

# **AN INDUSTRIAL MODEL FOR FOOD SUPPLY SECURITY**

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## **An industrial model for food supply security**

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### **ABSTRACT**

Providing enough food for a growing world population while considering diet changes, increasing uptakes of calories and changing consumer expectations are challenges for all stakeholders of the food chain. This includes also those bodies that are responsible for the political, social and economic framework for the stakeholders concerned. No single person, group, country or organisation, no industrial segment of the food chain alone can single-handedly solve the problem of the millions of people lacking food today and respond to the challenges ahead of us. We in the food industry have limited possibilities to contribute to solutions. In general our company Nestlé focuses on high value added food products and is little confronted with food security as such; we are more concerned about food safety, convenience, conscious and nutritional aspects. However, we are fully aware of future challenges but as we have a long tradition in working world-wide, including less developed countries, we even see upcoming business opportunities linked with the growing population in developing countries, in emerging economies. To feed the fast growing urban centres of the emerging economies we will need more processed food, food that can be stored, transported and that is affordable. There, we will play our role and we aim for sustainable business, hence, it will be important that the raw materials we need will be produced by sustainable methods. It is therefore in our business interest to support sustainable development in agriculture. This support is area and product related. Wherever Nestlé has direct contacts with farmers, we provide assistance and guidance to those farmers. Nevertheless, for general support of sustainable development in agriculture, Nestlé aims for collaboration with other food companies and other stakeholders of the whole food chain. This collaboration will be with all parties, from input suppliers, over the trade to the final consumers to ensure them that we care for their food, the security of its supply and its quality.

### **INTRODUCTION**

The business objective of Nestlé, as well as for other food companies, is to produce and to market food products that satisfy customers and consumers expectations. This includes food quality and safety aspects as well as prices. Our customers expect value for their money.

In the Nestlé corporate business principles we point out that since the foundation of our company our fundamental approach to business has been the creation of long term sustainable value for our customers, consumers, employees, shareholders and society as a whole. We state openly that we favour long term business development over short-term profit.

We aim for long term relations with our customers but also with our suppliers. This includes favouring of sustainable agricultural production methods because we consider them as the most reliable production methods for long-term supply of agricultural raw materials of high quality and at competitive conditions.

### **Background on Nestlé, history and key products**

Following information on Nestlé shall help understanding our business approach including our sourcing strategies.

Henri Nestlé, a German citizen, scientist and businessman, founded the Company Nestlé in Switzerland in the year 1866. His first product was a "Kindermehl" or "Farine Lactée", an infant nutrition product made out of milk, flour and sugar to help mothers who were unable to breast feed their children. Nowadays, Nestlé has become the world's leading food company with a turnover of 47.3 billion US \$ in 2001. We produce in 468 factories in 84 countries and engage almost 230'000 people. Our products are sold in practically all countries of the world.

Nestlé is the leading Food Company in Soluble Coffee, Infant Nutrition, Confectionery, Dairy Products, Chocolate, Milk Beverage, Bottled Water and PetCare. We are number 2 in Ice Cream and Breakfast Cereals.

We are globally present with the trademarks Nescafé, Nestlé, Nestea, Maggi, Purina and Buitoni. In spite of using these trademarks globally, we give local flavour to our products. Other known Brands are, to mention a few examples: KitKat, After Eight, Nesquik, Milo, Thomy, Alete, Carnation, Perrier, Vittel, Friskies etc.

Given this background, we underline that we work in very different environments and with a wide range of raw materials that need individually defined sourcing strategies and quality assurance programs. Though, our basic objective is to source wherever possible our raw materials locally and to make products for the local use.

### **Importance of Agricultural Raw Materials**

The importance of agricultural raw materials for our food products is manifold and especially evident in product quality, safety and in production expenses.

The **importance of raw materials in production expenses** is expressed in the raw material expenditures as part of our total turnover. In the Management report 2001 we show that we spent 23.1% of our total turnover or CHF 19.7 billion on raw materials. Packaging is not included in this amount and agricultural raw materials represent the major part of this cost segment.

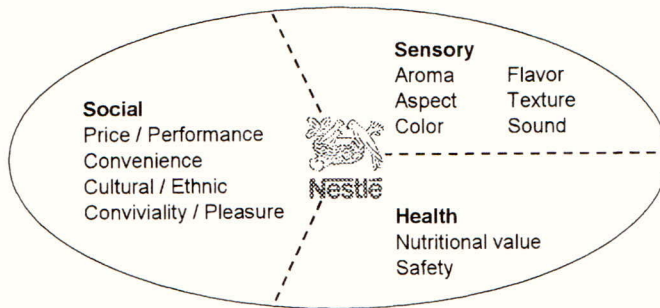
In spite of being the biggest Food Company, and being an important user of agricultural raw materials, we have no influence on general price developments, e.g. world market prices for coffee or cocoa or milk prices, just to mention our most important raw materials. These prices are very much market driven or influenced by political and trade regulations. However, changes in raw material prices affect our business performance because not all of those changes can be compensated in final product prices.

