Overcoming The Challenges Of Implementing Sustainability With An Eye On Innovation: Lessons From The Case Study Of SAIN (Sustainable Agriculture Initiative Nestlé)

by

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Abstract

Sustainability has become an important management issue as an increasing number of corporate executives realize their companies are facing a period of disruptive change. Moving away from whether to act or not, most companies are now focusing on how to implement sustainability into their activities. This thesis explores the complexity of adapting current operations to more sustainable practices. The starting hypothesis is that corporate sustainability initiatives share similar dynamics to other innovation initiatives. A theoretical framework building upon the literature on innovation is applied to sustainability. The central focus of the thesis is a case study of the Sustainable Agriculture Initiative at Nestlé ("SAIN"), a unique group that promotes sustainability throughout the upstream supply chain by applying business methods to the direct sourcing of agricultural raw materials. The challenges the SAIN team faces in implementing its activities are detailed and analyzed, in part by using models from system dynamics. The challenges range from Nestlé-specific strategic issues, to the mental models of some of the players in the supply chain, and the perception of sustainability by managers and others in corporate functions. Successful actions that have helped the team overcome barriers to implementation, in particular by facilitating learning within Nestlé, are then analyzed. The thesis concludes with an analysis of related initiatives in the company, and with recommendations linked to the importance of communication, collaboration and the creation of a structure that brings together business thinking with a deep understanding of social, economic and environmental global issues.

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1 The "business and innovation case" for sustainability

In this first chapter, I will explain the starting point of my research and what led me to focus on the challenges from the implementation of sustainability initiatives within large corporations. I will then share some perspectives on sustainability, in particular the business case for it. I will give an overview of food systems, the food industry, and how the industry views and manages its approach to sustainability. Finally, I will give an explanation on the methodology used throughout the thesis, and explain why the group I studied at Nestlé is a good research site for issues related to the implementation of corporate sustainability initiatives.

1.1 The beginning of the journey

When I joined MIT Sloan, I quickly became interested in classes and discussions that combined business theories with public affairs and social issues. I saw a lot of potential in applying certain management techniques to solve complex global issues, such as health and poverty. During my first year at Sloan, I noticed that businesses at all levels – from local coffee shops to global corporations – have begun to rethink their business in light of the sustainability movement. After listening to a few executives and participating in conferences on the topic, I noticed that a sense of confusion has emerged in the business world. The starting point for this thesis was my feeling that sustainability was a disruptive force that businesses needed to integrate into their strategies in the same way they are doing with other external changes affecting their industry.

The evidence mounts everyday that we are living through an important social, economic, and environmental transition point. As society starts to make fundamental behavioral changes in response to issues such as climate change, businesses will have to rethink their products, operations, and ultimately their business models. As in any major shift in the external environment, some companies will be early-movers that will innovate based on the opportunities offered by a new vision. Others will be followers, and might miss the chance to reap the benefits of a fast-changing business landscape.

My experience in the S-Lab (Laboratory for Sustainable Business) class confirmed my interest in exploring how the intersection of business and sustainability can create new opportunities. After hearing several practitioners explain how their companies were embracing sustainability, I grew interested in learning more about the potential of sustainability in providing new avenues of innovation for companies. In summer 2007, I contacted several consultants and sustainability officers to learn more about the field of sustainability innovation. As I did not find many examples of products or strategies built around sustainability-oriented innovation, we decided with my advisor, Prof. Richard Locke, to focus my research on the barriers to implementation of such initiatives within large organizations, and the corresponding actions that leading companies are taking to facilitate the implementation of sustainability in their core operations. We decided to focus on a specific group at Nestlé that I had come in contact with during the early phase of my research. This group, called Sustainable Agriculture Initiative Nestlé ("SAIN") is a key part of the operations at Nestlé. I knew very little about agriculture and the supply chain of food manufacturers, but I became very intrigued by the vision and the activities

that the team was in charge of. I did not anticipate finding such innovation at the operational level with a group that is primarily focused on agriculture.

1.2 Sustainability - definition

"Sustainability" is a hot topic that has been used in so many different ways and contexts that it is more and more difficult to define it precisely. There is a wide-spread confusion in the public about the exact meaning of this word. During the survey part of our S-Lab project, we were given a blank stare when we asked people about their interest in sustainability. People tended to respond better when we spoke more specifically about the various subcomponents of sustainability, such as initiatives to reduce CO2 emissions or to enhance the social and economic conditions of millions of people in the developing world. The rise of sustainability has coincided with a fast growing awareness of climate change, so that many people associate the two concepts.

The word sustainability seems to have its origin in 1713 in the report of a German mining expert[1] who related how the lack of wood for burning and melting was hindering the mining of silver in Saxony. Closer to us in time, Dr. Brundland, in a report for the World Commission on Environment and Development in 1987, famously defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Since 1987, this perspective on sustainability has evolved and has been applied to economic, environmental and social contexts.

Throughout this research, I have focused on this definition, which takes into account the following three elements:

- how companies manage to create value for themselves and for society (economic)
- how companies reduce their carbon footprint, or create environmental benefits for society (environmental)
- how companies organize their operations to respect human rights and create favorable socio-economic conditions in communities that are linked to their activities (social).

As the scope and reach of companies are continuing to expand globally, it is useful to consider the kind of issues they are facing in their daily operations. To get a sense of the issues that sustainable development tries to tackle, we can look at a publication from the World Business Council for Sustainable Development[2]. The short report, which serves as a primer on the role of business in society, lists the following issues that sustainability touches on:

- poverty
- disease (public health)
- climate change (global warming)
- resource depletion (water, fossil fuels)
- demographic shifts (immigration, political upheaval)
- globalization (multinational corporations)

Most of these issues have become central concerns for the operations of large food manufacturers such as Nestlé. As the publication notes, the role of business will be to develop new services and products that can address some of these issues. Eventually,

some business models will have to change more radically as consumers will also start to change their spending habits according to health, environmental, and societal issues. There are numerous signs that the business community has already perceived the importance of sustainability, and started to adapt to the changing reality of how business and society are linked. All kinds of large companies now have active "sustainability officers"[3] and the word has entered the business jargon. The most advanced practitioners in the field have now moved beyond this word, as I witnessed when an executive of a large Canadian company[4] explained during a conference that he had asked his staff to remove the word from the annual report. He wanted to be more precise, and his decision led to an in-depth reflection about the role of his company in a fast-changing world. As the comment of this executive illustrates, leading practitioners are now thinking more strategically about the relationship between their company and society. Rather than having specific functions and disparate initiatives, leading companies are starting to integrate sustainability thinking into their daily operations, not just their communication or public relations activities. As I will explain next, such companies are convinced of the potential benefits to make radical changes, even though there is still no clear proof linking sustainability and increased profits.

1.3 The business case for sustainability

Much has been said about the business case of sustainability. However, no academic research has found conclusive evidence linking sustainability efforts to financial performance. From a financial market perspective, socially-responsible indexes such as the Dow Jones sustainability index have not consistently outperformed other

indexes. Companies are exploring how sustainability can be a source of cost reduction by linking it to their supply chain, or a differentiation factor by linking it to their sales and marketing activities. On this last point, there is no doubt that the consumer perception of products that offer benefits linked to the environment or to human rights is changing rapidly. A 2006 study[5] by the journal Lifestyles for Health and Sustainability (LOHAS) shows a sharp increase in consumer segments that care for sustainable benefits. However, it is not clear yet whether developing and offering a sustainable product allows a company to charge a premium, or offers a differentiation effect.

Regardless of the current uncertainty of financial performance, global companies will increasingly be confronted with social issues related to the environment, such as health or community relations. Executives have realized that a forward-thinking approach is likely to generate better results than a reactive one. Porter and Kramer [6] contrast the two approaches when they speak about responsive and strategic Corporate Social Responsibility (CSR). According to their theories, *responsive CSR* denotes the attitude of companies that respond to stakeholders' demands as "good corporate citizens." It is also the attempt of companies to minimize or remediate the damage that their operations create. Porter and Kramer recommend that firms follow a more *strategic* approach for their CSR activities by looking for and applying practices based on their unique position in the industry. Executives need to select the kind of sustainable issues on which their firms can work, and adapt it to the specifics of their companies.

Following the ideas of Porter and Kramer, the hypothesis I would like to suggest as a starting point of this thesis is that bringing sustainability as a top corporate priority to the core of a large company's operations has the potential to produce significant benefits.

Many case studies document how companies have successfully implemented "eco-efficiency" programs in their operations. Nestlé, for example, has saved millions of dollars by reducing its energy and water consumption through a company-wide initiative to track, measure and reduce energy inputs. Besides these well documented cases, I believe that there are more opportunities for companies to integrate – in addition to environmental concerns – the social aspect of sustainability into a larger part of their operations. For example, the staff that is in charge of developing innovative products could find, in sustainability, a new source of inspiration by seeing the company mission and therefore the purpose of its new products from a different and broader perspective.

Embracing sustainability might also improve the morale of the employees. By seeing their contribution as having a positive impact, not only from a purely economic, but also from a social standpoint, employees might perform better and in a more creative way. Finally, a sustainable initiative can encourage new behaviors that help break the routine of current practices, thereby opening business opportunities such as identifying new partners, or rethinking relationships with suppliers.

1.4 Sustainability and innovation

If sustainability is a major and growing issue for companies, I reasoned that the pioneering groups would have already begun to innovate around the topic. To be sure, energy and carbon footprint reduction is a key area of innovation for many companies, especially for those that are linked to energy-consuming industries, such as transportation or manufacturing. However, my search for examples in the USA and Switzerland shows that only a few companies have invested major resources towards the integration of

sustainability into their core processes and products. My initial plan was to describe and analyze strategies that companies would already be using to instill notions of social and environmental objectives to the core of their innovation group. I anticipated finding R&D labs that had redesigned their goals and operations in views of sustainability. I was also hoping to identify wholly new initiatives for product developments that would emerge from new thinking about social impact. Various experts pointed to examples of innovative products, such as the Toyota Prius, that are improving, rather than reshaping, current products. They commented that more long-term and radical ideas had not yet penetrated the inner circles of innovation processes.

I also found few examples of large-scale sustainability innovation through a literature research. Two industry reports present sustainability-driven innovations. The first report, published in 2005, and called *The Innovation High Ground*[7], concludes that, despite awareness from the executives on the potential of sustainability innovation, very few had integrated sustainability into their business strategy and product development process. The second report comes from the Centre for Sustainable Design[8] in the UK, and is based on conference papers on sustainable innovation from a design perspective. The "state of the art" section of the report explains that most design innovations centre on environmental issues, versus a broader understanding of sustainability, and that such innovation remains incremental. A further search among the numerous case studies on the web site of the World Business Council for Sustainable Development showed that many individual projects do exist, but no major corporate programs that would link new products to sustainable objectives.

Despite the few examples of sustainable innovation, it is clear that innovation and sustainability initiatives share key characteristics, such as the high risk of both activities and the lack of clear metrics that influence executives through their decision to invest. The hypothesis for this thesis is that both types of initiatives have high potential rewards. For example, radical innovation and the integration of sustainability into core processes can lead to both new profitable products and a stronger competitive position. More interestingly, the implementation of innovation and sustainability initiatives is likely to meet resistance to change. I will expand on that argument in Chapter 2, but it is important to recognize that initiatives that bring fundamental changes to an organization are likely to first generate negative responses from the employees. For Nestlé, the strategic changes – both from an innovation and a sustainability standpoint – are related to the major challenges that food companies face in their operations. In rich countries, health issues linked to food are reshaping the concept of nutrition and forcing food companies to rethink the products that they should be offering. In poorer countries, food crises are spreading fast as agricultural activities are suffering from climate change and various international policies. I will expand on these challenges by giving an overview of the global food situation and the role that large food companies play, in particular through their activities linked to sustainable agriculture.

2 Issues around the food industry and sustainable agriculture

As the next chapter will explain in more detail, SAIN aims to tackle some of the growing issues that affect the global food supply chain. Given its focus on sustainable agriculture, SAIN operates at the crossroads of farmers and the downstream side of the

supply chain. SAIN is well-placed to understand and integrate its activities according to current problems related to food production. 2008 has, in fact, seen food crises happen around the world. As I am writing this thesis, The Economist's front page article calls the current food crisis "the silent tsunami."[9] From China, where the price of rice squeezes families' budgets to shortages, and in scenes of riots in Haiti, the disequilibrium of supply and demand is creating massive global problems. In this section, I will give an overview of the food situation, and what the key sustainability issues are for large food companies such as Nestlé. I will define food systems that are the basic elements of food products and then describe the trends affecting supply and demand for food. The last section will be on the sustainability issues that the value chain of the food industry – from farmers to retailers – is creating.

2.1 An overview of the issues related to food

Consumers have different expectations of and values towards food, depending on which part of the world they live in. This section will give an overview of the sustainability issues that the food value chain faces both in established markets and in less developed countries.

2.1.1 The general problem

At the basis of food are raw materials (grains, meat, dairy), the production of which constitutes the principal means of living for hundreds of thousands of farmers. These commodities, which provide subsistence to human beings around the world, are under tremendous pressure, in part because of the continuing population growth and the scarcity

of agricultural land. An article in the Guardian[10] of April 13, 2008 summarizes the situation:

> In less than a year, the price of wheat has risen 130 per cent, soya by 87 per cent and rice by 74 per cent. According to the UN's Food and Agriculture Organisation, there are only eight to 12 weeks of cereal stocks in the world, while grain supplies are at their lowest since the 1980s.

Commodity supplies are going down and their price is going up, putting millions of families in very difficult situations. Before we look at some of the drivers behind the current crisis, I will briefly explain the impact that commodity systems create. A report of the Sustainability Institute[11] analyzes the various issues that commodity systems, the chain of activities from production to distribution, create. The report focuses on three major problems that most large food companies seek to address in their sustainable agriculture activities:

- Resource depletion, defined as the situation when "the harvesting capacity of commodity systems tends to grow past the sustainable yield of the resource."[12]
- Community decline or the erosion of "the incomes of commodity producers and the social capital of producing communities."[13]
- Environmental pollution happens when "commodity systems grow to the point where they overload the environment with waste products."[14]

At the root of these three problems is the constant drive towards more productivity with lower prices for agricultural products. The next paragraphs will explore in more detail what the drivers are behind the current situation of pressure on agriculture.

1.2.1.2 Food security

Food security, referred to as the situation "where all people, at all times, have access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life,"[15] remains a key issue in various places of the world. As the world population continues to grow, there is increasing consumption and higher risks of food shortage. The long-term estimates of population growth show that global demand for food will double by 2030,[16] thereby threatening food security further. Agriculture needs therefore to vastly increase its output to satisfy this demand. However, the lands available for agriculture are becoming fewer and fewer. As we will see below, the competition for agricultural land is fierce and the rising costs of fuel also cause commodity prices to rise.

The changing nature of consumers' preference in emerging economies also reinforces this pressure. As more people earn higher incomes, they direct their food choices to meat and dairy, which use more agricultural land and resources than basic commodities such as grains and vegetables, and thus contribute to stressing the system further. Food security is also tightly connected to international trade and the various subsidy schemes that exist for agricultural products in developed countries. With a system that favors local growers in the developed economies by limiting access to their markets, the farmers of developing countries are prevented from enjoying the benefit of international trade.

2.1.3 Climate change and oil prices drive the availability and price of food

The current pressure on agriculture has a few drivers related to climate and the price of oil. Climate change is has affected the farming practices of developing countries and the forecasts are not encouraging for the future. The added risk of severe weather, such as drought or flood, means decreases in production can happen unexpectedly. The last year has seen a record number of droughts – Australia was a key example - and floods – in 57 countries according to the UN World Food Programme. A report gives the example of South Asia as one that could see a reduction of up to 22% in production[17]. Climate change has therefore the potential to further disrupt the way that food systems are organized in various places of the world. Another driver that has become critical in recent years is the price of oil. The agriculture industry is very dependent on oil and chemicals, from the basic inputs (fertilizers) to the fuel for machines and transportation. With the price of oil rising fast, the result is a fast increase in food prices around the world, leading to shortages in poor countries.

2.1.4 Role of biofuels

Another more subtle impact of the higher price of oil is the current rush to convert farmland to grow biofuels. Biofuel is fuel that comes from non fossil fuel sources, such as vegetable oils (biodiesel) or plant biomass (ethanol)[18]. Several crops are suitable for biofuels, such as corn and soy. The combination of the good economics of growing crops to make biofuel and the subsidies offered by the government have led to a rapid increase in lands dedicated to it, and a corresponding reduction in lands for food production. Given the globalization of the industry, decisions made in one part of the world have

implications thousands of miles away. For example, the current increase in available farmland for crops that will produce biofuels means that an additional amount of food crop must be created somewhere else to meet the growing demands for food. Experts agree that biofuel crops will increase crop prices overall as well as reduce the amount of calorie availability in all regions of the world[19].

2.1.5 Food safety is the major concern in developed markets

When talking about food systems in established markets, the most important element for the industry is food safety. Consumers are increasingly aware and concerned over what goes into their food, and major product recalls are frequent. In February of this year for example, the US government ordered a massive recall of ground beef due to a potential health hazard. There is also a debate brewing about US Olympic teams shipping thousands of pounds of food for the athletes who will compete in the 2008 Olympic Games in China[20]. Safety concerns provide a first reason why food companies are taking a broader perspective on their supply chains, thus also looking upstream for assurances that raw materials are void of any defects. The current focus on safety means that large food companies will have an interest in working with all kinds of suppliers to ensure safe products. In particular, Nestlé and other companies are conscious that they will be held responsible for any problems related to food safety, regardless of where it happens in the production chain.

2.1.6 Globalization compounds the problems

The global food and beverage industry represents a 3.5 to 4 trillion[21] USD industry. With the fast developing transportation capabilities, the changing taste of

consumers, and a growing purchasing power in places like India and China that are demanding more and more meat and dairy products, food systems are also becoming global. Global companies such as Nestlé, Danone, and Unilever are at the centre of the changing trends, even though they account for only a small part of the industry. As statistics show[22], the 20 biggest food and beverage companies represent only 11% of the total market (2003), but they run global operations. The supply chains have become more integrated with commodities and finished products traveling all the way around the world. Hans Johr[23], the head of Agriculture at Nestlé, credits the innovation of the transportation container as the starting point of the internationalization of food systems. He remarks that "the whole food system now relies on the supply of raw materials from one continent being shipped over to a first and second and third continent, so the supply chains are intercontinental and interlinked with fuel prices."[24] The following section gives an overview of sustainable agriculture initiatives that want to mitigate some of these worrying trends.

2.2 Sustainable agriculture

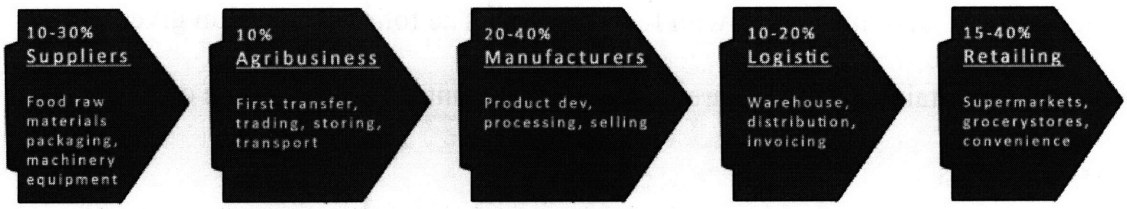
2.2.1 The intersection of food and sustainability

The food industry has a very long and diverse supply chain. From the key input materials (seeds, chemicals), to the final consumer at home or in a restaurant, the products undergo a series of transformations. In the table below, I have summarized from different articles and presentations[25] the major issues of sustainability that the food industry encounters.

Environmental	Social	Economic
• Pesticides • Pollution • Water security • Soil degradation • Eco-efficiency	• Poverty • Labor issues (child) • Human rights	• Farmers income • Corruption • Fair trade

In the USA, food sales, including restaurants, supermarkets and other food stores, amount to 1.1 trillion USD[26]. As a point of comparison, the US farmers receive about 240 billion USD for their livestock and crops. There are obviously imports and exports, but these numbers help give us a sense of the size of the industry. Typically, the value of the industry is not at the farm-level, but at the manufacturing and retail levels, as the graph below shows.

Food Industry Value Chain[27]:



The food industry is tightly linked to food security and safety. At the core of any manufactured food product is an agricultural raw material. The pressure on food systems therefore applies to food manufacturers who constantly need to source more raw materials. Given the limited amount of supply – as it becomes more and more difficult to expand the current amount of agricultural lands – the main goal of sustainable agriculture is to increase productivity in a sustainable way. There are two main ways of sourcing agricultural raw materials: either by **trade** or through **direct sourcing**. In the case of trade, food companies use typical trading strategies to get the best prices on various

commodities around the world. With this type of sourcing, they interact with intermediaries to whom they specify quality and quantity of a given commodity. On the other hand, with direct sourcing, the food manufacturers interact with and collect raw materials directly from farmers. The large food companies such as Nestlé don't own farm operations, but they work closely with farmers. With the increasing reliance on the quality of agricultural products, they have come to realize the importance of ensuring sustainability at the farm-level. Here is a definition of sustainable agriculture[28]:

> Sustainable agriculture is a model of social and economic organization based on an equitable and participatory vision of development, which recognizes the environment and natural resources as the foundation of economic activity. Agriculture is sustainable when it is ecologically sound, economically viable, socially just, culturally appropriate, and based on a holistic scientific approach

Sustainable agriculture is place- and crop-specific, but in general it tries to tackle the following issues[29]:

1) Environmental: One of the most important issues is the overuse of soil due to the growing demand of agricultural product. Water is also very important as agriculture consumes about 70% of water worldwide. Certain farming practices, such as the use of certain pesticides or seed products, can reduce the biodiversity of the agricultural lands. Finally, agriculture uses non-renewable energy sources and causes emissions in the air.
2) Social: An important social issue is to change some of the traditional farming techniques by bringing new knowledge to the rural communities that form the basis of farming systems. Poor social conditions among these communities are also reducing the capacities of farmers.

3) Economic: The food industry depends on the continuous supply of safe, available food of good quality for its products. Farmers need to see an economic benefit to continue to invest in their operations with the goal of making them more productive.

Sustainable agriculture depends on both farming methods and more general techniques that lead to better productivity or provide some environmental benefit. The methods of farming include:

- crop rotation: allows the reduction of pest reproductive cycles
- cover crops: help improve soil quality
- integrated pest management: reduced use of pesticides through various strategies
- soil management: work on biologic and physical properties of soil

Sustainable agriculture encompasses a broader set of strategies and implications than organic farming, which has grown very quickly in recent years. The agricultural surface dedicated to organic farming in the US, fueled by the appetite of consumers for organic products, has more than quadrupled since 1990[30]. Organic production adheres "to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity."[31] Some experts criticize organic farming because of possible lower yield and less environmental benefits than what is widely believed.

2.2.2 SAI Platform

The multinational food corporations have since long realized the importance of their activities on the lives of people. Nestlé took a leadership role in the creation of the Sustainable Agriculture Platform, called SAI. SAI is an industry-sponsored partnership among major food and beverage companies (Danone, Unilever, McDonalds and others) that aims to promote sustainable agriculture, in particular by facilitating the exchange of knowledge and information[32] among key stakeholders. The database on their web site lists 124 projects that range from broad topics (sustainability education study from USDA) to specific guidelines for biogas projects. SAI is currently organized along 5 major working groups: Cereals, Coffee, Dairy, Vegetables, and Fruits. More groups, such as one on water in agriculture, might be added depending on the interest from the members. The SAI platform goes further than just knowledge-sharing in two ways:

1) The members work towards a common understanding of principles and standards. The coffee working group, for example, shows a dedication to establishing a common industry standard in coffee farming among all market participants. The working group aims also at setting up a system to establish and verify new indicators of sustainability. In addition, the members also look at how they can increase the sustainability of coffee agriculture.
2) The initiative has an implementation component. Once the standards are defined and shared among the members, one of them will take the lead in developing tools and rolling them out as a pilot project[33].

The SAI platform is driven by the need of food companies to ensure a continuous supply of good quality resources for their operations. These efforts represent a collective interest in the industry that combines elements of sustainable development with a business perspective. The next section will focus on this combination of business and sustainability in the food industry.

2.2.3 Opportunities for sustainability in the food industry

As the large food companies grew their operations around the world, they evolved from a pure risk management mindset, and started to think about positive impact and the opportunities for sustainability activities they could develop in emerging markets. A recent report highlights the contribution of Nestlé, Unilever, Coca-Cola, Starbucks and others in "creating both economic and social value."[34] As the report notes, the production of raw materials provides support to farmers and local food processors, for example. A good income has positive effects throughout the community. The report identifies three different levels of interventions for expanding economic opportunity:

1. Creating inclusive business models involving the poor people as entrepreneurs, suppliers, distributors, retailers, customers, or sources of innovation.
2. Building the human and physical capital of the poor to enable them to participate in these models.
3. Tackling specific institutional or policy barriers in the enabling environment to enhance feasibility and impact.

As I will explain below, this kind of thinking drives SAIN, and helps explain the sustainability element of the initiative. More specifically, the SAIN team works on the

first two points: the involvement of the poor in its business model, such as setting up milk collection centres that have local people as suppliers and distributors, for example, and the building of infrastructure, mostly at the farm level, to allow them to participate in these new models. Chapter 3 describes SAIN's objectives, activities and philosophy. The group's goals lie at the intersection of sustainability and business. They represent a strategic focus of Nestlé. Chapter 2 gives a theoretical framework to analyze SAIN's activities, and later I will give a closer analysis of the group.

3 Methodology and SAIN case study

3.1 Methodology and thesis summary

The thesis is built around the case study of a specific group at Nestlé, called Sustainable Agriculture Initiative Nestlé ("SAIN"). *Chapter 2* provided a theoretical framework to analyze SAIN. This chapter starts with a review of an article on why most innovation initiatives stall, and how systems and personal attitudes play a vital role in such cases. I then introduce a model to analyze systems such as SAIN. I try to apply this theoretical background to what would happen to sustainability initiatives by linking the challenges of process improvements to those encountered with sustainability. In this chapter, I also briefly introduce the recommendations of experts on how to lead successful change efforts.

Chapter 3 is a description of SAIN's activities. The chapter starts with an overview of Nestlé's sustainability efforts. The SAIN section starts with facts about the initiative and its drivers, and continues with an analysis of its objectives and its

philosophy. To illustrate the role of SAIN and its value chain, a project is presented in detail.

With *Chapter 4*, I move to the analysis of the barriers to implementation that SAIN is facing. As an introduction, I look at the group-level challenges, such as the organizational and structural aspects of Nestlé. I then link some of the barriers at the SAIN-level to what I present in *Chapter 2*, in terms of dynamics of process improvements initiatives. Other challenges relate to the relationship of SAIN with other parts of the company. A comparison is made with other corporate initiatives that have become mainstream processes. System dynamics models are used to explain the complex dynamic of the sourcing model of SAIN. The chapter ends with an analysis of the relationships between the various functions of the markets and SAIN.

