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Standards & Pricing Explanatory Document for the Fairtrade Standard for Cereals

Implementation or improvement of environmentally sustainable production
and processing modes for quinoa

Issued March 2012

Introduction

The Fairtrade Standard for Cereals indicates that, in the case of quinoa, at least 30% of the Fairtrade Premium will be dedicated to investment in environmentally sustainable quinoa production and processing measures.

This Standards & Pricing (S&P) explanatory document provides some explanation on what environmental sustainability improvement means, what investment this may require and what measures could be implemented. The objective is to provide guidelines for producers and processors to implement or improve measures in order to reach better environmentally sustainable practices. These guidelines have been established from workshops organized with producers and from studies conducted by different experts on the sustainability of production. These guidelines need to be considered in complementarity with the environmental sections of the Fairtrade Standard for Small Producer Organizations and the Fairtrade Standard for Cereals.

Please note that the explanatory document is neither part of the Fairtrade Standards nor replaces it. Operators will only be audited on the standards, not on this explanatory document.

This explanatory document is progressive. S&P encourages producers to provide their feedback on the accuracy and efficiency of these guidelines. Producers' feedback will allow adjustments to the guidelines, optimally adapted to the different quinoa production contexts.

Contributions to this topic, questions and comments may be sent to Standards and Pricing at:
standards-pricing@fairtrade.net

Background

The strong increase in demand for quinoa and consequent price increases over the past few years has led to an intensification of production and to an expansion of cultivated land into the plains. These factors have led to higher incomes and better standards of living for producers, but also to a transformation of the traditional agrarian system, challenging the agro-ecosystem and environmental sustainability.

As competition is rising in the international quinoa market, measures need to be implemented to adopt a more sustainable approach in order to ensure Fairtrade quinoa production continues on a long-term basis.



Environmental sustainability is multi-faceted and depends on several factors. In the case of quinoa, the main factors are soil and water erosion, fertilization of the soil, pest management, biodiversity management as well as water management and water treatment. Further, land management, mechanization and irrigation are topics that have influence on some of these factors.

Environmental sustainability can be achieved by implementing operational measures that are presented below:

I. Types of measures to improve environmentally sustainable production and processing methods

Measures to improve environmental sustainability can be taken at the individual farmer / community level and/or at the producer organization level. These two levels can be differentiated according to whichever factors are to be improved/ tackled, and can be clustered as follows:

1. Investments at the farm and community levels

1.a Soil Erosion

The subject of soil erosion is crucial and needs special attention. It is therefore strongly recommended to implement measures to limit soil erosion.

Soil erosion is particularly prevalent in Ecuador, where hillsides are very steep and the risk of landslides is great. The Bolivian Altiplano is also very vulnerable to erosion. Water is a major contributor to soil erosion there, especially in cases of late rains.

In the plains, the main factor for soil erosion is the wind which can be mitigated by walls and fences.

	Plain	Hillside
Adapted land management	Low stone walls Living fences (see characteristics below)	Low stone walls Terraces
Water management		Draining canals to enable good irrigation
Ploughing	No-tillage or limited use of the disk plough to every other cycle	
		Transversal to the slope
Sowing	Prioritise manual techniques	
Harvesting	Cutting instead of uprooting	



According to the production zone (plain or hillside), suggested measures are listed in the table below.

FOCUS: Living fences

Objective:

- › Enhance biodiversity: creates 'ecological corridors' to preserve biodiversity and to fight pests
- › Prevent erosion: plant transversely to the slope
- › Support pest management

Potential species:

Tholas, chikarwaya, añawayaya, lamphaya, or any other typical variety for producers. The cited varieties are claimed to be efficient in pest repulsion

Size:

- › Living fences could represent a minimum of 10 to 15% of the producer cultivated land (depending on the production zones)

Precaution: living fences need to be planted taking into account the direction of dominant winds (transversely) and other potential risks to their efficiency.

1.b Fertilization

Below are some measures that can improve fertilization:

- Maintaining the breeding activity (sheep or llama) in order to reinforce the use of organic fertilizer (manure). In Bolivia, the estimated amount of manure produced by animals when breeding them is 130kg/Ha and the average number of llama per hectare has been estimated to a minimum of 5. Producers are encouraged to adjust these numbers to their circumstances. Spreading of manure prior to sowing is suggested.
- Allowing the land to lie fallow at least every other year to ensure the nutritional restoration of the soil.
- Harvesting method: cutting instead of uprooting quinoa plants is more time consuming (and therefore more expensive in terms of labour costs). This is why uprooting has become a common practice. The damage of uprooting has however been proved as roots retain micro-nutrients, improve soil fertility and limit soil erosion.

1.c Pest management

- The preparation of repulsive remedies extracted locally from wild plants is recommended.
- The planting of living fences and the role of ecological corridors helps with pest management if the plants chosen either host auxiliary cultures or help in the preparation of repulsive remedies.

