma in the last harvest in October. The higher up the tea is cultivated, the better the quality.

**Ceylon tea** is the most important export of the island of Sri Lanka and is cultivated in the central highlands. Between June and September, the tea has a full-bodied, powerful, tangy taste. By contrast, between the months of December and March it contains less tannin and is mellow. This fine tea with its copper-coloured brew is a standard constituent of many blends of tea.

**Assam** grows on the high plateau in the north of India on both sides of the Brahmaputra. The first flush tea (after the harvest break, starting in February) has a flowery, somewhat spicy taste and produces a light, golden-yellow brew. The second flush harvest is better known (end of May to end June), with its powerful, spicy, malty aroma.

It is also grown in **Doors**, in the north of India between Assam and Darjeeling, and in southern India in **Nilgiri** and the **Western Ghats mountains**.

### Tea blends and flavoured teas are widely available

**Ostfriesen tea blend** is a blend of strong tea varieties (Assam, Ceylon, Africa) which is drunk with rock sugar and cream.

**Earl Grey**, the classic flavoured tea, is by tradition a strong black tea, its typical taste derived from the addition of bergamot oil (Citrus × limon or Citrus bergamia).

### The time the tea is picked also affects the taste

The season in which the tea is picked has an effect on its colour and taste. This categorisation applies especially to Indian teas, particularly to teas from Darjeeling. In other cultivation areas constant harvesting is possible, in others only in certain months, depending on the geographical location.

**First flush**, the first tea harvested after the winter, is fresh and tangy, characterised by young shoots. **In between** has some of the freshness of the first pick



first flush (left) and second flush (right), Ambootia

but already tends towards second flush.

**Second flush**, the second harvest period, in the summer, is a strong, aromatic tea with a spicy taste.

After this, what are called "**rain teas**" are harvested during the monsoon. They are generally used for blends and ordinary tea varieties.

**Autumnal** tea is harvested in autumn, as the name implies, and is rarely to be classed among the top quality teas. However, it has a pronounced, full-bodied character. Thanks to its reduced tannin content, it has a smoother taste.



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## Different processing methods in the tea factories

The original method of producing tea is termed **orthodox**. Here the harvested tea leaves are withered, rolled, fermented, dried and sorted.

**CTC** stands for crushing, tearing and curling, and is a mechanised method used primarily for the production of tea for tea bags.

## Some frequently used abbreviations

**F.T.G.F.O.P.** Finest Tippy Golden Flowery Orange Pekoe, abbreviation for an especially exquisite tea with a high proportion of leaf tips and buds

**B.O.P.** Broken Orange Pekoe, a strong black tea from the first picking, with broken leaves. (The word Orange has nothing to do with the fruit. It derives from the name of the Dutch royal family, formerly major exporters of this type of tea.)



various tea qualities (such as F.T.G.F.O.P. and B.O.P., Chamong)

During the harvest, the light green shoots are picked every four to seven days. After about seven years the quality of the buds deteriorates from constant picking, so the bush is pruned to encourage new shoots. Three or four years later it again produces buds suitable for harvesting. In this manner, tea bushes can live as long as 100 years, if they are carefully tended.

Source: [www.teekampagne.de](http://www.teekampagne.de), [TeeGschwender Teebuch](http://TeeGschwender Teebuch), [www.teesorten.de](http://www.teesorten.de) (accessed: 22.09.2010)

## Soil symposium reveals the variety and importance of soil. Where there's soil, there's life!

Soil is one of the most important sources of life on our planet. This was the clear message of the soil symposium held in Munich, Germany, on 14th and 15th October, 2010, on the topic, "Source of life or worthless dirt?". The conference was organised jointly by Naturland, the Hopfisterei bakery and the publishers, oekom verlag. Dr. David R. Montgomery, professor at the University of Washington, who presented his book "Dirt – The Erosion of Civilisations", gave urgent warning to put a stop to global soil erosion. "The loss of this crucial basis for life will turn out to be a great problem for humanity," said the American geologist and author. All the speakers confirmed that the protection of the soil must now take top priority. Describing his daily life in the field, Hans Wimberger, a Naturland farmer, commented, "Organic agriculture is already making a great contribution to the health of the soil. It is the prime aim of any organic farmer to maintain its fertility and to encourage the creation of humus by means of specific crop rotation cycles."