In *Chapter 5*, I link some innovative actions of SAIN to the challenges identified, and then proceed to make some recommendations on how to better integrate the initiative into the Nestlé structure. I also put the possible action options of SAIN into the framework of *Chapter 2* and provide a few recommendations. I conclude with remarks on the position of SAIN and its unique role in the collective learning at Nestlé.

3.2 Selection of SAIN for the case study

SAIN is a small-scale effort for Nestlé that is aiming to tackle a large problem: the continuity of the availability of quality raw materials sourced in a sustainable way. By its position within the main corporate department in charge of operations, analyzing SAIN helps us understand the major difficulties that large organizations face when they are seeking to implement initiatives that have change and innovation elements. When

discussing sustainability initiatives as a major management challenge, experts refer to what has already been learned – and in certain cases successfully implemented – in terms of process improvement initiatives such as Total Quality Management (TQM).

In the case of SAIN, it is clear that the complexity of the task depends on many variables, from the resources that the group is able to acquire to the execution of its projects and ideas, through a long chain of interdependent people that are often thousands of miles away. SAIN is also sufficiently close to the core business of Nestlé – raw materials are the building blocks of the finished products that Nestlé sells and the quality of these materials has a direct impact on consumers' perception – for the initiative to be considered strategic and not only a philanthropic activity. On the sustainability side, SAIN has a clearly social, environmental and economic impact as it is geared towards making the lives of thousands of small farmers and their families better. Finally, SAIN has a remarkably open mindset, which means that there is a lot written on the initiative (case studies, journal articles) and that its team is interested in discussing its mode of operating with researchers. As the SAIN team mentions[35], collaboration with universities will be encouraged to learn more about the best ways to implement strategy, and to reflect about what can be done better.

I interviewed four members of the team on various occasions in Boston and at their headquarters in Vevey, Switzerland. They provided me with the data and the information that I will use throughout the next chapters.

This chapter provided the first elements to understand the environment in which SAIN operates. On one side, the mainstream business thinking is still debating the values of sustainability to increase performance. Innovation might benefit from sustainability,

but there are only few cases so far. On the other side, people's relationships to food are different based on where they live. However, one constant for food companies is the need to innovate to anticipate and adapt to change. The next chapter will give us a theoretical framework to analyze the implementation of changes, such as a corporate sustainability initiative.

Chapter 2: The dynamics of corporate initiatives – a look at resistance to change and some practical advice on fostering change efforts

The previous chapter gave an overview of the potential of sustainability and its field of application in the food industry. This chapter lays out the theoretical foundation to analyze the activities of SAIN within the Nestlé group. There is little doubt among practitioners that the discussion is swiftly moving from the *if* to the *how* of corporate sustainability initiatives. There are many perceived benefits for these initiatives as I explained in *Chapter 1*, but only a few initiatives seem to have been successfully implemented. The situation is changing as the awareness of this topic grows in management circles. Books, papers, and conferences provide practical-oriented advice for corporate executives that want to "make sustainability work."[36]

If companies are interested in launching such initiatives, and there are perceived benefits at least at the top management level, then one wonders why such initiatives don't seem to be more successfully implemented. What are some of the internal dynamics within large companies that might create barriers to implementation? Since sustainability is a fairly recent phenomenon in management, it is useful to look at the lessons learned from implementing corporate initiatives that had a different purpose, such as process improvement, which brought many innovations in the past (i.e. Total Quality Management, Just in Time). Since SAIN is an innovative corporate initiative within an established company, the framework I will describe relates to the field of innovation and how it gets translated into companies.

In this chapter, I will first summarize the traditional opportunities and challenges of innovation for large companies. This will help us understand the disruptive potential of change and why large companies struggle with it. I will then focus on a specific type of innovation – process improvements – and describe the various points of resistance that a group of leading academics has identified in situations where companies were implementing such improvement initiatives. I will use the learning from this study, in Chapter 4, to assess the various challenges that SAIN faces in implementing its activities.

The second part of the chapter is a series of hypothesis on how these challenges could play out in sustainability initiatives. Starting with the argument that corporate initiatives all share similar dynamics, be it for process improvement or to implement sustainability, I will translate some of the main challenges to the sustainability field. I will use these hypotheses to check whether they appear in the case of SAIN. In a last section, I will focus on the organizational aspect linked to the successful implementation of these initiatives. I will examine key characteristics of change efforts, and will explain the various steps identified in the literature as necessary to implement specific organizational changes built around sustainability. I will use the methodologies of these change efforts in *Chapter 5* when describing some of the actions that SAIN has taken to tackle change.

1 The Opportunities and Challenges of Innovation for Established Companies

Innovation is a key driver of growth and competitive advantage. This field of research is constantly evolving and global companies are dedicating large resources to

product innovation (better ways to serve their customers), as well as process innovation (better way to organize internal operation to deliver products or services). Peter Drucker talks about innovation as "the purposeful and organized search for changes."[37] For him, change provides the basis for opportunities that firms need to exploit. At the same time that change represents a promising avenue for innovation, it can also be seen as a "significant source of risk, competitive disruption and failure."[38] Large companies often have serious difficulties when they seek to innovate.

Clayton Christensen and Michael Overdorf describe a key difference between how companies can tackle sustaining versus disruptive innovation. For *sustaining innovation*, the authors explain that "successful companies are pretty good at responding to evolutionary changes in their markets."[39] This type of innovation relates to new products or services that offer better benefits to consumers in current and established markets ("mainstream market"). By contrast, established companies are not equipped to deal with *disruptive innovations* that create an "entirely new market through the introduction of a new kind of product or service." The authors argue that established companies have the resources to pursue disruptive innovation, but that their processes and values get in the way. The processes that organize work in a company can be both formal – explicit and documented – or informal – "routines or ways of working that evolve over time." The values, according to the authors, are the criteria that employees apply to decide among competing priorities in their jobs. Because these processes and values are deeply embedded in the company, they are not flexible or adaptable. Therefore, the authors suggest that companies need to develop new capabilities to address innovation through new organizational structures, a spinout organization or acquisitions.

In short, companies can benefit greatly from increasing their innovation capabilities, but they will need to adapt the core of their operations and their culture. The next section provides an analysis of the challenges that executives face when they try to implement innovation. The analysis focuses on process improvements, and will give an understanding of internal dynamics that also hold true for all major corporate initiatives.

2 Implementation challenges in the case of innovation initiatives

In this section, I will summarize the lessons from the literature on the reactions inside companies that are adopting process improvements. With the working assumption that corporate initiatives share similar characteristics, I then propose a short analysis on how these theories likely apply to corporate sustainability initiatives.

2.1 A short summary

Large companies are continuously looking at how they can improve their processes and are always interested in evaluating and, eventually, implementing management innovations. Every couple of years, new improvement methods, in manufacturing in particular, become famous in the corporate world, and are implemented around the world. Six Sigma, Lean Manufacturing, Just-in-Time, or Total Quality Management (TQM) are all process improvements that companies of all regions and of all sizes have implemented with more or less success in their operations. A key question for a practitioner is to better understand what affects the success rate of these initiatives.

Where does the seemingly low rate of success come from? How can we learn from the problems of implementation in various industries?

Repenning and Sterman, in their article, "Nobody Ever Gets Credit for Problems that Never Happened", reply to these questions by showing how the interplay of various parts of the organization, and not the improvement initiative itself, accounts for the failure of implementation of most process improvement initiatives. The starting point of their research is the explanation of how the performance of a company – measured by the number of new products or clients served or similar metrics – can be improved: either by additional work (*working harder*) or by additional effort dedicated to improvement (*working smarter*). Working harder produces immediate results, as more resources get dedicated to production, but it does not help with the long-term improvement in process capability that would lead to a better performance. On the contrary, working smarter does not provide much effect on production in the short-term, as the organization directs resources to building capabilities rather than to produce, but it builds up new capabilities over time. By leading to a reduced performance first, before capability rises, working smarter thus creates a dynamic of "*worse-before-better.*" The key challenge for managers is to recognize this dynamic, so that improvement efforts don't get abandoned early during the first phase of negative impact on production.

Since these types of improvement activities carry uncertainties and take time to produce results, managers will typically push for "working harder" as a solution to the need to deliver adequate performance. This pressure to work harder has the effect of creating a "*capability trap.*" By spending less time and resources on improvements, a company in such a situation slowly erodes its capability. The article then speaks about the

human perception of this capability trap. Managers often make "*fundamental attribution errors*" about the causes of low performance, and tend to blame their workers since they are close to them and cannot observe all their activities. They are thus more likely to push for harder work and create the capability trap just described. The problem is that managers look for explanations that are close to them in time and space, and don't see the entire system where the real problems lie. To overcome the capability trap, leading organizations have developed training methodologies, including simulations that allow their employees to experience the dynamics of the worse-before-better, and to realize the role of the structure and of each employee.

This situation of fundamental attribution error and worse-before-better can be found as a general problem in many different business situations. Rebecca Henderson explained in her presentation at the 2007 MIT Innovations in Management Conference[40] how all managers faced with situations of overload will recreate the same dynamic as the capability trap by first blaming their people, and second by cutting time to think strategically about the root causes of the overload. With such a mindset of putting more pressure and reducing time to strategize, the overload only grows bigger. The only option out of such a vicious cycle is to recognize that there will be a period of "worse" before it gets better. Executives will need to realize that in the short term, there will be a period of investment and rethinking that will take away resources, creating a situation of additional resources and possible lower performance before the situation improves.

2.2 Analysis from a systemic perspective

One of the lessons from this framework is the importance of looking at implementation issues from a systemic perspective. As Repenning and Sterman explain in their article, organizations are not monolithic structures, but real living systems that live by virtue of rules and habits. The authors define the problem of the implementation of process improvement as "systemic," "created by the interaction of tools, equipment, workers, and managers." Process improvements don't create isolated impact, but on the contrary their implementation "interacts with the physical, economic, social and psychological structures" of a company. What is important to recognize for any implementation or change effort is that companies are systemic structures built on rules and values.

Christensen argues that values help prioritize the decisions of employees and therefore define what a company can and cannot do. When the capabilities of companies – and this is especially true for large companies – reside in processes, values and culture, "change can be extraordinary difficult." This explains why large initiatives such as process improvements often come as threats to the values that have taken time to develop and are widely shared within companies, and why they are being resisted. Finally, the human element is also very important to take into account. As another article notes[41], the learning of such traps is not automatic, in great part because human nature tends to make us give more importance to the short-term benefits "while ignoring the long-run, negative consequences."

In short, the reactions to change initiatives depend both on the *systemic structure*, the way of organizing work, and the *mental models*, or prevalent understanding and assumptions of the employees that exist in a specific organization. The next paragraphs will expand on both systemic structure and mental models.

2.3 Systemic structure and mental models

Systems thinking relates to interrelationships rather than linear cause-effect chains and to processes of change rather than snapshot[42]. Using a systemic perspective helps us scan and better understand what it going on within an organization. With the idea of keeping this analysis simple, I will use two levels of analysis: first, the *macro* level of systemic structure, and second, the *micro* level of mental models. The following will describe both levels in more details.

a. Systemic structures

Peter Senge talks of the analysis of systemic structure as "key interrelationships that influence behavior over time." He continues, "these are not interrelationships between people, but among key variables, such as [...], engineers' product ideas and technical and managerial know-how in a high-tech company." In the case of process improvements, key variables could be, for example, the habit of working harder on product development and the management's attitude to new and ongoing projects. I suggest that for this study, I will simply analyze SAIN, as well as other corporate initiatives as systems of "people, information and processes,"[43] or PIP. People, information and processes are the main building blocks of organizational design.

Such corporate initiatives are small systems that interact with others to form the larger system of a company. At each level of an organization, from a small unit to a large department, executives use organizational tools, such as organizational charts or reward systems, to organize the interaction of people, information and processes. This PIP model follows closely the various elements that Roberts[44] uses to analyze organizations along the acronym "PARC." The formal part of any structure consists of the following elements:

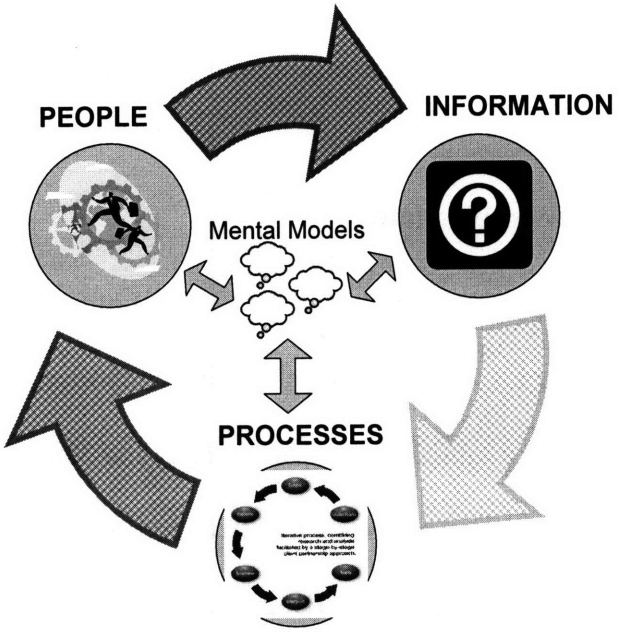
PARC	PIP
People: skills, objectives, beliefs	**P**eople
Architecture: how the firm is organized	**I**nformation: how and what kind of information serves as an organizational tool
Routines: organize how information is transmitted and decisions are made	**P**rocesses

However, this formal organizational design is only one part of the picture. The systemic structure, once it starts to work, will generate norms on which people will rely to organize their work. Roberts' "**C**" relates to **culture** that includes both the values and beliefs that drive the company, as well as the mental models and norms that prevail in companies. I will focus next on mental models to explain the resistance to change in organizations. The complexity of human behavior is revealed in the way the systems react to major changes, and I will use system dynamics models in the next chapter to analyze the dynamics within the system in which SAIN operates, and to understand the mental models of the actors of this system.

b. Mental Models

Besides the organizational structure of a corporate initiative, the beliefs, values and habits of people, which I refer to as mental models, play a powerful role in situations of change. People shape the way the systemic structure works, but they are also then reacting to and limited by it. As Peter Senge[45] explains, the deep assumptions we hold about situations or other people limit our capacity to learn. Mental models affect our thinking by filtering the kind of information on which we focus our attention and by determining how we process and, in the end, act on this information.

Mental models are deeply embedded in the structure of organizations and are most difficult to change. They are influenced by a complex web of norms, personal beliefs, and organizational elements. I will use mental models to analyze the various functions in the supply chain of Nestlé and probe how these models might be limiting factors in the implementation of sustainable practices in companies. The graph below shows the model of people, information and processes (PIP) and its interaction with the mental models. The mental models drive how people first assign values to information and processes, and then build habits to react to them.



This simple model gives us a sense of the formal part of an organization, how the various parts are organized and connected, and the informal part, the way that people interpret and react to that structure. Next, I will turn to a few ideas about how this framework can help explain some of the dynamics of implementing sustainability into organizations. I will come back to this framework, in particular the elements of structure and mental model, in *Chapter 4* when I analyze the implementation challenges that SAIN is facing.

3 How does this framework translate into sustainability?

In this section, I will provide some theoretical ideas on how this framework could apply in the sustainability field. First, I will characterize the kind of change that sustainability brings into a business environment. Second, I will share some perspectives on how the model of Repenning and Sterman could apply in the case of companies

implementing corporate sustainability initiatives. I will conclude with an overview of internal challenges of implementation for sustainability initiatives as viewed by CEOs.

3.1 Sustainability brings disruptive change

Given the various facets of sustainability and the long list of touching points between business and society, there is little doubt that it brings opportunities and challenges of a large magnitude to established companies. Hart and Milstein made that point clear when, discussing energy- and materials-intensive companies, they wrote that global sustainability created "a competency-destroying challenge that calls for radical repositioning and new competency development."[46] The additional challenge that sustainability entails for companies is that any change efforts need to take into account the "disruptive potential of secondary stakeholders."[47] The list of potential stakeholders of large companies has grown rapidly as firms have reached into new territories and stakeholders have reinforced their operations, locally or internationally, using information technologies. For a global company, the management of these stakeholders requires new competencies and an adaptation to bringing the external environment into its internal operations.

This is similar to the type of disruptive change – and the corresponding necessity to acquire new capabilities – that Christensen and Overdorf describe. The authors draw examples from high-tech and service industries without mentioning specifically the challenge brought by sustainability; however the similarities are obvious given the high potential and the need for companies to adapt their organizational capabilities around a

changing environment. Another author, Epstein, talks specifically about the challenges of implementing sustainability in organizations as even more difficult than those associated with innovation. He talks about the long-term nature and the difficulty to predict and measure innovation, which he compares to the goal of sustainability to "achieve excellence in both social, environmental *and* financial performance.[48]"

3.2 Sustainability brings internal implementation challenges

The disruptive change that sustainability brings means that established companies will have to integrate it into their operations. Sustainability, however, does not have a standard implementation plan. Epstein[49] mentions that companies need to find their own way of managing the challenges of making trade-offs between financial and social or environmental performance, evaluating the changing costs of sustainability, and dealing with its long term horizons. To start with, it is important to recognize the scale of change that sustainability can bring into the day-to-day operations of the corporate environment. Until recently, there was little discussion in the board rooms of stakeholders' interest and strategic aspects of social responsibility.

Adopting sustainability as a strategic guiding principle means that many parts of the company will have to be rethought. In fact, from the mission statement to the core processes, nothing might look the same once a deep inquiry and change effort has been performed. The relationships that hold business units and other functions, the product or service development process, the planning cycles, all these core tasks of a company will look different. In *Chapter 4*, we will see how the increase of sustainable efforts of SAIN has an impact on its PIP system. As sustainability requires a profound rethinking of

approaches to management, mental models are also possible key barriers to successful change efforts. Each employee in an organization will have a different interpretation of what it means to apply sustainable ideas. This cognitive aspect of sustainability constitutes the tipping point where the expected benefits from a sustainable initiative turn into a major challenge. When habits have formed over a long period of time to the point where they have become an integral part of the culture of a company, a major change effort is needed to break away from what everybody has come to accept as simple practice.

In the next paragraphs I explore why there could be such a resistance to the implementation of a large-scale sustainability effort. Experts concur that only few executives understand that the changes that sustainability brings means that "organizations be understood and administered as integrated whole systems."[50] At typical companies, sustainability matters are handled by a specific group within public affairs or human resources. Sustainability is just another project, but its systemic dimension has so far escaped the mainstream business thinking.

3.3 Similarities between a corporate sustainable initiative and a corporate process improvement

Both types of initiative are typically designed and introduced by leaders who are looking for ways to boost the performance of their organizations. With sustainability, however, the goal is to capture future business benefits from a different standpoint than the traditional financial performance metrics. In addition to a possible financial performance, the executives are also looking at the social, environmental and economic

benefits that the initiative could bring. As Repenning and Sterman note, a variety of improvement innovations exist, but the difficulty lies in their implementation. Sustainability follows the same dynamic as other innovations, and its successful implementation depends on how integrated the efforts will be in the daily routines of the company. Doppelt, for example, compares sustainability efforts to TQM, strategic planning, and re-engineering programs, and he explains that they don't achieve their goals because they "fail to change the underlying thought patterns, outlooks and behavior of employees."[51]

The particularities of sustainability initiatives come from the fact that executives leading those initiatives need also to take into account how the external environment interacts with the internal organization. This creates an additional layer of difficulties, as there is a need for a strategic translation of the "inside-out" and "outside-in" functions of sustainability into core processes. Porter and Kramer[52] describe the *inside-out* activities as those that create impact in the society through business operations. The map of Nestlé's activities in sustainability in the next chapter provides an overview of how a company creates social impact through its entire value chain, from the sourcing of raw materials to the way it interacts with consumers even after the sales of its products. The *outside-in* linkages are all the ways that the external environment, in particular the competitive context, influences companies. Finally, even more than for processes that are linked to tools and machines, sustainability exists only through the imagination and the spirit of the people that are active in the systems. Thus, it will be important to study mental models that represent the way that people will interpret sustainability and adapt their actions accordingly.

3.4 Resistance to change against sustainable corporate initiative

When we look at the expected reaction of the employees along the model that Repenning and Sterman developed, it seems that sustainability is even more susceptible to resistance than other improvement methods. An immediate natural reaction of skepticism from the organization will welcome the first efforts from the leadership team. First, there will be a question of uncertainty about the potential benefits of a sustainability initiative. An IMD survey in the food and beverage industry [53] found that managers are skeptical "about the added value of sustainability action, with fear of high costs and little or no return." Questions likely to run through the mind of managers could be: Will this really work and what is it doing for me? Why should I follow this path? As with any change, there is no definite way to guarantee success. Second, the impact of temporal and spatial distance of the changes brought by sustainability will increase the resistance to change. Sustainability is by definition long-term, so that any benefits will take time to materialize. For example, the impact of energy reduction initiatives will take time to reduce carbon emissions. In addition, the geographic distance might also contribute to slowing change efforts. Sustainability, in particular in the case of sustainable agriculture, has a strong focus on improving the situation of people in less developed countries that are far away from headquarters. The link between actions in a corporate setting and a farmer in a developing country might not be obvious.

3.5 Short term benefits and long-term consequences

Repenning and Sterman's two important strategies in process improvement: *working harder* and *working smarter* also have interesting applications for corporate

sustainability initiative. While the former brings a short-term benefit in helping raise output immediately, it has a longer-term negative consequence as it will lead to more rework down the line and, eventually, an erosion of capability. By comparison, in the latter sustainable setting, we could replace the two strategies by *status quo* and *sustainable innovation*. The *status quo* simply refers to the current attitude of a company with no or little activities in sustainability from a strategic perspective, while the *sustainable innovation* points to the major investments that a company that wants to integrate sustainability in its core processes needs to do. Companies that only go for the status quo have, in the short-term, the benefits of saving the resources that are inherent to a large-scale sustainable change effort.

The long-term consequence for such a mindset, however, is that the risks of having to be forced to make major changes in the future, because of external pressure, such as regulation or a loss of competitive advantage, will be much higher. First, the risk is linked to the assumption that environmental and social laws might force corporations to adapt their businesses. Doppelt[54] mentions this risk in clear terms when he talks about the need for executives concerned with change efforts around sustainability to reduce "the false sense of security that people hold when they are in compliance with the law." Epstein[55] notes that lack of strategic thinking in sustainability is related to companies that are crisis-prone, that may face negative consequences (increased community concerns, damage to corporate reputation), or decrease in potential revenues related to sustainability issues. Not thinking about sustainability in a forward-looking way therefore creates a long-term risk. Second, by not innovating in a space that might gain increasing importance in the business world, companies can lose market share. Corporate executives

might run the risk of seeing their competitors position themselves earlier in this space and reap the benefits of early-movers to capture nascent opportunities. The *sustainable innovation* strategy shows that by investing effectively into sustainability, the company is better positioned not only to anticipate long-term external pressure brought by a changing business and social environment, but also to uncover new business opportunities. Like managers in product development that need to decide to between putting more pressure on their workers or increasing their training, managers with decisions to invest in sustainability face a major trade-off. They need to balance the short term benefits of non-investment with the long-term risks associated with this strategy.

3.6 Delays

Sterman and Repenning's model shows a significant delay in improving processes. According to them, "the delay in improving highly complex processes such as product development can be several years or more." Delays are similarly very important when studying the implementation of sustainability initiatives. The general risk for organization is to understate the importance of delay when launching new initiatives. By not understanding how much time to give to an initiative to produce results, executives face the risk of stopping major efforts before they bear fruit. Every training or improvement needs time and resources before producing any tangible benefit, but sustainability in a corporate setting might be even more challenging. The whole idea of sustainability involves long-term thinking, so that there will be extensive time between action and consequences. As sustainability also involves working on the fundamental mental models

of every employee, the initiative will need to allow time for change management at the individual level to take effect.

For all these reasons, sustainability initiatives seem to go well beyond the reorganization of a production line in the case of process improvement. This gap between action and consequence means that champions of sustainability initiatives will have to be prepared to defend their initiatives. as they are not likely to produce results in the short-term. The level of delays will depend, for a certain part, on the receptivity of the organization for change. Certain industries have seen a lot of regulatory changes (banking for example) and the leaders in these industries might be better positioned for adopting broad change initiatives.

3.7 "Worse-before-better" and the long-term view

In the case of process improvement, an investment in training and learning creates a situation of "worse-before-better." Capability will increase only when the time spent on improving starts to bear fruit. In more general business situations, managers will need to invest time and efforts first, for example, by refocusing the strategic priorities of a specific group to decide which projects should be stopped before the situation of overload gets better. The case of *sustainable innovation* also shows characteristics of worse-before-better. A sustainability initiative will follow the same pattern, but probably with a longer period of "worse" than what is described for process improvements. There are two main drivers behind this situation for *sustainable innovation.* First, as we have just seen, long delays are likely before an initiative can show results, thus creating uncertainty. Second, the scope of sustainability initiatives within companies is very large. Epstein

gives an overview of the "organization processes that lead to success"[56] for sustainability initiative. The sustainability actions that he recommends range from leadership, to strategy, to structure and to systems. The complexity of these actions helps explain the size of the commitment that sustainability requires. It can be expected that large scale initiatives will first have a negative impact on the operations. The analysis process of seeing what needs to be changed in a company by adhering to sustainable standards and the further step of reshaping current practices will definitely lead to a major disruption in operations. In parallel, efforts will also need to target key functions such as branding, marketing or R&D where employees will need to be made aware of the potential of sustainability innovation for their functions.

3.8 The capability trap

The capability trap in this environment would prevent the change from happening because leaders recognize the large-scale effort that needs to be put in place to align the company on sustainable practices. Similarly to what happens in companies where "working harder" becomes the norm, in our case, it would mean that companies and leaders would only take shortcuts in dealing with sustainability. Rather than investing the time, energy and resources to deploy a large-scale change effort, they might limit their efforts to sustainability activities that pay in the short-term, but that at the same time delay them from making more fundamental changes. Epstein[57] warns against these short-term efforts, such as a public relations initiative, that do not create long-term value and can even be "value-destroyer."

Doppelt[58] attributes this bias towards the short-term to the belief that employees have about the purpose of their company. Since they focus on profitability as symptom of "organizational health," they miss the important drivers of this health, which are "cohesiveness, sense of purpose, ability to learn and capacity to respond to change." The leaders need to therefore also look at their own mental models and get a long-term perspective as to where their company is going. Justifying the resources needed takes courage, as well as the inclusion in the decision process of a group larger than just shareholders and a timeframe much longer than the next earnings report.

3.9 Summary of this section

The following table summarizes the most important dynamics of process improvements and sustainability initiatives.

