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Securing sustainable spice supply
Investments in the livelihoods of small scale spice farmers

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Preface

Let's face it: development is not a core concern for the private sector. While companies increasingly advocate for sustainable business, in practice this is often merely a marketing tool that does not go far beyond checking on labour conditions and improving technical capacity through on-the-job training; obvious social aspects of doing business.

Is this a bad thing? Should business invest in development? For instance, should companies invest in strengthening the position of farmers by helping them to access capital, like land and finance? For the spice industry the simple answer is yes, they should. Why? Because there is a business case to make.

As came out of this quick study into incentives for small scale spice farmers, growing competition for raw materials enhances the shortening of supply chains and doing direct business with spice farmers. The majority of these farmers are small scale. Buying from small scale farmers requires different buying methods, such as using the local working language (which is usually not English), or the involvement of a whole community in negotiations rather than a single trader. These methods have been used for a long time by local buyers already. From these buyers we can learn that the most successful exporting companies should invest in the development of their farmers. Why? Because those investments act as incentives for farmers to supply to them. By paying a fair price, but also by investing in the empowerment of farmers (relationship building, organizational building, business skills etc.) companies create good business relationships. Trust is one important aspect of this.

The next question then is how should business invest in development? And with whom? Should they work single handedly or should they cooperate closely with other stakeholders in the world economy?

The increasing competition for raw materials will not reverse. On the contrary competition will only get tougher. To date the world's 450 million small scale farmers feed 70% of the global population. As the population is growing, food will only become scarcer. The small scale farmers of today thus need to feed a large part of tomorrow's 9 billion people. At current scale and productivity levels, this is simply not possible. This is of concern not only for business, but for society as a whole. Business investments in relationships, production skills, quality management and advocacy, should therefore go hand-in-hand with public investment in awareness creation, infrastructure, health and education, as well as policies regarding, for instance, access to land, access to services and the role of women. Businesses do not need to pay for all of this. On the other hand, if they want to sustain supply in the longer term, they should definitely consider advocating for the importance of sustainable business with local governments, sector associations and NGOs.

1 Introduction: the economic behaviour of small scale farmers

1.1 Why this study?

Together with the Dutch spice industry the Royal Tropical Institute (KIT) is involved in the IDH trajectory on making spice chains more environmentally, socially and economically sustainable. One of the major issues in spice trade is stable supply. Most spices are supplied by small scale farmers who often live in vulnerable circumstances. Weather conditions, diseases, but also volatile markets and poverty make the supply of spices irregular. In a more negative scenario, however, spice farmers stop supplying altogether. This happens because farmers decide to change to other livelihoods.

In the future, the pressure on farming systems will increase due to a growing world population, but also due to climate change. More food will be needed while available land will become scarcer. Competition for agricultural land will therefore become much fiercer than it is now and so does the competition for raw materials. Eventually the supply of spices will be threatened.

At KIT we believe that in order to contribute to more sustainable spice trade we need to understand and invest in the empowerment of the small scale spice suppliers, meaning that we should not only invest in their supply chain activities but also in the governance of the supply chain. Only by understanding the livelihoods of farmers we can accurately respond and sustain business, both in the short but also in the long run.

In March and April 2011, KIT carried out a desk study into this subject. The overall research question of this study was how to guarantee sustainable supply by small scale spice farmers?

As a starting point, the study looked at literature on economic behaviour of small scale farmers and livelihoods. This document is a review on the livelihoods literature, a strand of literature that studies the strategies poor people apply, based on their livelihood assets, to make a decent living. The review is on economic behaviour of small scale producers in general. The target audience however is the spice sector.

The aim of the study is to enlarge understanding of economic behaviour of small scale spice producers. Understanding such behaviour helps spice buyers to provide producers the right incentives for committing to their chain. The assumption is that once one knows the real needs of small scale farmers, one is better able to act upon it and to sustain business.

In addition to the literature study, spice exporters in Indonesia and Vietnam and a couple of farm organizations were interviewed about their practical experiences of which incentives for small scale farmers work in practice (Appendix 1). Semi structured interview techniques were used (Appendix 2).

As an outcome of the research some general conclusions can be drawn. In reality the livelihoods of farmers differ widely depending on culture, production systems (e.g. naturally grown or domesticated), geo physics etc. and therefore need to be studied in-depth case by case when it comes to actual investments.

In the next chapters the following will be discussed. The remainder of chapter 1 will present the theory of sourcing from small scale farmers in relation to the economic behaviour of small scale farmers. This will be further explained by means of the livelihoods model of DFID. Chapter 2 will then apply the livelihoods framework to the situation of spice farmers in general. The data in this chapter is derived from interviews. Chapter 3, discusses investments by buyers in small scale farmers, and also draws on the interview data. Finally, in chapter 4 the main research question of this study is answered and recommendations of how to secure supply from small scale spice producers are made.

1.2 Sourcing from small scale farmers

In this study we define small scale spice farmers as those farmers that have less than 2 hectares of land under spice production.

Like any other business, sourcing from small scale producers has its pros and cons. These are listed by Vorley et al. (2008).

Table 1. The business case for and against procuring from small-scale producers

For	Against
<ul style="list-style-type: none"> • Smallholders' comparative advantages (premium quality, access to land, etc) • Securing supply in volatile markets, spreading portfolio geographically, reducing risk of undersupply as well as localised pest and disease problems • New business, clients for other products and services (Base of Pyramid) • New technologies available (efficient low-scale processing equipment, information technologies for coordination and lower cost traceability) • Capacity to ramp up or ramp down production without incurring fixed costs (contract farming) • Access to donor assistance • Corporate Responsibility • Community goodwill • Political capital 	<p>Costs and risks in organising supply from dispersed producers:</p> <ul style="list-style-type: none"> • quantity • quality • consistency • safety • traceability • compliance with rising standards • packaging • loyalty and fulfilment of commitments by farmers • negotiation time and costs • political opposition to commercialisation of peasant agriculture

The list shows that there are many challenges in working with smallholders. Issues like quality, quantity and consistency are at stake. For assured supply that responds with requirements, a buyer needs long-term relations with its suppliers which in practice is a major challenge.

1.3 Economic behaviour of small scale producers and livelihoods

Many strategies for building long-term relations between buyers and producers are based on the so-called 'value chain approach'.

