SUSTAINABLE TEA

Good Agricultural Practice Guidelines

Unilever

Contents

Note
This document has been discussed with the members of the Unilever Sustainable Agriculture Advisory Board (SAAB). The SAAB is a group of individuals, specialists in agricultural practices or representatives of non-governmental organisations (NGOs), who have expertise in different aspects of sustainability. They have agreed to critically assist Unilever in the evolution of Sustainable Agriculture indicators and good practices for a range of raw material crops. The contents of this document and the choices made herein are, however, the responsibility of Unilever only.

Front Cover Design: Montage of Photos from Tea Estates

Introduction

This guide has been developed under the Unilever Sustainable Agriculture Initiative to support sustainable management practices for tea production. Ten indicators of sustainability have been identified, each with specific good agricultural practice recommendations:

- Soil Fertility
- Nutrients
- Biodiversity
- Energy
- Social and Human Capital
- Soil Loss
- Pest Management
- Product Value
- Water
- Local Economy.

Areas of potential opportunity for improvement have also been identified.

The development of these good agricultural practice guidelines has been based upon a thorough evaluation of potential agronomic practices and associated inputs. They have been produced in consultation with relevant scientists and specialists, including members of a Unilever Sustainable Agriculture Advisory Board (SAAB).

This guide is primarily intended for use by tea estates and farmers with relatively sophisticated agricultural management systems in place. There is a complementary guide targeted at smallholder farmers. There is also a companion booklet "Tea: A Popular Beverage - Journey to a Sustainable Future" providing background to our approach to sustainable agriculture for tea, and including examples of improvement programmes on our tea estates. These publications are listed in the bibliography.

Contributions to the "continuous improvement" of these guidelines are welcome and can be sent to us via email: info.liptonteasupply@unilever.com.

Top
>Steep tea field viewed from a riparian strip of native plant species

1. Soil Fertility

Soil organic matter is important for maintaining soil health and soil structure, reducing soil loss and increasing nutrient and water use efficiency. Organic matter levels should be maintained at, or improved to, a satisfactory equilibrium level for the particular soil type. The organic matter will derive from cleared vegetation in new plantings and leaf fall, prunings and mulches in mature fields. Long term deterioration in soil structure and fertility may result from **compaction**, particularly under mechanisation, from changes in **soil pH**, or from build-up of **salinity**, a possible side effect of irrigation.

Good Practice

Organic Matter

- Retain tea prunings in the field. Provide alternate sources of firewood to discourage the use of prunings for fuel.
- Manage shade trees to contribute to organic matter (leaf fall and prunings).
- Add organic matter on pruned fields where it is very low (vermicompost, manure, plant litter), taking account of the benefits of different sources in respect of nutrients, micro-organisms and water retention.
- Consider soil rehabilitation with a prior crop (Guatemala grass, legumes) in areas designated for tea planting and for 2 years before replanting.
- Minimise the period of time when there is no ground cover.

Soil Compaction

- Soil compaction can lead to water-logging and poor plant growth due to deterioration in soil structure.
- Soil compaction is not an important issue for tea, except where wheeled mechanised harvesters are in use. Compaction should be monitored in such areas.
- The use of heavy machinery during land preparation, especially when the soil is wet, should be avoided.
- Maintain plant cover on unpaved paths and tractor ways.

Top
> Tea bushes are pruned every four years. Prunings are left to provide ground cover and enhance soil organic matter

Soil pH and Salinity

- Tea requires a pH between 4 and 5.5 for good growth.
- Do not plant fields with pH above 5.5. Small areas of high pH soil (e.g. 'hut-sites') should be planted with high-pH tolerant clones in a large planting hole (25cm x 40cm) with sulphur at the rate of 60g per hole. Hut sites may be indicated by young tea plants showing stunted growth, crinkled leaves and balling of the roots.
- Diagnosis of suitable conditions for planting can be complemented by observation of adjacent tea fields having healthy tea, and the presence of indicator plants such as Bracken ferns (*Pteridium aquilinum)*, Button weed (*Borreria princeae)* and Kikuyu grass (*Pennisetum clandestinum)*.
- If soils become too acidic (below pH 4), apply lime at the time of pruning, using good quality dolomitic lime if available. Recommended rates should be obtained from local research/advisory services.
- Irrigation is unlikely to lead to salinity build up provided that total annual precipitation exceeds evapotranspiration. The following should be monitored:
  - The water table level,
  - Total Rainfall + Irrigation – Evapotranspiration to ensure that there is net downward movement of water over the full year,
  - The quality of irrigation water to avoid situations of high sodium build-up which might adversely affect crop growth.