	Process Improvements	Sustainability initiatives
Working harder vs. working smarter	Pressure on the organization through added work and negligence of longer term capability improvements	Status quo brings risks of having to make major changes reactively while sustainable innovation offers the chance to capture new opportunities
Capability trap	Erosion of the capability of organizations due to lower levels of investments	Limit the capability of organizations to learn and adapt to changing conditions
Delays	Process improvements take years to take effect and executives need to take into account this dynamic	Long-term aspects of sustainability need to be understood and integrated into planning

4 The perspective from the executives on the implementation of sustainability

There is no doubt that executives are dedicating more time and energy to thinking strategically about implementing sustainability into their companies. Large scale efforts are under way in numerous companies, and well-publicized examples such as the changes under way at Wal-Mart (with the goal of 100 percent renewable energy, zero waste, and sustainable products[59]) reinforce the idea that executives focus their attention on how they can integrate sustainable strategies into their operations. A look at two recent reports provides an occasion to check how managers approach sustainability and the kind of challenges that they perceive.

4.1 McKinsey Report

A recent report by McKinsey[60] provides interesting insights into CEOs' perspectives on the barriers of implementation of sustainability. The report came out in connection with a large conference of the UN Global Compact, a large corporate citizenship initiative involving representatives of all sectors of civil society. The report summarizes the result of interviews with top executives from 230 companies participating in the UN Global Compact.

When asked about the internal challenges of sustainability (called ESG in the report for environmental, social and governance) issues, the respondents cited the following four:

- Competing strategic priorities
- Complexity of implementing strategy across business functions
- Lack of recognition from the financial markets
- Differing definitions of CSR across regions and cultures

This list provides a confirmation that, in the eyes of CEOs, implementation of sustainability issues is bound to meet stiff resistance. They are conscious that lack of metrics, in particular those for measuring sustainability from a financial perspective, create an obstacle as they are faced with short-term demands from shareholders. The last point in particular relates to the difficulty of large-scale implementation for a global company that will see a tension between globally-oriented norms decided at headquarters and different situations locally around the world. The report also contains a short section on supply chains, quoting a CEO who says, "There are questions about how far up and how far down supply chain responsibility goes." Besides the question of scope of responsibility, the CEO also confirmed that it was difficult to embed sustainability issues in the supply chain. In fact, the report states that only 27% of the companies participating in the survey were doing so. Based on this result, it seems that the supply chain is still a neglected part of large companies when it comes to sustainability.

4.2 The RESPONSE report

Understanding and Responding to Societal Demands on Corporate Responsibility (RESPONSE) is a project whose aim was to develop knowledge and understanding on the degree of alignment between companies and their stakeholders about what corporate social responsibility involves within their specific context[61]. The report was funded by the European Union and prepared by a consortium of European business schools. It is based in part on 427 interviews: 210 of senior managers, and 217 of stakeholders. The report has two interesting findings in connection with the implementation of sustainability into companies:

1) Firms that prioritize internal change initiatives – the kind of large-scale corporate sustainability initiatives that is the focus of this thesis – to external stakeholder engagement processes show a higher degree of alignment.
2) Firms that are motivated by an innovation-driven business case show higher alignment compared to firms motivated by organizational values or other types of business case arguments (risk reduction, cost efficiency).

What the report suggests is that there is a positive link between the outside-in and the inside-out linkages between business and society. Leading firms that focus on internalizing sustainability with a mindset of innovation are better at translating the external environment into their operations. This is an important point we will see when we talk about the role of SAIN within Nestlé.

5 From identifying barriers to designing solutions

Now that we are better equipped to identify the barriers to implementation that SAIN might be facing, it is useful to briefly introduce some of the solutions that could help to overcome these barriers. The last part of this chapter will thus cover some of the recommendations from experts in terms of leading successful organizational change. Change management is a large and evolving field, so I will only briefly introduce a framework that I will use again in *Chapter 5* that is dedicated to actions SAIN has put together to tackle organizational challenges. Doppelt[62] provides an excellent set of recommendations for organizational change and sustainability. He builds on a famous paper[63] by a leading system thinker, Donella Meadows, who analyzes places to intervene in a system. Doppelt talks of "leverage points for organizational transformation towards sustainability." Doppelt identifies the following points that corporate executives should follow for organizational change:

- Change the controlling and dominant mindset (establish a compelling need)
- Rearrange the parts of the system (organize teams)
- Alter the goals of the system (adopt visions and principles)
- Restructure the rules of engagement (create new strategies)
- Correct the feedback loops (improve learning and motivation)
- Adjust the parameters (alter policies and procedures)

These leverage points provide a useful roadmap to lead change efforts. Following the distinction established in 2.1, they can be separated between changes that affect the

systemic structure, and others targeting mental models. Epstein [64] uses a similar distinction to talk about the elements used to implement a sustainability strategy. He mentions both "hard" implementation systems (systemic structure) such as compensation, incentives, and performance evaluations and "soft" elements, such as people and culture (mental models).

The table below summarizes the actions that Doppelt recommends. I have classified each of his recommendations as relating either to mental models or systemic structure. Some recommendations, such as the shifting of the flows of information, concern not only mental models (by using stories for example to change the mindset of people), but also the systemic structure (by creating new types of meetings to facilitate learning). In the last column, I link the action elements recommended by Doppelt with the various steps that Kotter[65] describes in his book *Leading Change* that is often cited in the field of organizational change. Both approaches follow similar patterns and, taken together, provide a solid foundation to establish change efforts.

Actions recommended by Doppelt and Kotter:

	Mental models	Systemic structure	
Doppelt			Kotter
Change mindset	Move from old to new paradigm Establish a compelling need		Establish a sense of urgency
Rearrange parts of system		Create transition teams	Create the guiding coalition
Alter the goals	Develop good vision and principles		Develop a vision and strategy
Shift the flows of information	Continual communication, in particular through stories	Rethink communication strategies through new types of meetings and trainings	Communicate the change vision
Restructure rules of engagement	Change focus to finding sources of problems	Establish plan for strategy development including measurement of progress	Empower broad-based action
			Generate short-term wins
Correct the feedback loops	Improve learning and motivation	Improve data systems	
Adjust the parameters		Alter policies and procedures. Align structures and systems	Consolidate gains and produce more change (in systems, policies)
			Anchor new approaches in the culture

This chapter started with the analysis of implementation of innovation initiatives. I suggested that we classify barriers to implementation into two major categories, the first one that relates to a broad perspective of the structure, and the other that looks at the people-level through mental models. I explained how some dynamics identified in researches about process improvement initiatives could also be found in the case of sustainability initiatives. These suggestions form our testing hypothesis for the study of

SAIN. The question will therefore be whether some of the dynamics of process improvements can be identified in our case study. *Chapter 4* will work on such analysis. The end of this current chapter was dedicated to some of the actions that executives looking at change efforts based on sustainability could take. I will come back in *Chapter 5* to change efforts that SAIN has started to put into place, and then I will use the "leverage points" from Doppelt to make recommendations for SAIN. Before going into this analytical part, the next chapter will introduce SAIN with a description of the group, its activities and its philosophy.

Chapter 3: A few facts on Nestlé, and description of SAIN

This chapter provides the major elements that will shape the analysis of the challenges of SAIN in *Chapter 4*. The goal of this chapter is to familiarize the reader with the external and internal environment in which SAIN performs its activities. I will start with the external environment by briefly summarizing a few facts and values of Nestlé. Then I will look at the internal environment of SAIN: how the team is organized, the objectives and the guiding principles of the group. To illustrate how SAIN operates, in particular to highlight the importance of the markets, the chapter will end with a description of a project.

1 Nestlé

1.1 Major Facts and figures

Nestlé is a global company that was founded in 1867 when Henri Nestlé started commercializing powdered milk. Since then, the company has grown to become a leading player in food and beverage products ranging from coffee, and chocolate, to water. In 2007, the company counted 481 factories and 265,000 employees around the world[66]. With CHF 107.6 bio (approx USD 100 bio) in sales in 2007, and a target of 5 to 6 % organic growth per year, Nestlé has indeed become the largest food company in the world. A key driver of its growth has been the successful expansion of Nestlé abroad – especially in emerging markets – which dates back to 1921 with the first factory in Brazil. Nestlé's local experience has been a key success factor in gaining access to local resources, and in developing mutually beneficial relations with business partners, as well

as political and economic organizations. The company has built operations abroad to source products for developed economies, such as coffee beans, but also to develop new markets in these countries, for example with dairy products. Nestlé has accumulated knowledge in developing countries and it has recently begun to sell products specifically designed for the poor population.

1.2 Strategic elements

Some of the strategic aspects of Nestlé are interesting for this research, because they drive the way the company is organized, and they shape the structures of information flows and decision-making. The strategy of Nestlé has a special impact on SAIN as the group's objectives are linked to the general guidelines decided by the top management, and also because of SAIN's interactions with numerous other groups, both within the corporate headquarters and the various regional markets.

In addition, Nestlé operates under a *decentralized model*, with the different local subsidiaries ("the markets") playing a vital role in the company. The markets are given a lot of power, so that they can adapt to local tastes and create strategies that are in tune with the demands of specific markets. The corporate functions ("the centre") have the mission to reinforce the markets (geographically-based business units) and the products-based strategic business units[67].

A key element at Nestlé is the *power of the brands*. The business model of the company is built on strong, local brands. Peter Brabeck, who was CEO until April 2008, says, "We don't believe in life cycles for brands. A well-managed brand will survive us all." Nestlé has a large portfolio of brands, and these brands constitute important

organizational elements with decision-power, budgets and dedicated personnel for most of them. The company follows a strategy of further developing its half-dozen "billion dollar brands" by adding new products or extending the current product lines.

On the operations side, Nestlé focuses on *keeping its costs low*. The margins are thin in the industry, so that Nestlé has to limit its expenses. A key example of this strategic focus is the relatively small size of its central staff – about 2,000 people – compared to the overall number of employees and the volume of its sales around the world[68].

Before I turn to the analysis of their sustainable agriculture initiative, an important element is the current transition of Nestlé from basic food to wellness, health and nutrition. The whole company is focused on this transition. A strategic initiative, for example, aims to "restore" entire lines of products under the name of "60/40+"[69]: at least 60% of the consumers should prefer the Nestlé's product to any competitor's (40%), and the + means that the product must have additional health benefits. In addition, Nestlé is working with different organizations to advance new ways of helping consumers with diets and nutrition concerns.

1.3 Corporate values

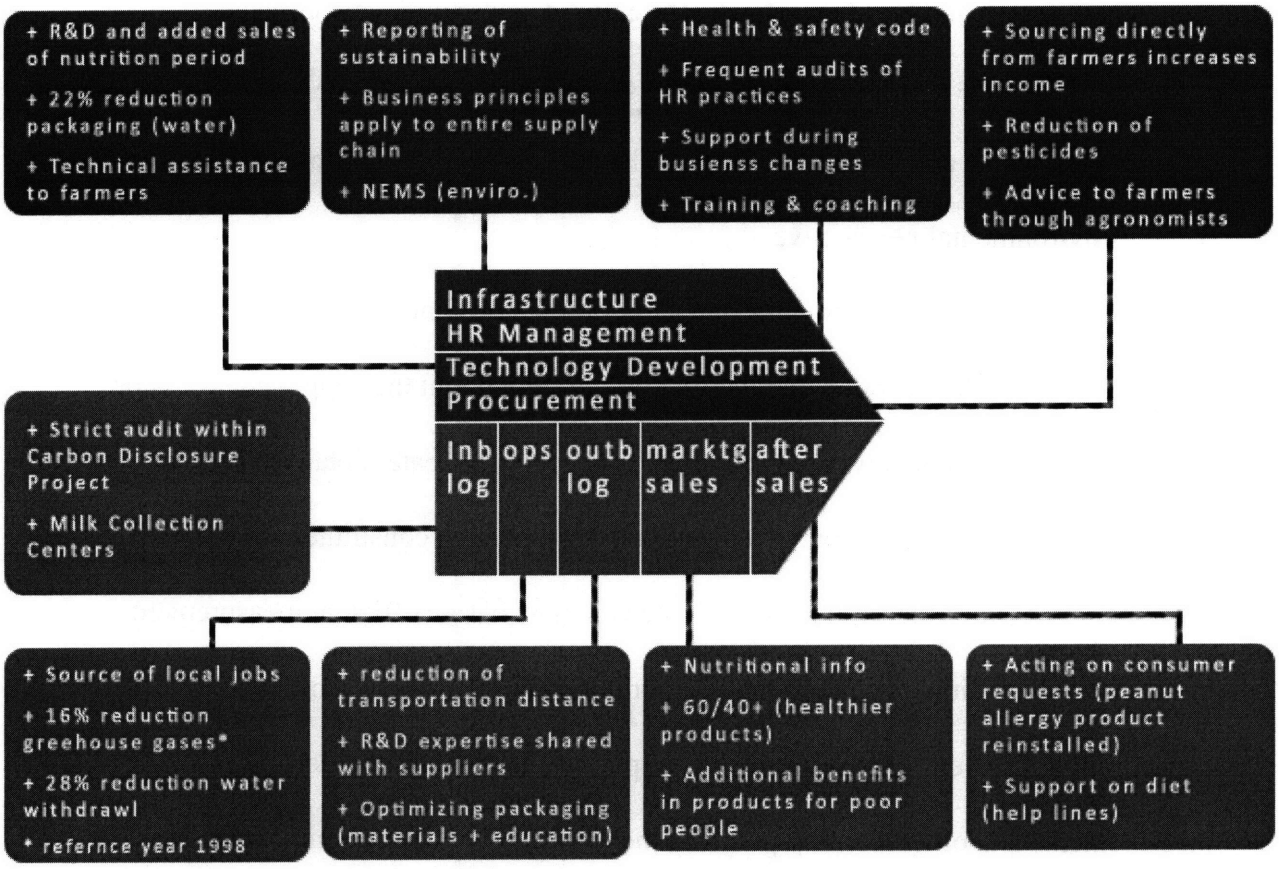
The Corporate Business Principles[70] are Nestlé's *code of conduct*. The principles constitute the main elements of Nestlé's values as a company that does business around the world and has a very large circle of stakeholders. The wide-ranging principles cover topics ranging from the communication to consumers, to human rights, child labor and suppliers' relations. Even though the text contains few expressions of commitments, they

reflect the priorities of Nestlé, in particular the current concern over the continuing supply of water.

A long-standing principle at Nestlé is its *long-term perspective*, which is expressed in the actions that the managers take by focusing on the distant future. A review of the elements of Nestlé's culture[71] shows that the company values continuity, and that "it takes a long-term" view. The previous CEO and the one in place today, Peter Brabeck, share the same vision of focusing on non short-term financials investor-type of return. Peter Brabeck comments in the Harvard Business Review, "Our main goal must be a long-term, sustainable, and profitable development of our business."

1.4 Sustainability at Nestlé

"Creating shared value" summarizes the current concept of sustainability at Nestlé. As the latest report explains, "Nestlé links its operations to long-term value both for its business and for society as a whole, and defines its success in terms of internal financial returns and external social and economic results." This report contains the major elements of its sustainability strategies. Based on the report, I have built the value chain of Nestlé in terms of its sustainable activities, using the model developed by Porter and Kramer[72]. The diagram below captures the scope of Nestlé's activities and how they intersect with sustainability.



Nestlé follows the triple-bottom-line principle described in *Chapter 1*, and channels its activities along the three elements of economic, environmental and social benefits.

a. Economic perspective

The starting point of Nestlé's philosophy in this field is its contribution to "sustainable economic development"[73] by being active on an operational and commercial level in the developing world. The report states that 30% of its business is in the developing world, with more than 45% of its factories located in these regions. The long-term element of Nestlé's strategy is readily apparent in its approach to sustainability. The company works closely with non-governmental organizations (NGO) and other local

groups to invest in and build up infrastructure, for example milk collection and refrigeration centres that take a long time before delivering benefits. Nestlé also provides technical assistance and education related to health and hygiene in a lot of regions.

b. Environmental perspective

In terms of its environmental practices, Nestlé constantly looks for new ways to reduce its energy consumption and its water usage throughout the supply chain. Aside from the procurement of raw materials that I will cover in greater details, Nestlé has been focusing its attention on the manufacturing processes, which constitutes the "highest potential to maximize eco-efficiency."[74] The company has an efficient measurement system that allows it to efficiently track environmental indicators such as energy consumption, CO2 emissions, water consumption, and waste generation. These measurements and other learning points in the management of environmental issues has led to the creation of the Nestlé Environmental Management System (NEMS), a wide-ranging, globally-implemented program that sets up standards and offers resources for the reduction of the impact of operations on the environment.

c. Social perspective

Finally, Nestlé's activities and thinking in sustainable social development focus on developing relationships of "trust"[75] with employees, consumers and suppliers. Its labor relations are built upon principles of respect of unions and of working hard to minimize the impact of reorganizations on the employees.

The large scope of activities in sustainability shows that sourcing raw materials, the principal activity of SAIN, is only a small part of Nestlé's sustainability strategy. In fact, most of the sustainability issues that the company mentions in its various reports are

linked to the downstream part of the supply chain. An important aspect that comes out of the last part of Nestlé's Sustainability Review – "The Future"[76] – is its focus on implementation of sustainable practices into the company. Nestlé states that its strategic focus in this field will include a better measurement of social sustainability, additional educational efforts to implement the Business Principles at all levels of management, as well as increased monitoring of this implementation. This shows that Nestlé has the will to increase its impact around sustainability at various levels of the organization. Experts and people close to Nestlé agree that sustainability is important for the company and that they are working on several initiatives, but that it does not yet "come close to the core of the business.[77]"

2 Sustainable Agriculture Initiative Nestlé (SAIN)

SAIN corresponds to Nestlé's strategy in sustainable agriculture. An overview of the organization as well as a description of the origins and drivers of the initiative will provide general background on this initiative. In a second part, I will list and comment various aspects of the initiative that show the complexity of implementing sustainability in the context of a large company. The group presents very interesting characteristics for our case study, in part because of some of the competing objectives and guiding principles that it follows. A central tension I mentioned in *Chapter 1* is also true here. The group has been built around a business interest – the continuous supply of high quality raw materials at competitive prices – but it also follows a strong sustainability objective. These two elements can be aligned, but there are clearly situations were tradeoffs appear and decisions need to be made. Other competing guiding principles

concern the management approach of the group (top down vs. collaborative), its scope of action (systemic vs. local level), and its perspective on change (mindset change in the markets vs. at the corporate level).

2.1 Sourcing of raw materials

Sourcing of raw materials is a core business activity at Nestlé and it takes place globally. Nestlé spends approximately CHF 17 bio (USD 17 bio) every year on agricultural materials, which it sources through trade channels, primary food processors or directly through farmers. Nestlé does not own any farms directly, but the company works with hundreds of thousands of farmers around the world to source its raw materials. The Corporate Business Principles contain an entire section on agricultural raw materials[78] that details the kind of support Nestlé offers, and the criteria it applies for direct sourcing from farmers. In terms of support, the principles mention the focus on sustainable agriculture and the efforts to offer a good income as well as technical assistance to farmers when relevant. More importantly, the principles lay out the main criteria that guide Nestlé's direct procurement strategy:

- company requirements in terms of quality, safety, quantity and cost
- proprietary characteristics of individual raw materials
- reliability in supply and the local conditions for sustainable production.

As Hans Johr, head of agriculture, explains,[79] sourcing raw materials is a critical element for business continuity – unavailability of certain commodities would mean that products don't get manufactured and sold – and profitability. In addition, sourcing is

linked to quality and safety, which the CEO considers key differentiation factors[80]. Finally, sustainability objectives are also strongly tied to sourcing as 675 agricultural experts work with more than 610,000 farmers around the world that produce milk and coffee in developing countries, such as Pakistan, India, Thailand, or Vietnam. There is a strong link to agriculture in emerging markets since this is where Nestlé sources 2/3rd of its agricultural material[81]. Historically, Nestlé has been working closely with suppliers of raw materials by offering technical assistance, such as advice to make their operations more efficient or more reliable. For example, the case of milk is interesting because Nestlé collects milk from more than 300,000 farmers around the world.

2.2 Origins of SAIN

A strategic document from March 2003[82] describes the Sustainable Agriculture Initiative Nestlé (SAIN) as a strategy that supports sustainable agriculture, and helps to ensure the supply of agricultural raw materials of the required quality and at competitive conditions. This definition helps underscore the overall nature of SAIN, as both a business-driven initiative related to sourcing agricultural raw materials at competitive prices, and an initiative to drive sustainability through the supply chain. The sustainable agriculture initiative at Nestlé (SAIN) was formally launched in 2000 by Nestlé managers to "deepen their understanding of the relationships between sustainability and traditional business fundamentals."[83] Before SAIN, Nestlé had already been active in sustainable agriculture for many years. The strategic focus of the company on the long-term also applies to its sourcing strategies as it has always placed an emphasis on collaborative and mutually fruitful relationships with farmer. With more than 25 years in the company, Mr.

Eduard Bruckner, an agricultural advisor, confirmed that Nestlé had for many years continuously strived to maintain good relationships with its suppliers.

2.3 Organization

SAIN is a small group operating as a "virtual competence centre" located within the headquarters in Vevey. There is no dedicated staff to the initiative, but the team of CO-AGR spends time and energy to run this initiative. The staff at CO-AGR consists of one director, 5 managers (milk, coffee, vegetables, water, and risk management), 2 part-time helpers and 2 assistants. Here is a list of the staff:

- Hans Johr, Director
- Eduard Bruckner, Manager fruits vegetables
- Juerg Zaugg, Manager milk procurement
- Patrick Leheup, Manager coffee procurement
- Benjamin Ware, Risk manager in procurement
- Emeline Fellus, Coordinator water (part-time)
- Jeremy Cartier, water and SAI platform (part-time).

The director, Hans Johr, is an internationally recognized expert on sustainability. He has spent more than 20 years in farms around the world, in particular in Brazil, before joining Nestlé. He provides leadership to the team and has a key role in setting the mindset of the group. As he explains: [84]

> *I am with Nestlé because I want to do a good job on what I know how to do and I am not looking for a career in the company. I am looking to do what I like to do and where I can most contribute. It's different because I had not worked with a big corporation before Nestlé, so it is a different mindset.*

Hans Johr did not offer any cost estimate for the initiative and he insists that there are little resources spent beyond his time and that of a few collaborators[85]. Consistent

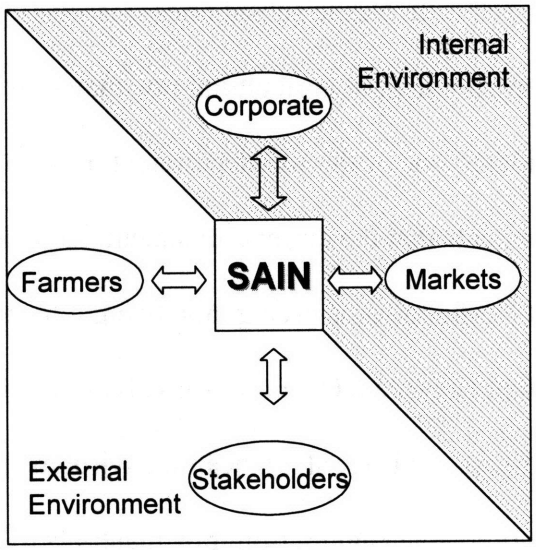
with the strategy of decentralization of Nestlé, this means that the team has to work very closely with the markets for the implementation of their projects.

SAIN is part of Corporate Operations Agriculture [CO-AGR] – see Appendix A for an organizational chart. CO-AGR is a " department of Nestec S.A. that provides strategic leadership and assistance to Nestlé subsidiaries (markets) worldwide for the direct and indirect (trade) procurement of agricultural raw materials."[86] As the chart shows, Agriculture is considered one of the sub-department of the operations division of the company. Mr. Johr comments that the current organizational chart represents an interesting strategic shift at Nestlé towards giving more weight to supply chain management. He explains that Corporate Operations involves procurement, purchasing, agriculture (direct procurement), quality, safety, health, environment, and engineering. For him, the fact that the entire value chain – from raw materials to point of sale – depends from one department shows that supply chain is a key function of the organization. The major benefit, according to Mr. Johr, is that now "we can much better communicate to the markets because we have one boss on the entire value chain and not two or three different voices."

The graph below gives an organizational perspective on the activities of SAIN. I will go in more detail about some of the relationships between SAIN and the other groups, but for now, this graph shows that SAIN is operating between two environments (external and internal) and interacts with four main constituents:

- Corporate (all corporate functions that might be connected to SAIN's activities such as branding, marketing, public affairs)
- Markets (the various regional subsidiaries of Nestlé around the world)

- Farmers
- Stakeholders (all groups that have an interest in or are defending sustainable agriculture)



This graph will help us understand the various competing priorities of the group as well as the complexity of operating in different environments.

2.4 Drivers of the initiative

The drivers of SAIN are a direct response to the various issues in food systems around the world that we saw in *Chapter 1*. The group is constantly interacting with stakeholders to analyze the fast-changing situation related to food production and consumption around the world. SAIN addresses the two basic issues of food security (in developing countries) and food safety (in more established countries).

2.4.1 Food security

Hans Johr, who is the head of agriculture for Nestlé, is concerned about the pace of growth of the population and its consequence on the availability – and therefore production – of food. He sees that the current pressure on agricultural systems is not sustainable. He has a long experience with sustainability shaped by more than 20 years working on farmlands in Brazil. Hans Johr has experienced up-close the short-term thinking of destructive agricultural methods. SAIN responds to this concern in the form of the need to continuously improve the productivity of farming. In Brazil, Hans Johr saw how large groups of farmers would simply overexploit natural resources[87]. As less land is now available for additional farming, there needs to be a focus on improving productivity of agriculture through innovation and better use of current resources, in particular water[88]. This concern is at the core of SAIN's approach to sustainability.

2.4.2 Food safety and beyond

Another element of the external environment around food is the current focus in developed economies about the quality and safety of food. Mr. Bruckner recalls that this concern in the general public dates back to the '70s when people started to shift from worrying about the availability of food to its safety and quality. Mr. Bruckner thinks that the consumers' perception of food is currently going through another major shift – from the tangible quality of food to its intangible value - which will have a long-lasting impact in the industry. This shift is a key driver of SAIN. First, consumers are now more interested in the health benefits and the wellness factor of food products. They are thus more likely to ask questions and check the origins of ingredients. The kind of demand for

food is changing with consumers now having higher expectations[89], which has an impact on sourcing. The second aspect of consumers' perception is what Mr. Bruckner refers to as the quest for "emotional benefit" from consumers, the idea that they want to also feel good about the food they buy, which translates into the necessity of the entire supply chain to be "right." As a consequence, as is true with other global corporations, consumers view Nestlé's responsibilities as extending upstream into the supply chain to farmers and other suppliers in relation to issues such as "working conditions, animal welfare, and agricultural production."[90] For Mr. Bruckner, the major proof of this driver is the demand that is starting to come from brand managers. He explains how brand managers are close to consumers, and when a few of them start asking questions about supply chain issues, they are relaying a consumer interest that needs to be taken into account.

