

MARKET APPROACHES THAT WORK FOR DEVELOPMENT

HOW THE PRIVATE SECTOR CAN CONTRIBUTE TO POVERTY REDUCTION

BY URS HEIERLI



Schweizerische Eidgenossenschaft
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and Cooperation SDC



ABOUT THIS PUBLICATION

Market approaches that work for development – How the private sector can contribute to poverty reduction' is part of the 'Poverty alleviation as a business' series launched with the original study of the same name, undertaken by Urs Heierli in 2000.

Following the original study, seven case studies were undertaken in stages between 2004 and 2008, aiming to involve the private sector in development cooperation and to understand better what works and what not. This volume draws lessons and conclusions from those seven case studies.

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Market approaches to development combine the power of the private sector with the social competence of NGOs and governments and improve the delivery systems for aid. Seven case studies are presented in this study and are complemented by many theoretical and practical conclusions.



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ACRONYMS, ABBREVIATIONS AND GLOSSARY

4C	COMMON CODE FOR THE COFFEE COMMUNITY
AAA	SUSTAINABLE QUALITY PROGRAMME OF NESPRESSO, A COFFEE BRAND
AMUL	BRAND OF GUJARAT COOPERATIVE MILK MARKETING FEDERATION (GCMMF), ORIGINALLY THE ANAND MILK UNION LIMITED (AMUL)
BADC	BANGLADESH AGRICULTURAL DEVELOPMENT CORPORATION
BDS	BUSINESS DEVELOPMENT SERVICES
BMZ	MINISTRY FOR DEVELOPMENT COOPERATION (GERMANY)
BOP	BOTTOM OF THE PYRAMID, ALSO KNOWN AS BASE OF THE PYRAMID
BTK	BULL'S TRENCH KILN
CDM	CLEAN DEVELOPMENT MECHANISM
CEMEX	A CEMENT COMPANY, MEXICO
CIAT	INTERNATIONAL CENTER FOR TROPICAL AGRICULTURE
CO2	CARBON DIOXIDE CO2
CRC	CAMBODIAN RED CROSS
CSR	CORPORATE SOCIAL RESPONSIBILITY
DPHE	DEPARTMENT OF PUBLIC HEALTH ENGINEERING
ECOM	ECOM AGROINDUSTRIAL CORPORATION
EUREPGAP	GOOD AGRICULTURAL PRACTICES
GFATM	GLOBAL FUND TO FIGHT AIDS, TB AND MALARIA
GTZ	AN INTERNATIONAL COOPERATION ENTERPRISE FOR SUSTAINABLE DEVELOPMENT (GERMANY)
HLL	HINDUSTAN LEVER LIMITED, NOW KNOWN AS HUL
HUL	HINDUSTAN UNILEVER LIMITED
ICICI	AN INDIAN BANK
IDE	INTERNATIONAL DEVELOPMENT ENTERPRISES
IFC	INTERNATIONAL FINANCE CORPORATION
ITC	AN INDIAN TRADING COMPANY, OPERATOR OF THE E-CHOUPAL MARKET INFORMATION SYSTEM FOR SMALL FARMERS
ITN	INSECTICIDE-TREATED MOSQUITO NET
ITU	INTERNATIONAL TELECOMMUNICATION UNION
LED	LIGHT-EMITTING DIODE
LLIN	LONG-LASTING IMPREGNATED NET, ALSO KNOWN AS LONG-LASTING INSECTICIDAL NET
MEDA	MENNONITE ECONOMIC DEVELOPMENT ASSOCIATES
MDG	MILLENNIUM DEVELOPMENT GOAL
MIP	MANUAL IRRIGATION PROJECT
MMW4P	MAKING MARKETS WORK FOR THE POOR
MSE	MEDIUM AND SMALL ENTERPRISE
MSME	MICRO, SMALL AND MEDIUM ENTERPRISES
NATNET	NATIONAL NET PROGRAMME (TANZANIA)
NIE	NEW INSTITUTIONAL ECONOMICS
P&G	PROCTER & GAMBLE
PMI	PRESIDENT'S MALARIA INITIATIVE (USA)
POU	POINT-OF-USE WATER TREATMENT AND STORAGE SYSTEM
PPDP	PUBLIC-PRIVATE DEVELOPMENT PARTNERSHIP
PPP	PUBLIC-PRIVATE PARTNERSHIP
PRISM	POVERTY REDUCTION THROUGH IRRIGATION AND SMALLHOLDER MARKETS
PSI	POPULATION SERVICES INTERNATIONAL
RDI	RESOURCE DEVELOPMENT INTERNATIONAL
RNE	ROYAL NETHERLANDS EMBASSY
SAI	SUSTAINABLE AGRICULTURE INITIATIVE
SDC	SWISS AGENCY FOR DEVELOPMENT AND COOPERATION
SELCO	SOLAR ELECTRIC LIGHT COMPANY

SHL	SWISS COLLEGE OF AGRICULTURE
SHS	SOLAR HOME SYSTEM
SKAT	(FORMERLY KNOWN AS) SWISS CENTRE FOR APPROPRIATE TECHNOLOGY
SME	SMALL- AND MEDIUM-SCALE ENTERPRISE
SODIS	SOLAR WATER DISINFECTION
STI	SWISS TROPICAL INSTITUTE
TNVS	TANZANIA NATIONAL VOUCHER SCHEME
VER	VOLUNTARY EMISSION REDUCTION
VERC	VILLAGE EDUCATION RESOURCE CENTER
VFFP	VILLAGE AND FARM FORESTRY PROGRAMME
VS BK	VERTICAL SHAFT BRICK KILN

FOREWORD: INVOLVING THE PRIVATE SECTOR IN DEVELOPMENT

Market approaches for development are highly relevant in the work of aid and cooperation agencies, and notably of the Swiss Agency for Development and Cooperation (SDC). There is a pressing need to enhance the effectiveness of aid, and involving market dynamics is a key ingredient to deepen development processes by making them more sustainable.

With a favourable combination of market forces and public policies, remarkable results and outcomes can be achieved. As an example, the private tree nurseries sector in Bangladesh, once it had become a profitable undertaking, delivered over 100 million tree saplings per year. This very country – often mentioned in the media for its floods, cyclones and demographic challenges – is now surprising the world by aiming for total sanitation coverage with innovative approaches that transferred state-driven initiatives to the private sector.

Mobilising market forces and contributing to poverty reduction at once is a great challenge. It requires a thorough understanding of the socio-economic environments as well as of the specific markets the poor are connected to. In addition to this, making use of market dynamics to achieve development objectives calls for out-of-the box thinking, which leads to innovative approaches and experimentation.

Urs Heierli, an economist, development practitioner and former senior advisor at SDC, has done extensive field research to investigate when, and how, market approaches could work for development. He documented his findings in three areas:

1. Supply chain studies: How can the private sector be involved in delivering public goods such as malaria bed nets, safe water devices, latrines, and fight against malnutrition? Several studies show ways to boost delivery systems for the dissemination of goods and services.

2. Value chain studies: How can small farmers participate in agricultural value chains and increase their incomes? As more and more farm products are being sold as processed goods and in supermarkets, more comprehensive approaches that consider the different private sector players along the value chain are called for.

3. Transforming traditional industrial sectors: How can labour-intensive and polluting industries be more efficient and clean? The Asian brick or the carpet industry provide jobs for millions – many of them migrants

living in extreme poverty. They need to adopt a pathway to improved social standards and cleaner technologies to maintain their competitiveness.

The present book – alongside the seven in-depth case studies – is a sound basis for learning about how to make markets work for the poor. SDC sponsored these studies in the confidence that the lessons presented will awake interest among development practitioners and the private sector, and offer clues to tackle common development goals. These studies are thus a contribution to bridging the gaps between business and development.

Peter Tschumi,
Head Employment and Income Division

Swiss Agency for Development and Cooperation – SDC

EXECUTIVE SUMMARY

When Mohammed Yunus was still a teacher at the Chitragong University, he deplored the narrow vision of his peers and himself: "We professors are all so bright, but we don't know anything of the poverty around us". The banks gave only loans to the rich – because they had collateral to offer – and not to the poor. When he started lending a few dollars to some women, he discovered that they were very entrepreneurial and paid back their loans in time. And so he made them bankable and laid the foundations of the 'micro-finance revolution'. This story is known to the entire world now and has been well-documented; after due passage of time, it was rewarded with the Nobel Peace Prize in 2006.

What has worked in micro-finance could work in many more areas of non-financial services. Making markets work for the poor (MMW4P) is a promising approach to involving the private sector in development tasks, to creating wealth for the poor and to making many development tasks more sustainable and aid more effective.

William Easterly talks of two tragedies: the first tragedy consists of the sad truth that 12-cent malaria medicines do not reach poor children in Africa, and many have to die. The second tragedy is that those 12-cent medicines do not reach them despite the West having spent 2.3 trillion dollars in aid in the last 50 years. While he deplores this failure of the aid delivery system, he asks himself the provocative question of why it is – on the other hand – possible that nine million copies of the latest Harry Potter book can be delivered to middle-class children in the US and Europe in one single day.

There are no simple answers to this question, but there is an urgent need to make aid delivery systems more effective and to learn from what private initiative can achieve. This may require a paradigm change in the way development agencies function: instead of top-down planning methods that produce many promises and few deliveries, development agencies should focus on what works. Easterly argues that 'searchers' may be more successful than 'planners' and more pragmatic, bottom-up action-research activities may be needed to carefully find out which methods work before scaling-up can be envisaged. Professional market research methods should be used to understand poor people as customers, and to determine what they really need and can afford to pay, and to answer many more relevant questions.

Market approaches to development require totally different – out-of-the box – business models in order to reach the poor. Seven case studies give deep insights

into some of the most relevant development issues and to market-based solutions which are already effective or show great promise. A chapter is devoted to each study in this publication.

1. Supply chain studies

- "Sustainable approaches to combat malnutrition – Small-scale production and marketing of Spirulina" is an attempt to find economically viable solutions to fight the 'silent massacre' of micro-nutrient deficiencies affecting many hundred millions of children and causing brain damages, stunting and mental retardation.
- "One fly is deadlier than 100 tigers – total sanitation as a business and community action in Bangladesh and elsewhere" describes the smart and bold approach that allows Bangladesh to achieve total sanitation by the year 2010. The approach is a combination of social pressure to ban open defecation and a thriving private sector of over 10,000 private latrine producers.
- "Marketing safe water – why it is so hard to get safe water to the poor and so profitable to sell it to the rich" analyses the marketing challenges of making cheap point-of-use water treatment systems such as SODIS, water filters and chlorination available to poor people, learning from the fastest growing markets of bottled water.
- "Should bednets be sold or given free – the role of the private sector in malaria control" describes the NATNETs story of insecticide-treated bed nets and the building up of a private sector supply chain of 6,500 retailers to make them available in every remote village in Tanzania. To make the bed nets affordable, a voucher scheme was implemented so that every pregnant women can acquire a cheap net for less than a dollar, but buy the net from the local retailer. This social marketing approach is now being complemented with catch-up programmes of free distribution to reach a high coverage fast.

2. Value chain studies

- "Ending poverty with water control and market access – linking small farmers to value chains and markets of the future" describes the 3-pillar approach of affordable water control technologies, private supply chain development to deliver these essential inputs to farmers, and linking them to high-value markets.
- "Where farmer and fashion designer know each other – Globalisation with a human face in an organic cotton value chain" tells the story of the pioneering, and still largest, organic cotton textile programme 'Naturaline' of the Swiss retail chain COOP and similar initiatives by Helvetas where cotton farmers can participate in a better deal.

3. Transforming traditional industries

- "The Herculean task of cleaning up the Asian brick

industry" narrates the saga of the – most energy efficient – Vertical Shaft Brick Kiln and its dissemination from China to India, Nepal, Vietnam and other countries. Traditional economic sectors like brick-making provide seasonal jobs to millions of poor migrant workers. Traditional brick kilns are using a low-investment-least-cost technology and are highly polluting while the working conditions are often appalling.

This book is a synthesis of market approaches to development that work and provides the lessons learned from the seven case studies. These findings can be summarised in a nutshell as follows:

1. Supply chains: There are quite robust theoretical conclusions available with respect to making supply chains work. Intensive marketing and social marketing efforts based on the 4Ps of marketing and based on sound market research are needed to create markets for the products and services that are public goods such as combating malnutrition, improved sanitation, access to safe water and reducing child mortality from diarrhoeal diseases and malaria. Basically, the secret consists of simply making the supply chains profitable: as soon as it pays for retailers, wholesalers and manufacturers to produce, to stock and to sell those goods and services, thriving markets can emerge and can do wonders. The most critical issues are **a)** awareness creation and **b)** solving the affordability issues. Poor people cannot pay larger sums up-front and sometimes is an insurmountable hurdle for a family earning less than one dollar a day to spend 1,5 or 10 dollars in one go. Innovative financing mechanisms such as instalment buying, rental or leasing could be the 'oil' to make those markets work.

2. Value chains: More and more agricultural goods are being sold in industrially-processed form or by supermarkets even in developing countries. These marketing channels require that small farmers get organised and are linked to value chains driven by private sector companies: small farmers are less at risks from exploitation than from marginalisation and it is thus more important to have a contractual relation – of course a fair deal – with organised value chains. The value added in today's world is more and more created by branded products of large private companies and those are – contrary to the common belief – often (although not always) interested in decent and reliable relationships with their suppliers. They are more interested in quality performance, reliable delivery schedules than on the lowest prices; more and more products need to be traceable and certified whether they are produced under sustainable social, economic and environmental conditions. It is a challenge but also an outstanding opportunity for small farmers to participate in such value chains, provided they get the necessary support with inputs, technical assistance and it will only work if they are well organised.

Most small farmers are faced with high transaction costs due to low and irregular volumes and thus not able to market their products best.

Sound contractual relations between small farmers provide also new opportunities to create a globalisation with a human face: if the fashion designers and the sales staff and the clients know who has produced their cotton, their coffee or their fruits, this may add additional value to agricultural products and overcome the commodity trap where raw materials are just a cost factor. Nestlé – one of the largest food processors in the world – has created the concept of shared value added: this provides new opportunities for farmers to benefit from the value created by branded products, provided they can deliver the required qualities and quantities.

3. Transforming traditional industries: A series of measures and interventions are needed to upgrade traditional industrial sectors such as the brick or the carpet industries: new technologies, designs, marketing initiatives are needed to make those industries more competitive and to provide decent working conditions in an environment that is – so far – mostly interested in lowering the costs. More efficient technologies can save million tons of CO² emissions and at the same time provide better bricks with much better insulation properties and even lower costs per unit of construction wall. However, switching to those more sustainable technologies requires higher initial investments and as long as polluting technologies are allowed, there is little incentive for changing over. Strong environmental and social regulations are as important as suitable financing mechanisms: as in the case of energy-saving lamps, the higher up-front investment needs to be compensated with incentives, for example from carbon finance made available in the form of up-front loans that can be paid back with efficiency gains.

Finally, the book discusses the challenging roles of development agencies as facilitators who should act, not on behalf of the private sector, but in a subtle way support it so that it can perform its tasks. Market approaches to development are demanding – no doubt – but they provide unimaginable opportunities and hope. There are examples where markets have worked extremely well for the poor: in India, 6 million new mobile phones are sold – per month! – and Africa has the fastest growing mobile phone market in the world: more than 200 million mobile phones have been sold in Africa in the present millennium – starting from almost zero – thanks to excellent marketing efforts and innovative pricing mechanisms. If we can learn from this, there is hope of achieving the Millennium Development Goals as well.