### The soil as a protector of the climate

Dr. Kurt-Jürgen Hülshberger, professor and chair of the Institute for Organic Agriculture and Crop Farming Systems at Technische Universität München (Germany), made it clear that, whilst agriculture is influenced by climate change, it in turn also releases climate-relevant trace gases. Various research projects in which organic farmers were also involved showed that agriculture can counteract climate change using a wide range of strategies. In his summary of his scientific findings, Hülshberger stated, "Organic agriculture is already making a significant contribution to the protection of the climate by building up humus, the use of legumes, and with its crop rotation management. However, its capacities can still be used to greater effect and even expanded".



## Terra Preta – carbon sink and model for sustainable land use?

Dr. Bruno Glaser, professor at the Institute of Agriculture and Nutrition Science at Universität Halle-Wittenberg (Germany) presented the latest findings of his research into Indian black earth in the Amazonian Basin. Terra preta is anthropogenic, the product of charred biomass which, together with other nutrient-rich waste, combined with the clay particles of the original soil as a result of microbial transformation (composting). “Dark earth”, as terra preta is also known, is extremely fertile and has a great storage capacity to hold carbon, nutrients and water. The general approach of the research is to obtain renewable energy and charcoal from biomass using special techniques, and then to work the composted charcoal back into the soil in order to increase its fertility long-term. “In this way, heavily degraded soils in all parts of the world could be enriched in a sustainable manner,” explained Dr. Glaser. “A further positive effect in the fight to combat climate change is that it would make it possible to store carbon dioxide from the air in the soil for long periods of time (thousands of years).”

### Raising soil awareness

There are many causes why the public does not attach the importance to the soil which it merits. The reason why it is difficult to get the message over is, according to Dr. Günter Miehl, professor emeritus of Hamburg University, is that people no longer relate to the soil and are not aware of the connection between the soil and food. To raise awareness for soil protection, he recommends that rules be drawn up for users, and information produced be distributed via a network with international representation.



*fertile soil supplies plants with rich nutrition*

## New soil awareness created by urban agriculture



*analysis of soil profile*

Dr. Christa Müller of Stiftungsgemeinschaft anstiftung & ertomis described four projects to demonstrate how the internationally flourishing urban gardening movement can create greater awareness for agriculture and food. There is a noticeable renaissance in gardening, the communal cultivation of foodstuffs, and a return to nature in the city. Besides the positive effect achieved, that of connecting town dwellers to the soil, the social aspect also has great significance: they experience the cultivation of foodstuffs and their organic and social implications first-hand. The community gardens in the cities help people to understand where their food comes from.

You can find the talks under [www.naturland.de/boden-symposium.html](http://www.naturland.de/boden-symposium.html) (in German only).

## Worm compost – high-grade fertiliser to improve soil fertility

The use of compost can make an important contribution to the maintenance and improvement of soil fertility. Worm compost (also called vermicompost, from “vermis”, the Latin for worm) is an especially high-grade and nutrient-rich fertiliser. This deep black substrate is the end-product of the break-down of organic matter by micro-organisms, particularly worms. It contains the essential nutrients, nitrogen (N), phosphor (P) and potash (K), in greater quantities than in conventional compost.

**Table SEQ Tabelle \\* ARABIC 1: Nutritional composition of vermicompost and conventional compost**

nutrients	vermicompost	conventional compost
N (%)	1,9	1,4
C/N	13,6	20,6
P (%)	2,0	1,8
K (%)	0,8	0,7

Source: *Practical on Vermicompost, Dr. D. K. Shahi*

Worm humus not only encourages plant growth but also accelerates the regeneration of depleted soils, combining its soil conditioning properties with a restorative effect. This composting method is especially valued in tropical and subtropical countries, where the soils have only poor water- and nutrient-retention capacity. Many of Naturland's members in Asia and Latin America use worm humus, continually testing and developing the procedure, locations and operation. This form of composting can also be done on a small scale, works almost anywhere, and is perfect for smallholding organisations. In co-operatives, composting is a communal project to which everyone contributes, and the compost is intended for general use. The humus can be harvested within as little as 2 – 3 months. The conversion period depends on the raw materials used, the worms' living conditions (humidity, temperature) and on how carefully the composting is managed.