A value chain approach studies a particular chain from producer to buyer. It is a useful approach to identify what is needed to make a supply chain more efficient, adding value for all actors involved. For example, a value chain analysis might identify that the major cause of low quality is producers that lack cash to buy fertilizer.

Examples of strategies that can be applied after a value chain analysis identified the problems at producer level are: providing producers with credit to respond to their cash needs, or arranging transport to prevent women producers from leaving their family to bring produce to the collection centre.

The value chain approach does not always explain why the strategy applied does not work out. The strategies applied might seem logical from a value chain perspective - why would a producer sell its sesame to another trader when he received inputs from you and you paid a higher price?

For understanding economic behaviour of small scale producers a 'livelihoods approach' offers a much broader starting point.

The livelihoods approach acknowledges the need to move beyond narrow sector or chain perspectives and places emphasis on seeing the linkages between sectors. It studies the strategies producers apply from a household perspective, which allows for relating choices producers make in one commodity to all other choices a household has to make. Small scale producers often apply a myriad of strategies to make a living and these often influence each other. Only by understanding these relations can you act upon them, e.g. by offering other incentives than price such as access to land, training or investments in schools and health.

1.4 Livelihoods and sustainability

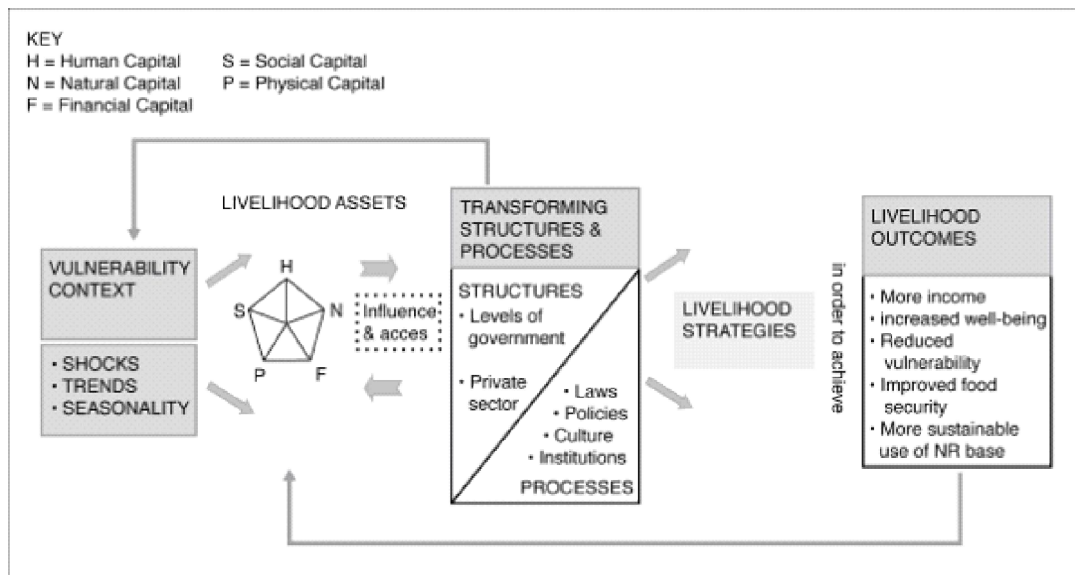
By considering rural people's lives in their totality, the livelihoods approach links with the sustainability concept that considers economic, social and environmental aspects of doing business. Sustainability according to its first formal definition in the Brundland report was: 'sustainable development is development that meets the needs of the present (including the poor) without compromising the ability of future generations to meet their own needs' (United Nations World Commission on Environment and Development, 1987).

The innovative aspect of this statement was the correlation between the three aspects in development of (economic) growth, poverty reduction and environmental limitations for growth. This correlation then formed the basis for the Triple Bottom Line performance of businesses (Elkington, 1994), implying that businesses were responsible not only for its shareholders but for all the stakeholders of a business. As a consequence they needed to report on economic, social and ecological performance of the business, instead of on economical performance only.

1.5 The livelihoods framework

The livelihoods framework helps to understand rural lives in their totality and therefore provides us with useful insights on how to work with small scale producers.

Fig. 1 The livelihoods framework



Source: DFID, 1999

A livelihood comprises the capabilities, assets, and activities required to live. The framework distinguishes between five types of assets (DFID, Sustainable livelihoods guidance sheets, 1999)

- 1 Human capital is the skills, knowledge, experience, ability to labor, and good health of a producer.
- 2 Natural capital includes land, water, biodiversity as well as the services derived from these.
- 3 Financial capital includes savings, credit, remittances, and pensions
- 4 Physical capital is access to transport, shelter, water, energy, and communications.
- 5 Social capital includes networks, groups, mutual understanding and trust producers have with others, shared values, and access to institutions.

It is not only the assets a producer owns that influences his behaviour. It is also the context in which a producer lives. Such a context consists of vulnerabilities, processes and structures. We'll explain them shortly.

Vulnerability encompasses shocks like illnesses, disasters or conflicts but also seasonalities like changing prices and shifting labour opportunities and trends like population growth.

The structures are the institutions that support or constrain a producers' livelihood. We can think of service providers, governmental bodies, rural markets etc.

The processes are the laws and regulations. Such processes can for example give producer rights, or on the contrary limit them because of bureaucracy.

Based on its livelihood and the context a producer applies strategies to reach a desired outcome.

An example of a desired outcome is higher income. However, depending on his or her situation, a producer might also strive for other outcomes that do link to income but not necessarily are: reduced vulnerability, increased well-being, protected rights of access and human dignity.

These outcomes indeed sound obvious; however they do have consequences for building long-term relations. A long-term relationship is not build by merely paying a producer a higher income than other markets offer. Women might have to care for small children during the day. If producing in compliance with the requirements of a buyer does not allow that, they might opt for another job and be satisfied with a lower income.

Following chapters link the different components of the livelihoods framework to economic behaviour of producers in value chains. They show the importance of understanding the livelihood of the producers and the outcomes the producer is striving for.

1.6 The assets of a small scale producer.

1.6.1 Human Capital

Human capital is summarized as the skills, knowledge, experience, ability to labour, and good health of a producer. Human capital is of big influence on the economic activities a person engages in. Is a producer a producer because it is his best option, or because his skills do not mach the requirements of other jobs?

An often heard complaint of buyers is the shortcoming of quality and the consistency of the produce they source. Causes listed are bad inputs and production practices. Support to skills and knowledge development (training, education) can support enhancing quality.