1.d Biodiversity conservation/restoration

- In addition to living fences, the habitats of medicinal plants and pasture lands can also represent ecological corridors favourable to biodiversity.



2. Investments at producer organization level

2.a Provision of services to members

In order to enable farmers to reach better environmental sustainability, it is recommended that the producer organization creates or improves some basic conditions and provides a series of services to its members. These may include: research and validation, technical assistance and extension, training sessions on specific themes¹, exchange visits, soil analysis, credit facilitation or support to access external credit sources, and monitoring capacity. The Premium and its use in the development plan can aim at improving basic solutions and providing (or improving the quality) of those services.

2.b Collective management

- In order to improve fertilization, collective management of manure could be organized by the producer organization in order to increase manure availability.
- To facilitate pest management, a collective hunt of butterflies could be organized in order to reduce the damage done by quinoa pests. Organization would help this collective fight by rotating crops every year and therefore ending pests' reproduction cycles.
- Cooperatives could also develop local small-scale industries to prepare organic entrants, such as repellents or fertilizers. (Recipes already exist and are used in some communities).

2.c water treatment at processing level

The processing part of quinoa is composed of several steps. The most significant is probably the rinsing stage, at which quinoa grains are washed to remove saponins². The rinsing water resulting from this stage is rich in saponins, and is toxic when diluted. It is recommended to implement appropriate measures to ensure appropriate water collection and water treatment of toxic effluents that are harmful for soil fertility and public health. Such treatments already exist in some processing units in Bolivia and Ecuador, which mix a mechanical cleaning process with reduced washing. Saponins powders are by-products which can be sold to various industries (chemicals, pharmaceuticals, cosmetics) and, potentially, to the bio-repellent factories mentioned above.

PLEASE NOTE THAT THIS LIST IS NOT EXHAUSTIVE, BUT PRESENTS THE MAIN TYPES OF INVESTMENT THAT CAN CONTRIBUTE TO ENVIRONMENTALLY SUSTAINABLE IMPROVEMENT

The intention of this document is not to be over-prescriptive but to recognize the differing capacities/needs between producer organizations where basic levels of community infrastructure such as roads, the provision of utilities, water supply & treatment, may differ considerably.

¹ Specific themes could be on water quality/availability, water treatment for the processing stage, cautious mechanization techniques, identification of lands prone to strong erosion and lands with high conservation value (see Fairtrade Standard for SPOs), basic soil analysis, basic methods to reduce soil erosion and increased fertility and spreading knowledge of procedures, etc.

² A molecule naturally coating the grains of quinoa, protecting them from pests, but not for human consumption.



II. Leveraging funds

The Fairtrade Premium to be allocated to environmental sustainability may not be enough in many cases to cover the short term investment needs, but can be used for gradual improvements, or perhaps for kick-starting a wider investment project or to leverage funding from elsewhere. Many producer organizations by their nature will have some investment or assistance programme in place to improve environmental sustainability. With high market prices, many producers will be investing with their own resources, so environmentally sustainable investments need not be new initiatives.

III. Monitoring

In order to be able to monitor the investments and to measure the progress, it is important to:

- assess the initial situation to have a benchmark³ against which to show the impact of the investments;
- define a set of parameters against which progress will be measured; and
- identify the main priorities, with clear objectives and targets.

For measuring impact, it is important to consider the environment. A minimum of one harvest is required to be able to analyse progress in production.

Collecting impact stories will be very useful, not only to demonstrate to traders and consumers the impact of Fairtrade, but also for producers to share lessons learned and best practice.

IV. Certification

FLOCERT will check that the Fairtrade Premium environmental earmark is actually used for environmental sustainability improvements.

In particular, FLOCERT will audit the following:

- That the producer organization includes in its development plan how it is planning to use the environmental sustainability Premium. Producers will not need to have spent the represented amount of money in the year they receive it, (as they might want to leverage more funding). They do however need to have a defined plan. The producer organization can justify in which way the proposed use of Premium money will contribute to increasing environmental sustainability (see Types of measures described above). However, please note that the suggestions of investments in this document are not exhaustive; they are only guidance on what investments could potentially be made. Where FLOCERT auditors have doubts that the proposed Premium use can be considered as an environmentally sustainable investment, the auditor will contact FLOCERT for guidance. Guidance will be given on a case-by-case basis.

³ This can be a baseline study and/or production registers and/or case studies. Base line studies need not be overly complex but for example it is important that producer organizations understand and record member hectares under cultivation, the number of bushes and the density of planting, the age of bushes (even if only approximate), crop yields and the level and type of fertilizers applied, water used in irrigation and in the process of rinsing saponins.



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- That there is appropriate management and monitoring of the expenditures of the productivity Premiums.

V. Where to find advice

In case producers have any questions about how to use the Premium to improve productivity and / or quality, they are invited to contact their usual contact person within the Fairtrade system or their producer network.

If you have any questions or comments regarding this document, please contact:

standards-pricing@fairtrade.net