### **Eisenia foetida – hard workers**

The most frequently used species of worm is the red wiggler (*Eisenia foetida*), which is naturally predisposed towards high rates of conversion and reproduction. It can eat its own weight in food a day. Fifteen percent of the organic matter fed is what remains as worm compost. Besides this, one worm can reproduce at a rate of 500 – 600 a year, spawning every two months. Two to three hundred worms can convert organic matter of a volume of 1 m<sup>2</sup>/20 cm into worm humus in 60 days.

*compost containers between avocado and shade trees (ABIOEM in Uruapan, Michoacan, Mexico)*



*compost worms in Mexico (ISMAM Co-operative)*



*visit to worm propagation facility of PDS Organic Spices in Kerala, India*

### **Worm food – a wide but discriminating diet**

The worms can be fed on the dung of organically husbanded cows, pigs or poultry at regular intervals of 10 – 15 days. Vegetable waste such as foliage and coffee pulp enriches the diet of *Eisenia foetida*. However, the protein and nitrogen content should not be too high, because otherwise the activity of the micro-organisms increases too much, thus raising the temperature of the substrate. The worms will then try to escape, and those which are not fast enough will die. As a general rule it can be said that the finer the organic matter fed to these busy workers (worms, micro-organisms, microbes), the faster the conversion. Since worms are creatures of habit, the composition of the material should remain fairly constant during composting. If one adds, for example, coarser matter to the compost heap, it cannot be converted properly. The worms then have to get used to the change in diet. It is up to each individual farmer to experiment how to achieve the best results.

### **Structural requirements: humidity, darkness and aeration**

Compost worms perform best at temperatures between 20° C and 25° C, humidity of 80%, and with sufficient oxygen. In order to create the best living conditions (climate), the construction of worm composters, also known as worm beds, follows the following pattern: coconut fibre, mulch, shredded twigs or wood shavings are the primary material, the choice depending on local availability.

This worm bedding is the basis of the composting system. This is then covered with a layer of well-moistened worm food and the worm population then placed on top. If the worms are then exposed to light for a short period, they will dig down into the bedding more quickly. As a final covering banana leaves, jute or grass can be used, to protect the worms from predators, rain, light or dehydration. The farmers check the vermicompost regularly and make adjustments where necessary.

The compost heaps are generally 1.2 m wide and 0.6 m high, and can be any length. Two thousand worms can be accommodated per square metre. A roof protects the

heaps from temperature and weather extremes, such as heavy rainfall.

Depending on the location and degree of precipitation, the compost containers can also be placed under shade trees between crops. The advantage of this is that the compost produced is readily available where it is needed.



#### Use of the compost

The final, humid vermicompost can be mixed at a 1:4 ratio with soil, or spread directly round the base of the plant (for example in the form of a crescent-shaped mound on the upper side of a slope) and then covered with soil.

Ten litres of worm humus are sufficient to provide about 100 litres of soil with all the nutrients and soil life necessary to a plant. The seepage (vermiwash) drained from the worm bed is especially valued and is used in diluted form as foliar spray.

#### Great potential for both large and small organic farms

Vermicompost is a high-grade, nutrient-rich plant fertiliser which at the same time improves the structure of the soil and its water- and nutrient-storage capacity. The worms are a one-off investment and, if treated properly, will continue to propagate. Nevertheless, the procedure is labour intensive and time consuming and requires fastidious management. It is therefore necessary to see that newcomers are trained properly. In order to impart the expertise and knowledge necessary for success in the sensitive science of vermicomposting, co-operatives hold regular workshops on the topic of soil enhancement, during which they hand out “worm starter packages”.

#### Further information at

[www.naturland.de/erzeugerwurmkompostierung.html](http://www.naturland.de/erzeugerwurmkompostierung.html) (in German)

**Have any of you had personal experience with worm composting? How about sharing your knowledge with other Naturland members? We look forward to your stories.**

**Please send them by email to [a.hessenland@naturland.de](mailto:a.hessenland@naturland.de).**

## MEMBER'S FORUM



*tea pickers in the Seeyok tea garden (TPI)*

### Naturland members in Darjeeling



*tea pickers (Ambootia – Moondakotee)*

Darjeeling is the name of a district in West Bengal in north-east India, on the border to Nepal, Bhutan and Bangladesh. Its capital bears the same name. Besides this, Darjeeling is the protected geographical denomination of the origin of the tea grown here. “Darjeeling” is made up of the Nepalese words „dorje“ (thunder god) and „ling“ (country) and thus means: Land of the Thunder God.