Also other elements of human capital influence the quality and quantity of produce. Agriculture is a risky sector, the operation of sophisticated machinery and the intensive use of chemicals (often without appropriate safety and health measures, information and training) leads to numerous accidents (FAO, 2008, FAO Policy Learning Platform). Healthy, strong producers that work in a safe area will be better able to respond to a buyer's requirements.

It is important to realize that not all producers are willing or able to accumulate their human capital. Sometimes social structures limit people in doing so. Think, for example, of women that are not allowed to engage in training. Understanding the constraints producers face in accessing opportunities to enhance their human capital is of use to buyers willing to support human capital building.

The level of human capital influences the other livelihood assets. Producers that are illiterate will face problems in availing of finance.

Social capital can be of positive influence to the level of human capital. A concrete example is being member of a network that supports information sharing or learning.

1.6.2 Natural capital

Natural capital is the natural resource stocks to which a producer has access to. Resources and services are derived from this natural capital. Examples of natural capital are land, forests, water, trees etc. Examples of services from natural resources are waste assimilation, storm protection and erosion protection.

Most small scale producers are highly dependent on the natural resources they have access to, and the amount of natural capital is determining his economic behaviour. A producer that foresees times of scarcity due to water shortage will not be willing to sell its food crops

The amount of natural capital a producer has is important for the quantity and quality of his produce. The more vulnerable his natural resources are, the more uncertain the quality and quantity of his production. Enhancement of natural capital of a producer can improve this. Examples are irrigation that makes producers less dependent on rain, and sheltered fields preventing damage of fruit trees in stormy weathers.

It is important to note that often it is not the absence or lack of natural resources that constrain producers; it is the barriers to access that limit them. An example of such barrier is a land allocation system. Increasingly there are claims on land. A producer that is willing to produce but does not have their own land risks their income source and might opt for another more secure activity.

1.6.3 *Physical capital*

DFID distinguishes between two types of physical capital: infrastructure (the physical environment) and producer goods; the tools and equipment people use. Examples of infrastructure are transport, buildings, water supply, energy and access to information.

Physical capital is of influence on the quantity and quality a producer is able to produce. Moreover it is important for the choices a producer makes with regard to selling. In cases transport is costly it might be more interesting to a producer to sell for a low price to a trader that comes to the farm gate then travel to a nearby collection point and sell for a better price.

Many of the tools and equipment producers' use are adapted to his physical environment. In absence of electricity or in areas where oil is high priced producers will be reluctant to invest in modern technology

Presence of physical infrastructure is crucial for the other assets. For Human capital for example: attending trainings in another village is difficult for people living in isolated areas. And access to for example water is of influence on health of a producer

Access to physical capital is also very much related to social capital. In case telecommunication infrastructure is weak a buyer can for example make use of the informal networks in the village, to spread messages. It also means that social capital can also constrain physical capital; providing a village with one tractor does not mean that each farmer has access to the tractor. There are plenty of examples that show how cultural and social constructs prevented people from using certain equipment.

1.6.4 *Social capital*

Social capital is defined as the social resources a person can draw upon. It is a somewhat abstract concept. It is developed through relationships of trust and reciprocity, through membership of groups and through being connected with other people. But the relationship goes two ways: social capital is developed through but also supports relations of trust and reciprocity, and it supports cooperation between individuals.

Social capital is of high importance to small scale producers. In many of his/her livelihood strategies a producer is dependent on relations. Often it is through its relationships that a producer is able to access finance or to access markets. In times of hardship the social network of a producer functions as safety-net, in terms of money, in terms of care and in terms of connections.

Social capital is highly important in organization. Trust and reciprocity reduce the costs of cooperation (Bijman, 2010). Why is organization so important for a producers' livelihood? For

producers accessing markets, scale often is a problem. Sourcing from many different small scale producers is too costly for buyers. Organization is a solution to this problem.

Furthermore social capital is important in building relationships with buyers. Especially in situations where formal legislation is lacking and formal contracts do not have legitimacy, trust relations are important.

It must be noted that social capital can also work counterproductive. Groups with strong internal social capital risk missing innovations outside their group. Strong groups might exclude people. Strict norms and values can also prevent people from taking strategies that would support improvement of a livelihood. And social capital might entail the obligation to offer assistance to relations, also at times when it is not welcome.

Social capital can be supportive to accumulation of the other capitals. It is often through his/her relationships that a producer has access to finance, to inputs, to services etc. Social capital facilitates the efficiency of relations and in this way enables producers to save more.

Having a person in the family that has a motor helps a producer to overcome limitations of physical infrastructure. Social networks facilitate innovation and information diffusion (DFID) and in this way stimulate the accumulation of human capital.

1.6.5 Financial capital

Financial capital is the financial resources people achieve production and consumption with. Financial capital can be in stock (savings) and in flows (incomes, remittances, pensions). Financial capital is usually transferred in to one of the other capitals. It is used to buy food, to buy equipment and to make investments.

Financial capital heavily influences the overall livelihood strategies a producer takes. Many strategies are taken because of need of cash money. Examples are the selling of produce right after harvest, instead of waiting till times

Financial capital is often transferred into the other capitals.