Potential Areas For Improvement

- Review soil compaction levels on the farm, and develop action plans for managing vulnerable areas (e.g. limiting vehicle movements in areas with wet fragile soils).
- Review planting and replanting criteria. Are existing organic matter levels sufficient? Is the soil pH within the range (pH 4 to 5.5) for good tea establishment and sustainable growth?
- Reduce longer-term degradation by providing well-formed, well-drained and stable tracks and roads (grass, murram or tarmac dependant upon intensity of use).
- The soil is a complex living environment and the influence of ground vegetation, biomass return, pesticide and fertiliser use on its health require further research. Methods of monitoring and measuring soil health have to be developed.

> Prunings from young tea left as mulch to conserve moisture and control weeds

> Mechanical harvesters require careful operation to avoid detrimental soil compaction

> Prunings left to build up organic matter and maintain ground cover

> Low organic matter levels are improved by using vermicompost, manure or plant litter on pruned fields. Vermicompost is compost produced using worms to promote a more rapid breakdown and enhanced mix

2. Soil Loss

Soil erosion can be high in the tropics, if steps are not taken to control it. Most important is to maintain some **ground cover** vegetation. Planting perennial crops, such as tea, should lead to less ground disturbance and more permanent cover than with annual crops. Nevertheless heavy rainfall can still result in high erosion rates where soil is exposed and specific erosion control measures should be taken in vulnerable areas. Demand for **top soil for nursery use** can result in degradation of extraction areas.

Good Practice

Soil Erosion

- Plant along the contours if the land slopes significantly. This is particularly important on all slopes > 25 degrees, where the additional use of a single row of Napier grass, after every ten rows of tea, can supplement contour planting. Napier grass can also be slashed for mulch or for fodder.
- Construct silt pits (or micro-catchments) in newly planted areas, whatever the slope, to arrest run-off and encourage water retention. The design and construction of pits must take field safety into consideration and the pits must be maintained.
- Carry out environmental impact assessment and discourage the use of mechanical harvesting machines in all areas where soil erosion is likely to be severe.
- Pay careful attention to drain design and maintenance. Lock and spill over drains, boundary drains and stone revetments are advisable, wherever practical. A drain cut across the slope will have lower flow velocity resulting in less erosion. Soil drains should be planted with suitable grasses or other cover to hold the ground firm, but this cover must be maintained to ensure adequate flow.
- Ground cover plantings (e.g. Nilgri daisy, yellow daisy, *Citronella*) along field edges can significantly reduce erosion.

Top
> Maintenance of complete ground cover, including the planting of grasses along field boundaries and main drains, is essential to reducing water run-off and associated soil erosion

Ground Cover

- Plant a cover crop as early as possible after clearing. Broadcast oats as soon as land preparation is complete and/or choose a suitable local alternative such as beans, finger millet or maize which can be slashed before flowering and used for fodder.

Top Soil Use For Nursery

- Top soil should be sourced to avoid degradation of extraction areas.
- Traditionally, forest soil was used for nurseries. Nursery soil should be taken from the areas to be planted, so that the soil is returned to the field during planting.

Potential Areas For Improvement

- Investigate the planting of legumes as a ground cover in young tea, instead of oats. Mimosa and horse gram are possibilities.
- Review the length of the pruning cycle to reduce the frequency of soil exposure. In areas very favourable for bush growth hard plucking could limit table rise to the extent that fields can be plucked for five years rather than the conventional four. However, this practice will not be sustainable in some climatic zones, where it may lead to quality decline and increases in pests and diseases such as *Helopeltis*, Shot Hole Borer, Mites and Thorny Stem Blight.
- Extend the use of tea prunings to cover all bare soils that could be liable to significant erosion (see also 'Soil organic matter' - page 02). Other suitable mulches should also be used if available.
- Explore alternatives for using less soil in the nursery, in bags and for rooting cuttings, including the use of renewable rooting media instead of soil/sand.