#### Geographical denomination of origin

The tea gardens of Darjeeling suffered greatly from the fact that at least four times as much tea was being sold under the name Darjeeling as was ever produced in the region. This was the reason why the “Tea Board of India”, which supervises all the tea production in India, introduced a logo and certification of the geographical denomination of origin for tea produced in Darjeeling. The purpose is to guarantee the origin of the tea and to protect the consumer from imitations. The protected denominations of origin for champagne and cognac served as an example.

Typical of this region is the seasonal changes from gentle summers, to the humid monsoon rains which last several months, to cool, dry winters, with mild temperatures throughout the year.



tea slopes in Chamong (Marybong)

Steep slopes, fertile loess soil, intensive sunshine, cool nights and plenty of moisture are factors favourable to the slow growth of tea bushes. In the upper regions the tea leaves grow most slowly, making them of the best quality and imparting an intense aroma.

### Organic + Fair Trade in Darjeeling

In Darjeeling there are 87 registered tea gardens, 35% of which are managed according to Naturland's strict standards. A further 25% qualify for "bio" certification and 40% are farmed conventionally.

**Tea Promoters India (TPI)**, the company run by the Mohan family, is the pioneer of organic agriculture in Darjeeling and its Samabeong Tea Estate has been a member of Naturland since 1990. In the past 20 years, it has been joined by five more tea gardens in Darjeeling, among them Samjukta Vikas/Mineral Spring, a tea project run by smallholders, one tea garden in Assam and one tea garden in Dooars. TPI not only promotes the further development of organic agriculture, but is also particularly involved in the social sphere and in matters concerning fair trade. In talks with TPI employees in its Joined Body, Friedrun Sachs of Naturland learned that close co-operation with management, improved education opportunities for all, and the strengthening of the position of women, are particularly appreciated. The method used, "Appreciative Participatory Planning and Action" (APPA), is taught by an NGO which also encourages its implementation. It is a helpful tool when decisions such as how the fair trade premium is to be used need to be taken.

**Ambootia Tea Group** is one of the largest organic tea producers with gardens in Darjeeling, Dooars and Assam and takes pride in the welfare of the 50,000 people residing on these farms. In 2001 the first Ambootia Tea Estate became a member of Naturland, to be followed by twelve tea gardens. Landslides on the steep Himalayan

slopes are one of the greatest challenges to be faced. In 1968 the greatest landslide in the area occurred. This prompted the "Ambootia family" to start a reforestation project on the upper slopes and in the landslide area itself. As a result soil erosion has been reduced, soil fertility has been restored and the people in the area again have good drinking water.

**Chamong Tee Exports** has been active in the tea trade since 1916 and today has a workforce of some 10,000 (see interview). This family enterprise started in Assam; today it runs thirteen tea gardens in Darjeeling, all of which are certified by Naturland. Social security and its workers' welfare are a vital aspect of the company's business philosophy. Other important priorities are reforestation and the protection of the environment. In close co-operation with Teekampagne and WWF India, they started the project "Save the Environment and Regenerate Vital Employment" (S.E.R.V.E.) as far back as 1992. This is a long-term project designed to improve the social and economic standards of the people living in the mountains of Darjeeling. Since it started, 210 hectares have been reforested, 22 tree nurseries planted, and educational courses in environmental matters and the encouragement of environmental awareness have been held.



Ms Friedrun Sachs, Naturland (right) with the staff of TPI (Singell)

Tumsong Chiabari Resort offers city dwellers a wonderful retreat. The former tea estate manager's bungalow has been upgraded to a comfortable place for living and learning about Darjeeling tea. Whilst enjoying from the invigoration the pure air and intact natural surroundings produce, visitors can at the same time acquire an insight into life in a tea garden. For further information, contact [tumsong@chiabari.com](mailto:tumsong@chiabari.com) or [www.chiabari.com](http://www.chiabari.com)



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