Berne, August 2008
Urs Heierli

PART 1: WHAT WE MEAN BY MARKET APPROACHES THAT WORK FOR DEVELOPMENT

INTRODUCTION: CAN MARKETS GET PEOPLE OUT OF POVERTY?

1

This publication presents the theoretical framework derived from seven case studies on market approaches to development which are follow-up studies of the original publication 'Poverty Alleviation as a business'. The new series of case studies describes market approaches to development and represents the condensed 'lessons learned' of almost 30 years of professional experience by the author. It is important, at the outset, to understand the origin and background of these approaches, and where and how it all began.

1.1. IN THE BEGINNING: "IS THERE ANYTHING THAT WORKS IN BANGLADESH?"

In 1987, the Swiss Agency for Development and Cooperation offered me the post of country director in Bangladesh, an important and demanding job. Such positions were usually only given to seasoned government officials within SDC and not to an 'outsider' like me. However, nobody within SDC had applied for this job. Bangladesh had a terrible image: Henry Kissinger had termed it a 'basket case'. Even more important was a book 'My last duty trip' ('Meine Letzte Dienstreise') written, after a visit to all German development projects in Bangladesh, by Brigitte Ehrler, a high-ranking official from BMZ, the German Ministry for Development Cooperation. She had resigned on the spot and written her provocative book, having come to the disillusioned conclusion that while all projects were labelled to reduce poverty, they had in fact all widened the gap between rich and poor farmers. The book had a tremendous impact on the Swiss development cooperation community; interestingly, it affected the German development aid apparatus much less.

When I came to Bangladesh, I asked my predecessor, Erwin Baenteli: "Is there **anything** that works in Bangladesh?" He scratched his head, wanted to sleep it over and replied the next day: "If you can manage to stimulate the private initiative of the Bangladeshi people, this will work". How right he was!

Brigitte Ehrler's critique was based mostly on the irrigation projects she had observed. After the famine in 1972, there was a great rush to increase the rice and cereal production with irrigation projects and many projects focused on deep tube well pumps and shallow diesel pumps. While large-scale irrigation did indeed increase grain production rapidly, it had a terrible impact on

equity: those who had access to a pump or owned a diesel pump became 'water lords'. Farmers without a pump became dependent on these water lords and then grew indebted; finally, they had to sell their land to the richer farmers. More and more farmers thus became landless.

1.2. SELLING OVER A MILLION TREADLE PUMPS: A TOOL FOR "PEDALLING OUT OF POVERTY"?

SDC was one of those agencies involved in these irrigation projects, of which one was an excellent training workshop for diesel pump mechanics. While the workshop produced outstandingly well-trained diesel mechanics, a thorough evaluation also deplored the equity problems of diesel pumps. In one of its final chapters, the evaluation almost happened to mention a pump with none of these disastrous side effects: the treadle pump, a pedal-driven irrigation pump that was good for irrigating half an acre (0.2 ha) of land.

Of course, the irrigation establishment – agronomists, engineers, food security specialists, government officials, donors and many other opinion leaders – burst into laughter when they heard about its performance. "What is the command area?" they asked, derisively. For them, half an acre was smaller than a handkerchief. "You know, our job is to ensure that Bangladesh does not go hungry anymore". And the Secretary of the Ministry of Agriculture, Mr. Anisuzzaman, told us frankly: "I think, this is more of a toy". When my predecessor argued: "But it is a good instrument to prevent people from losing their land", he answered: "Let them become landless; may they make a revolution, like in Vietnam."

Some three years later, even people from the Establishment stopped laughing. First of all: most people in Bangladesh do only have half an acre of land and even the definition of 'landless' is up to half an acre. Almost 80% of rural Bangladeshis were thus in the target group of the treadle pump. No wonder perhaps that sales picked up! The main partners of SDC – after the government and the World Bank had dropped out of a treadle pump programme – was International Development Enterprises (IDE), a small NGO created by Paul Polak in order to apply business principles to development problems. IDE did not manufacture or sell the pumps that cost some US\$ 25; instead, it facilitated the establishment of a private supply chain with some 80 small manufacturing workshops, 500 dealers and over 5,000

mistries (installers) who all made money from their business. In that way, a private sector was created that eagerly pursued the money to be made out of installing, selling, transporting or manufacturing treadle pumps. And this worked marvellously: over 1.5 million treadle pumps were sold and the farmers paid every **paisa** themselves because for them it was the most profitable investment. In fact, they made some US\$ 100 additional income after just four months when the irrigation season was over. About 20% of the more innovative farmers made US\$ 500 more per year from a pump. Tushaar Shah, who made an outstanding impact study on the treadle pump, put the point very well: it empowers poor people to be "pedalling out of poverty"¹.

1.3. WOULD IT HAVE WORKED WITH THE GOVERNMENT INSTEAD OF THE PRIVATE SECTOR?

The treadle pump programme in Bangladesh was originally planned as a World Bank-supported initiative with two partners in the Government of Bangladesh, the Bangladesh Agricultural Development Corporation (BADC) and the Department of Public Health Engineering (DPHE). The predecessor Manual Irrigation Project (MIP) Phase 1 had been using the Number 6 handpump, a cast-iron shallow water pump. Over 500,000 of those pumps had been disseminated in Bangladesh, partly as

drinking water pumps and partly as manual irrigation pumps. Many farmers used them for both purposes. To produce that cast-iron pump, UNICEF and the World Bank procured coal and iron from abroad and selected foundries made then pumps from those materials. As large numbers of pumps were involved, it made some sense to involve two large government agencies: first the pumps were centralised and they were then distributed through government channels.

The treadle pump was a totally different technology: made out of tin-sheets, plastic pipes and bamboo, it could be made by decentralised workshops and there was no need to centralise them. Setting up a supply chain from the 80 workshops through some 500 dealers and finally over 5,000 installers (**mistries**) was much more effective – once everybody in the chain could earn some money from it. This was the case only once the volumes of sales had increased – a step which required intervention by IDE to demonstrate, promote and make the treadle pump known. IDE used all the instruments of modern marketing adapted to rural areas such as flyers, banners, demonstrations and village theatre. Most of the rural marketing techniques were adopted from CIBA-Geigy, a large Swiss-based agro-input company (now Syngenta, after two rounds of mergers).

Nobody can say for sure if it would have also worked



with government partners. It was probably a blessing in disguise that BADC and DPHE were not interested: most likely, the dynamic evolution of a vibrant private sector would not have taken place.

This does not mean that the government has no role to play: in November 1991, SDC organised a large conference on the treadle pump and Prime Minister Khaleda Zia opened the conference personally. She was reminded that her late husband, President Zia ul Haq, had supported the distribution of some of the first treadle pumps. This suddenly made a beloved gadget out of what the Secretary of Agriculture had termed "a toy", but the help of the Government in large-scale promotion boosted sales to almost 160,000 in the peak years of 1993 and 1994. A short film was shown on the treadle pump in all cinemas of Bangladesh before the main film started, thus reaching tens of millions of Bangladeshis.

The effectiveness of the aid delivery system is periodically questioned and all too frequently, unfortunately, with good reason. Conventional aid delivery systems through top-down government channels have often failed: we urgently need more effective approaches. One of those approaches is to involve the private sector. Before looking at these aspects in detail, we should first discuss the enlightening, critical, remarks of William Easterly, perhaps best known for his work² on reviewing the performance of these same conventional systems.

2.1. EASTERLY'S PAIN WITH THE PLANNERS

William Easterly is not at all an enemy of development cooperation and if his theses are referred to by those populist politicians who have always wanted to cut aid budgets, they are clearly misusing him. What he says is unfortunately very true: there are two tragedies of the world's poor.

1. The first is the one we hear about most: that so many people suffer so much for lack of inexpensive remedies.
2. The second, he says, "is the tragedy in which the West spent \$ 2.3 trillion on foreign aid over the last five decades and still had not managed to get 12-cent medicines to children to prevent half of all malaria deaths. The West spent \$ 2.3 trillion and still had not managed to get \$ 4 bed nets to poor families. The West spent \$ 2.3 trillion and still had not managed to get \$ 3 to each new mother to prevent five million child deaths."

The West is not stingy. It is ineffective. In a word, why?

Easterly says that modern development policy is influenced by 'planners' who want to eradicate poverty – or halve it as in the Millennium Development Goals – with the help of a comprehensive plan. One sets ambitious goals and then sends the troops marching in to fight the battle in the fields.

Jeffrey Sachs is the incarnation of such a planner. Ironically, the same person once first became famous as a Chicago Boy and who influenced the big structural adjustment programmes after the fall of the Berlin wall.

However, planning is one thing, implementation a totally other story: Easterly compares the development cooperation with a cow, a very useful animal, probably

the most useful and important animal to reduce poverty. A cow can give a few litres of milk and an income to millions of poor people in the world and even produce manure. Of course, if a cow is expected to run in a horse race, it will certainly arrive late. Should we then, asks Easterly, not better focus on what a cow can do, rather than pretend what it cannot do?

He advocates a key role for the 'pathfinders', the searchers, those who try things out, who find a way out, who finally discover, well, what works. These searchers have somehow, it seems, lost the ideological battle against the planners.

Planners are better placed; in their preferred position, they know exactly where they want to be in 2015. Poverty should by then be cut in half. Everybody knows that this will not be achieved, at least not in Africa, where it is most needed. The planners will, no doubt, find a reason to explain why they have not achieved the goal: there were not enough resources available. The plan was good, it was not the planners who failed; somebody else did. Unfortunately, the planners will be forgiven and they will not be blamed for a failure.

2.2. SEARCHERS SEARCH, FOR THE RIGHT MOSQUITO NET STRATEGY

The searchers do not know exactly where they will arrive at the end of the process, but they know – through trial and error – that they have a promising opportunity at hand and they search for the right way to make a large impact. The story of the insecticide-treated mosquito nets (ITNs) is one such story. When the Swiss Tropical Institute tested the first ITNs in Ifakara in 1994, they were themselves surprised that insecticide-treated mosquito nets worked so well and reduced the malaria morbidity by 55% and did not know that a decade and a half later, in 2008, there was to be a global initiative in place to fight malaria. The story of mosquito nets is indeed – literally as well as symbolically – a constant search for the right strategy.

Whereas Jeffrey Sachs seems to know for sure what needs to be done – "the nets must be given free of cost to them because people are too poor to afford them" – some other opinions reflect the flexibility of a 'searcher'. Christian Lengeler of the Swiss Tropical Institute, a strong promoter of a supply chain approach, would never say

with dogma what is right and what is wrong. At the World Economic Forum in Davos in 2005, Sharon Stone, a film star, staged a coup by asking the audience to donate a million dollars on the spot for giving bednets to the Tanzanian President who was on the podium – "Just stand up!, she exhorted the participants. Just stand up! Children are dying in his country today. This is not ok with me today"! These free bednets created lots of problems for the project in Tanzania because it was based on social marketing and the manufacturers became very angry as free bednets would undermine the market. In the end, Lengeler says: "we have learned from that experience that free nets can increase the coverage and we need a strategy to 'catch-up' (with free nets) and to 'keep-up' with a functioning supply chain."

There is nothing wrong with goals and objectives. Yet what actually rules the real world more than these goals and objectives are opportunities. Many successful experiences in the field are rooted in pragmatic solutions and benefit from, or exploit, the right opportunities. Economic reality is full of examples where intuition, unexpected results and a good sense of pragmatism have led to remarkable breakthroughs. Easterly underlines his thesis with quite an unconventional business strategy book by William Duggan.³

2.3. THE ART OF WHAT WORKS: A PLEA FOR MORE PRAGMATISM

Duggan teaches strategy at the Columbia Business School and emphasises on the dilemma between "Goal-setting versus a 'coup d'œil'". He highlights a debate between two of the most famous war strategists: "Antoine Jomini's 'Summary of the art of war' versus Carl von Clausewitz's 'On war'".

Jomini is the classical 'planner', according to Duggan: "For Jomini, determining goals comes before choosing activities. The ends precede the means. First you decide on your goal, and then you decide how to reach it. This is the opposite of the art of what works".⁴

That art, for Duggan, is embodied in the insight of the other strategist. "For von Clausewitz, Napoleon's success came from his putting his army in motion with no clear goal. Then, when he saw a battle he could win, he chose to fight. If he saw no battle that he could win, he just kept moving, out of reach of the enemy but always looking for a better time and place to attack."

Duggan thus emphasises the importance of expert intuition and what he calls the 'coup d'œil', a sudden holistic insight as the basis of success. He illustrates this with many examples from the economy:

a) McDonald's: Ray Kroc is the man who made a global success of the McDonald's restaurant – many intellectuals hate it profoundly, but millions of others – in the words of the brand slogan – are "just lovin' it". At the outset, Kroc was not interested in restaurants but in selling multi-mixers and restaurants were his customers. A multi-mixer is a machine that can shake not one but several milkshakes at once. One day, he went to see the McDonald brothers, two clients who ran eight of his multi-mixers in a small restaurant in San Bernardino. In his autobiography, Kroc explains that defining moment: "It was a restaurant stripped down to the minimum service and more, the prototype for legions of fast-food units that later would spread across the land. Hamburgers, fries, and beverages were prepared on an assembly line, and, to the amazement of everyone, the thing worked! Of course, the simplicity of the procedure allowed the McDonalds to concentrate on quality on every step, and that was the trick. When I saw it working that day in 1954, I felt like some latter-day Newton who'd just had an Idaho potato caromed [cannonned] off his skull."

b) Johnson & Johnson was started in 1886. It made sterile, ready-to-use medicated bandages that vastly reduced the infection rate from surgical procedures. Then in 1890, a doctor complained of skin irritation from the bandages and Fred Kilmer, the company's director of research sent the doctor a packet of Italian calc. The doctor liked it.

Kilmer then proposed that Johnson & Johnson include a small can of talc with some of its bandages as part of the standard package. Customers liked the talc and asked to buy it separately. That surprised the company, but it quickly agreed. The powder became a major product line, one that is famous to this day.

This story of Johnson & Johnson is very similar to one of the successful SDC projects in Bangladesh, the Village and Farm Forestry Programme (VFFP)⁵: this programme was started in 1986 because the forestry area of Bangladesh was shrinking every year and there was a fear that there was not enough fuelwood left for households to cook their staple, rice. An agroforestry programme was thus designed that should stimulate tree planting in the rice fields and around the homesteads. The hypothesis was that farmers and their wives would be interested in short-term benefits from trees, mainly 'fuel, fodder, fruits'. The tree saplings were grown by so-called 'core farmers' and were to be distributed free of charge, as was the common practice at that time.

One day, my programme officer in charge of that programme, Khairul Islam, came to me and asked: "What are we to do: the core farmers are now selling the saplings?" This was a great surprise and I was about to say: tell them they may not do this, the project prescribes that

saplings are to be given free of charge. Then, with a kind of 'coup d'œil', speaking at virtually the same time, we both said: "But what is wrong if farmers sell the saplings? That also means that somebody is buying them".

Soon after this, we realised that farmers were indeed very interested in buying tree saplings, not for the reasons we thought: they were interested not in short-term benefits but in an investment opportunity. One sapling cost 8 US cents, but the net present value of one of those fast-growing trees was around US\$ 6. An entire industry emerged and the core farmers – and especially their wives – created tree nurseries, first small ones, and then larger ones. Finally, it became a good business for many poor people. Some 2,500 tree nurseries grew out of only our initiative and these alone delivered 100 million saplings per year.