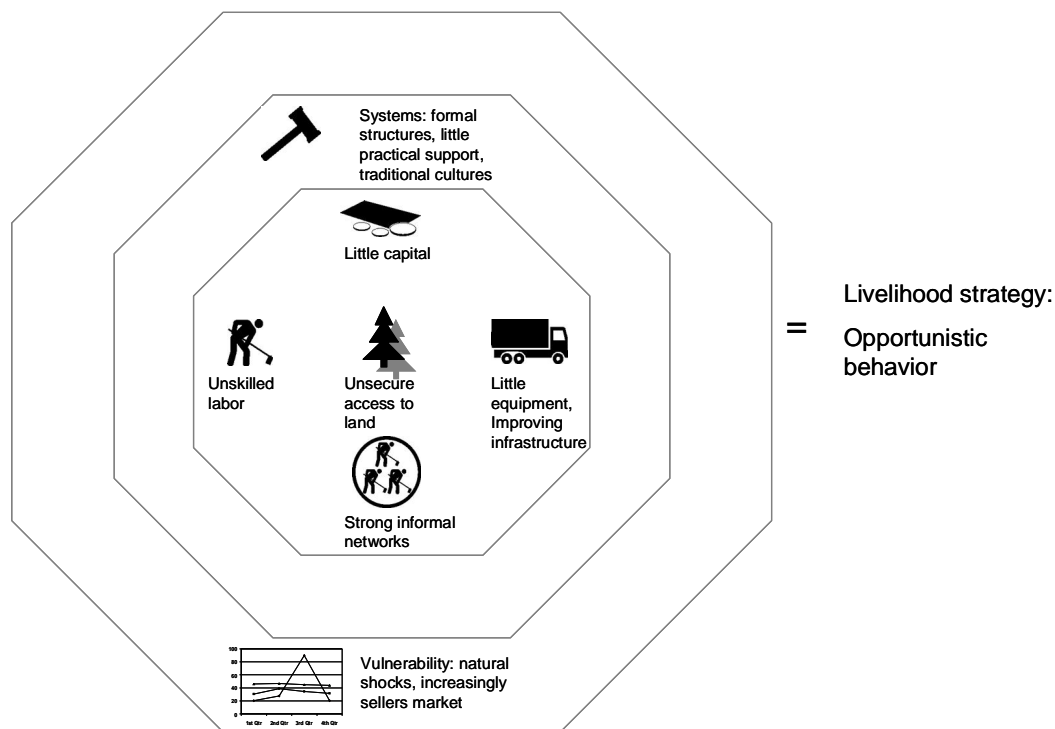
1.7 Vulnerability Context

The context in which producers live is of enormous influence on their asset level and consequently livelihood strategies. The vulnerability context includes trends in governance, economics, demographics; and shock and seasonalities. The latter are of higher influence to a producer in a value chain. Risks for natural shocks like droughts or volcano eruptions, human shocks like conflict limit the producer to take on long-term livelihood strategies. Seasonalities can constrain producers in complying with contracts. Health issues, price changes or disappointing production can oblige a producer to sell of its produce to other buyers for getting cash. In some cases seasonalities support producers to work as labourers off-farm or even to migrate.

2 The livelihoods of spice farmers

From the business cases we looked at for this study the general conclusion is that farmers growing spices are relatively poor, have small scale farms, have few assets, receive hardly any support from governments and live under vulnerable conditions. This is in spite of rising food prices. These farmers participate in unstable markets and often they live in unstable natural environments. Spices are grown in mixed farming systems and farm resources are allocated as a function of insecurity and uncertainty. These diversified farm operations allow farmers to respond flexibly to unexpected events, thus securing the survival of their households. Spice differ therefore tremendously in importance from farm to farm and from year to year. We have to understand farmers' opportunistic behaviour from the perspective of their survival in uncertain physical, economic and socio-political environments.

Fig. 2 The livelihoods of spice farmers



Obviously, doing business with people who live under these circumstance is more risky than doing business with people who operate under more stable conditions, benefit from public support or have some sort of safety net.

Below the general characteristics are explained.

2.1 Small scale spice farms dominated by men (the small scale spice farmer)

A majority of approximately 80% of all farmers growing spices represent small farms. This means in the case of spices that they do not have access to more than one or two hectares of land which is mainly used for mixed farming systems. For example, some cardamom producers in Indonesia also produce coffee and glove producers on Madagascar also produce a variety of food crops.

Of these farmers we need to make a difference between farmers who own land, farmers who collect spices from other peoples' land, such as in the case of cassia in Indonesia, and laborers, who are hired by farmers. The last are usually the poorest actors in a chain and also the most difficult to collaborate with because they do not own any assets (except for human assets). We therefore focus here on the farmers who are responsible for selling the commodity after harvest.

Both men and women farmers are involved in spice production. Gender of spice farmers is influenced by different factors such as the workload that is involved in the production of the spice but also religion, ethics and traditions. In some cultures men are more involved in agricultural production, whereas in other cultures women do all the work. It also depends on the activity in the production process. Women are often responsible for collecting spices, in sorting and in drying. Men, on the other hand, are active in planting and harvesting. In many Asian countries, including Indonesia and Vietnam, women are in charge of doing business. Formally, however, businesses are registered in the name of the man. Also when it comes to management of medium and larger businesses, most roles are filled in by men, for instance in the management of a cooperation or association. Often men are in a more stable position than women because they are formally entitled to own capital, which is usually not the case for women. Men are therefore typically much more economically resilient than women.

2.2 Spice farming as a business (human capital)

The human capital of spice farmers is very limited. In some regions in the world, such as in many African countries, the labour force suffers from severe health issues. Take for instance the case of Mozambique where a large part of the population suffers from HIV-AIDS. In these areas the access to labour is poor.

In places where labour is available, this usually is uneducated labour. Many farmers are still illiterate, particularly in remote areas. Secondary educated farmers are generally scarce. This is first of all because of the costs of education, but also because some farmers believe that education is not required for running a farm business. As a consequence pepper farmers who want their siblings to continue their farm business do not send their children to school.

In high value, global supply chains farmers are often trained in good agricultural practices and quality management. Hardly anyone is trained in running a spice farm as a business though and also most spice farmers themselves do not think of spice production as a priority business. Consequently farms stay small and farmers remain generally poor.

Farmers growing spices allocate their resources, including labour, over all crops they grow or livestock they keep. Labour for spice production has to compete with labour for other activities. It depends on the strategy of the farmer how much labour is allocated to spice production. This strategy is a function of household's objectives, e.g. achieving food security or obtaining cash income, but is also strongly influenced by many unpredictable external factors. As farmers have to manage this diversity of objectives and influences, it is sometimes difficult to predict how much labour will be dedicated to spice production. Understanding household realities is therefore a prerequisite for achieving sustainable spice production standards.

2.3 Without land no secure supply (natural capital)

For any farmer and certainly also for spice farmers, access to suitable land is a crucial production factor for livelihood and economic resilience. It happens, for instance currently in Indonesia to palm oil plantations, that farmers sell their land because they need cash. These farmers are in risk of ending up in more poverty. Next to that there is biodiversity loss,

because most spice farmers grow a mixture of crops rather than one single spice while plantations only grow one crop.

Different modalities of land entitlement and access to natural resources exist in the spice sector. Sometimes farmers own their own land and trees or plants, but more often they farm land that is owned by the community, government or private owners, for instance in the highlands of Vietnam. All land in Vietnam is government owned, but since ancient times the Yao people have grown Cassia here and therefore it is commonly accepted that they collect and sell the cassia. A similar situation is usually the case for spices that grow naturally in the wild, such as cardamom or nutmeg.