> Legumes planted in young tea areas to provide ground cover and nitrogen

> Small pits (micro-catchments) will reduce run-off, conserving water and soil in young tea areas

> Maintaining forest on steeper slopes is good soil conservation practice

> Good ground cover within tea fields and surrounding areas is essential to reduce erosion on steep slopes

> Inadequate soil conservation measures, including ground cover planting, can lead to severe soil erosion

3. Nutrients

Economic sustainability requires the use of fertilisers on most soils but, ideally, **total nutrient inputs** (including those from soil mineralisation and compost imported) **should be very similar to the nutrients exported** in the harvested product plus that stored in the ground vegetation, soil and tea biomass. To achieve this, loss of nutrients in wastes (in water or by volatilisation) and at replanting must be minimised. Losses of nitrate and phosphate by surface run off and to ground water, and phosphate loss through sediment erosion must be avoided. The **proportion of nitrogen (N) input from biological fixation** should be maximised. Appropriate micronutrient additions will enhance the efficiency of use of Nitrogen (N), Phosphorus (P) and Potassium (K) as well as meeting the micronutrient needs of the crop.

Good Practice

Ratio Of Exports To Inputs

- Take advice from local research centres on optimal nutrient balance. The nutrient use efficiency that can be achieved will vary with application rate, soil type, soil depth, slope, temperature and climate.
- Low yield of green leaf may indicate inadequate fertiliser application.
- Dark green, fleshy and succulent shoots throughout the plucking table may indicate excess application of nitrogen (N).
- In Kenya, about 80% efficiency of input use can normally be achieved by keeping NPKS (22:12:6:5) application at an annual average of 150 kg N/Ha.
- In other areas it may be necessary to use different fertiliser inputs, with consequent impact on efficiency, to achieve economic sustainability.

Nitrogen (N) Input From Biological Fixation

- If shade trees are planted, use leguminous species. However, appropriate precautions will be required to avoid shade tree contamination of green leaf during harvesting (see also ‘Product Quality’ - page 12).

Loss of Nitrate and Phosphate by Surface Run Off, Sediment Erosion and to Ground Water

- Take steps to minimise run-off losses by applying fertiliser at a time of year when heavy rains are unlikely (see also ‘Soil Erosion’ - page 04).

Top
> Leguminous trees provide shade, nitrogen and organic matter from leaf fall on a tea estate in Assam

- Avoid applying fertilisers within 3-4 metres of watercourses.
- Algal blooms in ponds within the farm should be investigated. Blooms indicate nutrient leakage to surface water.

Potential Areas For Improvement

- Review nutrient application rates regularly in response to calculated residual nutrients in the soil, and foliar and soil analyses. In particular, take account of nutrients and organic matter in the old stand at replanting (see also page 03). Concentrate analyses in the 1st and 2nd years of the pruning cycle so that NPK rates can be adjusted accordingly in the 3rd and 4th years.
- Any ash from *Eucalyptus* (or other fuelwood) or old tea plants should be put back to fuelwood plantations and not tea fields (because ash is alkaline). This will also provide fertiliser savings for the fuelwood crop.
- Investigate using organic matter/compost/ bio-fertiliser to reduce the requirement for inorganic fertiliser applications.
- Consider the use of ground rock phosphate (except in high pH 'hut sites') and specifically when carrying out land preparation for replanting. Incorporation of rock phosphate will reduce subsequent reliance on soluble P fertiliser which may significantly leach into the water courses.
- Investigate areas where high fertiliser application rates have been adopted as a standard to understand the reasons and potential for significant reduction.

> In field soil sampling to monitor changes in organic matter and nutrient levels

> Top soil sampling for laboratory analysis

> Monitoring the environment for nutrient losses

> Careful measurement of nutrient levels

4. Pest Management

Integrated Pest Management (IPM) is the key to sustainable pest control. The objective is to adopt cultural, biological, mechanical, physical or other less-hazardous strategies to minimise the use of pesticides. IPM is therefore the careful consideration of all these available pest control techniques and their subsequent integrated use to improve biological balance. This should discourage the development of pest populations whilst keeping pesticide use and other interventions to economic levels, and will also minimise risks to health and the environment.