Now, many will ask if there was not also a Waterloo? Yes, indeed there was. Expert intuition is bound to succeed but, Duggan assures us, it can also fail. "Expert intuition is not a guarantee of success. Even when you do everything right, you still may fail. Napoleon did everything right at Waterloo – but it rained that morning. He had to wait for the ground to dry to start the battle, because he needed to roll his artillery forward. That gave the Prussians time to arrive and reinforce the English. And so Napoleon lost."⁶

POVERTY ALLEVIATION AS A BUSINESS: LESSONS FROM THE ORIGINAL STUDY

3

When I asked my predecessor in Bangladesh in 1987 "what works?", neither he nor I knew the way ahead. However, 12 years later, in 1999, I had a sabbatical leave of four months and I devoted it to an extensive study. I wanted to see the outcomes of some six projects where these private initiatives of the poor had been triggered. The results of that study were published under the title 'Poverty alleviation as a business'⁷, because all the six examples studied had one thing in common: a market was created and a profitable supply chain had evolved. Now, people could make a business out of poverty alleviation.

What was the secret ingredient in the success of those six examples? In almost all cases, no market had existed before, neither for trees nor pumps nor silos or

roof tiles or latrines, but once people saw the benefits of each product, they wanted to buy them and thus it became profitable to sell them. This was the reason and underlying motive for the private sector to step in. And if a dealer, core farmer – or, even more often, his wife – realised that there is some money to be made, then his neighbour soon wanted to do the same. If it is profitable, it becomes contagious and can spread fast.

3.1. WHAT WORKS: THE SIX ORIGINAL CASE STUDIES

In my 1999 study, I found six very successful examples in the portfolio of SDC: three in Bangladesh, two in Central America and one on a more global level. They are summarised in the following cameos.



VFFP: Village and Farm Forestry, Bangladesh

Once a poor woman, Amina Begum had become, by the year 2000, the owner of one of the 2,500 private nurseries that supplied almost 100 million tree saplings every year.

Trees have become a profitable crop for 650,000 families because they are good growth assets: the net present value of a tree is US\$ 6 and a sapling costs 10 cents. The tree can be chopped down in case of an emergency (such as if a child is sick). Planting trees is thus also an effective health insurance.



Treadle pumps (Bangladesh, India, Nepal)

Over two million treadle pumps have been sold to small and marginal farmers in Bangladesh, India and Nepal. On half an acre (0.2 ha), they can grow more vegetables or other crops and make an average additional income of US\$ 100 per year. 20% of the farmers make from US\$ 500 to US\$ 600 net income per year.

Around 10,000 micro-enterprises supply, sell and install the pumps in the 'poverty pockets' of the world. Recently, functioning water markets in Bangladesh have drastically increased the access to small diesel pumps and many former treadle pump users do now own a diesel pump and many just buy the water from their neighbour. In many parts of Africa, wherever the water table is not deeper than six metres, the treadle pump has a very high potential, but it is relatively more expensive. While it costs US\$ 25 in South Asia, it is still difficult to get a treadle pump in Africa for less than US\$ 75.



Postcosecha maize silos, Central America

More than 170,000 silos had been sold in Central America until 2000 by over 600 'artesanos'. The silos prevent losses of over 10,000 tons of grain per year and generate savings (avoided losses and gains from price fluctuations) of more than six million dollars per year.

A family with a silo has 61 kg more maize to eat, and the gains from price fluctuations allow for a payback period of less than a year.



Micro-concrete roofing tiles (global)

Over 2,000 workshops operate in more than 35 countries; they produced over 150,000 roofs in the year 2000.

The technology was supported by BASIN, an international network. While this has since stopped, the tiles are still continuing to spread. With sound promotion and market creation efforts, cost-effective building materials have a big scope for expansion. They contribute to closing the housing gap and give many small enterprises the opportunity to flourish.



The rope pump, Central America

The rope pump has reached maturity in Central America and this allowed large-scale dissemination of this cheap and efficient water pump. It costs less than US\$ 100, one-fifth the price of conventional hand pumps. It has great potential for dissemination in many countries as an alternative to public pumps.

Market creation and promotion are still needed, but in Central America, the critical mass has been reached. And in many countries in Africa, the pump is spreading slowly and surely.



Private latrine producers in Bangladesh

A social mobilisation campaign for sanitation has created a market for latrines in Bangladesh. They are sold for prestige, comfort and privacy, and last but not least have a very positive impact on health. Market creation efforts have allowed 6,000 private workshops to produce latrines and compete with subsidised government latrine production centres. They produce over one million latrines per year and have increased coverage considerably. After the social mobilisation campaign was stopped, sales declined a little. Nonetheless, a new total sanitation campaign has stimulated demand considerably and Bangladesh will achieve total sanitation – a total ban of open defecation – by the year 2010, 15 years ahead of schedule of the MDGs (see the new case study in Part Two).

3.2. PUBLIC TASKS AND PRIVATE TASKS IN A MARKET CREATION APPROACH

Why have these examples worked so well? All six examples have one thing in common: there is always a profitable role for the private sector. While public development tasks such as reforestation, public hygiene and sanitation, access to rural water supply, providing low-cost roofing materials or providing households with a safe storage system are key development objectives, and therefore in the public interest, it was the private sector that delivered the goods and services.

The private sector can perform those tasks well that are profitable and of logistical nature. We shall see with the

case study on mosquito nets case that the private sector is good at performing the heavy lifting tasks, whereas the public tasks should be focused on market creation, awareness creation, public health policies and other, more enabling, tasks.

The division of private and public roles is clear for the six examples:

None of these examples would have worked with the private sector alone: it is the role for the private sector to produce, sell and install a latrine, but no private workshop owner would educate villagers to use a latrine. The heavy involvement of the public sector is thus always necessary.

Example	Private role	Public role
Forestry	Nurseries, tree planting, advice for tree planting	Testing flood resistant varieties, monitoring, regulatory framework, initial promotion, training of nurseries.
Treadle pump	Manufacturing, selling, installing, operation of pumps in a profitable and efficient supply chain	R&D tasks, initial testing, market creation, promotion, setting up the supply chain and do the initial promotion.
Postcosecha silos	Small tin-processing workshops produce the silos and sell them to customers. Various sizes and shapes are available, and a label describes the best use of the silos.,	R&D for cheap and airtight silos, determining a suitable pesticide to kill the small pests that would affect the maize; market creation, promotion, integrating silos in mainstream NGO and government programmes and making credit available.
Micro-concrete roofing tiles	Producing and selling the tiles, installing them on the roofs	R&D to design a cheap and reliable product and machines to produce them, training of masons, roof-layers, manufacturers, legal framework (building norms)
Rope pump	Producing, selling and installing different types of rope pumps on wells	R&D for different improved designs, market creation, promotion, integration into rural water supply strategies
Total sanitation	Producing, selling and installing latrines	R&D for improved latrines, but mainly to bring down the cost dramatically, promotion, social mobilisation, public campaigns to promote good behaviour and to ban bad behaviour (open defecation)

MARKET APPROACHES TO DEVELOPMENT: THE NEW DIMENSIONS

We have so far only looked at products and services that are directly relevant for poverty reduction and how a profitable supply chain can emerge. However, one of the key aspects of poverty is the lack, or low level, of incomes of millions of people and the danger of declining incomes. Here, two dimensions of market approaches are relevant.

1. Increasing new income sources: If incomes can be increased – yes, tripled – from one to three dollars a day, the entire picture changes: many people would now afford to buy cheap medicines and send their children to school or give them nutritious and balanced food. How can market approaches help increasing the income of one-dollar-a-day families?

2. Preventing the decline of income: Many millions of workers in large traditional industrial sectors are threatened by declining incomes: these industries provide jobs for millions of people but their technology or position in the market is not sustainable and they cannot get out of that trap without public assistance. Transforming industrial sectors toward sustainability is thus another dimension of market approaches to development.

4.1. INCOME POVERTY: PAUL POLAK'S WAY "OUT OF POVERTY"

There is a degree of confusion, understandably, about the right way to eradicate poverty. Paul Polak, the founder of International Development Enterprises (IDE) and one of the masterminds behind the treadle pump success story, presents a refreshingly simple and straightforward solution in his new book 'Out of poverty'¹: reduce income poverty!

Simple enough, but how? Most poor people are small farmers and it is therefore crucial to increase their farm productivity. This may lead to increase their income, and with higher incomes, they can take care of many of their problems themselves: they can send their kids to school, get access to better food and health and create assets that safeguard them in case of shocks and crisis.

This new work by Polak, widely acclaimed, provides fresh new looks at how to end poverty. His strategy relies mostly on the poor themselves and enables them to get out of poverty by increasing their incomes. He does not believe that governments or donors can solve the problems for the poor: "There is obviously a role for

governments and donors to play, but the answer to end poverty lies with the poor themselves".

4.1.1. THREE MYTHS ABOUT ERADICATING POVERTY

Before coming to Polak's main thesis, let us look at what he describes as the three great poverty eradicating myths:

1. We can donate people out of poverty: "Incredibly, Jeff Sachs, the head of the UN Millennium Development Goals Initiative, believes that people who live on a dollar a day are too poor to invest their own money to move out of poverty. So he and the development experts he leads are asking for \$ 160 billion a year for 10 years, primarily as gifts from rich countries to poor countries, to build the missing infrastructure that will allow economic growth to take off in the rural areas, which in turn will end dollar-a-day poverty."⁹

2. National economic growth will end poverty: While it is true that we need growth to end poverty, it is also clear that economic growth alone is not sufficient to end poverty. "Unless we can create economic growth and prosperity in the specific context of small, remote rural farms and of urban slums, the industrial growth that creates national GDP per capita growth will continue to by-pass most poor people!"¹⁰

3. Big business will end poverty: Very few "multinationals know how to make a profit serving customers who survive on less than a dollar a day, who may be illiterate, and who have no access to mass media. An increasing number of businesses are learning how to serve customers who earn four or five dollars a day, but in the context of most developing countries, these people belong to the middle class."

Another, rather like-minded practitioner and author, C. K. Prahalad, has pointed out that there is a fortune to be made at the so-called 'bottom of the pyramid'¹¹ (BOP). He emphasises that, in consequence, it is important to address poor people as customers: "We start with a simple proposition: if we stop thinking of the poor as victims or as a burden and start thinking of them as resilient and creative entrepreneurs and value-conscious consumers, a whole new world of opportunity will open up." However, to address these poor people as customers, a whole new business model must be developed, and very few examples – the most striking is the revolution of mobile phones – can be seen as breakthroughs so far.

4.1.2. TACKLING INCOME POVERTY: HOW KRISHNA BAHADUR THAPA ESCAPED POVERTY

What is, then, the key challenge in solving the problem of poverty? Paul Polak tells the tale of his friend Krishna Bahadur Thapa from Nepal, and how we could get out of poverty. "I asked him 'Bahadur, why are you poor, and what could be done to stop being poor?' He smiled shyly and his eyes crinkled, as if he were too polite to call me an idiot to my face or to ask me if by any chance I might be blind. 'I'm poor because I haven't found a way to earn more money', he said".¹²

The answer seems to be very trivial, the more so in coming in the form of a question: how can poor people make more money? How can they increase their incomes so that they can invest in better health, education, and sufficient food and realise small safety cushions in generating assets, especially if they are dependent on the income from a small farm?

Bahadur used to plant rice on his two-acre plot and, usually, at the end of most years, he had some rice left

for the market. In two out of three years, he could sell some rice, but the income from that was meagre, some 50 dollars only. Then, through a programme of Helvetas, a Swiss NGO, he got access to drinking water and even a part of this water he could use to water a few plants. His situation really changed when he got a small low-cost drip irrigation system that he could use to grow off-season vegetables, especially cucumber. In South Asia, vegetable growing is a seasonal activity and between January and May cucumbers are a scarce commodity.

Polak's book continues: "BIG FAT GREEN CUCUMBERS!" said Krishna Bahadur Thapa emphatically as he embraced a green armful lovingly. I had asked him what the key was to his first big bump in income. Then, of course, we had no choice but to follow him respectfully into his field, watch as he snipped far more cucumbers than we would ever be able to eat, and admire each one of them. Then we had to chow down on slice after slice – but not before he garnished each one with a delicate sprinkling of salt.

These lightly salted cucumber slices tasted juicy and slightly bitter to me, but nothing special. They were just



Bahadur Thapa's happy family: Bahadur himself had passed away before this photo was made.

fresh cucumbers, but to Nepalis in the middle of the hot, dry winter, there was something magical about them. Their juiciness seemed to belie the parched landscape, and most Nepalis attributed healing and illness-preventing powers to them. In the market of Mugling (the nearest provincial town), cucumbers are sold for thirty to forty rupees a kilo (about forty-five cents US) between January and May, three times the normal price of ten rupees per kilo, because Indian farmers couldn't grow cucumbers in winter and few Nepali farmers had access to irrigation water in the dry season."¹³

In narrating the story of Krishna Bahadur Thapa, Paul Polak presents a typical model of a small farmer. Bahadur Thapa is not an exception, he is the rule: Out of the 525 million farms in the world, 445 million, some 85 percent, are smaller than five acres. Those small farmers will always produce some of the basic food grains for their subsistence and food security, but if they want to increase their incomes, they need to plant and sell high-value crops for the market. Off-season vegetables are an excellent high-value cash crop for small farmers where they can get good money from a small area. To grow off-season vegetables, though, they need access to irrigation.

4.1.3. THE PARAMOUNT IMPORTANCE OF WATER CONTROL TO END POVERTY

It is not easy, perhaps, to understand the importance of affordable irrigation to end poverty. When the wells get dry and the first cracks in the soil appear, there is no work and no income for millions of poor people in South Asia – they become migrant families and have to leave their homes in search of work. Lack of water is one reason and if there is absolute water scarcity, this can only be overcome through massive investment in watershed development programmes that can keep the water and replenish the wells.

Access to affordable irrigation systems can change this destiny dramatically and it is often not even necessary to have large amounts of water: more important than irrigation is water control, the ability to water the plants efficiently and selectively at the right time, when they need it. A treadle pump or low-cost drip irrigation systems can make all the difference because they allow small farmers to escape the vagaries of the weather and schedule their crops: if they can produce small amounts of vegetables regularly and when the markets need those most and when prices are high, then even small areas can yield good incomes. The case study 'Ending poverty with water control and market access' is devoted entirely to this topic.

4.2. TRANSFORMING INDUSTRIAL SECTORS TOWARDS SUSTAINABILITY – TACKLING DECLINING INCOMES

There are also many labour-intensive industrial sectors that employ millions of poorly paid workers. If market forces are left to work on their own, these industries may slowly but surely die and leave many without a job. The Asian brick industry is an example of such a traditional industry, employing millions of seasonal workers that migrate from the poverty pockets in South Asia during the dry season. These industries use very traditional technologies and mostly hand-work. Even such harsh jobs as pugging clay are often done by hand or foot, as mechanisation is costlier than using cheap labour. The case study on the Asian brick industry shows the gigantic dimensions in this industry, the frightening economic, social and ecological footprint that is associated with stagnation, inefficiency and misery.

Several other industries face similar problems: the carpet industry is an example, employing millions of handweavers and knitters; their social situation is not really improving. Child labour, long working hours and meagre salaries are inherent to this industry and even if some fair trade labels have been successfully introduced, it has not been able to change the entire industry.

The key problem of those traditional industries is that the present market forces are not conducive to initiate changes towards greater sustainability. In the case of the brick industry, there is a strong market trend for low-cost bricks made in traditional, inefficient and highly polluting brick kilns. More efficient and environmentally-friendly kilns are available but they require higher initial investments and higher skills. These are hurdles for initiating change towards sustainability.