2.5 Business as a priority over sustainability

Despite the potential for tension between the business and the sustainability objective of SAIN, the team clearly emphasized the business objective as the priority for their activities. The following section will give more details on theses two different objectives.

3.2.5.1 Business driven objectives

When Hans Johr talks about SAIN, he starts by describing the initiative as business-driven[91]. The initiative aims at "ensuring sustainability and competitiveness in the supply

of key agricultural raw materials to enhance sustainable, profitable growth of our business." There are three main business objectives for SAIN. The following discusses them in growing order of priority.

- *Risk management*: Mr. Johr[92] explains that SAIN's activities all start with a focus on business continuity. He continues: "This year, a lot of people started to realize that adverse effects such as climate change and the booming demand in certain markets meant not only a hike in prices, but also a possible shortage with some commodities that could not be supplied." SAIN aims to reduce the risk surrounding the supply of raw materials by reinforcing its collaboration with farmers and therefore securing privileged relationships with farmers. Typically, there are no contracts with farmers who are therefore free to sell their crops to any food company. Nestlé believes that, by offering assistance to farmers, it will ensure that they will continue to prefer supplying Nestlé. As Mr. Johr explains[93], there is a lot of focus on customer relation management and he now thinks it's high time there was a supplier relation management strategy. He also cites the potential commercial risk if suppliers of the best quality beans are not able to supply products, which could turn into costly problems for example for Nespresso, the premium coffee sold by Nestlé. For luxury products such as Nespresso coffee, there is a strong business risk associated with the upstream supply chain.
- *Cost reduction*: SAIN wants to play a key role in reducing "production expenses."[94] The assumption here is that helping farmers with technical assistance in their production process will help them be more productive in the long-term and therefore offer supplies at lower costs. Since Nestlé would not adjust price downward, the farmer would then be able to pocket the savings that could come from running a lower cost operation.
- *Public image:* SAIN also seeks to address the possible challenges in the "upstream supply chain" such as labor or ethical issues."[95] The key goal for SAIN is to augment the communication around its activities in sustainable agriculture. Both Mr. Bruckner and a board member agreed that Nestlé had been active for a long time in the field of

sustainable agriculture, but that the launch of SAIN corresponds to a strategic interest to gather more information and communicate about the activities that the group undertakes.

2.5.2 Sustainability objectives

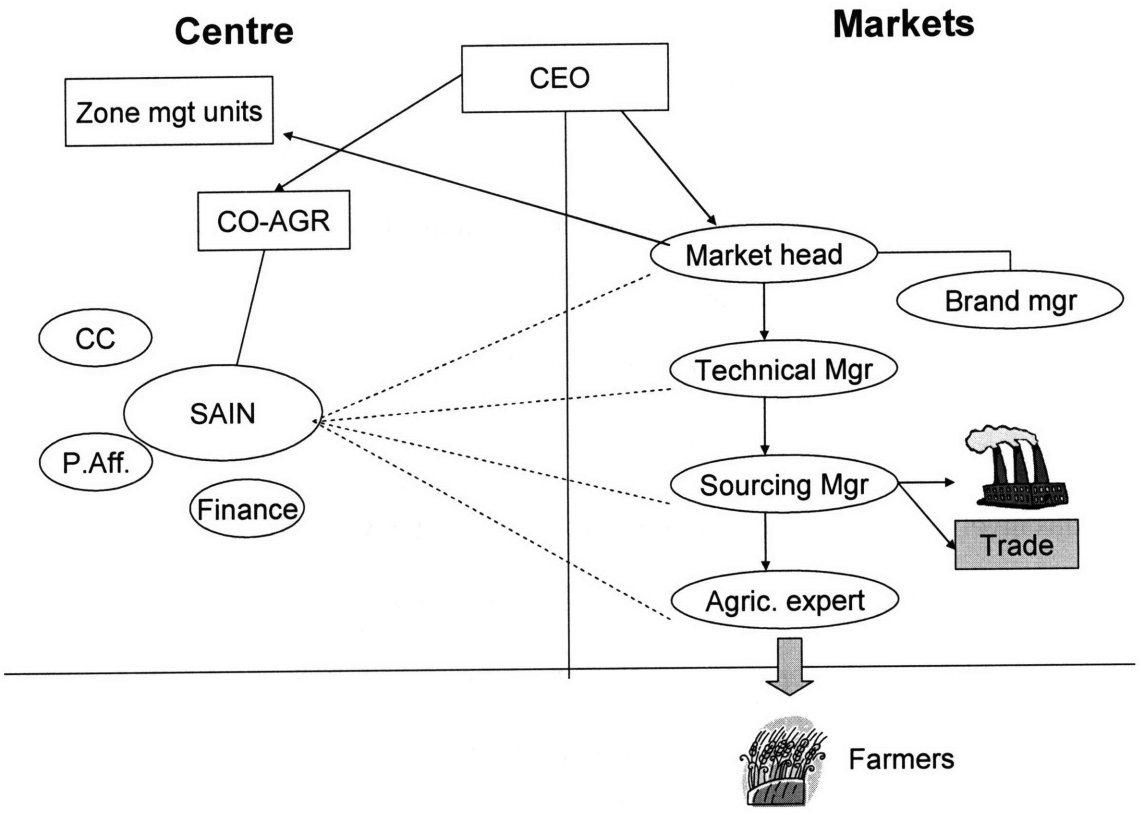
In its approach to sustainable development, the company follows the so-called triple bottom line that we saw in *Chapter 1* using "economic, environmental and social criteria."[96] We can interpret the various objectives in the following way:

- *Economic development:* SAIN looks at providing more technological and more competitive farming, thereby reducing poverty among the suppliers of raw materials.
- *Environment:* SAIN works all the way through the supply chain to the input industry, in particular to optimize the use of fertilizers and pesticides. A key objective that has become a top priority for Nestlé is the reduction of water.
- *Social development*: SAIN cares about and seeks to reinforce social cohesion with its activities. The case of the milk districts[97] demonstrates the role that the company played in empowering women in Pakistan. Nestlé trained 4000 women to advise farmers on agricultural techniques that increase the quality and the quantity of milk that they produce.

This list gives the formal sustainability objectives of SAIN, the ones that are in the charter of SAIN. However, the group is clearly driven by a broader mission. I will expand on this other dimension in a section on the change efforts of the group. Before this section, I will introduce the key players for SAIN in corporate functions and in the markets.

2.6 SAIN's relationship with the market and the centre around projects

In this section, I will give an overview of the relationships that SAIN manages with both the centre and the markets as part of its projects. This description will show the formal or official side of SAIN, whereas the next section will focus more on the change efforts that SAIN is pursuing through its activities. As the graph below shows, SAIN is at the centre of a complex web of relationships. The chart shows the various groups and functions that are in contact with SAIN. On the markets side, the chart summarizes the functions involved in the sourcing of raw materials for a typical market. Individual markets might slightly differ and the functions, for example of sourcing manager, might carry more or less weight depending on the size of the market. In the next section, I will give an example of a project that will illustrate how each function operates in this upstream part of the supply chain.



2.6.1 Relationship with the centre

Besides the organizational link to the operations division at Nestlé that I explained earlier, SAIN maintains relationships with several groups to fulfill its objectives. In connection with the *risk management* business objective, SAIN is often working closely with the finance group to determine the impact of competitive direct sourcing on the financial numbers at Nestlé. A recent example of this relationship was the invitation that Hans Johr received from the investor relations group to present during an investment conference[98]. In relation to the *public image* objective, SAIN is working closely with the corporate communication and public affairs group to establish communication activities that convey the innovative way of direct sourcing and its positive relationship to

sustainability. Speeches from the CEO[99], annual reports and other documents are relaying the activities of SAIN and their contribution to both Nestlé and society.

2.6.2 Relationship with the markets

SAIN relies on a variety of people in the markets to implement its projects and execute its strategy. The previous chart shows how the markets are structured for sourcing purposes. As mentioned above, Nestlé's organization is based on the principle of decentralization, which means that a lot of the decision-making power stays with the various executives at each market. Therefore, a key aspect of SAIN's strategy is to ensure that the project goes through the four phases described in the next section, with the close assistance and involvement of the markets. Let's review the role of the main players in the supply chain for agricultural materials and their relationship with SAIN before turning to an example of a project that will explain the main functions of each player in more details.

Market Head: At the top of each market lies a market head who is the highest decision-making authority for his market. He reports directly to the centre and is responsible for all activities related to his market, such as brand management, sourcing, marketing and distribution. There are no formal or direct relations between the market heads and SAIN. In other words, SAIN cannot impose any projects on market heads, and there is only some communication when the project has been initiated by executives in the markets.

Technical Manager: The technical manager is in charge of all technical aspects of the markets, from technical assistance to plants and farmers, and to sourcing activities.

This is a corporate function, and SAIN typically has long-term relations with them with the goal of sharing information on farming techniques. The technical manager plays an important role for SAIN, because he receives budgets every year and has the possibility to request funding for sustainable agriculture in the market where he is active. He will not directly put in place a SAIN project, but can free up resources – both financial and human – for various other people working in the organization, such as the sourcing managers who implement the project on the ground. The technical manager also keeps a close relationship with the centre, which might provide an additional benefit for SAIN in terms of having the most supportive technical managers report on their experience in SAIN projects to other people in the centre.

Sourcing Manager: The sourcing manager is in charge of the day-to-day supply of raw materials to the Nestlé operations in his market. The sourcing manager receives specifications for purchasing specific commodities and then needs to decide whether to purchase through trade or directly from farmers. There is a close, locally-based, relationship between the technical manager and the sourcing manager in each market. The sourcing manager reports to the technical manager and they work together on projects of technical assistance required for the upstream suppliers. The sourcing manager is the most important person for SAIN for three reasons. First, sourcing managers decide the appropriate route for sourcing the raw materials. If SAIN wants to make an impact in the market, it needs the support of the sourcing manager that needs to grow and nurture relationships to farmers. Second, sourcing managers are local experts who have direct knowledge of the needs and opportunities for sustainable solutions in farming. Finally, while SAIN has no formal reporting relationship to sourcing managers,

it can be involved in setting up how they will be evaluated. The sourcing managers are evaluated against key performance indicators (KPIs), which consist of targets of competitiveness (dollar amounts), quality and volume. The KPIs don't come directly from SAIN, but Hans Johr, as head of agriculture, has responsibility over the sourcing managers when it comes to agricultural sourcing, so he has a fair amount of influence over their decisions.

Agricultural Expert or Agronomist: The agricultural expert is the closest person to the farmers and reports directly to the sourcing manager. His responsibility is to translate the technical expertise from the centre into applicable solutions at the farm level. He will continuously work with many farmers to help them with building new equipments to enhance productivity and attain a sustainable goal, such as water reduction. More than 800 such agronomists work closely with small farmers and community organizations on a local level.

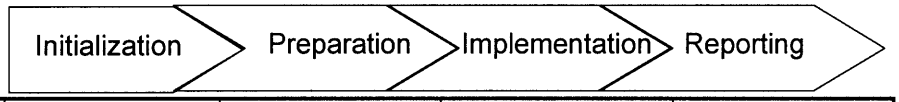
2.7 Value chain of activities

The activities that SAIN performs are linked to the strategic sourcing interests of Nestlé. As previously explained, the focus on quality and long-term procurement is a priority when planning supply from farmers. Even though there might be a degree of quality – the coffee used in instant coffee is very different from the premium coffee of the espresso system called Nespresso – this remains a strategic element of the group. The activities of SAIN are limited to 5 crops/issues:

- coffee
- milk

- cocoa
- fruits / vegetables
- risk management (including water, seen as a strategic risk for long term procurement of crops)

The projects that SAIN undertakes involve various people throughout the supply chain. The table below summarizes the key phases of a project, the main people involved, the activities, and the duration of each stage.



People involved	Farmer and sourcing manager	Experts from other parts of the company or external experts	Agricultural expert	Sourcing manager, trading manager, agricultural expert
Core activities	Determine needs from farmers	Find solution and establish manuals or guidelines	Knowledge transfer through training	
Duration	Ongoing	Several weeks	Few days to a few months depending on difficulty of techniques	Annually or when project is over

To explain this chart in more detail, the phases of a typical project are summarized below:

1) *Listening and initialization phase*

The initiative to start a project can come from either the markets, from SAIN or, more rarely, from other departments within the centre. In the markets, most of the time, the sourcing manager will be interested in getting technical assistance for a specific problem linked to farmers from whom he sources. For example, farmers are interested in new irrigation techniques that could reduce their use of water while also contributing to a better yield, i.e. a project in Brazil described in the next section. From the headquarters perspective, SAIN also initiates projects by offering to help with specific issues based on the experience that the group might have gathered from other Nestlé experts around the world. In this first phase, a key element for SAIN is to listen to the needs of the farmers and the sourcing managers in the market. Given the overall sustainability goals of Nestlé, the role of SAIN is to link the group's strategic interests with the needs of the farmers for more productive operations, better output and higher wages. On one side, SAIN needs to be aware of all kinds of guidelines and policies (quality sourcing, purchasing, environment, water) while on the other, it must understand and sponsor the situation on the ground in order to develop practical solutions that will help farmers in their daily field operations.

2) *Research and technical documentation (preparation)*

Once the scope of the project is defined by markets and the technical assistance from SAIN is requested, a phase of research for technical solutions starts. At this point, the markets have submitted a precise request that describes the kind of problems that the

farmers face, such as water usage. SAIN will work on this request and scout through internal documents or ask external services such as consulting companies or universities for opinions and advice. Once a technical solution is found, SAIN will prepare easy-to-understand manuals. These are practical instructions for the sourcing managers and the farmers on the various steps needed to solve the specific issue they highlighted. On special request, a SAIN corporate team can be set up and go into the field in the requested market to teach how to apply the general instructions and how to use manuals.

3) *Implementation of the project*

The implementation of the projects goes through the various Nestlé employees active in the markets. Typically, the agricultural expert of a certain market will spend time with the farmers to explain them how the technique can be applied to their operations. This phase constitutes a knowledge transfer that lies at the core of SAIN's activities. Various manuals, and all the techniques and sources of knowledge that SAIN has collected, come into play through the application of these processes in farms.

4) *Report, measurement and communication*

Once the project is over, or on an annual basis if projects are ongoing, the agricultural experts in the market report on the progress made and the impact of the technique. Project reports are not done individually for each farm, but rather summarize the activities in a specific region. The reporting form follows a precise template sent by the SAIN team, so that there is a sense of consistency among all projects. After being reworked by the team, these reports become public to show internally and externally what SAIN is doing. An example of such a report can be found in Appendix B (SAIN case "Management of Manure and Rainwater in Mexico").

2.7.1 Example of a project throughout the value chain of SAIN

In this section, I analyze a project according to the value chain, a four-stage process I have described previously. The project has recently been completed by the SAIN team. Water has become a strategic topic for Nestlé in the last few years. Peter Brabeck, Nestlé's CEO until April 2008, has been a strong advocate of water management at all levels of the organization. Since 2006, SAIN has been in charge of addressing water concerns through a part of the supply chain, specifically "from the farm to the factory."[100] Benjamin Ware is in charge of the water part within SAIN and he oversees projects that aim at better managing water in Nestlé sourcing operations. One of the projects he has facilitated is an initiative to help farmers in Brazil to better protect spring eyes on their land. This project offers a good insight into the functioning of SAIN and will also be examined for further analysis in *Chapter 4*.

1) Initialization

On a strategic level, SAIN had to integrate the group strategic water management objectives into its operations. The main goal regarding water is to create awareness at the farmer level of the value of water. The value might be different depending on whether one needs to protect a source of water that is available on the land or if the farmer needs to travel to get water for his personal needs. In the case of the SAIN spring catchments protection, the initial impulsion came from the Nestlé headquarters in Switzerland (the centre), and has retained attention from the Nestlé Brazilian subsidiary (one of the markets). The request from the Brazilian market was to help farmers to protect the source of water in farmer fields. The objective was to protect spring eye and underground water from pollution and, to provide in certain cases a good source of water to animals. Once contacted and mandated by the Brazilian market, the SAIN team decided to search for

technical solutions within the company. It also inquired about possible similar needs elsewhere in its network.

2) Preparation

Once the team found efficient information and techniques on source protection, it started to create a very simple manual, together with a communication agency, consisting only of pictures, to show farmers the tools and equipment they needed for a spring eye protection. This happened in collaboration with other experts that know the situation in South America, as well as by using the different techniques available and potentially applicable at farm level.

3) Implementation

It was then up to the sourcing manager in Brazil to provide assistance to the farmers to build up the spring eye protection. This knowledge transfer is essential to the process of SAIN, as it allows Nestlé to apply sustainable principles on the ground. The local connection provides the sustainability part of the service. As it takes several intermediary steps, having someone in the region where action is planned – in this case, a remote place in Goias Brazil – means that Nestlé can deliver on its objectives.

4) Reporting

The last part of the project was to measure and report on the project. As for every sourcing manager, the one from Brazil had to report on the projects that he had undertaken during the year as part of a yearly routine. For this purpose he uses a corporate reporting template: one simple page explaining the background of the SAIN project, the challenges, tools used and results thus far. The report serves as an internal measurement tool for SAIN, but is also used to talk about SAIN externally, for example, in the form of a case study that will be publicly available.

2.8 Multiple dimensions of change efforts

SAIN is clearly a work in progress, and the team is constantly reinventing itself. After the description of the formal organization of SAIN, it is interesting to analyze their activities and the way they function from a more informal perspective. In this section, I

will focus on another more subtle aspect of their activities: the change efforts that the team is leading inside Nestlé. As Mr. Johr explains[101], "We don't want to have a corporate sustainability office that that does little projects divorced from the core operations. We want to change fundamental behavior." I envision two main ways that this change effort could be beneficial for Nestlé. First, the company could incorporate more sustainability into their core processes and become a leading company in its industry on this front. Second, Nestlé could increase the number of sustainably-sourced products that it currently offers. In this part, I will comment on the various dimensions that shape these change efforts and more generally the philosophy of SAIN. SAIN's management principles, its mindset change inside Nestlé and with farmers, and its scope of influence, are the main elements that I will discuss. Before going into more details about each, the following table summarizes them:

Management principle	**Top down** SAIN translates the strategic priorities from the top management through the supply chain.	**Collaborative** SAIN works closely with farmers and experts in the supply chain to increase the number of projects and share knowledge.
Scope of influence	**Systemic perspective** SAIN looks at changing fundamental behavior throughout the Nestlé "system".	**Action at local level** SAIN's direct economic, environmental, and social impact is at the farm-level.
Mindset change	**Within Nestlé** SAIN aims to raise awareness of sustainability through internal communication.	**With the farmers** SAIN believes in the power of simple solutions to change their mindset.

3.2.8.1 Management principles

To manage its activities, SAIN has to carefully balance two different approaches: a top down, and a collaborative approach. The tension between these two competing principles is a reflection of the position of SAIN at the intersection of various interests inside and outside the company.

a. Top Down Approach

The role of SAIN from this perspective is that it has to translate the vision and guidelines coming from top management all the way through the supply chain to farmers that are thousands of miles away. The team follows closely the strategic direction coming from the leadership. For example, the current focus of SAIN on water is a response to one of the CEO's strategic priorities. As Benjamin Ware explains, "If he says we will do water, then this is the topic that we will work on in our projects." Top down here means the reconciliation of high-level corporate decisions with the local necessities of farming in developing countries. As we saw previously, it does not mean that SAIN has any organizational power to execute its mission. While it is clear that SAIN has to closely follow the business principles from the group, its position in the organization does not allow it to forcefully implement the objectives that it has set for itself. Therefore, other parts of the organization have to be set in motion for the successful implementation of SAIN's activities, which therefore requires a corresponding collaborative mindset from SAIN.

b. Collaborative Mindset

SAIN has limited resources, and its position within the organization does not give the group strong formal power. Consequently, SAIN has had to take a collaborative approach to execute its activities. First, in terms of knowledge acquisition, SAIN is

constantly interacting with the markets to evaluate and build technical reports on useful ideas generated by farmers or primary processors. Second, SAIN promotes its activities as a way to offer assistance to farmers without restrictions or strings attached. This attitude creates a collaborative spirit between the various people involved in a project, at the centre or in the markets. There is a clear recognition that each partner brings a piece of the puzzle needed to implement the project: technical knowledge, financing, and local operational resources. A few other activities of SAIN show that it works hard to establish a collaborative mindset in the culture of its organization. At the country level, SAIN supports a large number of initiatives in partnership with NGOs or other nonprofit organization. For example, through SAIN, Nestlé has developed a coffee farming training centre in the Philippines in collaboration with a national organization[102]. Another important collaborative project for SAIN is its participation in the SAI (Sustainable Agriculture Initiative) platform that I described in Chapter 1.

2.8.2 Scope of influence

SAIN aims to influence change both at the systemic level, by helping various stakeholders, and at the local level, by working on simple solutions that help farmers adapt their operations to a more sustainable way.

a. Systemic Approach

From the supply chain perspective, SAIN takes into account the indirect impact of Nestlé's business on the numerous stakeholders of the company, from employees to local communities. Therefore, when planning or reviewing projects, SAIN takes a broad perspective on the benefits that it might create or that it has created in specific situations.

Sustainability is measured not only according to the strategic interest of Nestlé – less water used in farming, for example – but also according to the other positive elements that it creates in the farmer's environment. In this sense, SAIN seeks to extend the sustainable practices of the supply chain upstream. For Hans Johr, the systemic approach means that sustainability principles drive a broad thinking not only in manufacturing, but also in the small farms of Central America. For him, the question is: "What do you bring into and what do you take out and how much value added do you have out of this system?" If there is not enough value-added in the system, then it is not sustainable.

b. Action at the Local Level

Besides the systemic perspective, SAIN also looks for and helps implement practical solutions. As Hans Johr explains, this initiative is about "besser macher" (the ones that do better) rather than "besser wiser" (the ones that know better). For him, it's not rocket science, but it's about "taking care of little things for people who are most of the time poor and illiterate." Hans Johr talked about a specific project in Nicaragua that shows how SAIN believes in simple activities that help the local population. He tells about a story in Nicaragua where, while visiting a community with 200 coffee farmers, he noticed a new latrine. He continues:

> It was only two bags of cements and some bricks, and so we did it. Why did we do this? We did this because people came in and said we should do that so we would not pollute our source of water down there. They were right because since we did it, we have no one of the family that is sick and the water is good. So then we go to the coffee field and he explains about planting trees because it retains water, etc.. and suddenly he tells me something else. "Look at the two cows. Now they belong to me. These cows are also drinking the water down the stream and since we have done the project, we now have milk every day at home and the cows are not sick any more." That's the connection back to nutrition, to kids, to health, and the community. With little things changed in practice, you have a mindset change of farmers that is so powerful; much more so than going with all compendiums and

intellectual stuff. Using change with very little simple practices, you can really change the entire system.

The power of practical solutions can also be seen through the various reports of SAIN activities that show how Nestlé is contributing to benefits for farmers in diverse regions. For example, Nestlé has helped a farmer set up a small dam in Mexico, which has allowed him to separate the manure from the rainwater. The farmer was then able to use only organic nutrients rather than fertilizers for his crops and also to increase the amount of agricultural land that could be irrigated[103]. A copy of the report of this project can be found in Appendix B.

2.8.3 Mindset change

SAIN's goal to change mindset throughout the organization has two different approaches. Within the Nestlé environment, SAIN uses internal communication channels to promote a sustainable approach to doing business, while it focuses on practical, incremental changes at the farm-level to make the farmers more aware of sustainable practices and their ultimate benefits.

a. Within Nestlé

SAIN's focus on internal communication is a function of its strategic interest in changing mindsets within Nestlé. A good part of the time and resources of the team is spent on promoting sustainability through discussion, presentations, and preparation of documents. For Mr. Bruckner, the whole purpose of SAIN actually lies in communication with a focus on internal communications. For him, there is a clear commitment at the top. The CEO has clearly spoken in favor of sustainability and he has an elaborate vision of

the importance of water for a large food and beverage company like Nestlé. On the other side of the scale, at the farmers' level, there is also clearly an interest in sustainability, in managing for the long-term. Mr. Bruckner aggress that SAIN has an important role to play in terms of opening new communication channels with the thousands of people that are involved in the supply chain and the operations between the farmers and the CEO.

b. At the local level

Linked to the previous operating principle is also the mindset change that SAIN tries to bring at various levels of the organization. As the example in Nicaragua shows, the potential of simple solutions is big, and a personal example is always one of the best ways to encourage change. Hans Johr comments that, "With little things changed in practice, you have a mindset change of farmers that is so powerful, much more so than going with all compendiums and intellectual stuff." At the local level, the role of SAIN seems to be raising awareness about sustainability among the employees. Mr. Bruckner is convinced that SAIN's activities contribute to a lot more discussion about the importance of issues such as the sustainable production of raw materials, but he is not convinced yet that this awareness translates into a real change of behavior.

2.9 Measurement of Performance

The measurement of performance is an important element shaping up how activities develop and the team works. Hans Johr summarizes his approach with a citation from Einstein[104]: "Not everything that can be counted counts, and not everything that counts can be counted." For him, it is not all about financial measurements and he cites examples of projects where emotional benefits are too intangible to be really measured.

Sustainability activities are always hard to measure compared to other revenue-generating activities in companies. I will come back to this issue and analyze some of the current efforts of the SAIN team in Chapter 4, as there is a clear link between the difficulties of measurement and some of the organizational barriers that the team faces. For now, I will summarize a few indicators or elements that the team points to in terms of performance.

For a long time before SAIN, Nestlé had been active in sustainable agriculture, but there were only little efforts to measure the impact of the activities[105]. The startup of SAIN coincided with a realization that measurement of performance would help bring more visibility to the initiative and encourage more communication about it. Still, it is difficult to put numbers on the activities of SAIN and how much it is successfully achieving the goals – explicit or implicit – that it has elaborated. Turning first to the *explicit* or observable aspect of SAIN, we can look at the impact of sustainability on the sourcing of raw materials. On this point, Mr. Eduard Bruckner mentioned that maybe 10 to 15% of the agricultural raw materials would be sourced according to sustainable principles.

One tool that the SAIN team uses is the cost-benefit ratio analysis. As Hans Johr explains, they will determine and analyze the upfront investments needed and then compare them with the benefits that will emerge three or four years later. Also, from what I learned in our discussion, the SAIN team has put in place various processes to collect information on its projects to measure its impact. The main tool for collecting information from the projects in the field is a template that serves as report from the sourcing manager about the different projects under his responsibility. SAIN then aggregates all projects to measure the progress and the number of farmers that its

activities impact. At last count, SAIN had performed more than 200 projects and thus improved the operations of more than 600,000 farmers.