Cassia in Indonesia is planted under a different system. The farmers in Kerinci do not own the land or trees. They collect the cassia from other people's land, people who are not interested in selling it. In other words they are landless people whose economic activity is collection. As a consequence they depend much on other peoples' assets and therefore their economic position is highly vulnerable and in the long run unsustainable because the owners of the land do not take care of the cassia trees and do not replant the trees after harvest. In a few decades it is generally believed that cassia will therefore be gone.

Pepper farmers in Indonesia own land, however over the years they have built up considerable debts owed to intermediate traders. They have taken informal loans which are usually extremely expensive because of their high interest rates. The land is therefore theoretically no longer the asset of the farmers but belongs to the traders. The farmers' position in this case is therefore vulnerable and so is their role as partner in trade.

In all the business cases that were studied it became clear that stable access to natural resources (land, trees and plants) is crucial for sustainable trade.

2.4 Access to roads, information, small equipment (physical capital)

Spice farming generally requires basic equipment. Only when it comes to processing and marketing more capital intensive equipment is required. Processing is usually done by larger traders, exporters or the manufacturing food industries.

Access to roads and infrastructure very much depends on the location of farmers. Some farmers are nearby urban areas where physical conditions such as road, transportation means and electricity is better accessible. Others are in more rural areas where this is harder to get. These farmers usually bear higher costs, because of transportation, or receive lower prices because they sell to intermediate traders.

Physical conditions are slowly improving anywhere around the world. Increasingly roads are constructed, telecommunication systems are expanding and water and electricity supply is arranged. The impact of improved physical conditions can be enormous. For instance, the cassia producers in rural Vietnam gained access to roads only 10 years ago. Since then their livelihoods changed considerably, which is visible in changes in clothing, the increased number of people speaking Vietnamese and the change from barter trade to a cash economy.

When it comes to adding value to spice trade up the value chain, such as is about to happen with cassia in Indonesia, access to and investments in physical assets at farm level is becoming more important.

2.5 Strong informal organizational structures (social capital)

The spice trade is one of the oldest trade industries in the world. Most spices are produced by the same farm families as they have been for centuries. Many of these families, particularly in rural areas, only recently gained access to the wider world, while other spice producing

communes are still living in isolation. It is particularly in these settings where strong informal organizational structures, such as family ties but also hierarchical structures based on wealth, family roots or rank, exist. In practice it's often the village chief who decides whether or not to sell to a trader.

Relations between small scale farmers and collectors and intermediate traders usually exist for several years. These relationships are tight and for an outsider difficult to interfere in. The reason can be simply language, for instance in Vietnam where ethnic minorities do not always speak Vietnamese which is needed for doing trade with wholesalers in the low-land areas. The reason can also be financial, such as in Indonesia where pepper traders borrowed large sums of money to pepper producers due to which they can not sell their products to somebody else anymore.

Next to informal relations, there are formal structures that have to be taken into account. In the eighties in Vietnam, for instance, farmers were organized by the government in producer cooperatives. Even though the organizations are not very popular amongst farmers foreign traders usually can not ignore them because of the centralized political regime in Vietnam.

Generally, spice producer organizations, both formal and informal, are weakly managed and lack finance. This is caused by little education, language but also by lack of communication means in order to get updated market information.

2.6 Chain liquidity (financial capital)

The access to capital differs per spice farmer. For instance, in the pepper sector in Indonesia spice farmers do have cash. This makes them able to stock pepper until prices are acceptable. Other spice farmers, such as the nutmeg or cassia farmers, are in need of cash and sell their products straight after harvest time and sometimes even before when the product is not yet ripe.

Mostly small scale farmers need their cash for buying primary needs, such as food, clothing and other house utensils. Capital is rarely used for making business investments and this means that spice farmers have very little collateral and access to more finance. .

Access to commercial agricultural finance is generally poor for spice farmers. It is often expensive due to the high transaction costs of bureaucratic procedures and high rents. Also the branches in rural areas are scarce.

The finance that is available usually comes from buyers within the chain. The limitation of this mode of financing is that it relies on trust and is not accessible to anyone, anywhere at all times. Secondly, the amounts are small and there is a risk of dependency and exploitation.

Exploitation is also happening in Indonesia where pepper farmers have high debts with intermediate traders. They are no longer independent to sell their produce to the market they want to and as such their livelihoods are vulnerable.

2.7 Moving towards a sellers market (systems and vulnerability context)

Spices grow in tropical regions. Many of these regions are by definition vulnerable in terms of natural shocks and seasonal weather fluctuations. In Indonesia there are many earthquakes that sometimes cause tsunamis and Vietnam suffers from typhoons and floods every year. Also the monsoon (raining season) is unpredictable.

Market wise, however, after a long period of decreasing prices, the context is slowly turning into an opportunity. Since the market price of many spices is on its return. The price of cloves and ginger, for instance, are very good recently. Also, it is expected that the price of cassia

will soon go up as a result of diminishing stocks. Other spices are influenced by more volatile markets, such as pepper.

Looking at the longer term macro effects it is expected that the demand for food and spices will grow further. The market may eventually become a sellers market for all spices if production does not drastically increase. Now already the cassia market in Vietnam is a sellers market, with a limited number of producers and many buyers. The cassia market in Indonesia, on the other hand, is still a buyers market. In this respect, the livelihoods of cassia farmers in Indonesia are worse than in Vietnam.

When managed well the market potential can become a strong asset for farmers; more demand logically creates more bargaining power. All too often, however, because of weak organization and lack of market knowledge, the farmers do not yet gain from these trends and the margins go to other players in the supply chain.

In order to give equal power to small scale farmers, the chain needs to be more institutionalized. In many chains however there were until shortly hardly any quality and sustainability standards, policies are still limited or not applied, the access to extension services and input supply is little and contracts in which demand is secured are limited. Only since the requirements for importing spices to the EU and the US have become more strict, spice trade becomes slowly more institutionalized; clear market requirements also creates measures to grade spice products and negotiate the price of a product. Stricter requirements also demand improved products which again require that farmers are trained, obtain certificates etc.

Most of these support services are now embedded in the supply chain and are hardly offered by independent, competitive service suppliers. This is ok for the time being, but only accessible for producers that are already part of the supply chain, which creates a certain dependency. Besides, they cost a lot of money for the lead firm in the chain.