Similarly, the carpet industry is trapped in a stagnating market situation: carpet markets in industrialised countries are facing an image and marketing problem and the industry is not organised well enough to launch significant marketing campaigns. Many industrial flooring products have been developed while the carpet has remained more or less the same. Even the introduction of new designs in combination with remarkable skill improvements has not been able to compensate for a declining market share.

The process of a slow death of an industry, eroded by market forces, is a picture of gradual and incremental deterioration, present yet almost invisible. It is like the boiling frog phenomenon: if a frog is thrown into boiling water, it will jump right out and save its life. If, on the other hand, it is put in a pan of water, and the water is

then slowly brought to the boil, it will die, because he will start swimming faster and faster, but will not jump out.

Strong public interventions are needed to improve such industrial sectors gradually into better organised modern industries: interventions that aim at a transformation of those markets in order to make them more sustainable.

4.3. THREE DIMENSIONS OF MARKET APPROACHES THAT WORK

This publication deals thus with market approaches that work for development. It looks into the problems of market failures and into solutions of how markets can be made to work in the following three dimensions:

1. Better delivery systems and private supply chains:

How can such essential items as latrines, safe water, and insecticide-treated mosquito nets reach those who need them most?

2. Access to value chains and markets of the future:

How can small farmers participate with high-value crops in the markets of the future? How can they cope with the process of supermarketisation. How can they schedule their crops, produce high-value crops on small areas and get a better slice of the cake through certification?

3. Making large traditional industries sustainable:

Many traditional industries employ large numbers of unskilled seasonal labourers under appalling conditions and because they use obsolete and unsustainable technologies they are forced into a downward race to the bottom. How can these industries be transformed towards sustainability rather than be wiped out one day?

The debate about 'Making markets work for the poor' (MMW4P) has emphasised just how much poor people depend on markets and how important markets are in the discussion on poverty reduction.

The importance of markets for the poor has been neglected in much classical development practice until recently. The main reason was probably that poor people have been largely identified with subsistence farmers who produce for their own consumption and only sell their surplus – if any – to the market. To some, it was once observed in a seminal work¹⁴ on MMW4P, "markets are seen as the domain of the rich and market reforms a process from which the poor must be protected". It is true that many poor people are indeed more likely the losers and not the winners of globalisation. They are often exploited, to be sure, by middlemen and their flimsy prospects of a stable income are buffeted by strongly fluctuating and decreasing prices. Yet it would be totally misleading to assume that the way out of poverty can avoid taking the path to markets: on the contrary, only if the poor can be better integrated into markets, will they be able to step out of poverty and leave it behind them.

5.1. MARKET APPROACHES TO DEVELOPMENT AND POVERTY

Markets do not necessarily and automatically solve the problems of poverty and even where a strong economic growth has reduced poverty considerably, as in China, India or Vietnam, some quite ugly aspects of this growth



Most of the poor depend heavily on markets. The way out of poverty is to make markets work for the poor.

may still prevail. When we advocate market approaches to development in this publication, we certainly do not make such an assumption, for they do more often fail than deliver – as we shall see. This publication is, by far, no naïve or romantic plea for neo-liberal 'laissez-faire' approaches. It is a plea for market-based interventions that unfurl and unleash the power and energy of market forces in the right direction: towards poverty reduction, or pro-poor growth.

What can a market normally do, and what can it not do, with respect to poverty reduction?

1. Markets of the poor are less attractive: There is a well-known book entitled: 'Marketing to the affluent'¹⁵, but there is no corresponding book 'Marketing to the poor'. With C. K. Prahalad's book on the fortune that lies in waiting at the 'bottom of the pyramid'¹⁶, this omission has been slightly corrected and we shall discuss in more detail how radically new business models can energise the markets at the bottom of the pyramid to become attractive and viable. Usually, what is lacking is the critical mass in terms of market volume.

2. Products for the rich are not suitable for the poor: A person who is hovering around the poverty line does not have the purchasing power to invest in 'inventory'. Rather than buying a 'jumbo' discount package of shampoo, they have to buy it in sachets or one cigarette at the time. All those products that cannot simply be packed in sachets should be totally re-designed or brought to the market in form of leasing and /or rental schemes, as poor people can usually not afford the upfront investment. Paul Polak therefore proposes a radical design revolution and invites designers of this world to design products for the 'other 90%' rather than focus on an improved iPod or perfume bottle for that 10% of the market which is already saturated, peopled by those who have everything, and are sated, if not perhaps satisfied.

3. Market forces are usually not inclusive: Although, two centuries ago, Adam Smith argued to the contrary, weaker sections of the population cannot easily compete in markets. Even their 'strength' of commanding very low salaries may not always be a winning argument to include poorer segments of the population. This is mainly due to barriers in the form of technological, economical, social or skill deficiencies. Very often, their inclusion comes associated with higher transaction costs. Before Mohammed Yunus devised a new way of doing business with the very poor, the transaction costs for micro-finance were too high and the poor were excluded from credit – they were seen as being not bankable.

4. Transaction costs must be reduced through better organisation: Whereas small businesses in developed countries are highly organised in order to defend their competitive advantage, the economic sectors of the poor are totally informal in nature and scattered in structure. This leads to very high transactions costs: small farmers have neither enough volume – nor the working capital – to sell entire truck loads; their need to sell in small quantities carries high transaction costs. Typically, the way out is to do a deal with a middleman who comes with a truck, collects small amounts of crops, packs and sorts them, and puts the high profit margins into his pocket.

These market approaches to development are thus geared to make markets work for the poor. In one sense, it is a question of re-writing the rules of engagement by the poor; by identifying hurdles and analysing market failures, they can be tweaked and re-tuned in such a way that the poor can participate and prosper.

5.2. MMW4P: THE DILEMMA BETWEEN 'LAISSEZ-FAIRE' AND INTERVENTION

In their basic concept paper on MMW4P, Alan Gibson and his co-authors make the distinction between two schools that both miss the essence of what is required to make markets work for the poor: the 'remote reformers' and the 'impulsive interveners'. While remote reformers promote a kind of 'laissez-faire' approach, the impulsive interveners correct market failures by direct interventions. Both positions – described by the authors as "both (slight) caricatures" – are presented in detail below.

5.2.1. THE REMOTE REFORMER'S APPROACH

"The essence of this approach is that getting 'prices right' in an economy will provide an overarching framework conducive to development – and this is the key priority for governments. While not a fixed blueprint, the 'right' policy prescription hasn't varied much from one country to another. Driven by sometimes distant economists, this is based on a view of what economies should be – rather than what they are. By tweaking the fundamentals, the supply-side of economies, poised and willing, would be unleashed and market development and growth would follow.

After many years, the experience of this approach is best described as mixed. Some countries have succeeded in achieving strong growth and others, palpably, have not. Especially in Africa, the development experience has been one of substantial failure. Why has this happened?

Various reasons are cited. Corruption, sometimes on a grand scale, has derailed privatisation reform – such as in Russia. Poor infrastructure has prevented African farmers from taking advantage of newly-created opportunities.

Weak prudential regulation undermined financial sector reform in Asia. Weak government capacity has hindered attempts at regulatory reform."

5.2.2. THE IMPULSIVE INTERVENERS

"Parallel to the travails of the reformers, this second strand of development practice has been concerned with intervening directly with businesses to 'get things done'. While acknowledging the need for the right macro framework, the essence of the approach is that, if the market isn't delivering well, we should replace it and provide finance, advice, materials and expertise directly. We should do it ourselves or 'instruct' the private sector to do it.

Although paradoxically often from within the same organisations as reformers (and working concurrently with them!) interveners emphasise their on-the-ground, in-the-field, hands-on business ethos. Impatient with fine words, in contrast with their more academic colleagues, they see their approach as immediate and tangible. Working with appropriate agencies (government or not-for-profit organisations) and using a variety of forms to deliver directed, subsidised 'support', their view of the future is one that envisages partner organisations carrying on this same practical task. After many years, with some exceptions, it is clear that this experience has not been hugely positive. Major reviews of international experience indicate that results of these interventions have been characterised by limited:

- outreach, with typically a minute proportion of businesses being served;
- sustainability, with the whole apparatus of business 'support' being so heavily subsidised as to need continuous infusions of external resources;
- impact, with only patchy signs of real business improvement and little evidence that directed support stimulates wider development.¹⁷

5.2.3. THE KEY ISSUE: INSTITUTIONAL GAPS IN REDUCING TRANSACTION COSTS

One tenet of MMW4P approaches is the understanding that many market failures for the poor are due to institutional gaps. The overall approach thus seeks nurture

in the inter-disciplinary enterprise known as 'New Institutional Economics' (NIE). At the heart of institutional thinking is the recognition of the central economic role played by those institutions that structure human interactions. NIE asserts that costs in an economy are composed of both transformation costs – related to production – and transaction costs – the costs of doing business in markets. Institutions play a critical role in reducing the costs of transacting by providing the structure which supports co-ordination and cooperation within markets. In essence the efficiency of a market can be measured in terms of transaction costs.

The role of public intervention should thus focus on reducing transaction costs through creating better infrastructure, training and skill development or organising the beneficiaries. A very good example is provided by the work of Mohammed Yunus in growing the Grameen Bank. On the one hand, he created a new institution, as the existing state-owned banks in Bangladesh were totally rotten and had recovery rates of less than 10%. And on the other hand, he organised the poor for group lending in savings groups. This brought the transaction costs of small loans to an unprecedented, very low level; group solidarity, instead of conventional collateral stock, was a good protection against the risks of defaulting. It also took an institutional vision: without investing in a network of over 2,500 bank branches and a staff of 25,000 people, Grameen Bank would not have been able to operate in over 80,000 villages with over 7.6 million borrowers.

How different was this approach to the prevailing banking practice that, by definition and out of ignorance, had categorised the poor as 'unbankable'? Before the Grameen Bank revolutionised the entire micro-finance sector, the common practice was to subsidise interest rates and provide targeted loans to certain sectors of the population. Instead of reducing the transaction costs, the transactions themselves were subsidised. Subsidised interest rates made lending to the poor a loser's business, and this made it impossible for any institution to enter into competition with the subsidised system.

5.3. WHOSE MARKET IS THE BOTTOM OF THE PYRAMID (BOP)?

More than four billion people live, some of them housed, at the 'bottom of the pyramid' that is a new euphemism for 'the poor'. The person who coined the term, C. K. Prahalad, associated with the University of Michigan, had a large impact on the poverty debate by stating that this large majority of the world's population is a mass of underserved potential customers. They represent, says

Prahalad, a huge potential, a fortune to exploit at the bottom of the pyramid (BOP). A fortune in micro-spending power, indeed. But is the BOP also a rich power-house of enterprise and dynamism? How can these facets grow? These are the two sides of the BOP coin.

To exploit BOP markets is, admittedly, an immense task for multinational companies, requiring drastic changes in their mind-sets and their best practice. They need to radically redesign their marketing strategies, historically geared towards the markets of the rich. Prahalad mentions twelve quite challenging principles of innovation that are not easy to match, such price performance. This is not just a simple question of lowering prices or making smaller packages but the much more complex issue of creating a totally new performance value: high returns for very low amounts of money invested.

The BOP has long been on the horizons of marketers, in theory if not in practice, and perhaps with a less vivid description. As yet, however, there are few successful examples of BOP marketing that work in real life. The managerial challenge is quite a high one, Prahalad stresses: "Enabling people to buy by accessing markets creatively and designing affordable products for them breaks the long-held assumption that BOP markets are not viable. A wide variety of firms – HLL, Cemex, ITC, Amul and ICICI – are demonstrating that this can be done profitably. BOP markets break our traditional ways of thinking and acting. This might be their biggest allure and challenge alike. Unless we are willing to discard our biases, this opportunity will remain invisible and 'unattractive'"¹⁸

Many of the findings and recommendations in this present publication do indeed confirm the basic truth in Prahalad's theory. A stronger involvement of the private sector and of multinational companies in the markets of the poor can be very beneficial.

Not that we believe that the key issues of poverty may be tackled by the private sector alone: the public sector, NGOs and other actors of civil society will be needed to make many things work. Only by working together can the public and private sectors achieve the end of poverty.

There are also fierce critics of BOP approaches, some of them quite justified. One such key argument is that BOP approaches may exploit the market of the poor but not increase their wealth. It states that the best possible role that multinational firms could play in poverty reduction is to buy the agricultural products of the poor. We shall see later in Part Three, on value chain development, that this is a serious challenge in its own right since small

farmers can only participate in the high-value chain if they are very well supported and organised.

Another critique of the BOP approach is that it works well for relatively unnecessary products. The case is often cited of 'Fair & Lovely', a skin whitening cream that promises to make dark skins lighter – it is thus especially attractive to poor people as it may increase their chances of rising socially. It is no wonder that Fair & Lovely can be found even in the shops and stalls of the remotest villages in South Asia. It is widely marketed by Unilever in many countries in Asia and Africa, and, in particular, in India by Hindustan Lever Limited (HLL), the Indian subsidiary of Unilever.

In a lively and very public debate, in which Fair & Lovely was used as a polarising example, Professor Aneel Karnani, also associated with the University of Michigan, criticised Prahalad fiercely by saying that BOP approaches are misleading. He claims that there is no fortune at the bottom of the pyramid, with the costs much too high in exploiting those markets. Concluding that the best way multinational companies would help the poor is by buying from them rather than selling to them, he advocates dealing with the poor as producers and not as consumers.

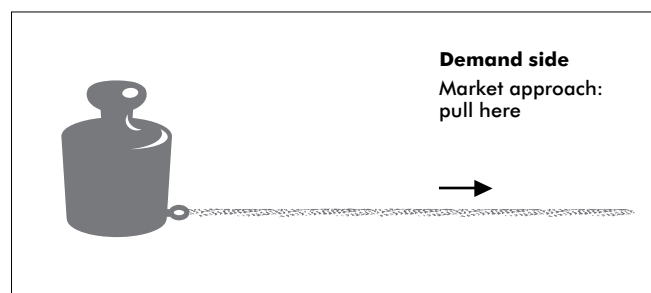
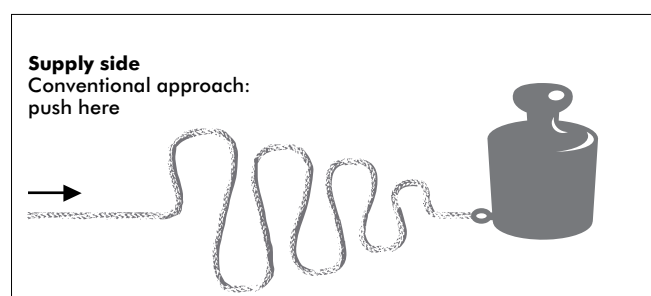
The above discussion should not at all be interpreted as being against the concept of BOP marketing: on the contrary. Our position is more cautious, however, and we feel that there is still much more to be done to develop those business models. We also feel that BOP marketing may only work with a strong public involvement. In many cases, it will be necessary for public sector entities – donors, multilateral institutions and NGOs to pave

the way and invest heavily before things can be done by the private sector alone. As Ron Rivera, the pioneer who developed and disseminated the Ceramic Water Purifier (see the case study on safe water in Part Two) stated: "Yes, there may be a fortune at the bottom of the pyramid. But what is even more likely is that one loses a fortune first while exploiting this market."