Currently, SAIN is moving to a new type of reporting that not only asks the sourcing managers to report on the quantity of projects, but also introduces quality indicators. The new template thus asks the farmers to put numbers on the benefits that SAIN has brought to their operations. A recent SAIN case study[106] using this model shows the additional hectares of agriculture that have been able to receive irrigation as well as the elimination of pesticides on the farm lands. As for the SAIN team, its performance is also linked to the number of SAIN cases that have been completed by each member. Every year, each team member receives a target number of cases that she or he needs to achieve in her or his area (water, fruit, coffee) and part of the bonus is linked to the successful completion of this number of cases.

Regarding the *less explicit* objectives of the initiative, in particular the behavioral change that the team aims to favor, only circumstantial evidence exists. Mr. Bruckner, who has a long experience at Nestlé, has clearly noticed a sharp increase in the number of requests and expressions of interests that the team receives[107]. Another source of positive feedback about its activities comes from the groups that have given growing importance to SAIN. For example, Hans Johr explained that the Investor's relations' group had recently become much more interested in the SAIN projects as it sees a source of competitive advantage in the type of relationships that are maintained with farmers. He explains that thanks to direct procurement Nestlé could realize cost savings. He cites a price increase of 50% for fresh "intakes" compared to the market price increase of more

than 120%. There is clearly a realization that long-term mutually beneficial relationships can generate preferences among the farmers to work with Nestlé.

Hans Johr also sees that the public affairs group has become more interested in SAIN's activities. Every year, Nestlé publishes a side report along its traditional annual report. Last year, the company published a Latin America report[108] that had a large section on SAIN. For Mr. Johr, this is a measure of the progress that SAIN has achieved in reaching out to the mainstream groups within Nestlé. A few pages are dedicated to SAIN's approach of sustainable agriculture along with case studies that document their activities. Similarly, a Water report[109] also underscores the role that SAIN plays in linking strategic priorities decided on the management level and its implementation in remote places where Nestlé is sourcing agricultural materials.

In summary, this chapter gave a detailed description of SAIN's functioning. It started with a look at the group from an organizational perspective. The chapter gave us a sense of the wide-ranging activities that the group is achieving with minimal resources. An important element of its activities is the focus on business first. SAIN is clearly a corporate sustainability initiative with a strategic purpose: ensuring the availability of quality ingredients at competitive prices. The second part introduced us to some of the built-in tensions at the organization. The group is at the centre of various interests and it has to adapt to a lot of different environments. The following chapter will expand on these challenges by analyzing the various points of resistance in the organization.

Chapter 4: Challenges, tensions and resistance to change in SAIN

In this chapter, I will try to identify and analyze some of the major barriers that are slowing the implementation or reducing the impact of SAIN activities. As in many companies, sustainability within Nestlé competes with other strategic priorities at the executive level[110]. The implementation of such initiatives also varies from company to company, and while there is a growth in the overall attention given to sustainability in corporate circles, there is no standard operating procedure to execute sustainable activities. Thus, the situation of each company is different, and its structure and organization are key elements to understand some of the difficulties that sustainability initiatives are meeting. In this chapter, I will look at the general challenges of implementing sustainability at Nestlé (the "group-level") given its structure, organization and culture. I will also focus on general issues that SAIN faces in the implementation of its strategy within Nestlé ("SAIN-level").

This section will describe the most important elements creating actual roadblocks to a larger implementation of SAIN's projects, and to a larger diffusion of the knowledge and ideas the team has accumulated. Finally, I will look at the various sources of tensions and barriers related to the execution of SAIN's strategy. One of the most interesting aspects of how SAIN implements its projects lies in its interaction with the corporate functions that are linked to the supply chain in the markets. I will analyze in further detail the role of the sourcing manager, the key connection of SAIN in the markets, and the most important element in the value chain of SAIN activities. This chapter will end with

a summary of the major barriers to implementation that SAIN has to overcome to achieve successful projects. *Chapter 5* will describe and analyze the various actions that SAIN is putting in place to address some of the barriers I identified, and also put forward some suggestions for improvement.

1 SAIN's implementation challenges as a sustainability initiative within Nestlé's structure, organization and culture – group-level

As mentioned in *Chapter 3*, Nestlé's sustainability thinking is summarized in the concept of "shared value," the combination of the interests of shareholders and society. To better understand the environment in which SAIN is active, it is useful to gain a broader perspective on how Nestlé's structure, organization and culture come into play when sustainability initiatives such as SAIN are rolled out. This analysis will help us understand the major challenges that SAIN is facing when being the champion of sustainability within the group. These are only issues that are at the group-level. In the next section, I will focus on general issues that pertain to SAIN itself.

1.1 Strategic challenges

As the previous chapter showed, Nestlé is a corporate giant with activities in virtually every country of the world. Small companies might be able to adopt sustainable practices quickly – some like Ben & Jerry's or Seventh Generation have actually built their business around these practices – but large global companies are in a harder position to implement practices that have the potential to fundamentally reshape their business. Wolfgang Reichenberger[111], the former CFO of Nestlé (and currently managing partner of a venture capital fund that counts Nestlé as one of its main limited partners) explained

to me that the power of large companies, in particular well-known big brands, is a strong asset, but that such a business model cannot easily be transformed into one that relies on sustainable brands.

There seems to be issues on both the consumer and the operations side. First, transforming a large brand into a sustainable one carries some risks, in particular in terms of credibility towards the consumer. One of the key questions for marketers in connection with sustainability is whether consumers are ready to pay a premium for sustainable products. Some companies may use certifications to reinforce the message of sustainability, but Nestlé has consistently resisted certification[112]. Mr. Bruckner confirmed that certification and labeling are not favored at Nestlé. One reason is the traditional "conservatism" of the company that holds back the desire to communicate about sustainability in relations with products[113]. Another reason is that there is no group-level decision mechanism, but that instead brand managers have the power of decision when it comes to branding strategies. Despite the group's general policy against certification, individual markets might have a different opinion and decide to certify some products on a limited regional geographic area. The UK market, for example, offers a brand of fair trade coffee[114]. Second, building a large sustainable brand also means that operations need to be adapted to respect certain standards, which adds a lot of costs and complexity to the supply chain. The food industry operates on very low margins and high volumes, so there is little room for additional costs in operations without passing it on to consumers. In short, transforming current products' supply chain and marketing into sustainable ones requires major adaptations for the company.

What does it mean for SAIN? These strategic challenges mean that SAIN has to find entrepreneurial ways to deliver its activities. It cannot directly count on leveraging the brand power of Nestlé to push for large changes in the supply chain towards more sustainability in agriculture. Instead, the team will have to build alliances with various parts of the organization, which is bringing its own set of challenges.

1.2 Organizational challenges

Certain aspects of Nestlé's organization also prove to be additional challenges to the large-scale implementation of sustainable initiatives, such as SAIN. As *Chapter 3* explained, Nestlé operates under a decentralized model. This "untouchable" principle according to the former CEO Peter Brabeck[115] means that markets have lots of decision-making, in particular regarding brand management. Main corporate functions, such as quality controls, however, are more centralized because they need less interaction with the consumer and need to be implemented consistently all over the company[116]. Over time, Nestlé realized that geographical and product growth created too much complexity in the organization. In response, Nestlé built up GLOBE, a company-wide program that aims at implementing knowledge sharing (best practices, technical solutions) by massively standardizing data and information systems.

What does it mean for SAIN? The organizational form of Nestlé means that, like other headquarters-based corporate functions, SAIN's projects will have to be implemented by the markets. The difference with quality, for example, is that sustainability is not part of the mandatory product characteristics that are tested and applied in a uniform way in every market. Quality has been a central element of Nestlé's

products since its beginning. Hans Johr[117] mentioned that farm-gate quality controls existed already more than 200 years ago. Therefore, quality was embedded early on in the processes of Nestlé and did not have to be added as a new initiative.

From an organizational perspective, SAIN faces complex issues due to its hybrid function. There is a need to both be *centralized*, to collect best practice and knowledge about sustainable agriculture, and *local* to implement practices on thousands of farmlands across the world. The relationship with the markets is therefore a key point for the implementation of SAIN projects. I will cover this point in more detail later in this chapter.

1.3 Cultural challenges

Another organizational aspect that is deeply rooted in Nestlé's DNA is its approach to change with a focus on evolution, rather than revolution. Peter Brabeck explains[118] that he is convinced that large change initiatives are not the way to go for Nestlé and instead favors an approach of "slow and steady" change. Wolfgang Reichenberger[119] commented on this issue by saying that large companies were well placed for incremental change or innovation, but that more disruptive change happens at smaller, startup companies. As sustainability has the potential to force a rethinking of basic aspects of company, its implementation in Nestlé will take time and efforts.

To understand better Nestlé's reaction to change, it is interesting to look back at its history and analyze its approach to innovation. Peter Brabeck[120] explains that Nestlé doesn't embrace radical change. Therefore, there are few examples of radical innovations in the history of Nestlé. There are some innovations linked to product development or

packaging, as well as in some of the corporate functions (e-business), but none seems to have the size to significantly impact the current mode of operations.

One exception that comes frequently when talking about Nestlé is the current and growing success of Nespresso, a coffee brand based on a proprietary system of individual portion capsules. The innovative aspect of Nespresso resides in its delivery and channel strategies. At the onset, Nestlé took on the decision to establish a new unit to facilitate talent management and to allow independence from existing Nestlé policies[121]. There was also an initial atmosphere of disinterest (or even animosity) towards the startup at the centre. Nestlé had been "on the quest for the perfect espresso" for decades, but it was dubious whether a money-losing separate company was going to be successful. Gerhard Berssenbrügge, the CEO comments: "It takes a lot of dedication to get a small company working. At the time Nespresso started, it may not have survived had it been integrated into the whole business."[122] Nespresso is now close to a USD 1bio company and it is expanding all over the world through their own operations or alliances. The decision to build a separate company seems to have paid off for Nestlé, and the example shows that the company believes that innovation is best performed outside of the company.

This analysis of innovation brings us back to sustainability. The two issues – innovation and sustainability – are arguably major sources of change for executives and, while they might not have the same impact on the operations, there are similarities in how they get managed and implemented internally. In the last few years, Nespresso has developed new initiatives that seem to diverge from Nestlé's main line of thinking around sustainability. The most recent one is the launch of a special coffee that has been clearly branded as sustainable with the addition of an A to the usual AA denomination of quality,

to show the respect of sustainability principles. In addition, the farmers that produce this top quality coffee are paid a premium for their beans. Nespresso has worked closely with the Rain Forest Alliance on this program to ensure the sustainability of the farming practices used to produce these quality beans. This initiative would tend to show that Nespresso has used its relative independence from the centre to push for activities around sustainability that are not ready to be adopted by the more traditional corporate functions at the headquarters.

As an internal group with a mandate to bring changes in the supply chain, SAIN is definitely at the forefront of Nestlé's activities in sustainability. However, SAIN does not seem to benefit from the same degree of freedom to experiment with new ideas around sustainability compared to Nespresso. For each of the decisions that link the upstream part of the supply chain with the downstream part, in particular sales and marketing, Nestlé has to convince other groups to follow a sustainability strategy. Where Nespresso can make independent decision on branding and certification for example, SAIN depends on the decision-process from other separate groups in the organization.

Finally, there is also an interesting case of an innovative sustainable Nestlé product - food for pets – that is manufactured and distributed via an outside wholly-owned subsidiary rather than directly by Nestlé. This company, Pet Promise, was founded by a group of people who wanted to create a marketing avenue for organic meat that could not be sold for human consumption. Pet Promise got acquired by Nestlé Purina in 2004 and has continued to operate under its own corporate form since then. One of the executives explained that keeping the company separate made sense, because of the specific consumers that they are targeting and the need for authenticity, which could not

come from a big brand.[123] He further explains that the team is better suited to screen potential applicants for jobs at Pet Promise by recognizing the ones that believe in the mission and will fit into the team.

There are clear parallels between the innovation-driven Nespresso and the sustainability-driven Pet Promise. Both companies are inventing new products that are close to Nestlé's core business, but they have specificities – new delivery mechanism (coffee capsule) and new philosophy (sustainable pet food) – that make them too disruptive for integration into the mainstream lines of product. As in the case of Nespresso that now is admired by Nestlé executives for its dynamism and growth trajectory, Pet Promise has the potential to have an impact on Nestlé Purina. The Pet Promise executive believes that they have a role to play in reaching out to and educating Nestlé employees all around the world about the sustainable practices that are the drivers of Pet Promise.

What does it mean for SAIN: As an entity located in the centre, SAIN does not have the same level of freedom to innovate as some of the separate groups described. Its immediate environment at the headquarters does not encourage innovative thinking. A reason to collaborate with outside groups for SAIN is, thus, to test innovative ideas in a different organizational setting.

2 General issues that SAIN faces in its implementation – SAIN-level

Since its start in 2000, SAIN has grown its activities, either through the direct "channel" of working with Nestlé people in the markets, or through collaboration with local groups like NGOs or community organizations. For all these activities, SAIN has to

rely on the support of other corporate functions. This section will describe some of the reasons why executives and team members from other functions at Nestlé might not always embrace SAIN's mission. I will focus first on one of the basic barriers to a larger growth at SAIN – a worse-before-better situation – before moving to difficulties that the team faces when interacting with other groups within the company.

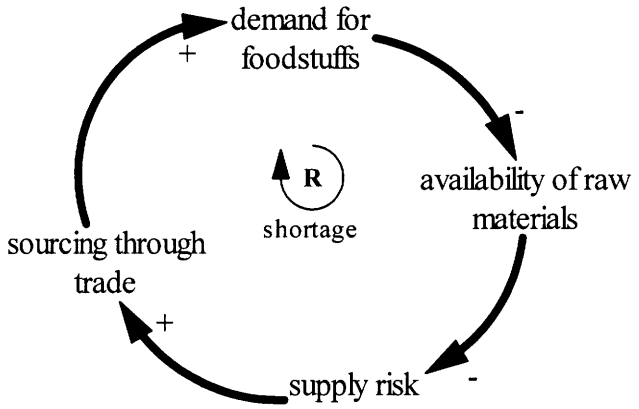
2.1 SAIN's focus on direct sourcing – a case of "worse-before-better"

As explained in *Chapter 3*, SAIN has the double goal of "securing long term supply of high quality raw materials at competitive costs" and "favoring sustainable development in the supply chain of agricultural raw materials."[124] The long-term aspect of the mission is the part that creates tensions around SAIN. As the diagrams below explain, the necessities of sourcing, especially in fast growing countries where demand for food is exploding, conflict with the notions of sustainable development. Here are the main variables that I will use to explain the causal loop diagrams:

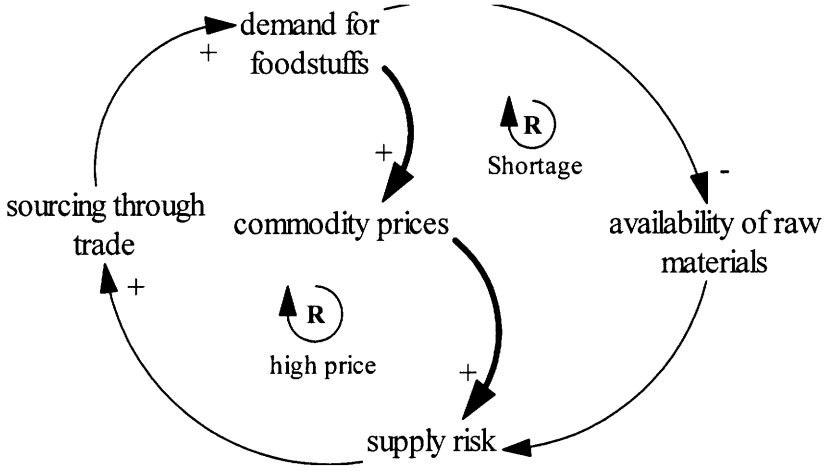
- demand for foodstuffs
- supply chain risk
- sourcing of raw materials through trade
- direct sourcing from farmers

If we take the long-term view, both securing the supply chain and providing sustainable benefits to the farmers are coherent goals. However, the external environment of high commodity prices and lower productivity at the agricultural level means that Nestlé needs to take quick action to ensure the continuity of the supply chain. When demand for foodstuffs grows fast, the availability of raw materials goes down, which increases the supply risk of Nestlé and forces the company to try and source more raw

materials through trade. Since the traders are not producing more raw materials, but are simply finding alternative ways to source the same materials, the demand grows even more, thereby creating a reinforcing loop. The diagram below captures this relationship.

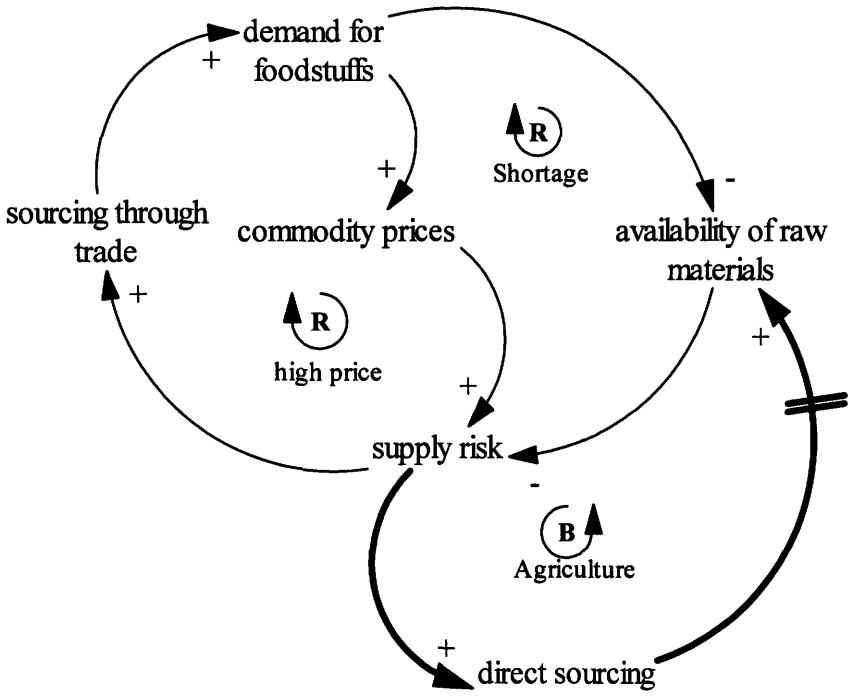


The same growing demand has a second effect. It creates a pressure on price as well, which in turn increases the supply risk for Nestlé and leads to more sourcing through trade.

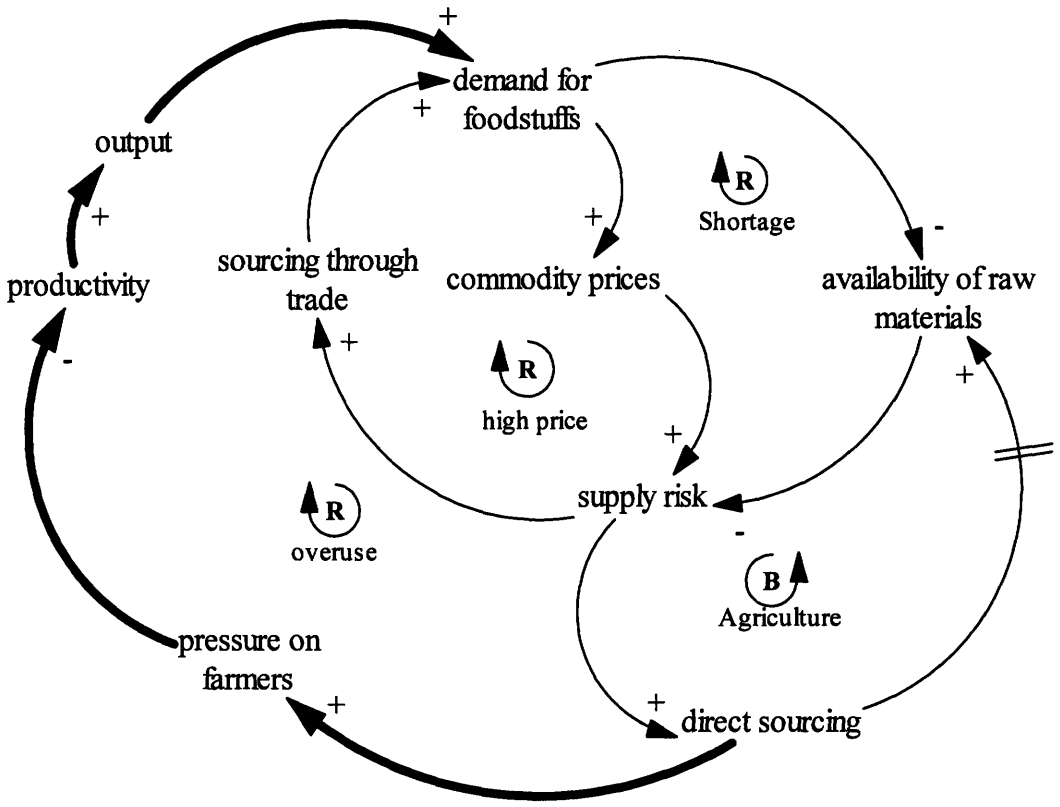


To reduce the supply risk, another option for Nestlé is to source directly from the farmers. This decision to source more from farmers will increase the availability of raw materials and help decrease the supply risk, but as the diagram below shows, it only

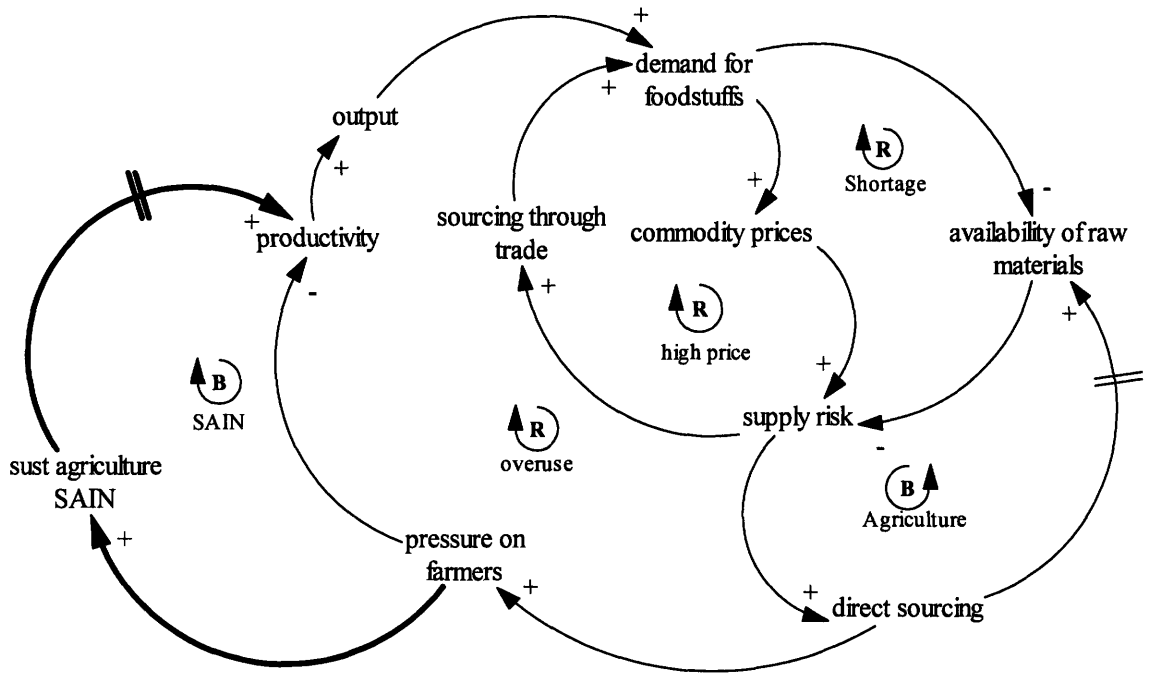
comes with a delay. Farmers need time and resources to adapt to a growing demand and the effect of more sourcing from them is likely to take years.



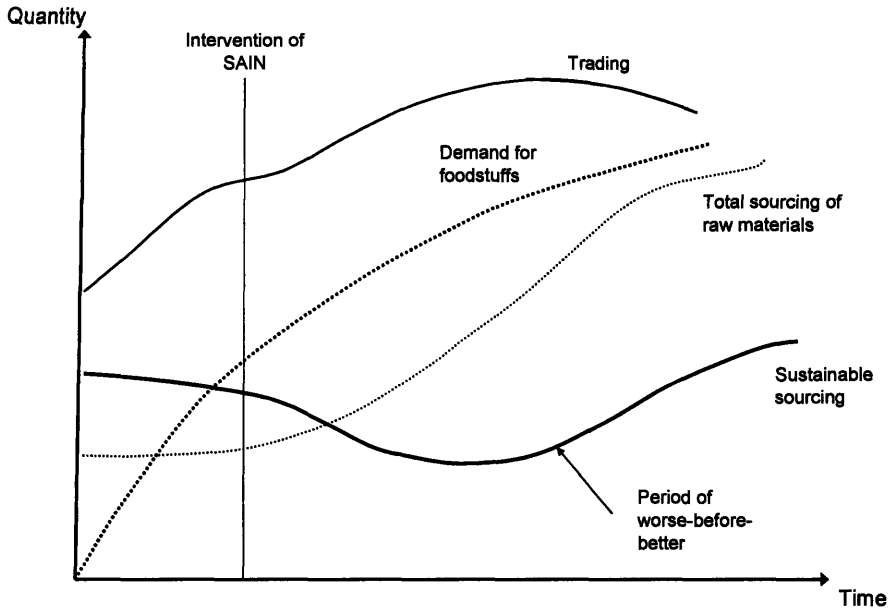
The decision to source more from farmers will have an unintended consequence marked on the diagram below by the loop *overuse*. If more and more farmers are pressured to produce more, this will be accompanied by a decrease in productivity as overuse erodes the soil and limit its use for the next season. Thus, there is no additional output that can come satisfy the growing demand that continues to grow accordingly.



In the diagram below, the intervention from the SAIN team is based on the idea that it can provide, in the long-term, a solution to the supply risk that Nestlé could face by increasing the amount of direct sourcing from sustainable sources. By working closely with farmers, SAIN will provide technical or social solutions that will improve the productivity of the farmers and thereby lead to more output and a decreasing demand for foodstuffs.



The dynamics of the system are captured in the graph below. A possible intervention of SAIN creates a worse-before-better period because direct sourcing cannot immediately alleviate the growing demand for foodstuffs. Only after a certain amount of time does sustainable sourcing increase and therefore leads to a decrease in trading activity.