Good Practice

Arthropod Pests and Fungal Diseases

- Local estate field manuals must include detailed methodologies for management of the pests and diseases in the area with emphasis on cultural controls.
- Procedures and protocols that mandate good supervision must be in place.
- In East Africa the use of insecticides, acaricides and fungicides on mature tea should be avoided except in very exceptional circumstances. Disease and insect problems should not be significant and well grown tea will almost always outgrow short-term infestations, such as red spider mite, without the need for pesticide application.
- Chemical application may kill natural enemies of pests and allow an epidemic to develop and hence should only be used where unavoidable and in the context of a well managed IPM programme.
- Key requirements for an IPM system include:
  - No prophylactic use of pesticides.
  - Routine cultural controls (such as destruction of breeding sites and maintaining good ground cover).
  - Development of census systems for the main pests, founded on knowledge of life cycles and natural enemies.
  - Establishment of action thresholds for the main pests, based on economic damage levels.
  - If pesticide use is necessary, selectivity is important to reduce eco-balance disruption and ensure operator safety.

Top
> Hand pollination - plant breeding programmes include the development of more pest/disease resistant varieties

Pesticide Use

- PESTICIDES MUST NOT BE USED if workers are not trained, proper use procedures are not in place or appropriate application equipment and protective clothing is not available.
- Pesticides used should be restricted to those recommended by national tea research institutes and formally approved for the purpose under national regulations.
- Pesticides should be selected with regard to terrestrial and aquatic ecosystem toxicity, to reduce the risk to operators and the environment. Management must be able to justify the use of each pesticide.
- Purchasing decisions for pesticides should take account of quality (low cost generics may contain toxic by-products), and the quantity ordered must not exceed that which can be used before expiry dates. Purchase from suppliers who will take back empty containers for proper disposal.
- Pesticides must be stored safely and securely and use procedures, including action to be taken in the case of spillage accidents, clearly defined and enforced.
- Spray equipment must be designed and maintained to target the application effectively and use the minimum of chemical to achieve the desired outcome. It is important to minimise spray-drift, especially where watercourses could be contaminated or near to accommodation.
- Accurate records must be kept of pesticide use.
- There must be careful attention to operator safety:
  - Training and retraining,
  - Provision of suitable protective clothing with regular checking and replacement,
  - Personal washing facilities must be available and used after working with pesticides. All clothing and equipment must be appropriately washed/cleaned,
  - Routine health checks for operators and appropriate measures in place for first aid and poisoning incidents, including access to antidotes.

> Thorny Stem Blight - bio control experiment. Studying the predisposing factors for disease development, and the life cycles and natural enemies of the main pests, are key parts of an Integrated Pest Management system

Weed Control

- Ensure that ecologically and medically safe compounds are used, applied in accordance with industry and advisory service best practice and using low volume spraying methods.
- To achieve sustainable weed control and reduce the risk of developing herbicide resistance, a planned programme of changing active ingredients may be introduced.
- Ultra low volume or similar technology should be used to minimise discharge chemical levels.
- Spot spraying with proper targeting of the weeds should be practised.
- Adopt cost-effective mechanical control methods, including the use of mulches, in preference to herbicide use.
- Manual weed management is recommended for smallholdings without access to appropriate herbicides, application equipment and protective clothing.

Potential Areas For Improvement

- Promote research on bio-control agents (predators, parasites, bio-fungicides, pheromones) as IPM tools. Where research findings are encouraging, incorporate their systems into management practices and evaluate their effectiveness and consequences for pest management and the wider environment.
- If weeds are a problem in mature tea, consider whether this is a result of pruning policy. A longer pruning cycle, or a taller pruning height, results in less light penetration through the tea crop and thus less weeds (see also page 05).
- Avoid skiffing except where the practice has a specific benefit to the business as, for example, a better balance between quality and quantity in India.
- Use manual weed control within the crop.