5.4. THE DIFFERENCE BETWEEN A MARKET APPROACH AND CONVENTIONAL AID

Let us put the difference between market approaches and conventional aid – with all the obvious dangers of over-simplification – in a nutshell. Conventional approaches have often intervened on the supply side and not on the demand side. A classical example is the case of sanitation: for many years latrines have been distributed free of charge or with heavy subsidies and they have hardly been appreciated. The more expensive the latrine models were, and the higher the subsidies, the less successful were such programmes. Now, the dynamics have been reversed totally: demand-side interventions with intelligent social marketing strategies, combined with suitable marketing interventions on the supply side (such as simpler and cheaper models, and competition) are having an outstanding impact. What was almost a non-starter has been converted into a thriving business, as described in the case study on total sanitation in Part Two.

The most straightforward definition of market approaches is that they are interventions in the market at critical points, seeking to make markets work that have failed before. Instead of the conventional approach of simply pushing, market approaches use a mix of instruments that both push and pull, as illustrated.



It is sometimes quite challenging to understand markets sufficiently to make this simplified system work. The next chapter looks, with examples, at when markets work for the poor and even more carefully at why they so often fail. That is followed, in Parts Two and Three, by summaries of the seven case studies in order to learn how market approaches can work.

WHEN AND WHY DO MARKETS WORK OR FAIL FOR THE POOR?

Markets have failed more often than they have worked for the poor. The reasons are manifold: sometimes there are high entry costs into markets, the quality requirements are too high, markets require a regular supply and therefore a planning schedule, fierce price competition is kicking people out of business, the poor lack access to financial services and information, or there are high transaction costs – all these factors and more may be responsible for market failures. Globalisation tends to accentuate these trends and marginalise the poor further.

6.1. WHERE MARKETS WORK FOR THE POOR

Let us start by first looking at some examples of where the markets are working well for the poor.

6.1.1. MICRO-PRIVATISATION: THE COOPERATION BETWEEN LARGE AND SMALL ENTERPRISES

A market is often a mix between small initiatives and large initiatives. There are cases where small and micro-enterprises alone would fail, but they could become competitive if linked up with larger formal systems, in an optimal way. Malcolm Harper has documented a series of cases¹⁹ where public services can be provided through private enterprises, if they are allowed to play their optimal role – that is, to make full use of their special skills and dynamics. Harper calls this phenomenon 'micro-privatisation' and shows examples of involving small private micro-enterprises in the 'Last Mile' of delivery. An electricity utility or a telephone company can very well cooperate with small private enterprises in the distribution of electricity or in getting access to public phones: small enterprises are very good in the retail business, in last mile delivery.

In India, for example, the telephone companies have allowed private entrepreneurs to run telephone booths all over the country. This has become an excellent tripartite business, good for the phone company, good for the entrepreneurs and, finally, an excellent service for the public. In a similar way, large companies involve many thousands of small and mini-shops in their retail networks. This provides both a service to the end-customers, mainly in rural areas, as well as a source of income for those many kiosks, shop owners, stockists and retailers.

However, in many cases, this interplay between small and large enterprises does not work. For example, supermarkets are increasing their share of the market and small businesses often cannot compete with their sophisticated retail chains.

6.1.2. MOBILE PHONES: WORKING EXCEPTIONALLY WELL FOR THE POOR

Mobile phones in India are now selling at the rate of more than six million – not per year, but every month! A few months ago, I bought a mobile phone in a nice small shop in Dwarka, now a bustling satellite city of Delhi with one million inhabitants where a decade ago cows quietly grazed. Half an hour later, I was able to make my first phone call, to my mother in Switzerland, for 15 minutes. After the call, an SMS message told me that my credit on the prepaid card had gone down by about 40 rupees or US\$ 1 – an unbelievably cheap call.

What a contrast to the year 1992 when I moved to Delhi to become country director of SDC. Then, the first and most important criteria while renting a house was: "does it have a phone line?" It did, but it was not yet connected, and after five weeks – and a bottle of whisky – someone came and connected it. I was told that five weeks was very fast and that I was very lucky to know somebody who knew somebody from the telephone company. Had the house not already had a phone line, the whole affair would have lasted several years.

Up, up and away: cell phone users in Africa

In 2001, Africa became the first region where the number of mobile subscribers exceeded those using fixed lines. By 2007, the proportion of mobile subscribers had soared to 90% of all African phone subscriptions.

Year	Mobile subscribers
1998	2 million
2002	28 million
2003	51 million
2004	82 million
2006	198 million
2007	258 million

Year-end figures

Source: International Telecommunication Union (ITU), The Economist

What a change: the Indian phone situation had already been improved radically when the IST booth was allowed to start operations. Overnight, one could make a phone call from almost any village in India to anywhere in the world. Nowadays, of course, any shop-owner, many farmers, and almost all taxi drivers own a mobile phone.

Similarly, Africa has become the fastest growing market for mobile phones, where they now vastly outnumber landlines. In the same decade of rapid change that has transformed South Asian telecommunications, Africa has moved from a pitifully low rate of less than one-third of one percent of 'mobile penetration' (mobile subscribers as percentage of population), up to 34%. A growth surge of a factor of one hundred in ten years!

In India, annual growth rates in mobile subscribers have topped 91% since 2001. Even so, according to the International Telecommunication Union (ITU), mobile penetration was 14% in early-2007, leaving a tremendous potential for growth.

How was this possible? A global revolution of this scale must have undoubtedly had more than one incubator. One such, surely, is the case of the Grameen Phone. It all started in Bangladesh with the famous Nobel Prize winner Mohammed Yunus who – after having been instrumental for the micro-finance revolution – started the Grameen phone company. Its growth has been chronicled by Rhett Buttler, as "a non-profit organisation that provided low-cost phone services in rural areas. Using money borrowed from the Grameen Bank, village entrepreneurs purchased mobile phones which they then used to sell phone services to customers – other villagers – and they charged by the call. The result: mobile phone entrepreneurs – 95% of whom were female – made a tidy profit while villagers reaped the benefits of instant communication. These benefits included communicating with distant family members, making it easier to find employment opportunities, having more options during emergency situations, enabling farmers to check prices in different markets before selling produce, and eventually allowing the quick and easy transfer of funds. The mobile phone micro-enterprise platform spread rapidly through the country and stimulated other economic activities among the rural poor, who have proven to be much more technology-savvy than many originally anticipated".²⁰

Cell phones have become a prime example of a technology that helps many different user groups. There are several beneficiaries of mobile phones at the village level:

- Entrepreneurs who make money by selling phone services to villages on a per use basis.

- Sellers of prepaid phone cards including poor urban youths and small business owners.
- Users of phones who gain business and employment opportunities mentioned above.

The benefits mobile phones bring at a local level can be extended to a country as a whole. A 2005 study by the Centre for Economic Policy Research and backed by the UK mobile phone giant Vodafone²¹ found higher rates of economic growth in developing countries with high mobile penetration. According to the study, a developing country which has an average of 10 more mobile phones per 100 inhabitants between 1996 and 2003 would have enjoyed per capita GDP growth that was 0.59% higher than an otherwise identical country.

Innovative Business Models – some examples

The introduction of prepaid technology completely revolutionised mobile markets in developing countries, by removing the tie between use and an account holder (with a physical address).

- In Senegal, Alizé, the mobile operator of the Sonatel telecom enterprise, offered a prepaid 'student' tariff which included free SMS use. The 'student' criteria did not seem to be strictly enforced, and SMS use grew rapidly. Alizé later charged for SMS, but usage remained high as people were used to it.
- Operators compete on several criteria, including services charges and air time rates. As competition increases and costs drop, operators change the mix of charges in their offer. Extending the life of air time (bought on prepaid cards), reducing service charges, and lowering the credit limit for keeping an account live would all help attract low income customers.
- Nokia's E-refill is available in increments that are much more affordable than traditional scratch card pre-pay schemes (typically \$ 5 minimum). In the Philippines E-refill was attracting one million load transactions (of as little as \$ 0.54 each) per day from only one provider.

The survey also found a number of other benefits from mobile phone ownership including:

- Mobiles save people living in rural communities the financial costs and time involved with travel. As a result, 85% of people in Tanzania and 79% in South Africa said they had greater contact and improved relationships with families and friends as a result of mobile phones.
- 62% of small businesses in South Africa and 59% in Egypt said they had increased their profits as a result of mobile



phones, in spite of increased call costs.

- Over 85% of small businesses run by black individuals in South Africa rely solely on a mobile phone for telecommunications. The results of this study suggest that growth in the African telecom market will continue to pay off African economies.

Why did it work here? Why are mobile phones a true success story in almost any developing country now? The main reason is that the mobile phone companies – besides investing huge amounts in the infrastructure and an impressive retail network – adapted their business models for poor customers, as described in the box. They solved the problem of affordability by innovative pricing plans and by being very flexible²². The prepaid cards have revolutionised the access as it was no more necessary to have an account with a fixed address.

There are more users than owners and this is an indication that many mobile owners use their mobile phone to lend it to neighbours or even rent it out. Interestingly is also that far more voice calls are made in developing countries than SMS messages are sent: whereas in Europe the ratio between voice calls and SMS is 0.6 / 1, this ratio is up to 17 / 1 in a rural community in South Africa. This is astonishing even for Neil Gough²³, a Vodafone director, who points out how important it is to know the users and their attitudes well: "when one considers this ratio in the context of a community in which only 30% of the population had completed primary education, the data are more understandable. One of the great advantages of mobile phones is that it allows communicating orally and in vernacular languages and this makes it more important as a communication tool than the Internet.

So, overall, the mobile phone dissemination is a success story, at least in those countries where the regulation authorities have allowed the private sector to come in and where suitable framework conditions have allowed that low and innovative pricing conditions were introduced. So far, only Kenya and South Africa have formal competition policies in place, most other countries still have dominant state telecom operators 'to ensure the regulatory framework is designed in their own interest'. Given their typical history of inefficiency and corruption, their dominance is counter-productive, inhibiting the rapid spread of mobile communication networks."

6.1.3. LIGHTING AFRICA: OFF-GRID LIGHTING BEFORE BREAKTHROUGH

Africa is still as dark as many now-developed countries were in medieval times. The NASA photo 'Africa by night' shows this phenomenon in an impressive way. There is little hope that the electric grid will reach those rural populations in a very near future: the majority of the people of Africa depend on paraffin and kerosene lanterns, on candles and wicks.

The International Finance Corporation (IFC) and the World Bank have now started an interesting initiative, Lighting Africa²⁴, aiming at developing a market for off-grid lighting. In May 2008, a conference and a 'Development Market Place'²⁵ competition were organised in order to promote off-grid lighting with new technologies such as LED lamps that consume only a fraction of conventional light bulbs.

There is already a significant market for lighting in Africa: poor people spend over US\$ 1.4 billion on kerosene

and paraffin each year. This is a heavy burden for them: almost 15% of their daily spending goes into lighting with a very bad return: kerosene lights and paraffin wicks not only pollute the air but provide a very bad quality of light. Moreover, every paraffin or kerosene lantern emits between 50 and 350 kg of CO² per year. However, the great advantage is that people can buy kerosene or paraffin in low volumes. A woman from Kenya explained that when they have only little cash left, they buy kerosene just for the evening and often they have to go to bed at 9 pm already, simply because there is no more light available.

A similar revolution to that with mobile phones will be possible if the market for off-grid lighting can be developed and if suitable payment models can be made available: if people can rent the lanterns and pay similar amounts as they are paying now for kerosene – US\$ 2 to US\$ 5 per week – then the picture may change. Among the most promising options are charging kiosks where the batteries of LED lanterns can be re-charged and where small payments can make modern off-grid lights affordable. The Lighting Africa initiative has also commissioned an extensive market study that reveals the preferences and lighting needs of people in their homes and businesses. One of the important findings is that a solar panel to recharge the lantern needs to be fixed onto the roof as the whole lantern would be stolen if it is placed on the roof for charging.

One of the global pioneers of rural off-grid lighting is Harish Hande who has created SELCO in South India, a servicing company for rural solar-based lighting solution. I visited his project some 10 years ago when it was still a very new initiative. His pioneering work was to set up a private servicing company that could install, maintain, expand and repair solar lighting systems in rural households. I could understand how crucial this service aspect was when he showed me a village where a solar street light had been installed through a government scheme. After three months of bright light, this street light suddenly stopped operating and the villagers concluded: "solar lighting does not work here, there is not enough sun". When SELCO came to the village, their technician immediately detected the problem and could fix it: there was nobody who put water in the battery and with a few drops of distilled water, the light was working again. This service company then paved the way for a large-scale operation and more and more banks became interested in financing solar lighting solutions. There was one simple condition that the banks imposed, more important than collateral guarantees: there had to be a repair shop in the village. The clients paid back their loans without problems as long as the lights were

working, but the moment the light went off, they also stopped paying back their loans.

Also in the field of lighting, the Grameen Bank has again served as the crucible for a large-scale solution in Bangladesh: a few years ago, Mohammed Yunus created a subsidiary enterprise, specialised in providing rural, off-grid lighting services based on solar photovoltaic (PV) systems, known as Grameen Shakti (shakti is the Bengali word for energy). Through the vast network of the Grameen Bank, this service company was set up to install solar home systems (SHS) and provide suitable financing schemes. Grameen Shakti is now geared towards large-scale replication and aims at installing one million SHS in Bangladesh in the coming few years.

6.2. WHAT FAILED: WHERE MARKETS DO NOT WORK

There are a few such shining examples already where markets work for the poor and many more when they don't. One of the key hurdles to overcome is affordability and the initial upfront investment needed for so many items.

6.2.1. WATER: WHY THE POOR PAY MORE THAN THE RICH

The 2003 edition of the World Development Report revealed the shocking fact that poor people pay much more for their water than the rich. Poor people in developing countries even pay more than rich customers in developed countries and if, in the cities of the North water can be drunk directly from the tap, this is indeed a very precious luxury.

Connecting houses to the piped water supply grid is a costly investment and the initial charge is usually far too high for poor people. This often means that the poor have to buy their water from water vendors, or collect it from remote places or stand in a queue at a water post. This market has definitively failed to deliver and new forms need to be developed. This is especially the case for safe water: not only do poor people pay more for water than the rich; they often do not know if their water is safe or polluted. Moreover, even if the water was safe at the waterworks, it can be contaminated due to leaking pipes or during transport, storage and consumption.

New forms of marketing safe water are thus needed and one of the case studies in Part Two deals precisely with those marketing challenges. Similarly, over 40% of the

world's population does not have access to sanitation. The markets do not work yet in solving this problem, but there are already some really interesting approaches that can achieve total sanitation in a short time, as the case study on sanitation in Part Two will illustrate.

6.2.2. AGRICULTURAL MARKETS: WHY DO THEY FAIL FOR THE POOR?

Agricultural markets are also undergoing radical transformation and many trends are leaving small farmers even more marginalised than in the past. While the prices of agricultural commodities have been facing a secular decline in the last 50 years, this trend has been reversed recently with escalating food prices. It remains to be seen whether this increase will bring – finally – any benefit to poor farmers. High prices for food are definitively an issue for the urban poor, but they may be an opportunity for millions of small farmers in the mid-term.

However, structural problems tend to make it difficult for small farmers to participate in markets, for a litany of reasons, principally:

1. Participation in high-value crops is demanding: Small farmers would have a comparative advantage to produce high-quality crops and commodities, if they had the inputs needed. Access to good seeds, inputs, know-how and finances are often the main issues to be addressed.

2. Supermarketisation: More and more agricultural products are being distributed and sold through supermarkets and this presents a set of new challenges for small farmers. Without being well-organised they cannot participate as suppliers to supermarkets and deliver the right quantities of the right qualities at the right place at the right time. For this, they need organisation (a planting and cropping schedule), access to top quality inputs (seeds, fertilisers, pesticides) and know-how and they need to reduce the transactions costs considerably. In Nicaragua, the Hortifruti chain of supermarkets sends a truck out every Monday, Wednesday and Friday to collect vegetables. It will only stop there where the farmers can at least deliver 20 boxes of tomatoes every time. If they produce too many at one time, and not enough another time, the truck would ride half empty or too full.