The main barrier to the implementation of additional SAIN activities from the perspective of Nestlé's management is the delay between the investment in sustainable agriculture and its benefits. The time lag that happens between the planning phase of SAIN and its effect of productivity is the principal reason why Nestlé leaders might be reluctant to invest more resources for the long-term. Other reasons are explained below, but I believe that the "worse" period – additional investments and rearrangement of the supply chain towards more direct sourcing – acts as a brake to being able to take actions, in the form of a larger role for SAIN, to benefit from the "better" long-term.

2.2 Main barriers related to the interaction with other groups at Nestlé

As seen in *Chapter 3*, SAIN is focused on internal communication. Its main challenge is to "sell" its activities within other groups at Nestlé. In this first section, I will study general issues that complicate the interactions of SAIN with other corporate

functions, such as investor relations or corporate affairs. These issues are not specific to SAIN and might be true for similar sustainability initiatives in large companies. They are interesting because different members of the SAIN team referred to them and also because SAIN is making progress in addressing them. Further in this section, I will also make a comparison to the Nestlé Environmental Management System (NEMS) to evaluate how another group within Nestlé has worked to solve some of these issues. A final table will summarize the various differences or commonalities between SAIN and NEMS.

a. Definition

The word sustainability is now used commonly in the business world, but without a unifying definition. Some people might think of sustainability as related to the environment only, while others see more dimensions (social for example). A recent survey lists the lack of common definition as a key issue for CEOs when considering the implementation of a sustainability program across a company[125]. The problem of defining sustainability also has some implications for Nestlé and the SAIN project as well. Since the success of implementing new initiatives revolves in great part around successfully communicating its objectives, it would be necessary to have a clear definition of sustainability. Each department and each manager brings a different perspective and a different interpretation of the concept. As is the case for SAIN – Eduard Bruckner made this point – each person involved in sustainability will tend to interpret the precise meaning and the objectives according to her or his own experience. This lack of clarity means that it is difficult to agree on standards or rules that could guide an implementation. How can a product make claims of sustainability if brand managers, marketers and

supply chain experts don't share a common vision of the issue? The Corporate Business Principles that Nestlé has adopted for various issues related to sustainability (child labor, protection of the environment) do not give a clear, actionable definition that could be applied by corporate functions.

Comparison with NEMS: The problem of definition has been solved in the environmental management systems that Nestlé has developed. The company has decided to focus on a few key environmental measures such as CO2 emissions, water reduction or wastewater treatment. Each one of these measures is easily understandable and can be communicated to internal and external stakeholders.

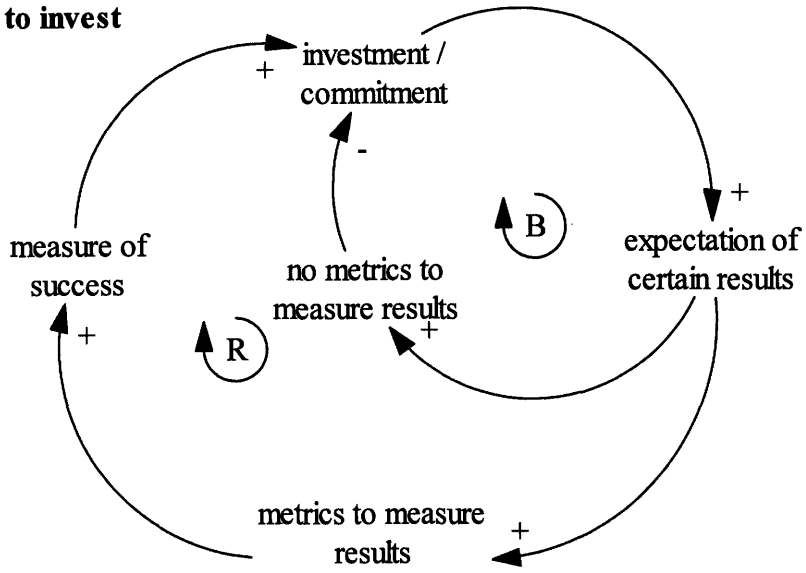
b. Lack of clear metrics

One of the recurring tension points that SAIN experiences is the difficulty of finding adequate metrics to measure the impact of its initiatives. Metrics are important at various levels:

- Decisions to invest

The lack of metrics is a key barrier to get more investment or commitment for SAIN. The graph below shows the relationship between the decision to invest and the lack of metrics. In a business environment like Nestlé that relies on solid financial analysis to drive its business, there is a need to be able to measure the success of an initiative. With metrics, it is easier to connect the expectations of results to the actual measure of success. The decision to invest or commit is influenced by the fact that one will know what happens with the initial input and whether the final result will conform to expectations. With no metrics, it is very hard to measure results, which has the effect of reducing the interest in investing or committing resources.

The role metrics in decisions to invest



- Communication within the company

The lack of metrics also creates problems of communication within the company. The members of the team explain that they feel personal difficulties in implementing sustainable activities because of the general perception of sustainability as a "shallow tool." Both Benjamin Ware and Eduard Bruckner were concerned about the reaction that the word sustainability often creates in their discussion. They often feel that a lot of studies in the field of sustainability were not enough "results-focused."[126] They link this problem to the resistance among other business units to the ideas and the projects that are generated by SAIN.

- Comparison with other companies:

The type of metrics that would be desirable for the management team of Nestlé would allow comparison among firms. Wolfgang Reichenberger[127] believes that companies are

working hard on this issue and that past experiences in other fields will be useful. He cites measures, such as accidents per hour, that have become standards of the health and safety reporting. For now, there are little ways to evaluate the impact of food companies on sustainable agriculture.

Comparison with NEMS: Within Nestlé, various groups are working on this question and a lot of progress has been made specifically on environmental monitoring. In 1998, Nestlé had started to measure the various parameters related to its impact on the environment, and it now has annual results that it can use in communication or reward of the best performers. The numbers are audited every year under internal standards and are then certified by an independent company[128].

c. Lack of resources despite support from the top

There are clearly strong signals from the top at Nestlé regarding sustainability issues. Peter Brabeck, Nestlé's CEO until April 2008, has made speeches about the topic. In recent years, he has become especially focused on the topic of water scarcity, making it a key priority for the company, and talking about it in high-level conferences[129]. The leadership team at Nestlé also frequently cites the role of water in agriculture, in particular the fact that 70% of water in the world is used for agriculture. A few examples of various techniques that have helped in reducing the use of water in the fields are also presented as case studies in the water report[130]. These examples are typically built around the reports that the SAIN team gets from the various markets where the techniques have been implemented.

Despite the announcement of the leadership team and its frequent use of SAIN achievements as examples of successful activities, SAIN does not get large financial resources for its activities. There is a small budget to encourage a few programs in the markets, but there is no large financial commitment from the headquarters. This situation creates two problems for SAIN. First, the attitude from the leadership creates a subtle form of pressure through moral obligation. Despite the lack of financing, the importance given to SAIN's activities has the effect of encouraging the team to continue and deliver results. Second, with little financial resources, SAIN has to rely on budgets from the various markets where projects take place and, therefore, a key activity is to support the markets to implement projects. Later in this chapter, I will cover this dynamic in more detail.

Comparison with NEMS: NEMS has garnered substantial resources since its beginning and is now receiving more than 100M USD per year from headquarters.[131]

d. Distance from the mainstream business

The position of SAIN as a specific sub-unit of the agriculture department reinforces the idea that it has not reached "mainstream" status at Nestlé yet. Sustainability is not yet embedded into the day-to-day of the upstream supply chain. There are clearly sources of expertise in the markets, but the knowledge is not shared across all the various markets. SAIN has a key role to play to break some of the "silos" and to facilitate the sharing of this knowledge.

Comparison with NEMS: NEMS is integrated into GLOBE and is part of the standard auditing procedures at the plant level. For employees, this integration means that

there are clear incentives to work on environmental protection as part of a solid system of information sharing and monitoring.

e. NEMS's progression despite facing similar issues as SAIN

Nestlé's environmental management program has achieved impressive results as measured by the rankings that compare it to other companies[132]. The company has embedded environmental management in factories around the world quickly and efficiently. The table below summarizes some of the key elements of the NEMS system and compares them to SAIN.

	NEMS	SAIN
Definition	Clear	Linked to word "sustainability"
Metrics	Baseline and clear indicators including water reduction	No baseline and indicators under development
Resources	More than 100M CHF per year	Little
Integration into GLOBE	Yes	No
Process certification	ISO 14001	Not yet
Communication	Audited numbers and impact	Examples of projects – case studies
Link to performance	To be confirmed	Not yet

Sources: annual report, presentations, "Creating Shared Value" report, and discussions.

NEMS has been able to grow, despite facing the same organizational barriers at Nestlé as SAIN. One of the main reasons seems to be that the environmental program has focused on clear metrics that has then put in motion a cycle of more resources and clearer communication. It might not be as easy for SAIN to come up with similar metrics, as it clearly pushes other dimensions of sustainability than just environmental, and works in

conditions that are more difficult for measurement. Nevertheless, the development of NEMS could provide interesting lessons for SAIN as it tackles issues related to definition, metrics and communication.

3 Analysis of SAIN's relationships with the markets

3.1 General situation

SAIN is a small organization, but it has a growing track record of successful projects around the world. Nestlé clearly has a long history in sustainable agriculture around the world even though it does not own direct operations. SAIN came into being to formalize some of the existing activities and grow them, as well as to increase the communication inside Nestlé about these activities. By its mission, SAIN is therefore "people-driven." On the implementation side, the team has to work with a lot of partners in the supply chain that all have different backgrounds and interests. The diversity in incentives and mental models of these people are as many potential barriers for the team when they are developing projects. SAIN is part of the operations group at Nestlé, a corporate function that is located at the headquarters. It is housed and operated by the team in charge of agriculture. The agriculture division has a well defined position in the supply chain and Nestlé can track the quantity of raw materials sourced from all over the world. The markets understand the key specifications requested for sourcing, and they are also aware of the type of services that they can get from this division. The markets, however, don't embrace the sustainability concept of SAIN as easily.

Given its location within the headquarters, the SAIN group does not have any hierarchical relationships to its counterparts in the markets. Over the years, SAIN has

developed a network of collaborative-minded people in the markets that help the group achieve its goals of sustainable agriculture. The team also constantly visits the various countries where projects are ongoing and builds up links through the technical assistance that it facilitates all around the world. SAIN currently has projects in 40 countries. The local environment plays a very important role in the implementation of SAIN projects on the ground. For example, SAIN found that China might not be open to new ideas related to water management or other sustainable concerns. For Benjamin Ware, one of the success factors of the Brazilian project described in Chapter 3 was the open mindedness and the ingenious nature of the people on the ground.

For each region where SAIN would like to start a project, there is a regional Nestlé operation that typically follows the organizational structure described in Chapter 3. As the graph shows, the markets typically operate supply chain activities through a structure made of four functions: market head, technical manager, sourcing manager and agricultural manager. I will start by analyzing the type of interactions that SAIN has with these four functions. It is important to note at this point that the analysis below is a generalization and abstraction of what I have learned about the functions during my research. Factors other than just their positions in an organizational structure affect the people in these four functions. However, this summary and the explanations below help understand how SAIN develops its activities.

3.2 An overview of the main functions in supply-chain in the markets

The table below lists the various functions represented in each market and how they relate to the mission of SAIN.

Who	Approach to sustainability	Role in implementation of SAIN projects	Resources for SAIN projects
Market Head	• driven by the urgency of the issue (i.e. milk in certain parts of the world) • depends on the specifics of the region and the role of large companies there • might be also driven by close relations to governments or local population (ex. of milk in Pakistan)	• large degree of autonomy over the organization • hierarchical and budgetary power • can use influence of cultural and social factors to facilitate the implementation • might get visibility and recognition for some large-scale projects	• latitude to decide allocation but: 1) no formal, direct pressure to do sustainability projects 2) might be afraid of starting sustainable activities without "way back" 3) uncertainty about ROI
Technical Manager	• linked to personal interests • direct contacts to local groups might shape his thinking	• gateway role as he sees incoming technical assistance and outgoing results • sense of initiative can have an influence on projects • in some regions, collaborations with agronomists works well • local knowledge and technical expertise allow him to find solutions applicable on a large scale	• small budget responsibility – can allocate some of his budget to SAIN projects that need technical assistance • access to local knowledge provides technical validation
Sourcing Manager	• personal interests • might be influenced by past success of projects in the field • depends on price of commodities – use of extra margin for developing longer-term relationships with farmers	• power to decide where to source from (direct sourcing versus trade) • little pressure once the main guidelines are decided for sourcing • influential position in the markets as he oversees agricultural managers and reports to technical manager	• role is key in the implementation • resources allocated are indirect based on the percentage that is sourced directly
Agricultural Manager	• direct contact to farmers shapes his	• final decision-maker on which individual farmer	• resources dependent on

	vision • can seen direct benefits in his relationship to farmers	to work with	sourcing manager

Relationship with the Market Head:

The market head is the CEO of a specific regional organization with responsibilities for all aspects of the organization. From deciding the budget to allocating resources, the market head has a lot of power to decide how operations are run in his market. His interest in sustainability depends on the environment in his region, the kind of issues that are priorities and, as always, is also a matter of personal preference. The market head has to allocate resources among the various issues that Nestlé has identified as priorities for its sustainability strategy. SAIN has some contacts with market heads mainly through connections at the headquarters. The market heads might be aware of sustainable agriculture projects in their region, but they are not involved in the management of such projects.

For SAIN, market heads are important mostly for two reasons. First, they decide the budget that the other people in the supply chain will have access to. A larger budget for sustainable agriculture will translate into more SAIN projects. Second, the market head sets the standard approach in his organization of the importance (or not) of sustainability initiatives. SAIN can build up relationships with market heads that see the value of some agricultural projects, but it cannot always count on them to act as major relays in the operating regions. Hans Johr talks about a dotted line when he describes the relationship with the market head. This dotted line represents a relationship between a

strong line of report and no line. He describes his approach as that of a coach advocating sustainability when interacting with market heads.

Relationship with the Technical Manager

The technical manager is closer to the field than the market head, which shapes his perception of sustainability. In emerging economies, he might offer technical assistance on the ground or rely on agronomists for this service. As he supervises and reviews them, he has an influence on the sourcing managers and the agronomists that are working for him. He also has an important role for SAIN because he can allocate some funds from his budget for SAIN projects without the necessary approval of the market head. SAIN does not have any formal contacts with the technical managers.

Relationships with the sourcing manager

The sourcing manager is the key person in the supply chain that SAIN wants to improve. He holds the decision power on when and how much to source directly from farmers. The alternative is to source through trade where partners don't have the same kind of relationships with Nestlé as farmers. SAIN has no direct hierarchical relationship to the sourcing manager. Hans Johr has overall responsibility for the direct sourcing of raw materials and can influence the kind of product specifications that need to be respected by the sourcing manager. On one side, it is clear that the sourcing manager might want to engage in more sustainable projects to get a good relationship going with Hans Johr, but on the other side, his direct report is the technical manager, who might not have the same view on sustainable agriculture. If the technical manager doesn't share the

interest of the sourcing manager to dedicate resources to a specific issue (clean water, irrigation), the sourcing manager will probably not run the risk of alienating his direct superior and thus will prefer not to start projects without his support.

The sourcing manager is the main counterpart of SAIN in the markets and the pivotal link in the value chain of sustainable agriculture activities. SAIN relies on the sourcing manager for more than 2/3rd of all its projects. The sourcing manager is the first point of contact in a market and he interacts every year with SAIN. SAIN typically contacts all the sourcing managers once the budget discussions are starting annually. The goal is to motivate the sourcing managers to take on more SAIN projects and to add projects to their budget. The mode of communication is through a letter from Hans Johr to all sourcing managers. In this letter, Hans Johr shares with the group the strategic priorities for the year, which are relayed from what the CEO and other top executives have agreed upon. These last two years have been specifically dedicated to water, but the focus changes frequently. Sourcing managers will then reply with a list of proposals for projects in their market. After they implement the techniques provided by SAIN, they report the success of their initiatives.

Relationship with the agricultural expert

The agricultural expert (also called agronomist) is the last link in the supply chain to the farmers. He doesn't have any financial resources, but he has skills and knowledge that are essential part of the SAIN model of working through the supply chain to the farmers. They are essential foundations for the learning before it can be shared with others in the supply chain.

3.3 Tensions and blockages linked to projects – the example of the relationship with the sourcing manager

As mentioned above, the sourcing manager is the most important person in the organization for SAIN. To develop successful activities in the market, SAIN must establish good relationships with the sourcing manager. Conflicts about the various priorities and the definition of sustainability start to materialize when projects take place. The organizational structure of Nestlé is definitely important, but it's really when the SAIN group and the markets have to work together that the different perspectives and ways of handling issues collide.

a. Importance of sustainability

The sourcing manager operates in a local environment. He also keeps a local mindset given his focus on establishing good working relations with the technical managers as well as with the local suppliers. The sourcing manager might not have, as a default mode, a collaborative mindset with SAIN given the distance and the different perspectives. The geographic location of the sourcing manager shapes the relationship with the SAIN team. As Benjamin Ware explains[133], the first aspect related to where a sourcing manager is located is the importance of sustainability agriculture around him. Different regions of the world experience different kinds of pressure on their agricultural yield. In Brazil, for example, Benjamin mentioned that water has already become a very important issue. Farmers are realizing the drop in agricultural output linked to water issues. Therefore, there will be a much larger propensity from the sourcing manager to collaborate with SAIN.

Some sourcing managers are not as cooperative, in particular because sustainability is simply not bringing a solution to their current problems. The sourcing manager for China, for example, refused to even hear about water projects offered from SAIN. Benjamin Ware described his experience of going to China for a workshop on water and showing a slide that listed China as a priority country for water. The sourcing manager interrupted him to tell him that he had no problems with water and that he did not understand the concern from headquarters. Despite explanations from Benjamin Ware and an offer to come and provide technical assistance, the sourcing manager did not want to hear more about water issues. What this story shows is a mental model oriented towards the short-term. While the sourcing manager might conceptually understand the benefit of investing in water-saving techniques, he is just not ready to think in the long-term. Cultural factors and the geographic distance with headquarters also reduce the interest in implementing solutions that might not have direct effects on the local operations right away.

b. Overload

The other aspect of the sourcing manager's job that the story in China exemplifies is the constant pressure that he faces. In part, this pressure is built in the job requirements as the performance measurement of sourcing managers depends on the volume and the prices that he can get. The sourcing manager is therefore aggressively negotiating deals to ensure that he meets the targets set forth in his employment contract. In countries such as China, where there are increasingly price hikes and/or shortages of certain commodities, the job of the sourcing manager becomes very difficult. As Benjamin Ware mentions, the

question is not so much whether there will be water in the long-term, it's whether the sourcing manager will get the tonnage he needs for tomorrow. Overloaded with short-term issues of basic ruptures in the supply chain, the sourcing manager simply does not invest time and resources into ensuring the longer-term viability of the sourcing of raw materials. At the root of this overload is the pressure of fast-growing markets such as India and China, where the increase in purchasing power is creating unique commercial opportunities. The market demand sets in motion a loop that brings overload to the sourcing manager, thereby preventing him from longer-term investments.

c. Opportunistic behavior

The sourcing manager does not have a negative apprehension towards sourcing raw materials, but he needs to keep a freedom of action regarding his sourcing decisions. Eduard Bruckner describes his attitude as opportunistic. He doesn't want to have long-term plans interfere with short-term opportunities. As a trader who has to keep options open as long as possible, the sourcing manager will avoid commitments or long-term planning to be able to seize opportunities as they arise. This flexibility favors a strategy of sourcing through trade rather than through building the kind of long-term relationships with farmers that have adopted or could adopt sustainable practices. The concept of planning for the long-term is not part of the mental model of the sourcing manager as shown below in the section on Mental Models. His role is closer to trading and arbitrage that require strategies with a lot of options open. Developing too close relationships with farmers in his market might also be building up too many moral obligations that he might not then necessarily be able meet.

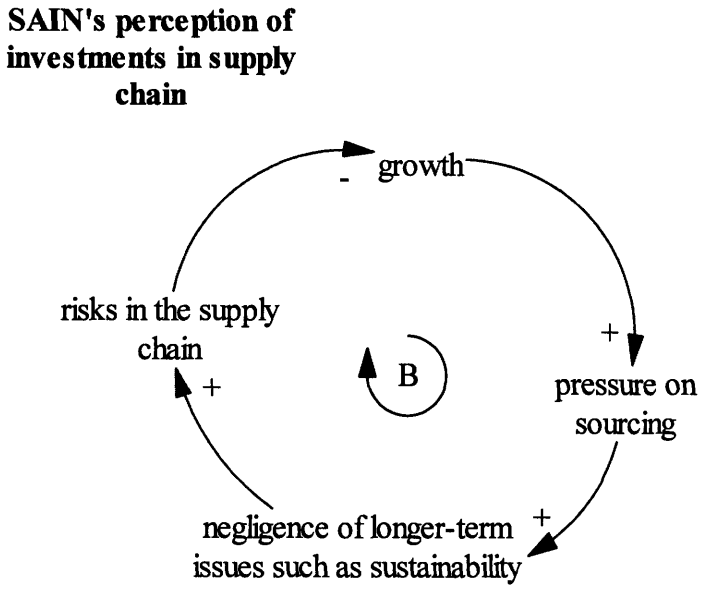
d. Worse-before-better

What the SAIN team faces in its relationship with the sourcing manager is a case of worse-before-better. Even though the team might convince the sourcing manager of the benefits of sustainable agriculture, it is faced with the dilemma of trying to break the worse-before-better trade off. Without additional resources, it is a major challenge for SAIN to impose on the sourcing manager the potential disruption that additional projects with sustainable goals might create on his operations. A likely objective for SAIN would be to increase the amount of direct sourcing that the sourcing manager would be responsible for. Even if the sourcing manager has incentives to do so – and I will cover that issue in *Chapter 5* – direct sourcing will alter its risk profile by adding a new element of uncertainty. By agreeing, even in a longer-term, to source more raw materials from farmers, the sourcing manager will first go through a period of added risk as he will have to rely on non-binding relationships with farmers versus the more formal agreements that he can pass with trade partners. Developing a higher volume of sourcing from the farm would definitely help him in the future by offering products with a predictable cost and an excellent quality.

3.4 Mental models of SAIN, markets and sourcing manager

If we look at the diagrams below of the thinking of SAIN, the markets and the sourcing manager, it helps give us a sense of the mental models that are prevalent in this environment. For **SAIN** (first diagram), the investments in sustainable agriculture are a way to keep the supply chain without interruption in the future. In the diagram below, it

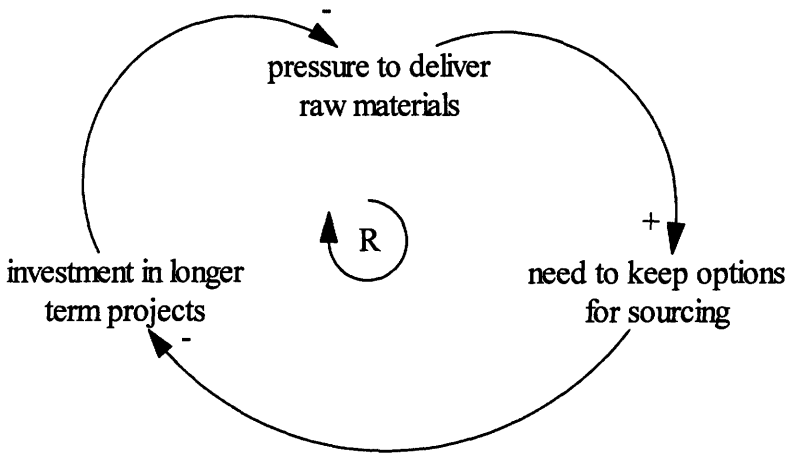
is clear that the growth of the company can be hindered by delaying investments in longer-terms projects such as sustainability in agriculture. SAIN is aware of the pressure of sourcing and its impact on the longer-term prospects of the supply chain, and eventually the business operations of Nestlé. The B in the diagram shows that the relationships create a balancing loop, which has the potential to disrupt growth.



The **markets** have a different perspective on how longer-term investments in sustainable agriculture might influence their operations. Emerging countries are strategic because they have accounted for most of the growth of Nestlé in recent years. When economies are developing fast, there is a related pressure on the sourcing of raw materials to continuously deliver on the surging demand. The markets' perception of these long-term investments is that it conflicts with the necessity of keeping options open for

sourcing in a fast-paced economy. For the markets, these investments are just adding too much to the existing pressure to be justified.

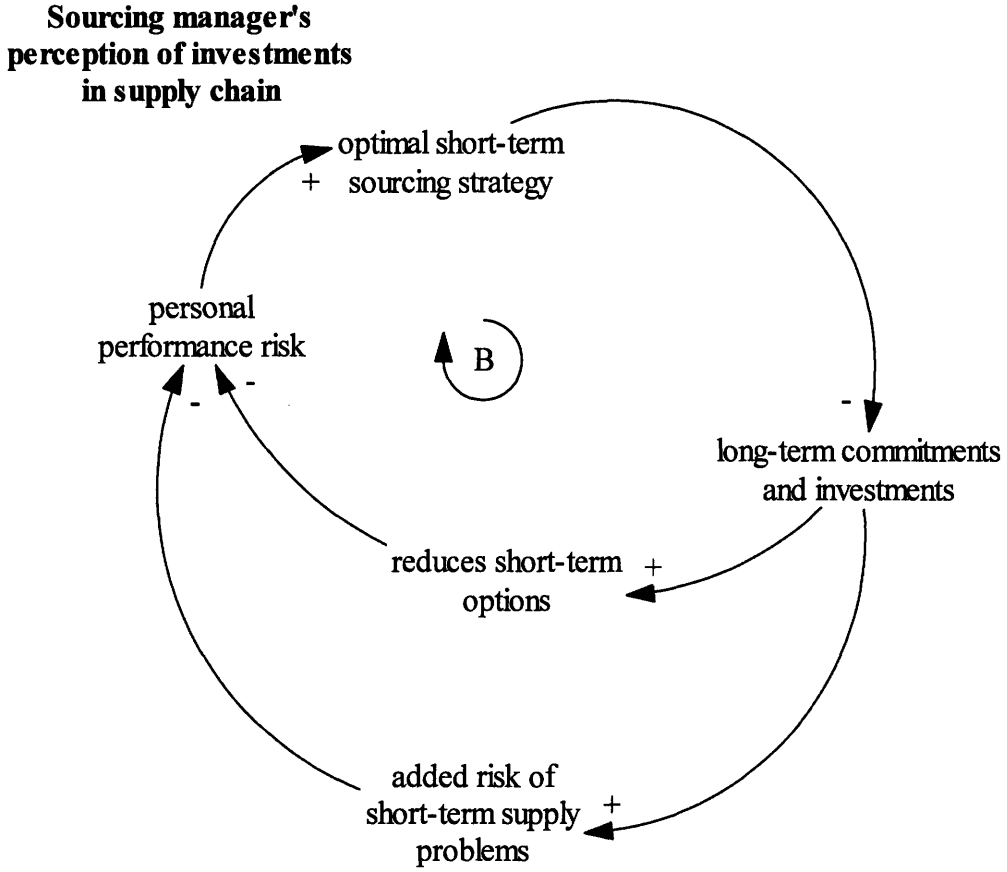
Market's perception of possible sustainable investments



If we compare the mental models of SAIN with that from the markets, we notice that their perception of longer-term investments differs. The systemic and longer-term view of the supply chain of SAIN conflicts with the more tactical view of the markets that need to deliver on objectives that are short-term. The markets seek to avoid going into the reinforcing loop that builds up pressure on their supply operations. For SAIN, such negligence creates a supply risk that can prevent further growth.