In the longer run it would be favourable for cost and accessibility reasons, if other service providers could deliver these services. At the moment however public research institutes are often poorly connected to producer demands for technology and other knowledge products. This also applies to public extension services, which have been downsized and for instance in Africa frequently been privatized during the economic reforms of the last decades. This raises the question what mechanisms should be deployed to effectively inform farmers of product standards. How do farmers and other chain stakeholders cooperate to achieve production and product innovations?

2.8 Spice farmers' economic behaviour

What farmers want the most for their farm business is a guaranteed market. However, as farmers do not trust buyers, because buyers do not always stick to their promises to buy for instance because prices have gone up, farmers show opportunistic economic behaviour. As a consequence they sell their products to the buyer that offers the highest price. This assumed behaviour makes buyers say that farmers can not be trusted. But from a small scale farmers' perspective this behaviour makes sense and responds to prevailing interest and conditions. The question thus is whether their behaviour can really be called opportunistic? Or is it merely strategic?

The reality is that because of the vulnerable and fluctuating conditions under which farmers live they can only take short-term decisions. They do not have a choice, because every day they have to respond to unpredictable events and the future is hard to predict. The unstable environment in which these farmers have to survive causes that long-term planning makes no economic sense. This is clever business thinking, but the consequence is that farmers do neither make long term investments in their business. Investments are too risky while insurance systems to cover risks are absent or outrageously expensive. In addition farmers

generally lack the capital for making investments. They do not get long term loans from commercial banks and moral pressure by network members (family and other relatives) in need for money reduces their private capital. In other words small scale spice farmers are often trapped in a deadlock situation. Even if they would like their business to grow and to step out of poverty, their situation in all aspects of the word (knowledge, community, organization, position in the chain, capital, support from public organisations etc.) does not let them.

3 Investments in the livelihoods of spice farmers

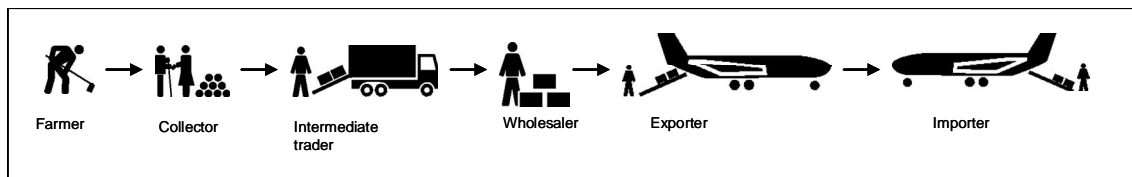
All spice buyers do somehow invest in livelihoods of farmers. Yet, which buyer invests and what he invests, strongly depends on the structure of the supply chain.

3.1 The investor

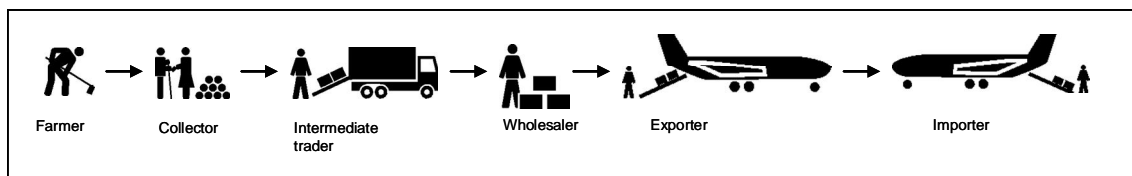
We can roughly distinguish between three types of spice supply chains. Type 1 is characterized by low value supply and weak, informal relations between many actors. Spices are bought on the spot and margins for farmers are low. Generally little investment is made in farm production. Sometimes farmers get crop finance or traders get trade finance from their buyers in the chain, but as was mentioned already above this way of finance is not very efficient. These types of chains are more common in bulk markets and in spice commodities where scarcity is no issue. Nowadays, because of strict quality and traceability regulations, they target low value markets, usually local and regional markets, such as local pepper and chilli chains.

Fig. 3 Supply chain types

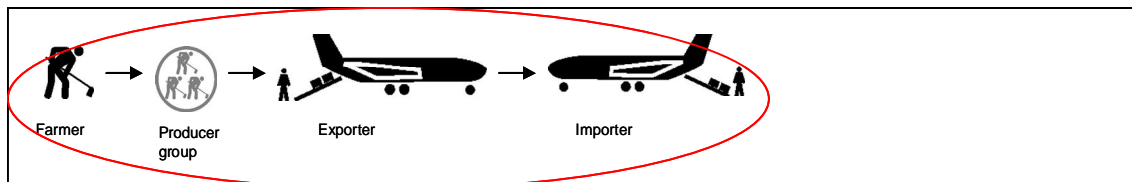
Type 1. Conventional low value supply chain



Type 2. Modern high quality export supply chain



Type 3. Neo integrated high quality supply chain



Type 2 is the modern high quality export chain in which relations between exporter and farmer/collectors are strong. In these chains exporters are much closer to the farmer. They buy directly from them or, particularly if distances are larger, they closely together with familiar traders. Exporters in high value chains invest somehow in the livelihoods of farmers, such as the cassia chain in Vietnam but also the high value spice chains in Indonesia. They do this because they believe that this needed to link the farmers to their business. Importers are not very much involved in this. They do communicate their quality requirements, but do not directly deal with farmers and do not invest.

Only in type 3, importers in close collaboration with exporters, buy directly from organized farmers and as such they directly invest in their livelihoods. Only one of the cases we looked into has chosen to apply this chain structure. It is however known that since transparency and control have become a prerequisite in doing trade, investing in the origin of supply chains has become a wider trend. Interesting and theoretically cost saving, but it also requires a whole new way of thinking for most importing companies.

3.2 Investments in production skills and quality management

The market shows that more and more exporters are now moving from type 1 supply chains to type 2 supply chains, meaning that they seek closer relationships with their buyers. This is successful for spices that have buyers markets, but less so in sellers markets. In these markets farmers prefer independency, for instance in the current pepper market of Vietnam in which there is more demand than supply

The major investments of the interviewed exporters were in training. In order to reach a certain level of quality, farmers need to improve their farm practices, including pre and post harvesting and quality management. The companies all invested in this type of training and quality control. They usually provide training on the job, they pay frequent visits to willing farmers and join their meetings. Also they inform farmers about farm innovations, such as new composting practicing, irrigation and the pro and cons of switching to other crops such as palm oil in Indonesia and rubber in Vietnam.