3. Grading, sorting, packing: The marketing of agricultural goods has become more demanding and needs sorting, grading and packaging facilities. If small farmers cannot provide this service – through joining a cooperative – they will depend on the middleman who will pay them low prices. He usually cheats them and they cheat him by hiding bad quality produce below the



good. The middlemen then has to sort everything and this cost is paid partly by his higher margin.

4. Certification: More and more products need to be fully traceable. This is, amongst others, the trend in the wholesale markets of Europe where agricultural goods need to have the EurepGAP label, developed by the Euro-Retailer Produce Working Group, a private sector body that sets voluntary standards for the certification of good agricultural practice and produce. Similarly, more and more companies are asking for certification in order to satisfy consumer demands or Corporate Social Responsibility (CSR) standards. Usually, small farmers can only be certified if they are well-organised and can thus be recognised and certified as a producer group. This organisation reduces the transaction costs of certification and is the only form how small farmers can participate in high-value markets.

These constraints can also offer opportunities and with proper organisation, technical assistance and access to services, small farmers can participate in new markets, for example specialty coffee, organic or fair trade markets and get considerably higher incomes for their crops. It is, nonetheless, a demanding task.

6.2.3. TRANSPORT: WHY IT IS EASIER TO GET A LOAN FOR A CAR THAN FOR A BICYCLE?

Affordability is a key hurdle for many products to reach poor people. However, it is often easier to get a loan for a car or a motorbike than for a bicycle. This has to do with it being more attractive for a trader to sell a car to somebody and usually the car or motorbike dealer has already a form ready to be filled in for obtaining a loan.

For bicycles, such services are often not available and more difficult to handle. In many developing countries,

there were also no cheap and sturdy bicycles in the market. For example, in Central America, some 20 years ago, the only bicycles available were 20-gear racing bicycles that were sold in fancy shops alongside refrigerators and air conditioners for those upper- middle-class sportsmen who would use the bicycle for leisure, just as tennis or golf equipment.

An interesting example of how a market for low-cost bicycles was developed is the case of Nicaragua. When the Sandinista government took over in 1979, there was a scarcity of fuel and many people were in dire need of transport. Shortly afterwards, a request came to the Swiss group SKAT, then called the Swiss Centre for Appropriate Technology, from a small group in Nicaragua to provide the "plans for the Swiss army bike". Ricardo Navarro, an engineer from El Salvador, was then working at SKAT on a study on the bicycle as a means of transport. Instead of sending the plans of the Swiss army bike – it turned that this is an extremely expensive bicycle – a novel model of technology exchange was developed. Funds from two Swiss NGOs had been allocated for a school-building programme, but they were first used to import containers of bicycles from India; these bicycles were then assembled in small workshops in various locations in Nicaragua, sold to the public and the money was then used to build the schools.

In a short time, many sturdy bicycles came to Nicaragua. Rather than sports bicycles, Ricardo Navarro selected sturdy mountain bikes that were ideal for the unpaved roads in Nicaragua. The bicycles soon became very popular and a market was created: second-hand bicycles from Holland were imported and refurbished, more and more small workshops for repair and assembly emerged and soon the bicycle became the pre-dominant mode of rural transport in Nicaragua. The key factor was the high visibility: the more the bicycles became visible, the more people wanted to have one too. This was then the basis for the private sector to take over and to invest in importing containers of bicycle parts and to assemble them. Still today, the impact of those early containers from India can be felt.

6.2.4. HEALTH: WHY DO THE POOR NOT GET WHAT THEY NEED?

As William Easterly complains, the most urgent health needs of the poor are not attended and the 50cents medicines that are needed to cure malaria attacks and save the life of poor children do not reach them.

It is also a fact that pharmaceutical companies invest where there are markets – and any Western market is

more attractive than one where diseases creates the heaviest burdens and produce the heaviest death tolls. The entire African market for pharmaceuticals is around US\$ 5 billion, or 1.3% of the world market, no more than what the pharmaceutical industry invests in advertising in the USA alone.

However, the health markets also do not work because of excessive state intervention and lack of incentive. As Easterly points out, if the nurses of a government health service had even a tiny incentive in form of a commission on each mosquito net sold, they would be very eager to stock them all the time. Where such incentives are not in place, the medicines or mosquito nets are often simply not available.

There is, on the other hand, a severe affordability problem as well. The debate on whether mosquito nets should be given for free, or sold, is a good example and the best answer is neither a simple Yes nor a straight No: it is Yes and No. For catching up, free distribution systems are needed in order to achieve a critical mass, but for keeping up and making nets available for replacement they must be sold. Intelligent subsidy mechanisms are needed to make nets and medicines more affordable, and to ensure their continued availability. These considerations are discussed in more detail in the case study on mosquito nets in Part Two.

6.3. WHAT IS ESSENTIAL TO MAKE MARKETS WORK

Much is needed to make markets work and the present debate on MMW4P is revealing more and more elements. There is indeed little that can be generalised as many bottlenecks are very context-specific. Two major issues are, nonetheless, typical and should be addressed in most cases:

1. Financing mechanisms, and
2. Design improvements

Both these ingredients are essential to make products affordable for the poor.

6.3.1. LEARNING FROM MICRO-FINANCE: WHAT YUNUS REALLY REVOLUTIONISED

The major contributions of Mohammed Yunus in micro-finance are well-known and they were finally recognised with the Nobel Peace Prize in 2006. While some still understand his main contribution as giving poor people micro-credit, it is now recognised that it has been much more than just the credit aspect. By organising villagers in savings and credit groups, he has first created an asset base that allows poor women to create reserves

that makes them less vulnerable. Only then will they be able to absorb small loans. With the global replication of micro-finance mechanisms, his main contribution has been to make poor people bankable and alert the banking system to the fact that poor people are indeed a very promising market. Especially poor women are very trustworthy clients who pay back their loans reliably, with much higher recovery rates than other clients.

In the meantime, the range financial products has become much more refined; new products such as micro-leasing, rental systems and insurance schemes have been developed. What we can learn from Yunus is that new institutions – or reformed existing institutions – are needed to provide financial services that make products and services for the poor affordable. In order to make markets work for the poor, many such innovations in financing will be needed. Basically, if the poor can pay investment goods with the fruits that those investments yield, they will be able to participate. In this sense, inclusiveness depends very much on such financing mechanisms being available on a large scale. These services should not only be provided by banks or micro-finance institutions in the classical sense, but through major retail chains, kiosks and other outlets, just as they are working already on a large scale in the mobile phone markets: MTN, Vodafone have a retail system where prepaid cards, phones and accessories are available to even remote and small customers.

The same is needed for many other products that the poor so badly need and deserve: rental systems for irrigation and other agricultural equipment, latrines, water filters, battery re-charging stations for lighting and a multitude of other needs – and opportunities.

6.3.2. THE DESIGN REVOLUTION FOR THE "OTHER 90%"

When Paul Polak was invited to give a talk at the Institute of Design at Stanford University, he complained that the most famous and skilled designers spend all their energy on making products for those 10% who already have everything.²⁶

That designing affordable products for the "other 90%" is a totally neglected area, is a recurrent theme for Polak, both in his new book 'Out of Poverty'²⁷ and in an earlier paper on 'Water and the other three revolutions needed to end rural poverty'²⁸. In this clarion call to designers, he exhorts them to ruthlessly pursue affordability issues as the major design criteria: "Affordable design is also the glue that makes the revolutions in agriculture, markets, and water feasible, just as important to the design of

marketing campaigns and pest management strategies as to small plot irrigation technologies. It is no accident that the tipping point for sales of technologies like treadle pumps and low-cost drip systems came when IDE reduced the price to one-fifth of that of comparable devices. Because of this, I use the term "Factor Five Design" to describe the ruthless pursuit of affordability that is the keystone of effective design for poor customers. This process systematically designs around key contributors to cost for existing technologies, and identifies tradeoffs between efficiency and affordability acceptable to customers to break through cost barriers.

What most stands in the way of the design revolution needed for poverty eradication is how design is taught to students entering the field today. Students who graduate from design courses in universities in developing countries too often are expected to use their education to get government jobs where they will never have to get their hands dirty again, much less come up with affordable solutions to village problems. In the West, on the other hand, 90% of the graduates of design schools focus all their time on solving the problems of the richest 10% of the world's customers. To design products and services that meet the needs of the three billion customers who earn less than two dollars a day requires a revolution in the way design is taught, both in Western and developing countries, based on the ruthless pursuit of affordability.

Finally, an organisational structure is needed to harness the creative energy of ten thousand of the world's current best designers in a process of finding practical solutions to village problems."²⁹

PART TWO: SUPPLY CHAIN DEVELOPMENT: CASE STUDIES

The study on market approaches that work for development is a follow-up study to an earlier study conducted on 'Poverty Alleviation as a Business'. It comprises seven case studies thus far.

Each case study is available in published, printed form and can be downloaded from the Website www.poverty.ch. The case studies are summarised here in Parts Two and Three of this present publication.

Here in Part Two, four case studies deal with market creation and the establishment of viable supply chains, using the private sector and market forces as a delivery mechanism:

- **Malnutrition:** Sustainable approaches to combat malnutrition – Small-scale production and marketing of Spirulina, (www.poverty.ch/spirulina)
- **Sanitation:** One fly is deadlier than a 100 tigers – Total sanitation as a business and community action (www.poverty.ch/sanitation)
- **Safe water:** Marketing safe water – why it is so hard to get safe water to the poor and so profitable to sell it to the rich? (www.poverty.ch/safewater)
- **Malaria:** Should bednets be sold, or given free? The role of the private sector in malaria control (www.poverty.ch/malaria)

Later, in Part Three, three case studies are presented on value chain development. They describe and discuss the linking of farmers to value chains through water control and market access; the global organic cotton value chain; and the place of supplemental irrigation in upgrading the high-value chain of coffee.

SUSTAINABLE APPROACHES TO COMBAT MALNUTRITION

7

7.1. MALNUTRITION – THE 'SILENT MASSACRE'

It may appear a cynical statement but, sadly, it is a true one: people living as refugees in a refugee camp face a lesser risk of malnutrition than in their normal daily struggle for survival outside. The vicious cycle of anaemic mothers who give birth to underweight children and then cannot give them enough proteins and, above all, sufficient micronutrients is a 'silent massacre'. Malnourished children do not cry; they will just grow up mentally retarded, stunted or even blind. If malnutrition occurs in combination with diarrhoea and / or malaria, this may lead to high infant mortality rates.

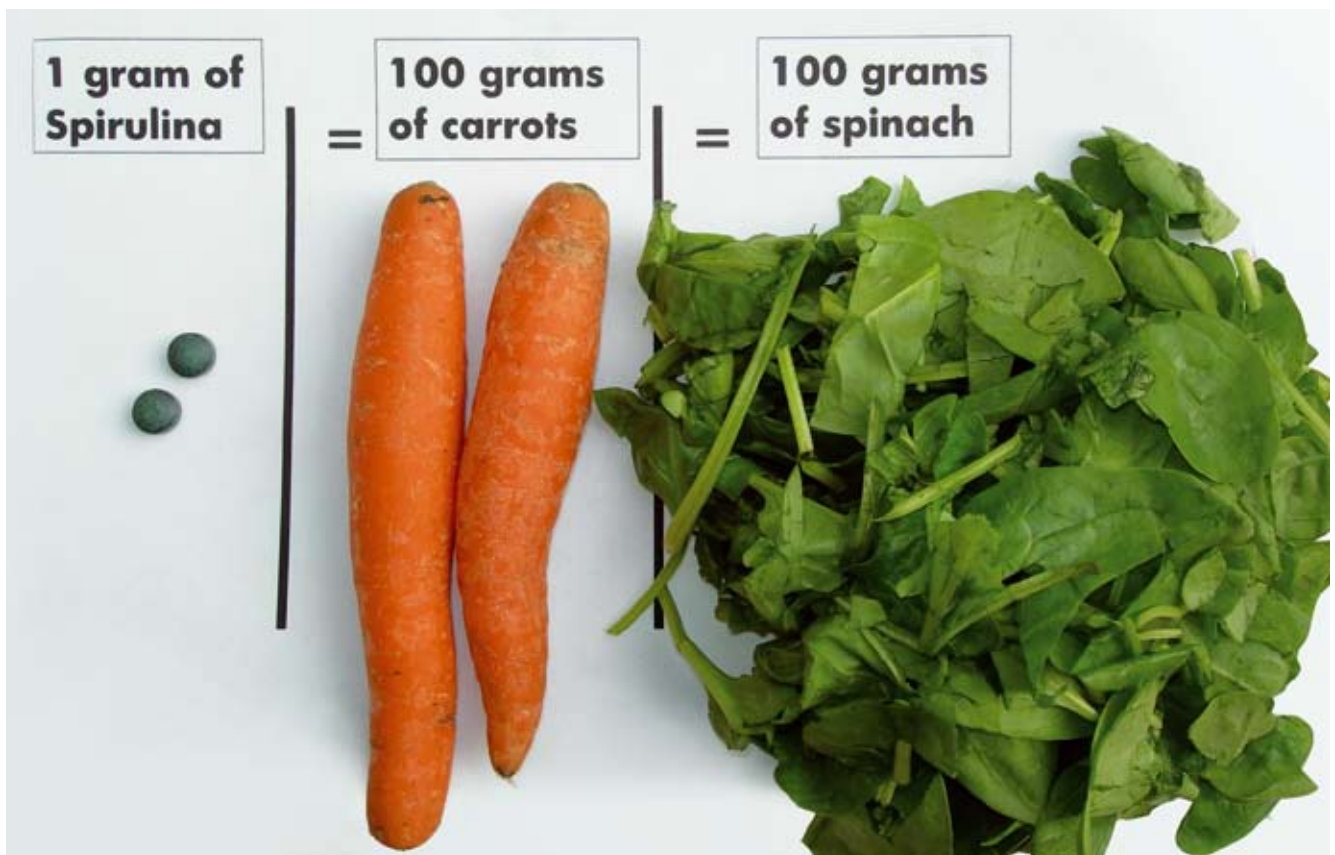
In the combat against malnutrition, sustainable solutions are essential – not only in emergency situations but also in people's daily lives. These solutions are badly needed, not only to achieve the Millennium Development Goals but also as an investment in a productive society. How can society end poverty and achieve prosperity, if its children are stunted, mentally retarded or too weak to attend school?

7.2. SPIRULINA – A CHEAP SOLUTION

One such sustainable solution is Spirulina, a blue-green algae which can serve as a vital source of nutrition. Its major facets include:

- it is **cheap** (the cost of feeding one child in India is less than US\$ 10 a year)
- it is **effective** (requiring only one gram a day)
- it uses a **simple and well-known technology**
- suitable for **production and processing in decentralised rural industries**, thereby creating **income** for women in rural areas, where most of the world's poor live

Spirulina is a very interesting food supplement indeed, combining the vitamins, iron and many other micronutrients that the body needs. In the case of Vitamin A and iron – the two most important micronutrients – Spirulina is cheaper than any other natural product, including carrots and spinach. In India, one gram of Spirulina per day costs less than the 50 grams of carrots or 100 grams of spinach which would provide roughly the same amount



One gram of Spirulina per day can correct a mild malnutrition of a child and prevent severe long-term and irreversible damages such as stunting, blindness and mental retardation



Growing Spirulina can generate income for women. Antenna's production centre in Madurai, India.