The **sourcing manager**'s perspective is close to that of the markets. The long-term investments have a potentially negative influence on its optimal current sourcing

strategy by reducing its options. For him, these investments are not positively correlated with his performance measurement. They don't count towards his target performance. Therefore, he has similar concerns as the markets, in the sense that he is concerned about reducing short-term options. In addition, he sees additional risk of supply problems in the short-term if he diverts his attention from current operations, which therefore leads to an increase in his performance risk.



This chapter has shown the kind of barriers that SAIN faces in its projects, from the group-level to the implementation-level through the relationship with the sourcing

manager. Some barriers are shaping the team's operations. However, SAIN has also been learning how to work around other barriers as I will explain in the next chapter.

Chapter 5 Overcoming barriers to implementation of sustainability: actions from SAIN and recommendations

Now that we understand better the different barriers to implementation that SAIN is facing, we can turn to some of the actions that the team has taken to overcome these barriers and make some further recommendations. This chapter will be divided in three sections. First, I will analyze how SAIN has started to tackle some of the challenges that it faces. I will link most of the challenges identified with current initiatives or ideas on how to solve them. Next will be a series of recommendations for SAIN to continue along the path of new ideas in sustainable agriculture. I will build on what they have started to suggest future areas of development. Finally, I will conclude with some thoughts about the challenges of implementation of sustainability initiatives based on the analysis of SAIN.

1 What SAIN has done to deal with the barriers of implementation

As the previous chapter shows, there are different types of barriers that SAIN faces in its activities. Some are linked to the structure of Nestlé and the position of SAIN within that structure, while others have to do with the way that SAIN operates. It is useful to continue to use the distinction between the **group-level** and the **SAIN-level** challenges in analyzing the responses to implementation barriers. The table below summarizes the the current actions that the team is working on to tackle the challenges I identified. Each action has a somewhat different time horizon, which is a measure of the organizational difficulty to make progress. For example, SAIN already sees some impact from the way that it manages relationships in the supply chain (see the "ongoing" classification for the

relationships with the farmers and the sourcing managers). For other challenges, such as Nestlé's conservative approach to innovation, SAIN can only have a minimum impact, so the time horizon for any changes to take effect is longer-term. All actions tend to the goal of increasing the impact on SAIN within the company, be it in the markets or with the corporate functions at headquarters. Therefore, this chapter is based on the basic assumption that SAIN aims to get a better integration of its activities into the mainstream business operations at Nestlé.

Type of challenge	Description	Time Horizon	Current action
Group-level			
Power of brands	Business model and therefore scope of change opportunities driven by brands	Short- to long-term	- Influence brand managers directly through discussion or indirectly through success stories
Not part of strongly centralized function such as quality	Core processes are essential to have uniformity in a decentralized organization	Medium-term	- Use product specifications in metrics throughout upstream supply chain - Interaction with markets
Conservative approach to change and innovation	Internal organization does not facilitate the adoption of major change efforts	Long-term	- "Incubate" new initiative with a specific product (Haagen Dazs) - Work with SAI platform
Management's perception of direct sourcing	Default thinking of managers is to avoid investing long-term resources in sourcing	Medium-term	- Build up case studies and numbers to show impact - Use a growing network of "ambassadors"
SAIN-level			
Definition, metrics, and internal communication	Metrics are essential communication tools to measure success and to provide base future decisions	Ongoing	- Push metrics through supply chain - Personal discussion and support
"Mainstreaming" sustainable sourcing	Increase the scope of sustainable sourcing throughout the players in the supply chain	Short-term	Build knowledge and expertise Leadership of Hans Johr
Relationship with the markets in	Change the perception of sustainability from	Medium-term	Work on mental models through: - Workshops

general	an additional burden to a central redefining core issue		- Education - Create "success stories" and "peer pressure" through case studies - Relay importance of issues such as water as decided by CEO
Relationship with sourcing manager	Increase the amount of direct sourcing with sustainable practices	Ongoing	Develop a coaching relationship Add sustainability to KPI Make costs apparent
Relationship with farmer	Develop strong long-term relationships to ensure supply	Ongoing	Relational contracts (i.e. China)

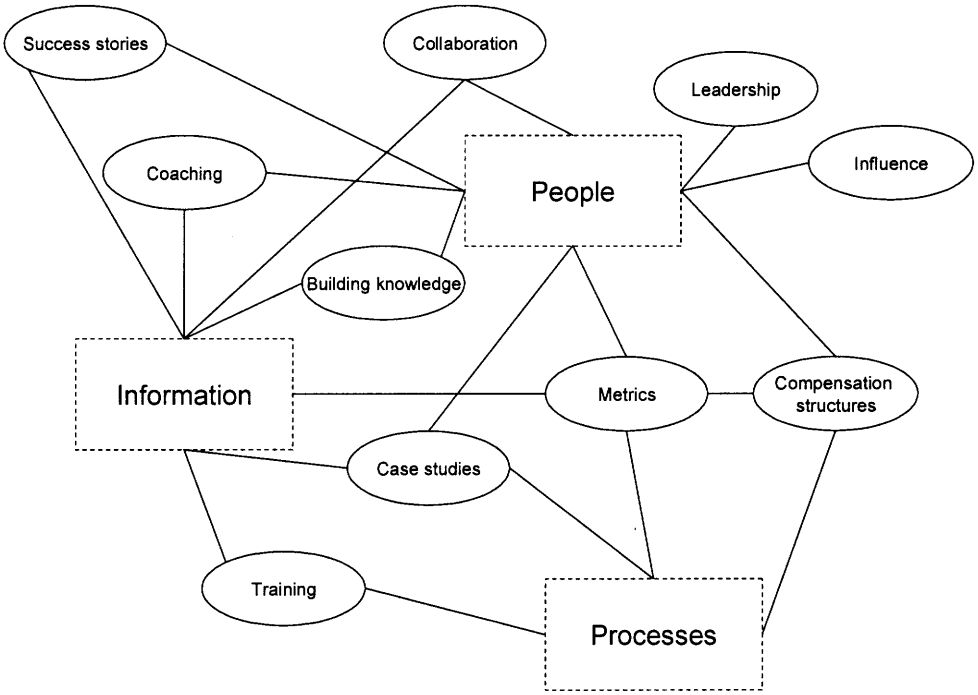
2 Actions at the Group-Level

At the group-level, most of the strategic challenges are long-term. SAIN does not have much influence on theses challenges, but the team has started to work on them both from a structure and a mental model perspective.

2.1 Structure

The various actions that the team has taken all relate to the three elements of the model that I introduced in Chapter 2: People – Information – Processes. The actions of SAIN in its relationship with the markets are all part of a systemic structure, a set of "key interrelationships that influence behavior over time."[134] Any type of activity at SAIN starts with **people** either at one end of the chain at headquarters (the centre), or at the other end in one of the remote farms of Latin America (the markets). These people are essential to the value chain as they are the sources of **information**. Information gets transmitted through the chain and then used by others. The **processes** guide this flow of information among the people and organize the way that work and responsibilities are shared. The team has been trying to reinforce the three elements of this model with a

series of actions that are each attached to one or more of the main elements of the system. I will first illustrate how a few of the actions reinforce the main building blocks of the PIP system. Next, I will explain how these actions are helping SAIN to get more integrated into the mainstream operations at Nestlé.



2.1.1 The actions of SAIN reinforce its PIP system

Since sustainable sourcing does not have as strong an organizational structure as, for example NEMS, the team has to reinforce the three main building blocks of the system. Nestlé has not integrated SAIN's activities into a corporate function and the group has thus built up a number of strategic initiative (ovals in the diagram) that

reinforce the three building blocks (dashed rectangles) that have not been formalized. A few examples will show how the actions of SAIN work in this system.

a. Brand managers

Brands are at the core of the operations at Nestlé and for sustainability to be more prevalent in the company, a link to brand management is crucial. Mr.Bruckner[135] explains that there is a need to "materialize" the sustainability of the sourcing of raw materials by adding a branding element on products. For him, there should be a link between the changing perception of the consumers about food and the way that the supply chain has been adapting. For now, it seems like brand managers have not yet integrated this link into their strategies. The main action for SAIN has been to discuss directly with brand managers about the positive contribution that sustainable agriculture can bring to brands. Using *influence* is an action targeted at the people's elements in the system. By bringing more people to get to know the value of sustainability, the team is reinforcing the knowledge of each brand manager that it can influence.

SAIN also indirectly influences brand managers through the reports and *case studies* that it has been building. Case studies are central in the PIP system, because they affect how people perceive sustainability, they serve as information (manuals) for other people and they are also providing steps to follow in sustainable sourcing from a management's perspective. Through these case studies, brand managers are able to see the goodwill created in the communities and they might be interested in integrating sustainable aspects into the products that they manage.

b. Innovation

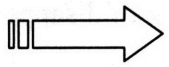
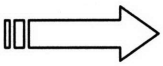
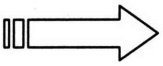
To work around some of the resistance to innovation at Nestlé, the SAIN team has started to work with specific product teams and with outside partners on innovative projects. Given the difficulty to bring large-scale innovative efforts, SAIN has focused on sharing *success stories* to encourage more participation and innovative ideas. A recent example is the large-scale awareness campaign of Haagen Dazs[136] and a donation to two universities about the problem of disappearing bees in the United States. This innovative campaign links sustainability at the raw materials level (availability of various fruits is threatened with less pollination) and at the consumer level. A discussion with Hans Johr during a workshop with the ice-cream brand managers was the starting point of this initiative. By building up similar cases, the SAIN team hopes to encourage more innovative thinking in the future.

As for outside partners, the SAI platform offers collaborative opportunities to test, implement, and learn from new projects outside of the conservative Nestlé model that might limit SAIN's capacity to operate. SAIN participates to a few study groups within SAI to assess the impact of some of the initiatives before possibly integrating a similar initiative internally. Collaboration in the SAI environment offers a chance to see how new sustainable agriculture ideas work in practice, so that SAIN can then bring this innovation into its own operations.

2.1.2 The institutionalization of SAIN

As the table in the previous section illustrates, SAIN has started to work on getting more deeply integrated into Nestlé's mainstream operations. Unlike other functions, SAIN has no member of its group in the markets to implement sustainable

practices. The team of SAIN, however, has started to move towards a larger-scale implementation and closer to a corporate function. The diagram below summarizes how SAIN is moving into a more institutional role according to each of the three elements. I expand on each element below and give some suggestions for further action.

	From		To
People	Network of Hans Johr and his team		Organized cross-functional and collaborative teams
Information	Internal / team knowledge		Organized knowledge management and distributed expertise
Processes	Case studies and objectives		Standard guidelines and metrics

In terms of the **people** element, SAIN is moving from relying principally on the network of Hans Johr and his team to an organized group of experts that collaborate on projects linked to sustainable agriculture. The efforts of the SAIN team are creating regional "virtual" teams that exchange information about techniques and, thus, become important partners in the system. The team should continue to create new avenues of discussion among the different functions. Markets or regions could have formal teams that draw from different functions (marketing, operations, brand management) to learn from successful projects (such as the "sustainable coffee" brand in the UK) and collaborate on new ones.

With no direct member of its team in the markets, SAIN has had to rely on building and using its own knowledge base as sources of **information** for its activities. The techniques developed by SAIN and the map of competences it is building are now

increasingly being used around Nestlé. SAIN has a very prominent location on the intranet site where techniques and information are posted. Benjamin Ware explained[137] that SAIN is on the default entry page for the agricultural operations intranet site. SAIN's knowledge base is therefore easily accessible for the various people along the supply chain that depend on the team for new techniques and advice. On this point, SAIN should continue to gather knowledge and map out where the expertise on certain questions reside. One idea could be to organize a company-wide "idea jam" along the model that IBM has used with success. All employees are asked to submit questions, ideas and share their knowledge on a specific knowledge. Such an open "virtual discussion" for Nestlé on sustainability could bring more information and raise the awareness of this topic.

Regarding **processes**, SAIN has been moving from giving objectives to the markets and collecting success stories to developing more formal initiatives. A key action has been to work on using more metrics in different parts of its activities. The team has realized that communication is easier and more productive with numbers, so it has focused on documenting the projects that it initiates. The starting point of this measurement effort was simply a *quantitative* assessment. Each market would report on how many projects they have worked on during the year. The team is now working on a finer analysis of these projects with a *qualitative* measurement of each project. The goal is to gather sets of measurements at the farm-level that would then become used for aggregate comparisons among various farms. The SAIN team is working closely with the markets on developing more standards for sustainability through the upstream supply chain. There are mainly two levels of involvement for SAIN on this issue. First, the SAIN team works with the markets to suggest sustainability guidelines that could be

implemented at the farm level. It shares with the markets its approach linked to the economic, environmental and social perspectives of sustainability. This is a soft approach that relies on the power of SAIN to encourage the markets to more systematically embed sustainability in their sourcing strategies. Secondly, some aspects of sustainability are also communicated from the centre to the markets through the Corporate Business Principles that mention sustainable agriculture. While these principles are much less stringent than the quality guidelines, they help to make the markets aware of the value of sustainability. The best way forward for SAIN seems to be to refine guidelines into formal standards that could be applied throughout the operations.

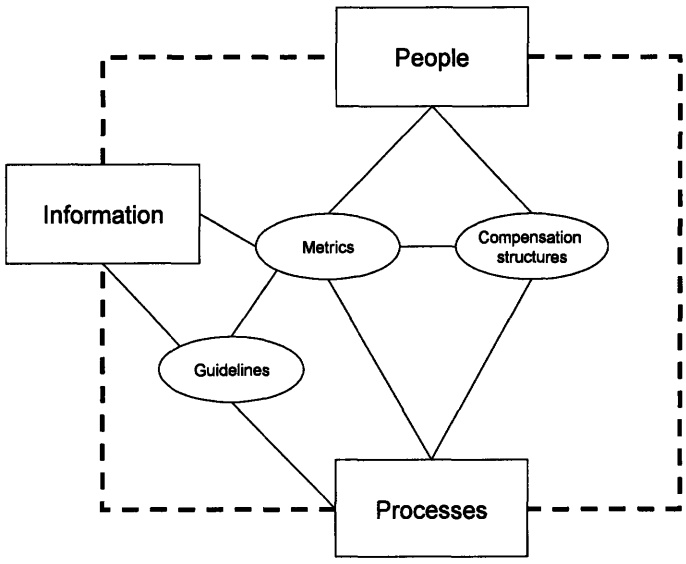
2.1.3 Lessons from other corporate initiatives

A good place to start for SAIN in its integration within the company would be to look at the three corporate initiatives that I identified: quality, environment and the AAA sustainable coffee initiative at Nespresso. The quality and environmental monitoring initiatives are interesting because they have become core processes at Nestlé. The AAA coffee initiative is interesting because Nespresso has managed to successfully put in place strategic elements, such as certification and a branding element for sustainability, that are not typical at Nestlé. These initiatives have all become well-functioning systems with strongly developed organizational elements in each of the three parts that we have used to explain systemic structures: people, information and processes. The table below gives further details on these elements:

	People	Information	Processes	Comparison with SAIN
Quality	Both at HQ &	Stringent &	Audit and various	Integral part of

	in the markets	complete guidelines	measurements. Evaluation & improvement	product requirements
Environmental	Both at HQ and in the markets (factories)	Stringent and complete guidelines	Audit & various measurements	Successful implementation relied on own structure(factories)
Nespresso AAA	Own resources (expatriates on the ground) & collaboration	Own guidelines & collaboration with experts	Certification & 3rd party verification through Rain Forest.Documentation also on labor (not only environment)/	Different structure & larger resources

As in the previous section, we can also build a map that highlights the kind of actions that influence the systemic structure of the three initiatives. The simplified map below shows that less actions are needed in a well-functioning structure. With their own people, clear information in the form of guidelines, and processes that are reinforced by metrics, these initiatives are efficient systems to achieve their goals.



This map also provides clues as to what SAIN could work on to increase its activities and build sustainable sourcing into a core process at Nestlé. Analyzing the three initiatives, there are two different pathways for SAIN to get more impact about its sustainability activities in the operations of Nestlé. The first option would be to **push for innovation** like Nespresso has with its AAA initiative. The link between consumer benefit (a special coffee with sustainability branding), the operations (certified by the Rain Forest Alliance) and the price premium paid to the farmer are elements that SAIN could emulate. While SAIN can develop projects that use one or the other of these elements, it seems difficult to replicate all elements into typical projects. As I explain in Chapter 4, SAIN is part of the operations at Nestlé and does not have the same freedom to innovate. In addition, SAIN is working with too many different crops and raw materials to manage the complexities of certifying all ingredients into manufactured products.

Therefore I would suggest working on a second option for SAIN which could be to **try and link sustainable sourcing practices to core processes** in the company. Both quality and environmental monitoring are two initiatives to which this type of sustainability could be added. Sustainability is interesting because it spans the entire value chain from raw materials to finished products. It has an important potential impact on consumer relations as it has an important impact on operations. Environmental monitoring, the way it is managed at Nestlé now, seems to be limited to operations. The environmental program does not reach the product through the supply chain. Nestlé does not promote environmental benefits on its products. On the contrary, quality has similar attributes to sustainability, especially its large impact on the consumer and how it also

drives the supply chain. Therefore, a strategic option for SAIN should be to institutionalize sustainability in the same way as quality.

2.1.4 How should SAIN be reorganized?

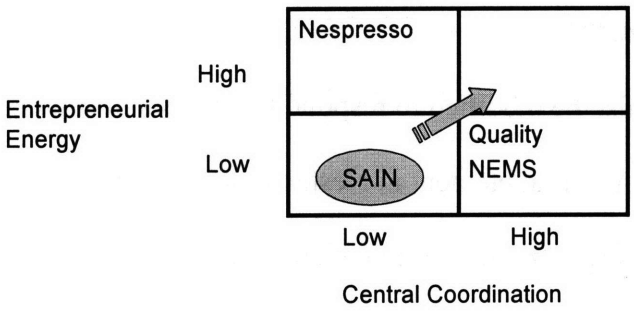
SAIN's organization should also be modified to respond to changes in strategy. If we follow the idea of using SAIN as a central element in Nestlé's integration of sustainability into its operations, two organizational elements need to be taken into account.[138]

a. Entrepreneurial energy

SAIN needs to continue to build on knowledge, develop new projects, and engage internal and outside partners into its activities. To accomplish such a mission, it is essential that the team keeps an entrepreneurial attitude and be allowed to test some of its ideas with other groups in the company. Therefore, SAIN's organizational form should reflect this need to keep an innovative and entrepreneurial edge.

b. Central coordination

To become more integrated into the company's routine, SAIN also needs to be organized with a close link to central operations. Part of the activities of SAIN needs to become part of the central coordination of Nestlé. If we look at the other initiatives along the dimensions of entrepreneurial energy and central coordination, we can see that SAIN occupies a unique spot.



Inspired by "The Modern Firm: Organizational Design for Performance and Growth" by John Roberts

SAIN will need to find a unique position compared to the other initiatives we saw. In addition to the entrepreneurial element of Nespresso, it will also have to borrow from the central coordination mechanisms of quality and NEMS. In the short-term, SAIN could keep its position within the organizational chart, but it needs to collaborate more extensively and more formally with other parts of Nestlé. As I mentioned in the previous section, the learning from SAIN should become formalized into guidelines and corporate instructions for the supply chain and possibly other groups involved in operations. At the same time, the informal network that has been created by SAIN should become a more formal working group that brings together early adopters of sustainability, for example in brand management, with other peers that might have a more skeptical approach.

2.2 Mental Models

Besides the changes to the structure, SAIN also has an important role to play in working with people at all levels around the topic of sustainability. As I have explained in Chapter 2, it takes time and energy to convey the main message about sustainability. In this section, I will analyze how the team has been working to change mental models at the group-level and I will also provide some suggestions on how SAIN can further influence these changes within corporate functions.

a. Overcoming the capability trap

As Repenning and Sterman explain in their article[139], the interactions between structures and mental models create situations where capability traps arise. In the case of SAIN, the capability trap is the focus on the short-term that creates a lack of investment in sustainability resources. Similar to what engineers do in pressure situations by working harder and dedicating less time to improvement, people in the supply chain don't devote time to learning and applying sustainability practices to their activities. The combination of structural factors and mental models create behaviors where supply chain workers continue to extract more resources from the system without dedicating attention to and investing into projects that will generate better raw materials and a better situation for farmers in the long-term. The various efforts of SAIN related to education and training are targeted directly towards this capability trap.

SAIN tries to tackle two challenges - the structure and the mental models – to increase the capabilities of the supply chain workers in thinking and implementing

sustainability. What the team is doing, in particular through the case studies, is extending the scope of thinking of many employees by showing them the source of the products and the role of the company in diverse regions. This approach helps people understand the link between their actions and effects that take place in distant places. Also, the alliances that SAIN is building internally help bring new people to visualize the interdependence of various elements of the supply chain with the issues of agricultural production. Systemic perspectives are important to get the right mindset of collaboration through the supply chain.

b. Management's perception of direct sourcing

The success of SAIN depends on how it can influence people to invest more resources into its direct sourcing model. To tackle the worse-before-better issue that its model has created, SAIN has put in place formal and informal strategies. On the **formal side**, the team is systematically collecting results from its projects in the markets and building data sets to track progress across projects. The focus is at the farm level. The team is actively developing performance measurements that show rapid improvement in the operations of the farm. The example of milk production growth in Brazil (see *Chapter 3* for more details) is a good example of that strategy. In a year-long project, SAIN could show the increased productivity of milk production. Measuring and communicating such performance helps solve the delay problem that management perceives between the time of investment and the time of benefits when making investments in sustainability

activities. By starting at the farm level, SAIN is able to quickly show that its projects have benefits and that, however small, there are productivity gains that help with getting a closer relationship to the farmers.

In addition to these measurement efforts, **on the informal side**, SAIN is also relying on the goodwill that it is creating around the company to help influence the perception of its activities. Over the years, SAIN has worked with all kinds of people in corporate functions and in the markets. By providing assistance and support on sustainable agriculture, the team has built a network of contacts that it can activate to help spread the word about its activities within the company. Hans Johr[140] talked about the growing interest of corporate communications and investors relations about their activities. More recently, Benjamin Ware was asked by a European market to come and assist on a water project. These interactions help build a good reputation within the group and they are also indirectly influencing the perception of management about the validity and the impact of SAIN's activities.

c. Shifts in mental models in corporate functions

As a leading group in sustainability, SAIN has the potential to help Nestlé further implement sustainability into its operations. At the management level, SAIN has a lot to share about how people react and adapt to the idea of sustainability, whereas for brand managers, SAIN could jumpstart some of the innovative efforts linked to new sustainable products.

	Actual	Better	Action or argument
Corporate			
Brand management	Sustainability is a possible add-on to specific products	Sustainability is a key function of products such as quality and safety	Use new initiatives around health to include sustainability aspects
Top management	Concept of shared value as guiding principle throughout the organization	Sustainability as core of business processes	Application of "shared value" in the routines of the company

The **top management** of Nestlé is convinced of the concept of "shared value." For sustainable agriculture, this concept is a driving force, but it has not been adapted to the level of daily activities. Therefore, SAIN could play a role in helping formulate processes that could be followed in many markets for the sourcing of raw materials. This would require a certain shift in the mental model of management, and obviously some courage to take on large bets on the value of sustainability in the supply chain. A suggestion would be to better link the issue of sustainability to the efforts of Nestlé to redefine its mission towards health and wellness. This transformation has already started to materialize with large scope initiatives, such as "60/40+", becoming more central for business units. Nestlé should use this new strategic goal to also promote a focus on sustainability among all employees. The link between health and wellness on one side and sustainability on the other side is clear. To claim that a food product is healthy means that it needs to respect standards throughout the supply chain all the way from how agricultural products are sourced. The management at Nestlé has thus an excellent opportunity to help shift the mental models to long-term sustainable thinking. The

various products that will go through a "restoration," with the addition of a healthier component, should also be evaluated for their sustainability potential.

SAIN can also become the main partner of **brand managers** that are seeking to adapt their brands to health and wellness by including sustainability. SAIN could share practices in a variety of fields and make sure that sustainability becomes an integral part of a product's claims along with benefits of health and nutrition. SAIN has excellent resources to help to link the upstream part of the supply chain with the marketing and consumer relation part of the business. The value here would be to test the consumers' reaction to a sustainability branding effort that could go from farm to retail. Given the difficulties of ensuring the sustainability of too may raw materials, a simple product will need to be chosen.

2.1.5 Summary

At the group-level, the leverage points of SAIN are mostly geared toward medium to long-term changes. The SAIN team is increasing its network of relationships within the company and the interest seems to be growing within Nestlé, but it will take time for these efforts to produce significant change to the core operations. In contrast, SAIN's efforts within its scope of action (the "SAIN-level") have a shorter time horizon, and they are already bringing results as we will see in this next section.

3 Actions at the SAIN-level

SAIN is at the forefront of Nestlé's sustainability strategy. The group is well positioned, within corporate operations, but with a lot of activities in the markets, to

influence the learning of the company on this topic. This is one of the reasons why SAIN has focused on internal communication. The goal of the team has been to increase its impact within the company. In this section, I will look first at the organizational structure of SAIN and make suggestions on how to strengthen it. Second, I will explain how the team has been working on changing mental models and provide a few suggestions for further actions.

3.1 Structure

Most decisions pertaining to a change in the structure of SAIN would involve group-level discussions. Nestlé directors from the operations and other units would have to decide on how to redesign the activities of SAIN. The next section contains short comments on how the activities of SAIN have shaped its structure and how it could be reinforced.

3.1.1 Hybrid Organization

Similar to the "ambidextrous organizations"[141] that are well-suited for innovation, SAIN presents characteristics of a hybrid organization. On one side, the group is included into the operations division and has ties to many different corporate functions; alternately, its activities involve many people on the ground, mostly in developing countries. One of the tying elements of this dual-sided organization is the leadership of Hans Johr. His personality is also one of the reasons why SAIN has been gaining in importance within the Nestlé group. He brings a lot of experience in sustainable development from a practical perspective, and he keeps a keen interest in what is going on at the local level in

the fields of different regions of the world. At the same time, he has the capacity to convince senior executives of the value of sustainability. His role is one of an "intrapreneur," someone who has an entrepreneurial mindset and "can do" attitude, but who can also operate efficiently in the large corporate setting of Nestlé. Hans Johr's leadership influences workers in the supply chain to implement sustainability projects.