> Spot spraying with proper targeting of weeds requires access to appropriate herbicides, application equipment, protective clothing and training

5. Biodiversity

Maintenance of **genetically diverse germplasm** of the crop is essential for the crop to meet changing needs of the future. **Conservation of biodiversity** in the estate and its surroundings is important, particularly where estates are located in areas of high conservation value.

Good Practice

Crop Genetic Diversity

- Ensure that company breeding programmes include conservation programmes for known seedling origins/jats. For example, where old fields are due for uprooting and replanting, consider leaving a small area (50 to 100 bushes) to ensure conservation of land races.
- Support and/or participate in industry efforts to conserve germplasm.
- Access and contribute as much as possible to the national gene bank programmes as, for example, held by the Tea Research Foundation of Kenya, and Tocklai and UPASI in India.

Biodiversity Within and Around the Estate

- Enhance the farm environment for locally important, rare or endangered species by providing appropriate habitats and adopting the right cultural practices, including avoiding pesticide damage to beneficial flora and fauna.
- Before any extension of the planted area, a full environmental impact assessment should be carried out and recommendations subsequently followed. A full assessment is not appropriate for areas <1.0 Ha but the implications of all new planting must be considered before work is started. There must be no extension into areas of primary forest.
- Ensure that riparian strips are maintained and dominated by native species. Link wildlife habitats wherever possible through corridors and riparian strips. Native tree species can be planted more widely through estates and farms without hurting the other agricultural activities.

Top
> Wildlife habitats should be linked wherever possible using Riparian strips and wildlife corridors composed of native species

- Encourage the conservation of native forests and tree planting in areas that have been converted from forest. Emphasis should be on planting of native tree species in a manner that mimics the natural forest mosaics. Also plant trees that can be used to control pests (for example Neem) where possible.
- Only purchase fuelwood from commercial, renewable plantations or from farmer groups that have established commercial woodlots.
- Encourage individual farmers and farmer groups to plant woodlots that will produce appropriate firewood, while maintaining a diversity of native tree species.

Potential Areas For Improvement

- Clearly establish the economics of cultivation of marginal areas (steep slopes, shallow soils, high pH areas, poorly drained land) and convert those which are not profitable to wildlife reserves.
- Work with international and local initiatives to encourage biodiversity, minimise use of ecotoxic pesticides, put in place IPM (page 08) and adopt conservation measures for rare or endangered species that use the farm as a habitat.
- Co-operate with national museums and biodiversity research programmes to assess and document biodiversity of estates and surrounding areas.
- Join efforts on a broader ('landscape') scale to consider areas of forest, or similar reserve, which may be needed to support stable populations of desirable species. Achieving larger reserves to support biodiversity will usually require working with other estates/land owners and public sector bodies.

> Forest conservation is critical to management of water catchment areas

> A combination of forest and riverine conservation areas within a tea estate

> Planting of indigenous tree species in vacant land to promote biodiversity in estates

> Community programmes to plant indigenous trees at hospitals, schools, housing areas and in open spaces

> Arboreta can be established to conserve a greater range of species and provide an opportunity for education and recreation

6. Product Value

Sustainable agriculture must be **profitable**. On the output side, this will involve producing the optimum amount of high **quality** product per unit area, minimising costs/waste and adding value wherever possible. Consumer concerns about food safety, environmental performance and social responsibility must be satisfied.

Good Practice

Profitability

- Optimise yield, taking into account safety, quality and costs, to maximise margins.
- Harvesting efficiency, the choice of harvesting standards and the application of Good Manufacturing Practices in primary tea processing are important for maximising product value.
- If semi-mechanical or mechanical harvesting is adopted, ensure that product quality is not negatively impacted.

Product Quality

- Field harvesting and leaf transport should be optimised to ensure all harvested leaf is acceptable for tea manufacture.
- Foreign matter, including leaves from shade, wind-breaks and *Eucalyptus* trees, should never be present in harvested leaf.
- Unacceptable pesticide residues should never be present in harvested leaf.
- Factory systems need to ensure that high quality tea, free from over-firing, under-firing or taint is produced all the time.
- All tea products must be within legal or trade standard limits for microbial contamination, and free from heavy metals, significant foreign bodies and any substances potentially harmful to consumers.