Weighing the wet Spirulina after harvesting. Village women can master most steps in the process with proper training.



Chikkies – a kind of energy bar – is the children's favourite. They love to munch it and the taste of Spirulina is neutralised.



Chikkie production is a simple technology, suitable for small workshops. For Africa, other products may be more suitable.



A small chikkie factory can be established with a capital of less than US\$ 1,000



Feeding programme with Spirulina chikkies at the Switcher schools in Tiruppur, southern India, the largest textile knitting town in the world



Dr. Edwin, a paediatrician from Madurai, has studied the positive impact of Spirulina on the malnutrition of children



Malnutrition of small children is a severe disease that can have lasting effects in stunting, blindness and mental retardation



Studies in India and Senegal have shown that Spirulina can improve the cognitive capacities of children in schools



In Africa, several production units are running in Burkina Faso, Central African Republic, Chad, RD Congo, Kenya, Madagascar, Mali, Niger and Senegal



Spirulina cannot cure AIDS patients but can improve their lives. Its nutritive value of Spirulina has helped this infected woman to gain weight.



Many orphanages and rural hospitals for HIV / AIDS patients run by sisters are very interested in small Spirulina production units

of micronutrients. This is not an argument against carrots or spinach but, to be realistic, poor children would very rarely get 50 grams of carrots or 100 grams of spinach every day. Another compelling feature of Spirulina is that it improves not only the physical strength of the body but also the cognitive development of the child.

Spirulina is also highly relevant for people affected by HIV / AIDS: improved and more balanced nutrition can ease their life considerably although it cannot, of course, cure their disease. In West and Central Africa, HIV / AIDS patients are buying Spirulina every day as a dietary supplement. A recent study with children in Burkina Faso has shown that HIV / AIDS-infected children put on weight and grow, if rehabilitated with Spirulina.

7.3. LOCAL PRODUCTION BY VILLAGE WOMEN

What makes Spirulina even more attractive is the fact that it can be produced locally with little investment. With proper training and capacity building, decentralised production, processing and distribution of Spirulina can be organised as a small business for women. With proper funding mechanisms, these same women can be involved in feeding programmes and become sustainable barefoot nutritionists. Women who produce, process or sell Spirulina can also become agents of awareness creation and nutrition education. The same is true with small production tanks in schools: if school children learn to grow Spirulina and become aware of its nutritional benefits, this is a fantastic opportunity for awareness creation.

A feasibility study for scaling-up production in India has shown that it is possible to run a profitable social enterprise with decentralised production units, combined with centralised marketing and technical support. Profits can be made on sales in the up-scale market (body-builders, diabetes patients, 'joggers') and used for cross-subsidies in the rural market of the poor. Once they are aware of the nutritional benefits for their children and provided that prices are affordable, poor people in India and Africa have shown their willingness to pay for Spirulina products.

From the perspective of project implementation, decentralised local approaches are more cumbersome to implement than industrialised food fortification programmes. With the latter, adding micronutrients to staple foods or other carriers like salt, wheat or cooking oil is a very effective and relatively cheap solution per capita. Unfortunately, it is not the answer for rural areas in Africa, Asia and Latin America, where most of the poor

live, and where malnutrition is most widespread. Food fortification strategies work well – and have achieved a lot – in industrialised countries, but do not work if people consume their food unprocessed or process their cereals in small village mills.

There are, however, significant advantages to decentralised approaches. The most interesting aspect of this study lies not in the Spirulina algae itself and its fame as a kind of 'miracle' product, but that it can be produced, processed and distributed locally, and that even the poor are ready to pay something for it. In emergency situations, it may be tempting for a humanitarian aid agency to distribute imported 'plumpy nut' (a high-protein, peanut-based foodstuff), or therapeutic milk products, free of charge. This may be justified in short-term emergencies, but it becomes a dubious practice in long-term emergency situations: distributing food supplements freely is an easy, but never a sustainable, solution.

7.4. THE CHALLENGE OF MAKING SPIRULINA A SUSTAINABLE BUSINESS

In the long run, there are no cheaper and better ways to sustainability than creating local businesses which make use of the knowledge and skills of local women. A truly sustainable solution will emerge if rural women can be profitably involved in the eradication of malnutrition and, in the process, make a living out of it. Spirulina can become a sustainable long-term solution if programmes can be designed to enable profitable enterprises that are capable of combating malnutrition as a business.

One key requirement for making Spirulina a sustainable approach to malnutrition is to have a joint marketing company. It could find inspiration in the AMUL brand, which was adopted by the Anand Milk Union Limited in 1946, and has grown into a massive, apex-style cooperative dairy processing company. With common branding, Spirulina be profitably produced by families and Self-Help Groups of women. It would need a network of collection centres where the women can deliver their harvest daily; a system for drying, storage and processing; and marketing by a formal agency.

ACHIEVING TOTAL SANITATION WITH A DEMAND-DRIVEN APPROACH

8

According to one cold, chilling statistic, more than three children die every minute, of diarrhoeal disease. Just as with the silent massacre of malnutrition, these children are dying with no noise, no swelling of public outcry, no outpouring of human solidarity, not as there is after an earthquake or a tsunami.

"One fly is deadlier than 100 tigers ..."

... is the expression of a member of a WATSAN (water and sanitation) Committee in northern Bangladesh. This may sound exaggerated but it is a truth: how many people have been killed by a tiger? Every hour, hundreds of children are dying from diarrhoea, transmitted from faecal germs through the water, through animals and through flies. We should therefore be more afraid of flies than of tigers and focus on the right issue.

The lack of sanitation facilities – together with lack of awareness about hygiene and polluted drinking water – leads to chronic diarrhoeal diseases. It is young children who suffer the most: for them, a heavy diarrhoeal incidence is often deadly. Yet in a village with open defecation it is not only children, but people of all ages suffer from chronic diarrhoeal diseases or epidemic outbreaks with quite severe consequences. Women and children are sick with dehydration and anaemia; children cannot attend school; adults lose many working days, and families spend significant amounts for medicines and doctor's visits. Diarrhoea is a harmful, often deadly, disease. It has a tremendous negative development impact if one counts all the lost hours of productive work.

These facts are all self-evident truths. And yet progress in sanitation is extremely sluggish. This is despite the expenditure of hundreds of millions of dollars on subsidising latrines, and despite the tireless efforts of well-meant programmes to educating 'beneficiaries' about the advantages of having a latrine. People still continue with their practice of open defecation and do not realise that each person deposits some 300 kilograms of potentially dangerous human faeces every year in open fields. These faeces remain there where they were deposited: rains and winds, flies and dogs, chicken and pigs will bring them back to the village and make people sick. It is for this reason that a member of a WATSAN committee in northern Bangladesh has brought the message

home to all by developing the slogan: "one fly is deadlier than 100 tigers".

8.1. CHANGING THE PARADIGM: INFLUENCING DEMAND WITH STICK AND CARROT

Supply-oriented approaches to disseminate latrines with heavy hardware subsidies have not worked and, in many cases, they have been a total failure. As John Maynard Keynes said: "you can lead a horse to water but you cannot make it drink". If a government or an NGO gives a family a latrine free of charge, or with a heavy subsidy, there is no guarantee that it will be used. Experience has even shown that there is little likelihood that people will change their behaviour.

Bangladeshis and bathrooms:

"Bangladeshis do not like to spend money for latrines" was a sentence in an evaluation report on our Water and Sanitation project in Bangladesh. It struck me and stayed with me for a long time. I had come to Bangladesh as the country director of SDC in 1987. One day, I thought, "but if Bangladeshis don't want to spend money for sanitation, why do I have then in my house five bathrooms, four more than I have in my house in Switzerland?"

This was the starting point of a long process of looking at the demand side of sanitation. It led finally, in 1991, to a large conference: Sanitation by the Private Sector.

So, how do people change their behaviour? First of all, any genuine behaviour change has to be voluntary. To be lastingly effective, any strategy should focus on making the desired behaviour more desirable to the individuals concerned. In the case of attempts to get people to stop smoking, many strategies have been tried, often without success. It is now compulsory to print "smoking kills" on a package of cigarettes; the price of cigarettes has been increased many times; and it is sometimes better to use positive incentives such as the campaign slogan "have you ever kissed a non-smoker?" which have at least achieved something.

Still with regard to stopping smoking, a very interesting social marketing campaign in Florida, 'Truth', has



There is a very strong latent demand for latrines, especially from women. For them, comfort, safety and privacy are very important benefits.



Women and children are the key motivators for better hygiene and sanitation



A dynamic private sector of over 10,000 latrine production workshops has emerged in Bangladesh, a strong rural industry.



Manufacturers are located in almost every village and range from small to middle-sized producers (25 to more than 100 latrines per month).



Especially in the crowded environment of Dhaka's slums, latrines are an obvious necessity: where would people go for open defecation?



Poor people are interested in cleanliness: this man is employed by 50 families as caretaker of their latrine and pay him 10 Takas each month



Total sanitation has used interesting social mobilisation methods: it all starts with a transect walk through the village



This walk is called 'the walk of shame' where villagers become aware what their open defecation places look like in the eyes of visitors



The results of the walk of shame are discussed in the village and actions are prepared



A social and physical map of the village is prepared to visualise where people live and where the open defecation places are located



The village calculates together how many tons of faeces are produced: in a village with 475 people produces 140 tons of faeces per year



Once people are aware of the problem, they discuss concrete actions and often they agree on a strict programme to implement total sanitation



Total sanitation is becoming popular in India as well: the village of this school in West Bengal has gone for total sanitation



The latrines are produced by sanitation marts run by NGOs in the villages



Sanitation marketing has also been tried successfully in Vietnam by IDE, International Development Enterprises, an NGO



The demand for latrines has dramatically increased through suitable promotion and this provides a good business for local masons



Similar initiatives have been successful in Ethiopia where the key ingredient for sanitation is political will and determination



Similar mechanisms that drive total sanitation also work in Western countries: here a Robidog station for collecting excreta of dogs

successfully involved young people. Thorough market research study revealed that young people "did not want to be told what to do" and that smoking, being a form of 'protest', became more popular, the more that moralistic pressure from adults was exercised. However, young people became interested in the campaign and even started to develop ownership, once their rebellion could be focused on the lies of the tobacco companies. Now, suddenly, fighting against smoking and the big tobacco companies has become desirable behaviour, and the campaign was extremely successful.³⁰

Although voluntary, behavioural change is also strongly influenced by social norms, perhaps more than anything else. If smoking is 'in', many youngsters engage in it for social reasons, whether they like it or not. Especially if a certain undesirable behaviour is strongly banned socially, it may have a great impact. Smokers have become a sort of 'outlaw'; in many countries, they cannot smoke in airplanes, trains, buses, public places or bars and restaurants; and if they want to smoke in an airport, they have to do it in a kind of 'cage'. Smoking has become more and more socially stigmatised.

8.2. TOTAL SANITATION – A DEMAND ORIENTATION WITH THREE THRUSTS

Perhaps taking a leaf from the social education campaigns around tobacco, very similar methods are now being applied successfully in the field of sanitation. They are awakening the desire for a hygienic environment, for a latrine or a bathroom, and they thus stimulate demand. They encourage a thriving private sector to satisfy this demand and they socially stigmatise the undesirable behaviour of open defecation. All these three elements together form the total sanitation approach with these three thrusts, or legs:

1. Stimulating demand: Latrines can be made desirable by good sanitation marketing strategies; this is the first leg. Way back in the early 1990s, a study commissioned by SDC³¹ discovered that it was simply not true that "Bangladeshis consider sanitation just as a cost factor without getting any benefit out of it". Many people – especially women – would have liked to have a latrine, but many could not afford them, or did not have the space to install one. Equally, latrines were simply not available sometimes because the Government-owned latrine production centres were too far away. A good marketing and social mobilisation campaign was thus launched, paving the way for a first sanitation miracle in Bangladesh. Stimulating demand is indeed essential for a good sanitation strategy.

2. Private sector: Where are the latrines going to come from? It requires the creation, stimulation and support of a dynamic and thriving private sector. This second leg is the best way to cope with rising demand. The top priority is to provide efficient services: people not only want latrines as hardware, but they also demand services to install them properly, and maintain them and repair when something is broken. However, the really crucial key is the price, and the fact that one size does not fit all. Affordability is the most crucial factor of marketing sanitation in a low-income society and different models are needed. For the poorest segment, very cheap entry-level models are needed; the cheapest model – a home-made latrine for half a dollar – is hardly recognised as a proper latrine but it still does the job. Indeed, people do want to move up the ladder, and flexible expansion and improvement models are as important as the availability of credit. Comfort and privacy may be the main reasons at the start, but prestige is the most important driver for sustaining the surge in latrine demand. It is this blend of factors that saw the emergence of over 4,000 private workshops in Bangladesh from 1990 to 2000, a growth that has continued since.

3. Social pressure to ban open defecation: It was some time later on, only a few years ago, that the third leg was discovered and developed in a masterly way: the social ban on open defecation. Just as stigmatising smokers as virtual outlaws was effective, so a small NGO, the Village Education Resource Center (VERC), developed a very effective social strategy to discourage people from open defecation. This attempt to banish, and in effect ban, open defecation was supported by civil society and, to a great extent, also by central and the local governments. The social pressure to do so comes from the awareness of the people themselves, and this 'awakening' has led to a tremendous growth of demand, and boost to private sanitation workshops. Today, it is estimated there are over 10,000 private latrine producers in Bangladesh, forming a really significant rural industry. The kind of social pressure exercised in Bangladesh is peculiarly compatible with the local culture. The same type of social pressure may not work in all cultures in the way it works in Bangladesh or in South Asia.

8.3. RESULTS: THE SANITATION MIRACLE IN BANGLADESH AND OTHER COUNTRIES

There is really good news from Bangladesh today: not only has Bangladesh achieved the Millennium Development Goal of halving people without sanitation already, but the Government of Bangladesh officially declared its determination to achieve the goal of total sanitation

(100% coverage) by the year 2010 – fifteen years ahead of schedule. It has also developed the tools and the software to achieve this goal. Total sanitation is not only defined by the number of latrines in a village, the 'sanitation coverage', it is defined by "no more open defecation in the entire village" and by a series of hygienic behavioural attitudes, including washing hands with soap or ash before eating and after latrine use, and many more changed habits. With a series of intelligent, 'smart', participatory measures, entire communities have been motivated to change their behavioural attitudes, to ban open defecation and to ensure that all people in the village – including the landless, school kids and even visitors (in markets) – use sanitary latrines.

Now, what is the health impact of total sanitation? People are well aware that sanitation saves lots of money; women in Bangladesh can even express the savings in the takas they saved on medicines and doctors' fees, and in the days of work and school not lost. These results can only be harvested through collective action, if the entire village plays the game and if the political system supports it with a strong political determination. This is the case in Bangladesh and in many neighbouring States of India and is becoming a more attractive option in other countries too.

There's a hole in the bucket (refrain)

In southern Ethiopia, the introduction of latrines in 2004–2006 dramatically turned around a dire sanitation situation. Prior to this success story, it had been like the song about the leaky bucket, said Dr Shiferaw Teklemariam, head of the Regional State Health Bureau (RSHB): "The rural people get sick, they are treated and leave, then they get sick, are treated again... and the cycle continues. They spend the most of their cash income on health care."

from the Field Note 'From Burden to Communal Responsibility' of the RSHB and Water and Sanitation Program (WSP), January 2007

This sanitation miracle in Bangladesh, and similar experiences in India and Vietnam, are described in the case study 'One fly is deadlier than 100 tigers' which draws important lessons for other countries and regions. While the good news is that the methods of total sanitation are spreading very fast into other countries, the (relatively) bad news is, unfortunately still, that success stories similar to those of Bangladesh are few and far between. They look more like isolated islands of success in the middle of a huge swamp of stinking faeces – the challenge is to convert inspiration and success into replicable achievements.