To institutionalize the role of Hans Johr, a suggestion for SAIN would be to provide professional development for other people within the company to acquire a similar skill set. For example, training programs that favor rotations with sustainability-oriented assignments could be offered to new hires, and new career tracks that focus on this double competency could be put in place. The structure of Nestlé with global operations and its approach of moving people around appears well suited for such an initiative.

3.2 Mental Models

In this section, I will comment on the actions that SAIN has taken to change the mental models that it encounters in the market. The time horizon for these actions is generally shorter, because SAIN has a more direct influence on them.

3.2.1 Relationship with the markets in general

The main challenge for SAIN is to keep mutually beneficial relationships with a lot of markets that are all different in size, culture and approach. The role of SAIN is to encourage markets to use SAIN's expertise to start their own projects around sustainable agriculture. The key mechanism to influence markets has been through education. SAIN

helps to organize frequent training sessions on technical issues that are relevant for the management of sourcing agricultural raw materials in the market. These trainings are an occasion to establish contact with the main functions in the markets, especially those along the supply chain, like sourcing managers or agronomists, who are important implementation partners. In addition to training activities, SAIN also organizes workshops that are more targeted towards the upper management in the markets.

These workshops are the occasion to revive the sense of urgency related to certain issues that the CEO has identified and communicated, such as conservation of water. The SAIN team also noticed that encouraging the sharing of best practices among the participants generated a positive dynamic of "peer pressure." When experts see that colleagues from their markets or close-by markets have implemented a technique, they become more interested in working on similar projects, which helps the growth of SAIN in different regions.

The main communication vehicle towards the markets is through success stories. For Hans. Johr[142], success stories serve a double function. First, they offer the opportunity to recognize the leading people in the markets who have successfully implemented techniques offered by SAIN. This gives them a sense of accomplishment that has the potential to then spread further in their social networks. Second, the publication of these stories also motivates others to follow. By seeing what their colleagues are doing, people in the markets are more inclined to start a project. The challenge for SAIN has been at the initiation phase of the projects. Once the project has been decided and SAIN gets a chance to help with technical assistance, SAIN typically does not remain active.

All these activities with the markets are geared towards the same goal: bringing subtle change to mental models, so that the people at all levels can envision and embrace sustainability as a benefit rather than an initiative that only brings additional pressure on their current daily jobs. For such a change to happen, it has to come from inside the company. The role of SAIN is to enable various functions of the supply chain to become more aware of the necessity and benefits of sustainability, and to adapt it to their daily duties. Making the farmers aware of the possible future costs of water or giving incentives to the sourcing manager, as I will explain next, are initiatives that work on creating a new mindset along the supply chain.

3.2.2 Relationship with sourcing manager

The sourcing manager is one of the most important elements of the value chain of SAIN's activities. He is located in a specific market and linked to SAIN through a corporate function relationship. Hans Johr[143] describes this relationship as a dotted line. There is no direct, i.e. solid, reporting line with the sourcing manager, but clearly Hans and his team are coaching him in his daily activities. The nature of the dotted line is one of collaboration where SAIN helps the sourcing managers in their daily activities. The team has realized that technical assistance alone does not help with changing the mindset of the sourcing manager, and that additional ideas will also be needed to bring fresh thinking about sustainability into practice.

Besides the personal aspect of the relationships with sourcing managers, SAIN has also been working on an important element of the structure of the sourcing strategies,

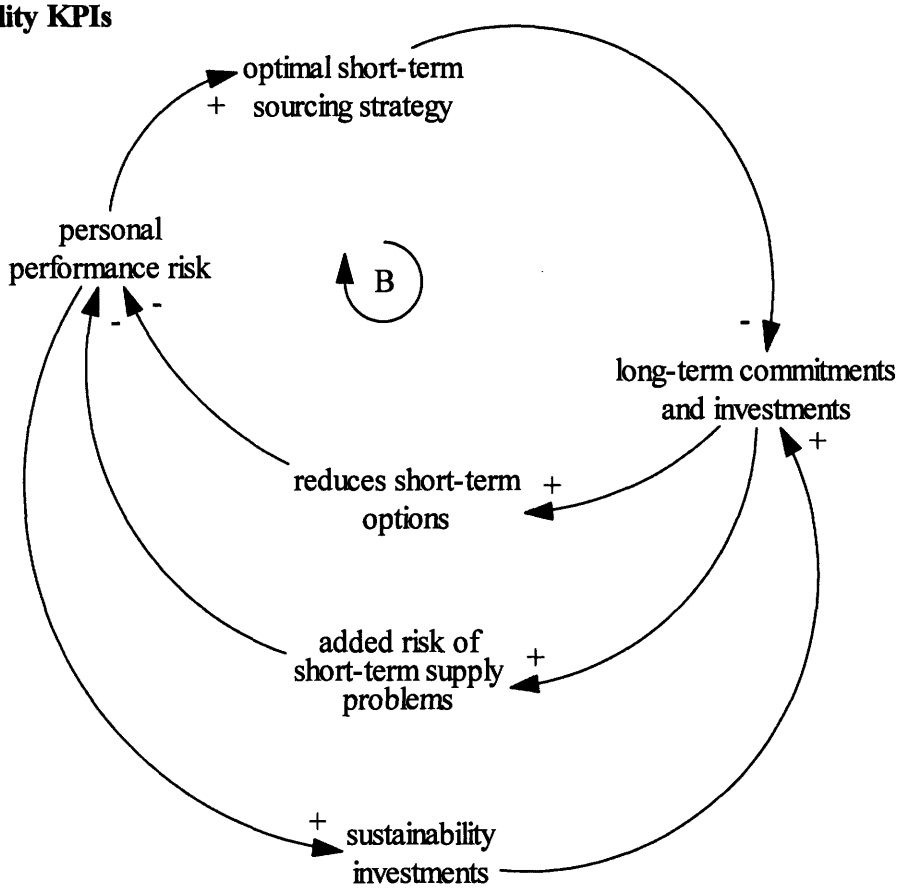
which is the current focus on adding a sustainability element to the *key performance indicators* of the sourcing manager.

As indicated in *Chapter 3*, the sourcing manager's KPI consists of 3 parts:

- volume
- price
- quality

What SAIN is now starting to add to these KPIs is a sustainability measurement that tracks the number of projects that a sourcing manager has done with farmers in his region. The indicator can lead to an additional bonus for the sourcing manager, but in no cases will the sourcing manager be punished for not having delivered on this indicator. With this innovative use of metrics, SAIN wants to link sustainability to the main reward system of the sourcing manager. This has the potential to change the way the structure operates. A sourcing manager might now start to look differently at his relationship with the farmers and he might seize opportunities to develop new projects in collaboration with the agricultural experts. The new KPI aims at improving the types of interactions that are necessary for sustainable agriculture projects in the markets. At the same time, this new KPI also encourages the sourcing manager to focus on a different aspect of his job and to think of his role in the supply chain. An important element of this new KPI is to link, in the mind of the sourcing manager, the sourcing at the farm level with the downstream activities. The new KPI represents an excellent way to make the sourcing manager more aware of his mental model. The diagram below explains how the KPI changes the mental model explained in a similar diagram in Chapter 3.

Sourcing manager's perception of investments in supply chain with sustainability KPIs



What the KPI creates is a counterbalancing effect on the interest of the sourcing manager in initiating sustainability investments. The dynamic of pressure stays the same as he still has to meet his targets, but now he sees an additional benefit, in the form of a bonus, for thinking long-term.

3.2.3 Relationship with farmers

There is no real formal relationship between SAIN and the farmers. No contract can be signed between food companies and farmers for sourcing. SAIN has tackled this challenge by offering services and resources to the farmers. What SAIN has created with

this approach is a series of relational contracts with the farmers. Relational contracts are "informal agreements sustained by the value of future relationships."[144] In this case, SAIN's part of the agreement is to provide resources and assistance to farmers that are interested in applying sustainable methods of production. On their side, the farmers promise to apply techniques and continue to provide Nestlé with quality raw materials. Such relational contracts form the basis of the business case for SAIN. The competitive advantage created by their activities is to ensure that farmers will prefer Nestlé to its competition and will receive too much benefit to be tempted to defect on this informal agreement. In the next section, I expand on these actions of SAIN by adding some suggestions as to how they could change the mental models in the markets.

3.2.4 Suggestion to change mental models in the markets

In the supply chain, the main message from SAIN would be to consider and embrace long-term sustainability when making sourcing decisions. Such a new mindset, focused on the future with a positive message, would guide the decision-making process of each one of the players in the supply chain. They need to realize the benefits that sustainability can bring to the operations and go over the "worse-before-better" dynamics generated by short-term investments that have a long-term payoff. This integration of long-term effects into the routines of the supply chain will also force a closer collaboration among the different functions by recalibrating the various roles of each person in the supply chain.

The following table summarizes some of the suggested changes.

	Actual	Better	Action or Argument
Markets			
Market head	Business- and short-term goal-oriented	Application of "shared value" by focusing on what part of sustainability he can apply	Comparison with other markets Business case Collaboration Success stories
Technical Manager	Sustainability plays only little role	Systemic perspective of his role in supply chain	Training Collaboration
Sourcing Manager	Short-term and opportunistic	Incorporating sustainability into their decision-making processes	KPI New processes "Rankings"
Agricultural expert			Use of metrics Systemic

For the **market head**, SAIN should continue to build on the business case for sustainability. The leadership from the CEO will continue to help with promoting the message of water reduction for example, but the SAIN team should also strive to make the market head aware of the necessity to dedicate resources and attention to long-term sustainable practices. With formal metrics, SAIN could offer more comparisons across markets. When market heads are meeting, they would thus also share their results in implementing sustainability through metrics that everybody can understand and rely upon. In addition, metrics could give the confidence to markets to publish their own sustainability reports. Nestlé USA has a short description of community activities on its web site, but there is no mention of sustainability agriculture initiatives.[145]

To help **technical managers** integrate sustainability into their activities, SAIN can work with them through trainings. A major area of focus would be to give them a sense of the impact they could have through the system. Technical managers can be very

active in supporting sustainable agriculture since they have local knowledge and contacts. Their role could be to translate the sustainability objectives into directly applicable solutions for the agricultural experts or other organizations with which they could collaborate.

The **sourcing managers** are focused on providing raw materials according to the specifications that they are given. SAIN has already identified their role as vital in the supply chain and the team is working on processes and performance measurements for them. As the sourcing managers will soon be evaluated for their sustainability efforts, it would also become feasible to compare across regions and time how the integration of sustainable agriculture into their decision-making has worked out.

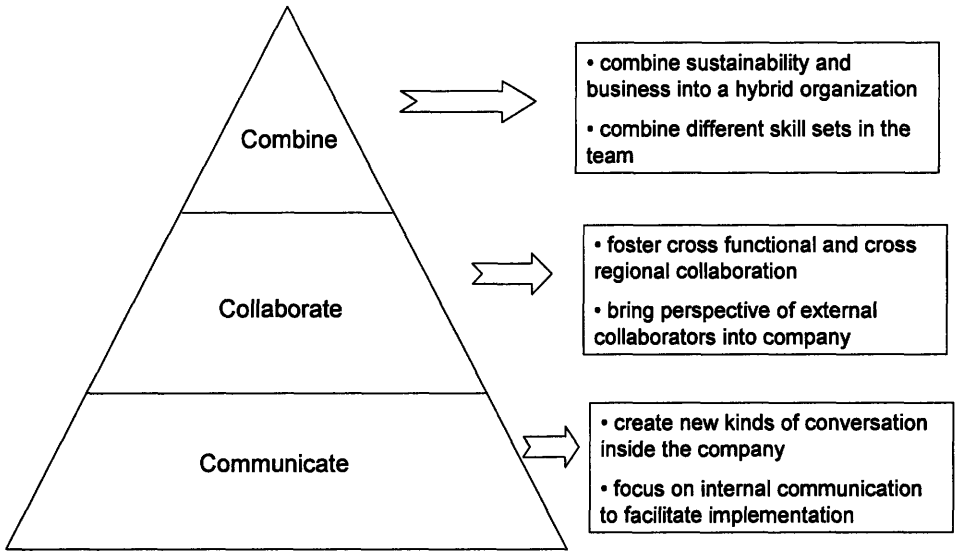
SAIN should also continue to work with **agricultural experts** to make them think about their contribution in a systemic way. These experts need to be aware of the repercussion of the benefits that they provide to farmers along the supply chain and all the way to the consumer. In addition, these experts are well placed to develop new metrics at the farm-level that could then be aggregated and supplied to SAIN.

4 Conclusions

In this final section, I will summarize the main points linked to the analysis of SAIN and make general conclusions on sustainability implementation in large companies. One case study does not give enough data to build elaborate theories about the topic, but there are interesting points in the study that are certainly true in other similar corporate efforts. Other case studies could build or refer to this one to infirm or confirm some of these conclusions.

It is interesting to note that most of the actions that SAIN is taking fits within the organizational change framework of Doppelt (see Chapter 2, section 5). SAIN has been working on solutions that aim to change mindset, rearrange the parts of the system, shift the flows of information, and adjust the parameters.

The diagram below summarizes some of these actions and constitutes my main conclusions. The diagram gives us a simple strategic roadmap for similar initiatives.



4.1 Communication: Focus on smaller projects before building up

An essential role of SAIN is to translate sustainability issue to other members of the company. The numerous workshops, meetings or discussions help create new kinds of discussion inside the company. An important element of this internal communication strategy is the focus on a specific part of the company. Awareness and learning seem to be developing fast when there is a focus on one part of the operations. Corporate

sustainability initiatives should study the success of SAIN that has developed large-scale projects and built up strong relationships by starting with a limited role in the upstream of the supply chain.

The early focus on building and documenting projects in one field seems to help companies refine their approaches to sustainability before expanding them. SAIN is a good example of a project that started with a well-defined scope (collaborating with farmers on technical assistance) before extending into new areas such as water reduction and collaboration with other groups in the company, in particular the marketing and brand management people.

4.2 Collaboration: Collaborative learning

SAIN has worked on both structure and mental models to lift off some of the implementation barriers that it faces. On the structural side, the SAIN team has made great progress in changing some of the impediments to new ways of managing sustainability. A key example is the knowledge-sharing that SAIN has promoted in the company. Changing the way that information flows[146] goes a long way in facilitating collaboration among not yet connected people inside a company. Companies could use some of the same tools that they have used to create links among "silos" of knowledge and among separate groups of people for the benefit of sustainability. SAIN is a good example of the power of creating social networks that are formed to learn about sustainable practices, and then continue to exist to implement practices in specific regions or in specific topics. A few enthusiasts, such as the Brazilian employees mentioned in the project in *Chapter 3*, can become, with the support of a corporate function such as SAIN,

the leading and sustaining advocates of projects in their markets. Once the social networks are in place, the information flows in a different way and new thinking emerges from the interactions among different people.

4.3 Combination: Facilitate hybrid organizations to tackle sustainability

A related element that has been a benefit for SAIN is its combination of two powerful systems. By its mission, SAIN is active in projects that are producing effects in agricultural regions in the most impoverished countries of the world. The sustainability part of its activities has been growing in importance and the team carefully selects and engages into new activities. This first system, the sustainability one, is a world made of practical solutions and small projects that take time to materialize. On the other side, SAIN is also actively involved with the top management and other corporate functions that form a system of business-oriented objectives. The important role that SAIN has been playing is to navigate the two systems by developing efficient relationships with their representatives.

This hybrid function is an important factor for companies looking at implementing sustainability into their operations. The dilemma that these companies might face is how to organize these activities. One option is to make sustainability a strategic initiative at the management level that will then face many challenges to get implemented through the various organizational layers. Another option is to have a separate office that specializes in sustainability activities, but then runs the risk of being detached from the strategic decisions of the company. SAIN brings a good solution to this dilemma and offers a balanced approach to managing sustainability projects that are

linked to a core business function, in this case sourcing of raw materials. For companies looking at the management of sustainability, the "bridge" function of SAIN provides a good model. Its team understands equally well the business and the sustainability issues. With a mindset of business-driven projects, the team has earned a solid reputation among other groups such as finance while at the same time building strong relations, directly or indirectly, with the thousands of farmers that provide the basic ingredients of Nestlé's successful products.

4.4 Leadership and personal network

To lead a hybrid organization such as SAIN, one needs leaders that can relate to different people and operate efficiently in different environments. The team of SAIN brings a set of skills and knowledge that allow them to master the art of devising and implementing practical-oriented solutions in farms, while also navigating the corporate environment to build alliances and develop new projects. At the head of SAIN, Hans Johr brings a unique personality and skill set to strategically manage the complex web of different constituents that are connected to SAIN. Throughout this thesis, I listed numerous groups, from the internal system (management, corporate functions, supply chain) and external environment (stakeholder, SAI platform, knowledge sources such as universities) with whom Mr. Johr needs to interact on a frequent basis to be successful.

The unique role of a leader such as Mr. Johr is the ability to understand the perspectives of each group and prioritize with which one it needs to work to advance SAIN's activities. Linked to this leadership skill is the importance of developing personal connections that can help along the way by carrying further some of the objectives of the

group, such as mindset change. The personality and knowledge of Hans Johr go much further than the limits of SAIN activities. I have realized how his expertise in sustainability has been a catalyst for bringing more sustainability thinking and new projects in the USA.

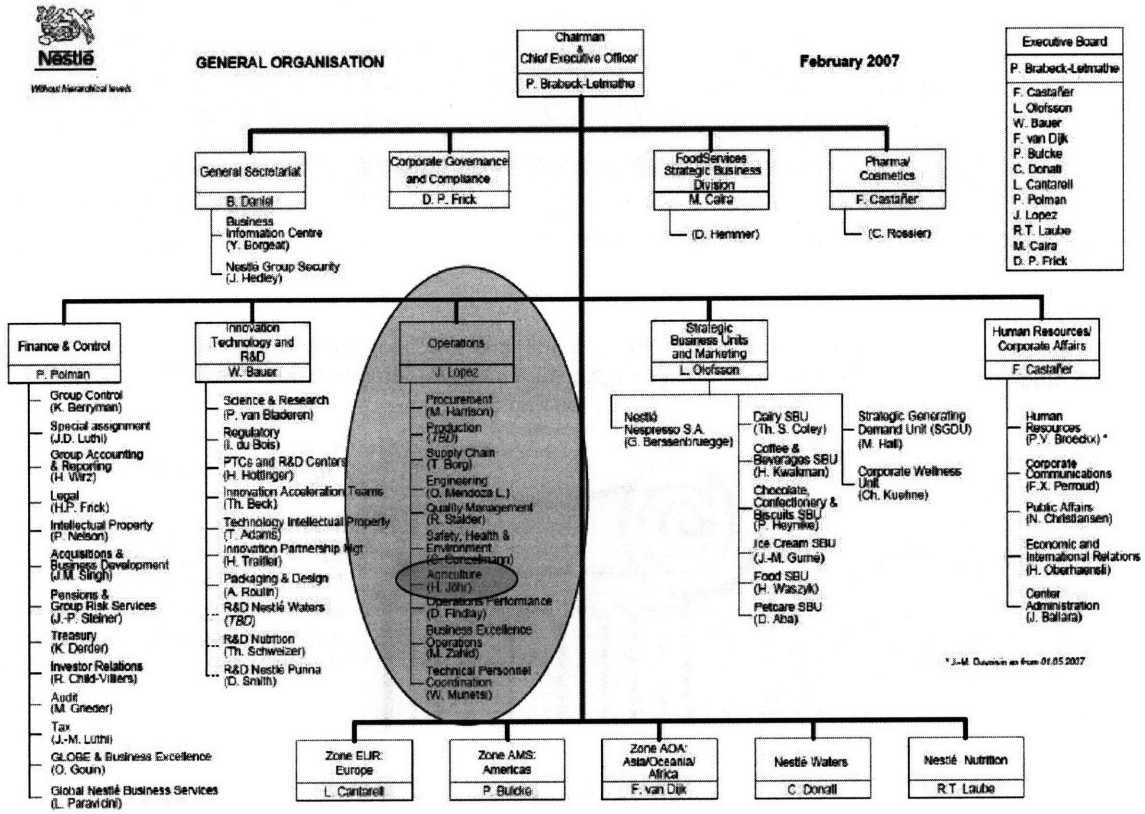
4.5 Innovative use of metrics

Even though sustainability might never reach the type of quantitative measurement that other processes offer in corporate environment, SAIN has developed guidelines and metrics that are advancing the integration of sustainability into core operations at Nestlé. Following its role of bridging sustainability and business, SAIN has been working on measurements that can be easily understood and used by management. Metrics serve various functions. Internally, they help bring attention to certain issues and they also can be a source of discipline when managers, for example, are being asked to track certain data. Externally, metrics are a useful communication tool. They can be used to compare a company's activities during a certain period of time or against some of its peers.

5 Avenues for future research

There is no doubt that firms are building their knowledge on the implementation of sustainability into their operations. Further research could explore the role of both structure and mental models in other companies' efforts. For structure, future case studies would help to better understand the impact of the choice of organizational forms and methods for sustainability on the main operations. What are some other successful

examples of organizational structures for sustainable practices? Similar to the numerous forms that innovation takes in companies, there would not be a single model, but rather a collection of best practices in terms of organizational forms and processes. In terms of mental models, future research would continue to study the organizational learning and the fundamental behavioral change that sustainability brings into organizations. While the magnitude of the change remains a large barrier for most companies, it will be interesting to collect more data on the methods and initiatives that have worked well in different corporate environments.


Nestlé
Without hierarchical levels
GENERAL ORGANISATION
February 2007
Chairman & Chief Executive Officer
P. Brabeck-Letmathe
Executive Board
P. Brabeck-Letmathe
F. Castañer
L. Olofsson
W. Bauer
F. van Dijk
P. Bulcke
C. Donati
L. Cantarell
P. Polman
J. Lopez
R.T. Laube
M. Caira
D. P. Frick
General Secretariat
B. Daniel
Business Information Centre (Y. Borgeat)
Nestlé Group Security (J. Hedley)
Corporate Governance and Compliance
D. P. Frick
FoodServices Strategic Business Division
M. Caira
(D. Hemmer)
Pharma/ Cosmetics
F. Castañer
(C. Rossier)
Finance & Control
P. Polman
Group Control (K. Berryman)
Special assignment (J.D. Luthi)
Group Accounting & Reporting (H. Wirz)
Legal (H.P. Frick)
Intellectual Property (P. Nelson)
Acquisitions & Business Development (J.M. Singh)
Pensions & Group Risk Services (J.-P. Steiner)
Treasury (K. Derder)
Investor Relations (R. Child-Villiers)
Audit (M. Grieder)
Tax (J.-M. Luthi)
GLOBE & Business Excellence (O. Goun)
Global Nestlé Business Services (L. Paravicini)
Innovation Technology and R&D
W. Bauer
Science & Research (P. van Bladeren)
Regulatory (I. du Bois)
PTCs and R&D Centers (H. Hottinger)
Innovation Acceleration Teams (Th. Beck)
Technology Intellectual Property (T. Adams)
Innovation Partnership Mgt (H. Traitler)
Packaging & Design (A. Routin)
R&D Nestlé Waters (TBD)
R&D Nutrition (Th. Schweizer)
R&D Nestlé Purina (D. Smith)
Operations
J. Lopez
Procurement (M. Harrison)
Production (TBD)
Supply Chain (T. Borgi)
Engineering (O. Mendoza L.)
Quality Management (R. Stalder)
Safety, Health & Environment (E. Conceilmann)
Agriculture (H. Joly)
Operations Performance (D. Findlay)
Business Excellence Operations (M. Zahid)
Technical Personnel Coordination (W. Munets)
Strategic Business Units and Marketing
L. Olofsson
Nestlé Nespresso S.A. (G. Berssenbruegge)
Dairy SBU (Th. S. Coley)
Coffee & Beverages SBU (H. Kwalkman)
Chocolate, Confectionary & Biscuits SBU (P. Heymike)
Ice Cream SBU (J.-M. Gumé)
Food SBU (H. Waszyk)
Petcare SBU (D. Alsa)
Strategic Generating Demand Unit (SGDU) (M. Hall)
Corporate Wellness Unit (Ch. Kuehne)
Human Resources/ Corporate Affairs
F. Castañer
Human Resources (P.Y. Broeckx) *
Corporate Communications (F.X. Perroud)
Public Affairs (N. Christiansen)
Economic and International Relations (H. Oberhaensli)
Center Administration (J. Ballara)
* J.-M. Duvoisin as from 01.05.2007
Zone EUR: Europe
L. Cantarell
Zone AMS: Americas
P. Bulcke
Zone AOA: Asia/Oceania/ Africa
F. van Dijk
Nestlé Waters
C. Donati
Nestlé Nutrition
R.T. Laube

Appendix B: Example of SAIN Report

Managing water

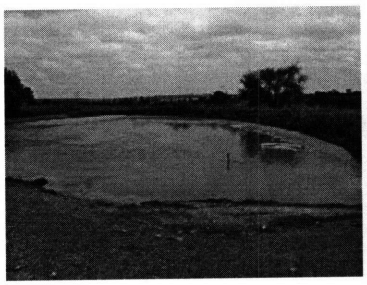
Nestlé's Sustainable Agriculture Initiatives

Efficient management of manure and rainwater

México

Project

Extension and division of a dam it in two different parts, one to collect manure and organic solids, and the other to store rainwater and use them on agriculture lands for forages production in Mr. Guillermo Cuevas farm, who is our fresh milk supplier in Lagos Factory.



Objective of SAIN project

To increase the area of irrigation in agricultural lands (15 Has) diminishing the cost and use of chemical fertilizers, and consequently increasing the daily fresh milk production

Challenges

- To install an irrigation system by dripping and tape to make the use of the water efficient.
- To maintain the capacity of pluvial storage in 4 million cubic meters.
- To apply insulating materials to the dam

Results

	AGRICULTURAL LANDS	CHEMICAL FERTILIZERS USES	ORGANIC NUTIRIENTS	FERTILIZATION COST Mxn	DAILY MILK PRODUCTION
BEFORE	4 Has. Irrigated 11 has without irrigation	7.5 Ton	10%	$18,000.00	600 LITERS
WITH SAIN INITIAITVE	10 Has irrigated 5 Has. Without irrigation	0 Ton.	100%	$0.00	2,300 LITERS

Contact: Juan Jaime Guerrero Cohen
Tel: 52 (474) 742-0050 ext. 6063

Prepared by Nestlé CT Agriculture
Contact: sain@nestle.com

Nestlé
Good Food, Good Life

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