Top
> Timely harvest supports the production of quality tea

Potential Areas For Improvement

- Increase the value by developing products specifically for high-value markets.
- Systematically address customer/consumer complaints or concerns, and strive for continuous improvement in product quality that will give competitive advantage. For the out-grower, the factory should be seen as the customer.
- Plant breeding needs to continue in order to develop highly efficient, high value planting material for the future.

> Plant breeding programmes to improve quality and yield

> Grading according to factory specifications and quality standards

> Tea tasters evaluating teas for auction

7. Energy

Left
> Productive fuelwood plantations have an important role to play in building self-sufficiency in renewable energy resource

> Windmill renewable energy initiative for pumping domestic water

> Hydroelectric plants can provide a significant proportion of the power requirements for estates with access to suitable rivers

> Moisture reduction through storage under UV polythene has achieved 30% improved fuelwood energy efficiency

The **efficient use of renewable resources** should be targeted since the use of non-renewable sources, such as fossil fuel, is not sustainable in the long term. **Greenhouse gases** and **polluting gaseous emissions** must be minimised.

Good Practice

Efficiency and the Use of Renewable Resources

- Use firewood as a fuel for drying to reduce non-renewable fossil fuel consumption. All fuelwood must be derived from sustainable sources.
- Boiler and factory efficiency should be optimised. Invest in more efficient boilers if necessary.
- Biofuels derived from waste (e.g. bio-briquettes and sugarcane bagasse) should be considered to supplement fuelwood use.
- Smaller farms should seek to develop co-operative fuelwood growing schemes given their own land-holding constraints.
- Where sustainable fuelwood sources are limited, alternatives should be investigated to avoid extraction from native forest reserves.
- Use of fossil fuel for power generation, vehicles, irrigation engines and factory start-up should be minimised.
- Where practical, develop hydro-electricity or wind-power schemes to support power needs.
- Monitor fuel inputs and meter all power outlets to minimise misuse or wastage of power.
- Tea bush prunings should be left as a mulch in the field and never used for fuel.

> Reduce fuel use with careful planning and management of the logistics of harvesting and leaf transportation, and by keeping vehicles well maintained

Greenhouse Gas Emissions

- Minimise fossil fuel consumption and hence CO_2 emissions.
- Nitrous oxide is produced from anaerobic soils, especially after adding N fertilisers. Applications of nitrogen (N) should be reviewed carefully for areas with high water tables.

Polluting Gaseous Emissions

- Install scrubbers in factory chimneys.
- Avoid use of fertilisers which can easily volatilise, such as urea. Urea volatilises into ammonia which is oxidised in the atmosphere to nitric acid, a component of acid rain.
- If it is not economically sustainable to eliminate urea, find ways to reduce volatile loss, such as neem coated urea, pellets and timing of application.

Potential Areas For Improvement

- Utilise human waste to generate biogas as a source of fuel.

8. Water

Water may be used for irrigation and is also used in factories. The **volume used** and the use of **sustainable sources** need to be considered, together with preventing potential pollution from factory effluent or discharge from factory washdowns.

Good Practice

Irrigation

- Where practical, use drip irrigation rather than sprinkler, for economy of water use.
- Monitor the quality of irrigation water. Water that is harvested from agricultural or industrial areas may have effects on soil nutrient retention and release equilibria. There may also be toxic effects from pollutants.
- Apply irrigation where it is most cost-efficient to do so. It may be better to apply more water to a smaller area to achieve maximum return on capital and labour.

Factory Process Water

- Minimise factory process water use (e.g. recycling steam condensate, dry cleaning of factory lines).
- Do not discharge untreated factory effluent into watercourses.

Water Harvesting and the Sustainability of Water Supply

- Ensure that any water harvesting is not at the expense of other users downstream.
- Maintain in-field dams and water catchments.
- Buildings with appropriate roofing can feed water tanks to collect rain water for domestic use. Larger buildings, such as factories, should also enhance harvesting of rainwater for sanitation use.
- Ensure that refuelling and lubrication operations for pumping equipment do not pollute watercourses.

Potential Areas For Improvement

- Investigate differences in process water use between factories, and implement best practice on process water utility and handling of factory effluents.