Whenever this is possible companies also audit their suppliers on working conditions.

Some exporting companies also invested in CSR (Corporate Social Responsibilities) activities, such as education and health. These seem to happen out of social compassion, but it does create trust and strengthens relationships.

Most companies that were interviewed were also putting efforts in advocacy. They try to push local governments and spice associations to invest in agriculture, sometimes help farmers in accessing land and inputs, and try to put sustainability issues and longer term thinking on the national policy agendas.

3.3 Little investments in land, business skills and organizational strengthening

What companies invest less in are the less visible livelihoods assets. They hardly invest in the decision making power of small scale farmers. For instance the decision making power of women in spice chains. Gender is generally overlooked as an important sustainability factor. The reason that was brought up in interviews was that culturally it is not accepted that women attend training, own businesses or fill up management positions.

The companies did not invest in access to land other than advocacy, for instance through helping them accessing capital or even investing in land themselves. This is remarkable because this is the starting point of farming and the most important production factor in order

to secure supply. In type 3 supply chain relations, which were not (yet) present in this study¹, backward investments in the chain do take place, e.g. through investing in an own plantation and, on top of that, sourcing from small scale outgrowers. This is a model that is currently used by a chilli pepper farm in Mozambique that was set up with foreign investment money and support from the Dutch ministry of Economic Affairs.

Also, the empowerment of farmers through improved business skills and management skills of farmers and their organizations do not receive much support. Companies hardly invest in organization building and rely on existing mostly informal structures, such as families, neighbour groups or community groups. This is partly due to the fact that organizations are weak and difficult to approach. Not investing in this sort of capital keeps farmers dependent and without decision making power, which in the long run with growing competition and need for higher capacity will become a constraint.

Moreover, in terms of human assets, farmers are generally not helped in access to health services and primary or even secondary education. Also this keeps farmers vulnerable and consequently weak business partners.

Finally, in terms of financial assets, buyers are risk averse. They usually neither give farmers credits, nor other production inputs. Particularly in volatile markets, such as the pepper market, farmers are not loyal to their buyers thus financing them would be too risky for buying companies.

¹ One of the interviewed companies has the ambition to set up a fully integrated chain, but this is still in and infant stage.

4 Conclusion: is enough done to secure spice supply?

4.1 Yes, in the short run

Finally, do companies invest enough in the livelihoods of spice farmers in order to secure supply? The answer depends on the time horizon of a business.

For the short run, from a business perspective companies do enough to secure supply. Why? For the simple reason that there is no business case for doing more. Many spices have volatile markets in which side selling risks are high; the so called traditional low value supply chain type. In this type small farmers choose a higher price above long term relationships, training and other incentives. Also the chains are long and in transparent which makes that buyers usually don't know their farmers. Thus there is no relationship and no need to set this relationship up.

In higher risk supply chains, however, there is already a trend to invest in the supplier. Increasingly companies, exporters and sometimes even importers, want to buy directly from the farm and as a result supply chains become shorter and new partnerships need to be built. This goes from simple contracting, to preferred supplier relationship building, to taking shares in agri businesses.

The scarcer the spice is, the higher the value, and the more a company needs to invest in order to commit farmers to their business. A business case has been built with true business value. It is clear from the farmers perspective that if supply needs to be secured the company needs to invest first of all in a good price, but secondly also in development matters, such as organizational strengthening, health and, for securing future supply, in education. Also the buyer will gain from this, because producers with more assets are better able to deal with uncertainties, to take long-term livelihood strategies and therefore to engage in long term trading relationships.

4.2 No, on the long run

In the long run the expectation is that the scarcity of spices will increase further and thus, based on the above theory, so eventually will investments in the livelihoods of spice farmers. The question is however whether companies will take action in time. The risk of being too late is serious. It is clear that the small farmers of today are not able to feed the population of tomorrow and it is clear that land will become scarce and that competition between food crops will become intense.

Solving these macro economic issues is not only the responsibility of business. It is a much wider social problem which can not be carried by companies alone. Governments and civil society need to be involved. They need to invest in the context of business, in reliable systems and social wellbeing of farmers.

4.3 What do spice farmers need? In what stage?

What investments do farmers need in order to supply to your business? All participants in this study agreed that farmers, above all, want to have a good price for their products. In reality, however, this means the highest net returns. This is important to realize, as price alone, for instance for high quality certified products in itself is not an incentive for farmers. In addition to net returns, farmers want direct payments because most farmers are short in cash and only cash can secure food for farm households. Next to a good price they want to have access to a reliable market. They need to be sure that they can sell their products after harvesting.

Table 2. Incentives for farmers

<i>Incentives</i>
1. Increased net returns
2. Access to reliable markets
3. Direct payments / Access to finance
4. Access to technical knowledge (increased productivity)
5. Access to market and product information
6. Access to affordable high quality inputs
7. Advocacy at local political level for local support
8. Organizational strengthening (independency)
9. Decision making power / influence (shareholdership)
10. (Health services and education)

When directly dealing with a farmer the above conditions need to be met first. Most farmers however do not trust traders, based on past experiences which have not always been good. Therefore trust needs to be built up. This takes at least a couple of seasons, but can be sped up if buyers also invest in other needs than high returns, direct payments and access to markets, namely in field visits, technical skills training, interactive meetings, and transparency in the chain through sharing market information.

When it comes to long term partnerships in vertically integrated supply chains, investments in decision making power through organizational building, access to services and credits, advocacy and capital investments are also needed.