Following figures show the limited importance of Nestlé within the overall food business

- the world (developed and developing) food and non alcoholic drink business represents a business of 3.5 trillion US \$ (3'500'000'000'000) – at consumer prices
- the world processed food and drink business represents 2.27 trillion or 65% of the total
- of which food manufacturing value added represents 20% or 900 billion
- the biggest 20 food manufacturers at producer prices have a turnover of 290 billion or 8.3%
- the Nestlé turnover of 48 billion \$ in 2000 represents only 1.4%

(Nestlé SA Mai 2001 EIR/ADi)

**Raw materials are for us also a key quality factor** because food quality is a driving force for our business. Quality includes many aspects and can be seen from different angles. It can be judged very personally, every consumer has his preferences, but there are also common criteria. We put them all in the 3 dimensions of quality.



### The 3 dimensions of quality

Agricultural raw materials play an important role in all 3-quality dimensions. Their importance in the social dimension, in the price of food products, is evident. Moreover, they may also be important in other aspects like ethics or pleasure. With regards to the sensorial or health dimensions, agricultural raw materials may play a role in every single aspect from aroma over colour and flavour to nutritional value. The importance of raw materials on visual aspects of processed food depends on the processing steps and the presentation of the finished product. In this particular aspect, raw materials therefore might have a limited effect.

The effect of raw materials on safety aspects nevertheless is of very high importance. Poor quality raw materials, contaminated materials can not be improved or "cleaned" during processing. Processing can only make the best out of a given material.

Considering the different processing methods and the range of raw materials we use, we can not expect a degradation of contaminants to non-toxic substances during the processing procedure, be these pesticides, heavy metals, mycotoxins or others.

### Key raw materials for Nestlé

Nestlé uses a wide range of agricultural raw materials, respectively raw materials of agricultural origin. The most important ones are milk, coffee, cocoa and cereals as far as we use them as fresh or primary processed at the farm or producer level (e.g. fermentation of

cocoa beans). Beside these key raw materials we also need a range of other field crops, of fruit and vegetables that we may buy as fresh or primary processed in form of juices, paste, dehydrated etc. Meat, sugar, oils, spices and other food ingredients, we buy exclusively in processed forms, as we do not have the related primary processing facilities or slaughterhouses.

Water is for us another "raw material" of high and of increasing importance for our water business. It is also a sensitive raw material concerning its quality and we have to make special efforts to ensure its safety and to avoid contamination. But as water is not an "agricultural" raw material, it is not considered in this presentation.

## **OBJECTIVES OF SOURCING**

Wherever feasible, we source agricultural raw materials locally – for the production of local food products. Sourcing is in line with our overall business objectives and has to contribute to sustainable and profitable development of our business. Thus, it has to contribute to food quality and safety and to competitive pricing.

### **Sourcing for quality production**

"Quality Raw Material" is an expression that is defined by the individual user of a raw material, for specific production processes and for the production objectives, thus, for every product.

The "quality", i.e. the required physical / chemical parameters of a raw material vary and are product specific, but if it comes to product safety, there is no room for interpretation. Our products must be safe and fulfil all legal requirements given in a specific country, imposed by international regulations or laid down internally in case our requirements exceed above mentioned criteria.

### **Sourcing for competitive overall costs**

When sourcing raw materials it is important to have the overall production costs in mind. This means raw materials have to fit our needs concerning timing, to allow the most economic utilisation of our processing installations and they have to provide an optimised processing yield. This includes minimised processing losses and ensured quality of finished products.

The price effectively paid for a raw material is important but not the only parameter. The price has to be seen in the context of the overall manufacturing expenses of a food product and the quality criteria expected from the finished product.

## **STRATEGIES OF SOURCING**

The sourcing strategies that we apply consider the mentioned objectives as well as the proprietary characteristics and the availability of the raw materials at the required specification. Raw materials may be sourced through the trade or directly from farmers or farmer organisations. Nestlé does not have commercial farming activities of its own.