> Routine water sampling to monitor quality and ensure that there is no adverse impact of tea growing operations upon the local environment

> Maintain water catchments and ensure any water harvested is not at the expense of other users downstream

Top
> Natural vegetation plays a crucial role in maintaining watercourses and supporting associated wildlife

9. Social and Human Capital

> Tea companies can ensure that the workforce and their families are provided with good standards of housing, healthcare and education

> Family accommodation for employees on a tea estate in Southern India

Good relationships with the workforce, local community, suppliers, customers and Government are vital for long-term sustainability of any business. **Healthy, well-educated people** are assets to growers and vital for the sustainable development of the nation.

Good Practice

Relationships

- Terms and conditions should be such that the turnover rate amongst permanent employees and seasonal labour is low enough to ensure skill levels are maintained.
- Ensure employee grievance procedures are fair and that employees are confident to use them should the need arise.
- Be a good customer, citizen and supplier - pay and supply on time and at the agreed price.
- Group together with other farmers to obtain bulk discounts and joint transport for inputs such as fertiliser or safety equipment. Farmer groups will also find it easier than individuals to gather and share information on subsidies, tax benefits, agronomic and health benefits and to lobby for infrastructure improvements.
- Maintain good relationships with local Government and others in the local community who use the land for amenity or traditional purposes.
- Deliberately enhance/market the company image in the eyes of third parties to strengthen the organisation's relationship with both the community and Government.

Human Capital

- Ensure that workers and their families have access to medical and educational facilities. Encourage social programmes that enhance literacy and health (e.g. clean water provision, vaccination programmes, nutrition information, HIV awareness, help with disabilities, advantages of small families etc.).
- HIV/AIDS education and prevention should be high on the agenda for both estates and smallholders.
- Provide training opportunities for employees and farmer groups in key aspects of the tea business.

Potential Areas For Improvement

- Farmer groups and larger estates may consider developing partnerships with Government to address shared threats and to support public services.
- Estates should develop links to smallholders (out-growers) with a view to providing extension support.

Top
> Crèche facilities should be provided for children of employees

10.Local Economy

Rural communities are dependent on sustainable local agriculture. Farmers can help build and sustain these communities by **buying and resourcing locally.**

Good Practice

- Use local suppliers wherever practical (bearing in mind reliability and cost).
- Use local employees as much as possible.
- Encourage employees to send their earnings to their home and family.

Potential Areas For Improvement

- Consider working with local communities to develop businesses that reduce the need to import goods and services (for the farm or for employees) from further afield.
- Work with the National Tea Boards and Tea Research Institutes to provide guidelines for the efficient management of tea production, marketing and processing.

> Vegetable cultivation by smallholder farmers in Assam with assistance such as seeds, fertilisers and know-how from tea companies

Top
> Local markets where income earned from tea growing helps support purchasing power

> Tea estates help establish roads and infrastructure for rural communities

> Fish farming in rice fields by smallholder farmers in Assam with assistance from tea companies

> Tea growing companies host training events for local growers to share experience and exchange views on good agricultural practice. This leads to local farmers producing more green leaf to a higher standard in more sustainable ways

Bibliography

Other Sustainable Tea Publications from Unilever

- **Tea: A Popular Beverage - Journey to a Sustainable Future.** Providing futher background to our approach to tea and sustainable agriculture.
- **Sustainable Tea: Good Agricultural Practice for Farmers.** A practical guide for the smallholder farmer.
- **Sustainable Tea: Methods for Sustainable Agriculture Indicator Assessment.** A detailed technical guide to the methodologies recommended for the measurement of sustainability indicators.

Sustainability Publications from Unilever

- **Growing for the Future:** Unilever and Sustainable Agriculture.
- **Growing for the Future II:** Unilever and Sustainable Agriculture.
- **Fishing for the Future:** Unilever's Sustainable Fisheries Initiative.
- **Our Everyday Needs:** Unilever's Water Care Initiative.
- **Palm Oil:** A Sustainable Future.
- **In Pursuit of the Sustainable Pea:** Forum for the Future and Birds Eye Walls (Unilever).

Copies of these booklets can be obtained from http://www.unilever.com or can be requested by e-mail from info.liptonteasupply@unilever.com.