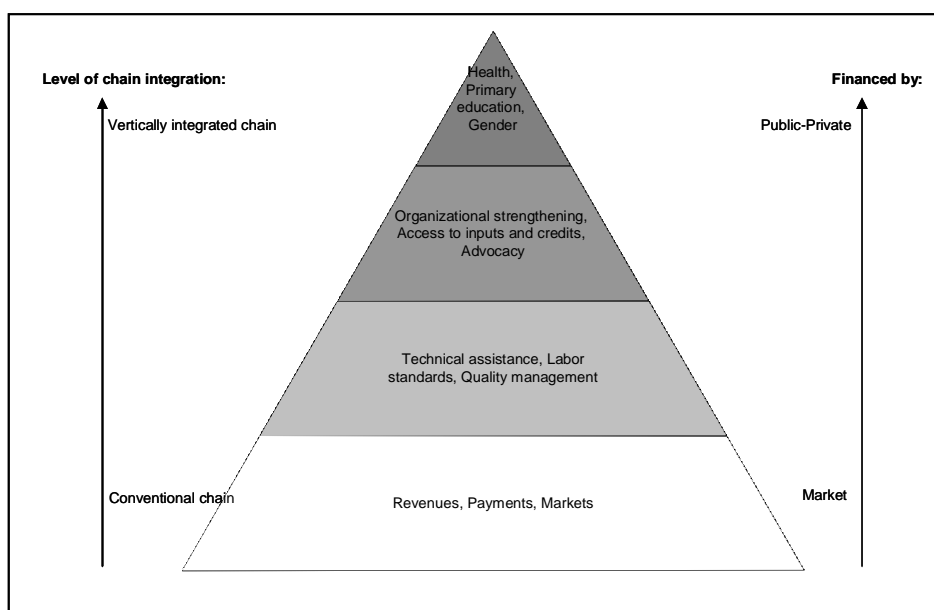
Additional investments, in collaboration with other stakeholders, in non-business activities such as health services, insurances and schools as part of CSR activities add to the level of trust, but these come last.

4.4 Sustainable spice investments pyramid

From this study we have learned that there is a ranking system for livelihoods investments when sourcing from smallholders.

The ranking system can be visualized through a pyramid, inspired by the Maslow pyramid (1943). On the bottom of the pyramid there is conventional business where only revenues, access to markets and cash count. A bit further up the pyramid there is modern commodity business in which buyers need high quality and compliance with ILO labour standards. They thus provide technical assistance and quality and labour standard systems. When chains are more integrated, for the reason of securing supply, companies also need to invest in business capabilities of its chain partner, its financial liquidity and thus in access to finance and in assets such as land. Only when business is extremely risky, for instance because companies are accused of women abuse or child labour, do companies also invest in non-commercial sustainability aspects. This is usually however merely part of CSR activities.

Fig. 4 Sustainable spice investments pyramid



Companies usually do not fund the whole pyramid. Increasingly public funding is looked for in setting up sustainable supply chains, e.g. from Western ministries, embassies and NGOs. Another axis could thus be added to the model, namely the finance mode. The bottom is to a great extent financed privately, while the higher to the top where investments in development at a more macro level is concerned, the more public funding and support is involved.

4.5 Finally: implications for a sustainability standard

What are the implications of this study for a sustainability standard for spices? It is clear that for the spice sector to become sustainable in the broader sense of the word that more investments are needed than simply doing responsible business or paying slightly higher than average prices. If the spice sector wants to have access to supply also investments in the livelihoods of farmers, including in business skills development, education, health, enabling environment etc. are needed. Business is not solely responsible for this. However, businesses should take the lead in it. If they want to sustain their business, it is advisable to seek support for investing in the livelihoods of 'their' suppliers. They can contact and discuss the needs of the farmers with government agencies and local sector organizations. Also they can help farmers with applying for credits and with linking up with NGOs. It is therefore recommended to include in the standardization of the spice sector issues like 'companies support to farmers for improving their livelihoods'. Depending on the spice and local context business themselves can decide what this means in reality for their supply chains.

Appendix 1 Questionnaire

1. General information

- 1.1 In what industry are you active?
- 1.2 What type of agricultural raw materials do you source?
- 1.3 What is the origin of these raw materials?
- 1.4 What economical entity do you source from? Warehouse, producer organization, local trader, individual contracts, cooperative?
- 1.5 What type of farmers produce your raw materials (small, medium, large)? If more types specify % per type.
- 1.6 Are farmers mostly male, female or mixed?

2. Economic behaviour

- 2.1 Do 'your' farmers usually supply the contracted volume?
- 2.2 If not, what is the % of contract failure?
- 2.3 What are the reasons behind contract failure?

3. What measures are taken to commit small scale farmers to your business?

Do you:

- 3.1 Offer price incentives? Describe what kind.....
- 3.2 Offer non-price incentives: training, inputs/services, investments, CSR, financing?
- 3.3 Offer power relations measures: transparency on prices, quality management systems, markets?
- 3.4 Make applied contracts: including reciprocal responsibility in case of volatile markets/prices, exclusivity clauses, other clauses?
- 3.5 Practice due diligence on small scale farmer(s) (groups)?
- 3.6 Put efforts in supplier relationship building: through extra visits, online communication etc?
- 3.7 Other measures?
- 3.8 What is the impact of the measures taken by you in % less contract failures than before these measures were taken?

4. Livelihoods

4.1 *What are the production assets of 'your' farmers?*

- 4.1.1 Natural capital? E.g. access to land, water, food
- 4.1.2 Human capital? E.g. access to family labour, hired labour, skilled labour.
- 4.1.3 Physical capital? E.g. access to machines, transportation means, farm inputs.
- 4.1.4 Financial capital? E.g. income out of other business, capital, credits
- 4.1.5 Social capital? E.g. member of (women) producer groups, cooperatives, associations.

4.2 *How vulnerable are their livelihoods (vulnerability context)?*

- 4.2.1 Do they frequently suffer from nature shocks?
- 4.2.2 Diseases?
- 4.2.3 Seasonality?

4.3 *Do they have access to sustainable markets?*

- 4.3.1 Is there a stable/growing demand for their supply?
- 4.3.2 Is there a stable/increasing price?

4.4 *How would you describe their enabling environment?*

- 4.4.1 Do they have access to business services (input suppliers, banks)?
- 4.4.2 Are support organizations available e.g. NGOs, governmental organizations?
- 4.4.3 Availability of supporting policies?
- 4.4.4 Supportive or obstructive business culture (think about their ethnical position, gender etc.)?

5. Conclusion

5.1 Could more information on livelihoods help you in making your supply chains more sustainable?

5.2 If yes, how could this help? E.g. different incentives, support?

Interviews were held by Marije Boomsma and Evert-Jan Verschuren with:

Indonesia:

- Cassia Coop Patrick Barthelemy
- Q-Spicing Robert van Buchem
- Unispices Nanto Prasetyo
- Lampung and
 Bangka Belitung
 Island Researchers, local
 government, Kelompok Tani (farmer organisation)

Vietnam:

- Nedspice Bin van Tri
- Pac Basin Ptshp Mark Barnett