## **Supplier partnering**

Supplier partnering is the overall principle of our sourcing strategy. By this strategy we aim to optimise the value created for both the buyer and the supplier via:

- concentrating on suppliers capable of maintaining competitive costs, high quality and technology leadership
- sharing common goals of achieving lowest industry systems costs
- seeking savings that will provide a mutual incentive to eliminate costs with the aim of attaining a sustainable competitive advantage through an integrated approach focused on Supply Chain opportunities.

## **Sourcing through trade channels**

Nestlé sources all raw materials through the trade or from primary processing companies as far as they are available or can be produced at the required specifications. We may buy these raw materials from international commodity agents, like e.g. most of our coffee, cocoa or sugar needs, but as much as possible, raw materials should be bought from approved suppliers.

The selection and approval of suppliers depends on the characteristics of a raw material and the risk potential linked with it. Basically suppliers must provide the assurance that they are able and willing to guarantee the specified quality throughout the period of supply. The approval is carried out by technical, commercial and quality assurance specialists of Nestlé, together with the supplier and may be given for a company, a specific production line or a product.

## **Sourcing directly from farms**

We source raw materials directly from farms if we need them as fresh, if they are perishable, or if the quality we need is not available on the open market. In these cases we also aim for partnering with our suppliers, for long-term supplier relation based on confidence and on control systems. We want to ensure the quality we need by motivating farmers and getting their minds set on constantly improving the quality of their produce and optimising the quality cost relation.

Directly from farms we source most of our milk requirements, part of our coffee needs and most of the fruit and vegetable we need for the production of baby food. The latter are most difficult to find on the open market because a certain percentage of the fruit and vegetables being available there have residues of pesticides above 10 ppb (the legal limit set by the EU).

With contract growing, done by ourselves or by approved suppliers, we ensure the supply of the required raw material qualities and reduce the risk of contamination with pesticides and other contaminants that play an important role for this product group, which are e.g. heavy metals, nitrates and mycotoxins.

## **SUPPLY SECURITY OF AGRICULTURAL RAW MATERIALS**

Above-mentioned and currently applied sourcing strategies are the result of experience gained over many years, with many different raw materials and in many parts of the world. The security of supply has always been a key priority – going hand in hand with raw material quality and safety.

### **Nestlé production and sourcing areas**

The company concentrated at the very beginning of its activities on European countries. In 1921 we started manufacturing in developing countries with a first milk factory in Brazil. Since then, we have increased our activities in developing countries and today we have 45 % of all of our factories and more than 50% if our dairy factories in these countries. Furthermore, 48% of our employees are engaged in developing countries in spite of the fact that these countries represent less than a third of our sales.

Each year, Nestlé buys for CHF 8 billion agricultural raw materials in emerging economies, this is around two-thirds of our total expenditure for agricultural raw materials. Reasons for this are our high needs for coffee and cocoa, but we also source an important share of our milk in this part of the world.

### **Practices to ensure supply**

Surveys on the availability of agricultural raw materials are an integral part of feasibility studies when Nestlé establishes or acquires production units or factories. The sourcing strategies are defined depending on the company needs on the one side and on the characteristics and availability of the raw materials on the other side.

The long-term availability of raw materials is a critical criterion of the raw material surveys. To an increasing extent we study all aspects that may influence the sustainability of the production and supply. These studies may be done together with international and with local scientists and include effects of our raw material sourcing on following parameters:

Biodiversity, pesticides, energy, water consumption, air and water quality, wastes and residues, soil fertility, cash flow, profit, local economy, investments and social services. By this we cover social, economic and ecological aspects and expect reliable estimates on the long term, sustainable availability of the raw materials – in the interest of the supplying farmers and in our business interest.

This activity is conforming to a public statement made by our company that a fundamental principal of our economic investments is that they should be "good for the country and good for the company". In this way Nestlé seeks to be a true partner in sustainable development.

When **sourcing raw materials from farms directly**, the degree of the collaboration with farmers depends on the company needs and on the farmers' competence and possibilities of meeting our short and long-term requirements. Overall, but not as a general rule, we have closer contacts with farmers in developing countries than with farmers in developed countries. This is linked with the in general higher performance of farmers and with the overall good supply situation in developing countries.

Wherever needed, Nestlé engages local agricultural staff to ensure the raw material supply at the quantities, qualities and timing needed. All together, Nestlé engages at the present time

more than 800 field agronomists and advises worldwide about 340'000 farmers. Most of them are in emerging markets like in India, Pakistan, Brazil and China. The good collaboration between Nestlé agronomists and the supplying farmers contributed to the prosperous business development in these areas. A few examples: Nestlé has already been in Brazil for over 80 years, in India over 30 years, and over 10 years in China.