For more general background on Unilever and Sustainability visit http://www.unilever.com (click link for environment & society) or visit http://www.growingforthefuture.com for specific information on the Unilever Sustainable Agriculture Initiative.

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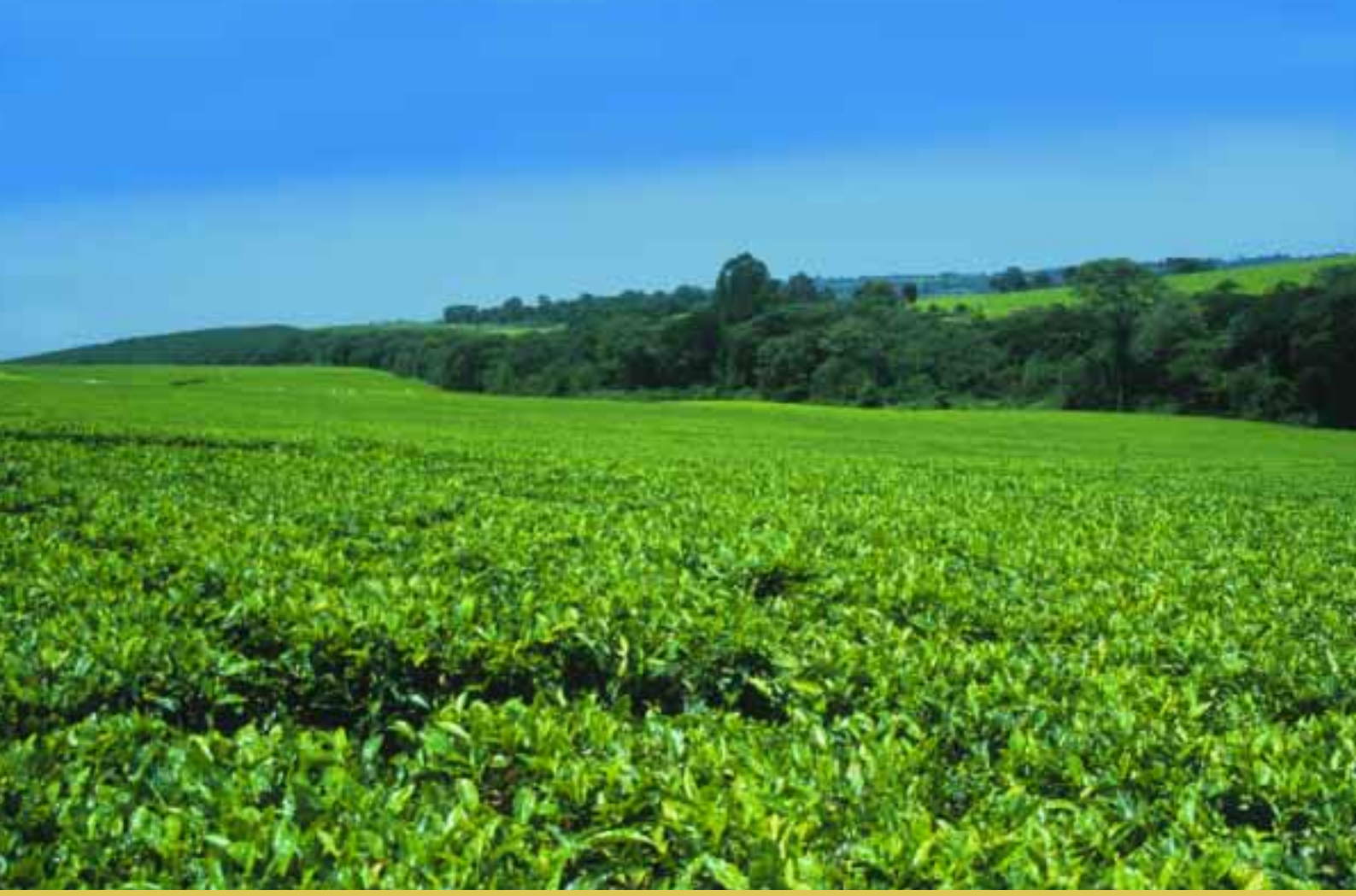

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