Where needed and feasible, our agricultural experts help in arranging for loans at favourable rates, provide advice on good farming practices including the proper use of pesticides and fertilisers. They do this directly or, wherever possible, together with local, official advisory services and in line with official recommendations. Providing this assistance to farmers, we always aim for long term collaboration, for environmentally friendly production and for correct prices based on the quality of the produce.

Nevertheless, with changing knowledge, regulations, market situations, technologies, customer and consumer expectations we are now in the process of re-drafting our collaboration with farmers. We aim to include as much as possible the three pillars of sustainable development (People, Profit and Planet or with other words Society, Economy and Environment) in our collaboration with farmers. This requires more collaboration with and more involvement of all stakeholders within the food chain, beginning from input suppliers over the trade down to the consumers and their requirements.

We call this new concept of our collaboration with farmers and raw material suppliers as the **sustainable agriculture initiative Nestlé**.

### **The sustainable agriculture initiative Nestlé**

The basis for the sustainable agriculture initiative Nestlé is the long term experience gained with farmers and other suppliers and includes to an increasing extent the changing customer and consumer preferences. Furthermore we consider the increasing food needs, especially in the developing countries and the changing eating habits but also the limited availability of natural resources, especially land and water. Environmental aspects, biodiversity, social aspects, animal welfare and so on, are also important aspects in all these considerations beside our own business objective; a sustainable, long term and profitable business development.

Sustainable development of agriculture thus is in our own business interest and we aim to support it as far as we can. But, we as an individual food company have only limited possibilities to support sustainable agriculture; therefore we seek collaboration with other stakeholders of the food chain. We see other food companies as our primary partners for this initiative but as mentioned already, no industrial segment alone can cope with all challenges linked with our future food supply. If we want to contribute to improved agricultural production methods the food industry needs to collaborate with all stakeholders of the food chain.

### **The sustainable agriculture initiative of the food industry: SAI**

The Group Danone, Nestlé and Unilever created SAI. The objective of SAI is to support sustainable development in the pre-competitive field of agriculture in general by creating awareness, gaining support of the whole food industry and by seeking collaboration with all stakeholders. SAI concentrates on mainstream agricultural production, not on niche markets



and has not the intention to create new labels. Customers and consumers should be made aware that members of SAI care for their food products and the related agricultural production methods.

SAI is still at the beginning and the mode of action still needs to be finalised to best represent the interests of the food industry – in the interest of the consumers and of the producers. First information on SAI is available via Internet under [www.saiplatform.org](http://www.saiplatform.org)

## CONCLUSIONS

Nestlé's overall business objective is to produce and to market food products that satisfy consumer expectations in all aspects concerning quality, safety and affordable prices. Although our attention is primarily oriented towards food quality and safety, we are fully aware of challenges linked with food security in some parts of the world, the increasing food needs due to the growing world population and the changing consumer preferences. We consider the growing world population, the fast growing urban population in developing countries, even as a business opportunity but we know that we have to contribute to ensure the supply of our agricultural raw materials in countries with possible supply shortage.

Our efforts in this domain concentrate on our key raw materials and on those cases where we have close contacts with producers. In such situations we provide assistance to the supplying farmers, aiming for long-term collaboration with them and establishing a supplier partnering.

Taking into account future food needs and the limited natural resources, our company is in the process of redefining the collaboration with farmers. We have long-term business experiences in collaborating with farmers, in developed countries and in developing countries where food security still is an issue, but we intend to widen our collaboration even further in order to strengthen all aspects that contribute to sustainable development in agriculture.

For an individual food company the ways and means to improve the agricultural situation in given areas, are limited. This task is too complex, too challenging for individual companies, even for the whole food industry and requires collaboration of all stakeholders of the food chain. The food industry therefore created SAI, the sustainable agriculture initiative of the food industry. As an important link between farming and consumers, we consider that we are in a privileged position for such initiative, but we know that all stakeholders of the chain need to contribute and collaborate if we really want to make it a success. SAI therefore seeks collaboration with other stakeholders throughout the food chain – beginning with input suppliers like the agrochemical industry.

At the top, we need a suitable legal framework that favours local development of agriculture and provides a sound base for international trade of agricultural raw materials as well as of food products.

Ernest Hemingway said: "No man is an island entire of himself". We can use this phrase for our subject: nobody in the food chain can work on his own exclusively. If we aim for sustainable development in agriculture, we all have to work together, individual segments of the food chain alone are not strong enough to make major achievements in the interest of all partners, from farmers to the final consumers.