8.4. CAN THIS METHOD BE TRANSFERRED TO OTHER COUNTRIES? THE 5 PS OF TOTAL SANITATION

For spreading the word and method to other countries will require significant adaptations, culturally, environmentally and economically. Peoples' priorities for, say, owning a TV may always be higher than for a latrine. In Latin America, for example, people are interested in having a bathroom, but they may dream rather of a shower or a bathtub than of a latrine. There, the water closet has such a high prestige that people may hardly accept a cheap latrine. Nevertheless, the same principles and ingredients – strongly adapted, to be sure, to the local contexts may work almost everywhere.

Sanitation marketing is to be understood not only as advertising promotion, but as an approach based upon the 5 Ps of marketing – the classical 4 Ps (product, price, place and promotion) plus the critical factor of people. Together with social pressure, sanitation marketing can give an impulse to new sanitation behaviours even in Western countries. The example of the Robidog, a system where dog owners in Switzerland can – and must – collect the excreta of their beloved pets shows that hygiene can be applied to animals. The 5 Ps are of paramount importance: the product is a well-designed plastic bag and dispenser; the place has disposal bags available at all strategic places; the price is right, being free and easily available; promotion comes through educating dog owners; and most important is the 5th P: people, reaching them through the imposition of fines for not collecting the excreta, and mobilising social pressure from neighbours.

In the case of sanitation marketing, the 5 Ps are very important aspects of a successful strategy for total sanitation:

1. Product: People do not want just the one type of latrine that Governments or NGOs may have selected for them. A latrine or a bathroom is much more than simply a piece of hardware. Latrines may have emotional values and – depending on the perception – provide comfort, privacy, security, but may also be have other associations such fear (for children, because of the dark) or disgust (because of dirt, smells and flies). Having a latrine or a bathroom may be a symbol of prestige and status, and can be a dream for many people who put all their savings in a better bathroom.

2. Price: Pricing is a crucial dimension of sanitation marketing and the first demand oriented studies of rural sanitation markets and willingness to pay showed a clear preference for affordable, cheap latrines. This is not the case for all segments of the population: the better off that people are, the more they want to invest in prestigious latrines and bathrooms, provided having a latrine

or bathroom is culturally termed as a prestigious asset. For this reason, it is so important to involve the entire population and not only the poor. In a nutshell: a good pricing policy offers a broad range of different models, from the almost free home-made entry latrine to the prestigious bathroom with golden fittings.

3. Place: A thriving and vibrant private sector that is keen to make money from satisfying the needs of the customers is a vital element in a successful sanitation strategy. Competition should keep prices at reasonable levels and allow better services to compete over lethargic supply points. With this motivation, private latrine workshops have somehow managed to drive the Government-owned centres in Bangladesh out of business, despite the subsidies they provided.

4. Promotion: Promotion means advertising for desirable behaviour through, for example, hygiene education, sanitation campaigns in schools, and awareness creation among mothers and children, involving such champions as village leaders, religious leaders and politicians. This promotion can create the basis for greater motivation and become a great stimulus for increasing demand for sanitation.

5. People: If all the other 4Ps are in place correctly, then the 5thP, people, becomes the real driving force for success with total sanitation. It is a question of exercising strong social pressure to change behaviour and totally ban the practice of open defecation, even against prevailing social norms and cultures. The methodology developed by VERC in Bangladesh provides an excellent model for a successful strategy, but it may need considerable cultural adaptation for other contexts.

Each of these Ps may appear trivial and simplistic, if looked at one by one. Yet if they can be taken as a whole, and are as so delightfully orchestrated as in the total sanitation approaches in Bangladesh and India, then they become masterpieces of strategies for social change.

Sometimes, the best things come in threes. As important as the two preceding examples of nutrition and sanitation is the provision of safe water to the poor. The same numbers of children are dying from unsafe water and this will only end if poor people have access to sanitation and safe water.

9.1. WATER HAS ONE LEVEL FOR THE POOR, ANOTHER FOR THE RICH

How about this for a contradiction in terms?

- "Some 1.8 million child deaths each year as a result of diarrhoea – 4,900 deaths each day or an under-five population equivalent in size to that of London and New York combined. Together, unclean water and poor sanitation are the world's second biggest killer of children. Deaths from diarrhoea in 2004 were some six times greater than the average annual deaths in armed conflict for the 1990s. Water-related illness results in the loss of 443 million school days each year." (Human Development Report 2006). Diarrhoeal diseases have several causes: lack of sanitation, lack of hygiene but also, to a great extent, the consumption of contaminated water.
- "Bottled water consumption has grown steadily in the world for the past 30 years. It is the most dynamic sector of all the food and beverage industry: bottled

water consumption in the world increases by an average 7% per year, in spite of its excessively high price. ... Although major consumers are located in Europe and North America, the most promising markets are in Asia and the Pacific, with an annual growth of 15% for the period 1999–2001.

In India, for instance, the bottled water industry, with more than 100 companies, has a turnover of about US\$ 70 million, growing at an average rate of 50% every year."³²

The case study 'Marketing safe water' is not, on the face of it, about the striking 'injustice' that so many children die for lack of safe water while others spend four dollars or more on a small 20 cl bottle of Perrier on the terrace of a luxury hotel. Without question, this is as unacceptable as it is shameful. Nonetheless, to be pragmatic, perhaps this paradox contains some key lessons.

Why is one group of people so keen to buy bottled water at exorbitant costs while an even larger majority is so reluctant to drink safe water that they fall sick, cannot go to school or to work, and some even die? It has to do, in part, with affordability. Poor people cannot spend that amount of money on bottled water, and if they do spend some of their hard-earned money on a bottle of drink, then they would at least prefer a soft drink or a beer.

Cheap solutions do exist, so affordability is not the key problem. In Cambodia, I visited a hardware dealer, who retails the IDE Ceramic Water Purifier. The product had been introduced in his shop with a big promotional event, one year earlier. He told me that he sells one or two filters per month, and at US\$ 9 it was seen as an expensive item. When I arrived, he was busy selling a batch of soft drinks and bottled water for US\$ 15 to some people who wanted it for a funeral ceremony. When it comes to beer at US\$ 10 per case, he sells around 100 cases per month.

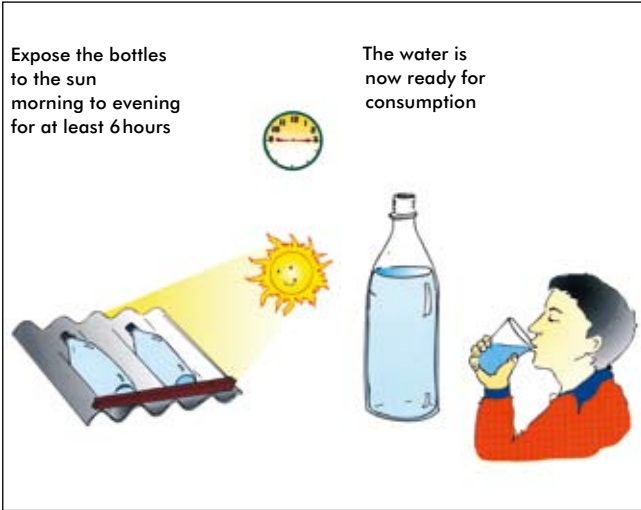
The case study on 'Marketing safe water' presents some low-cost or even free solutions that provide safe water to the poor.

It is now scientifically proven that household water treatment solutions can eliminate bacterial contamination effectively. Using filters, chlorination or solar water disinfection (SODIS) is effective and reduces diarrhoea and child mortality significantly.

Why then do poor people not use them? It seems to be difficult to persuade the poor to use them, and to



Is a ceramic filter for US\$ 10 too expensive? It is a matter of priorities: these people in Cambodia are buying soft drinks and bottled water – from a trader who also sells water filters – for a funeral ceremony where 500 people are invited. They spent US\$ 15 to serve these drinks – family prestige is clearly the key motivation.



SODIS (solar disinfection) is a fascinating method to produce safe water by very simple means



SODIS works in some places very well, especially in warm tropical countries where people drink lots of water. Here a family in tropical Ecuador.



This lady runs a small ice-cream shop in the lowlands of Ecuador and uses SODIS for her family and her business



SODIS promotion works better with good extension workers – these three promote SODIS at the neighbourhood, village and government level



In the highlands of Bolivia, water consumption is not such a high priority. This family had not used their SODIS bottle for two weeks.



It is very important to make attractive designs for SODIS. These painted silver racks increase solar radiation.



The ceramic water filter developed in Nicaragua is marketed very successfully under the 'Filtron' label



With sales done through NGOs, no rural supply chain has evolved. When the tap broke, this user stopped using the filter.



Ron Rivera, the pioneer behind the filter represents Potters for Peace in Nicaragua. Behind, the kiln for firing the filters.



International Development Enterprises (IDE) has setup a marketing programme for filters with distributors and retailers



IDE and other NGOs have disseminated over 200,000 filters in Cambodia, reaching almost 10% of all families



RDI Cambodia specialises in awareness creation and water technologies and uses Muppet Show-like animals to promote its 'frog'-filter



These women in the Great Lakes region have to fetch their water from the lakes and it is heavily polluted



Antenna's small chlorine factory allows for decentralised production with simple means: electricity and cooking salt



Over 500 mamans sensibilicatrices (awareness mothers) disseminate chlorine and awareness as a package in the Great Lakes region



PSI (Population Services International) has successful social marketing programmes for chlorine in Tanzania, Kenya and many other countries



LifeStraw is a mobile filter that works like a straw. It got an award for excellent design.



Recently, the same company has developed a LifeStraw Family unit with an attractive design and excellent technical features

ensure that those who have been persuaded continue to use them.

The problem seems to be one of priorities, and of marketing. If rich people are going wild for the expensive solution of buying bottled water and the poor remain reluctant to accept cheap solutions, then something must be wrong with the marketing strategies for these cheap solutions. Why do even poor people buy bottled water for a funeral ceremony?

In many developing countries, and certainly in most of Asia, bottled water has reached the 'tipping point', as Malcolm Gladwell³³ calls that "magic moment when ideas, trends and social behaviours cross a threshold, tip and spread like wildfire". The habit of drinking bottled water has become contagious among the middle classes. Understanding this phenomenon and applying it to household water treatment solutions for the poor could go a very long way towards reaching the Millennium Development Goals.

9.2. MARKETING SAFE WATER TO THE POOR: THE CHALLENGES

Contrary to the marketing successes seen in the bottled water market, the four Ps of marketing – Product, Price, Place and Promotion, and the fifth P, People – have rarely been applied in a professional way to disseminate point of use water treatment and storage systems (POUs) widely. On the contrary, many NGOs, government and multilateral aid agencies have in fact unwittingly harmed and hindered the dissemination of POUs, despite their best intentions.

The road to the successful delivery and availability of safe water is littered, sadly, with these good intentions. Some say that the road leads to the end of the innocence of formal aid mechanisms. It is essential to learn the lessons of the major mistakes which have been made with respect to the basics of modern marketing:

1. Targeting the products exclusively to the poor has lowered their status instead of making them desirable.
2. Disseminating the ideas through marginal rather than through reference persons (opinion leaders) has often discredited the solution.
3. Prices have been distorted by POUs being given away free of charge or with heavy subsidies. This has created an expectation that POUs are goods better to wait for than to buy.
4. Setting up parallel, free, delivery channels for POUs has exercised unfair competition on private sector supply chains. Selling POUs is not good business. They stay

stuck on the shelves while bottled water or beer are fast-moving items.

5. Where there is no viable supply chain, spare parts are not available and people stop using POUs stops, if even just a minor part is broken.
6. Poor product design and development results in frequent breakages, low performance or in complicated, time-consuming procedures.

As well as learning from these errors, there are good lessons to be drawn from a range of successful approaches:

1. There is a fascinating partnership between civil and commercial society, linking Population Services International (PSI), a non-profit social marketing organisation, and Procter & Gamble (P&G), a global consumer goods corporation. They have introduced efficient mass marketing strategies for chlorine solutions and sachets of PUR, a powdered household water disinfectant described by these agencies as being "engineered to effectively be a mini-water treatment plant in a sachet". A profitable supply chain has been set up with good margins for small retailers. PSI is now the world's largest implementer of POUs: in 2006, PSI interventions treated eight billion litres of water in households, reaching out to between one and three million people in 23 countries. Even with this massive achievement, PSI is still a very long way from operating without subsidies, despite their success in achieving large-scale dissemination. It is still mainly the creation of demand for safe water through hygiene education and awareness creation that requires massive investments in social marketing.
2. In Cambodia, International Development Enterprises (IDE), Resource Development International (RDI) and the Cambodian Red Cross (CRC) have done pioneering work in marketing ceramic water filters. They have applied sophisticated marketing and public education campaigns to stimulate demand and educate potential users. By the end of 2007, about 200,000 filters had been distributed, a quarter of them being purchased by individual consumers at full price – not given away – with the remainder purchased in bulk by NGOs and government agencies. Each year, an additional 75,000 filters are distributed, of which about 30,000 through private channels. The number of ceramic filters in Cambodia is rapidly approaching 10% of the nation's households. With such numbers, it is quite possible to reach the 'tipping point' soon, where it will become essential to have a filter in every household. The costs of ceramic filter production and distribution are fully covered by sales revenue, although the social marketing costs, which remain a critical element in education and demand creation, are subsidised by donors. It is unfortunate that these activities are seriously hampered by lack of funding.

9.3. MORE EFFECTIVE MARKETING OF POINT OF USE WATER TREATMENT SYSTEMS (POUS)

In the past, there was confusion whether point of use water treatment systems could significantly reduce diarrhoea. Earlier studies suggested that 'water availability is more important than water quality' and the emphasis was thus on delivering more water to allow families to lead a more hygienic life. If families are getting connected to the piped water system, this would not only solve the problem of safe water but also provide the water at significantly less cost. The injustice lies in the fact that the rich pay much less for their water while the poor have to buy their water from water vendors, or queue up in long lines before reaching a tap, or walk for miles to fetch water. Why, then, are POUs needed, if piped water is the solution?

The poor may still have to wait for many years until they get connected to the piped water system. Even then, is piped water safe? Another confusion arose from the misplaced perception that if the water was clean at the source, it was still clean when it was consumed: in reality, that water can easily be contaminated during transport, storage and consumption. Many piped water systems in the mega-cities of the Third World do not deliver safe water, either because of management problems with the treatment, or – more often – through a deficient piping system where contamination may occur during transport. Many millions of people do not trust piped water, with good reason.

Are POU systems any safer? A systematic Cochrane³⁴ study by Tom Clasen has led to a common consensus that POUs can have a significant health impact and reduce the incidence of diarrhoeal disease by more than 50%, thus reducing child mortality considerably.

Many promising technical solutions are now available. However, further development in product design is needed to make these products really viable, affordable and user-friendly. There is sufficient experience to prove what does and does not work, and while many POUs have been tested in many successful projects and programmes, a large-scale dissemination strategy is still lacking.

How can a common vision be developed so that safe water can reach the 1.2 billion people who lack it today?

1. If a dissemination strategy is to scale up significantly, POU marketing has to become commercially viable, with profitable supply chains in place. Up to now, none of the POU solutions have reached this point, but the foundations are in place.

2. It is now imperative not only to research the technology and health impact but also to develop and test profitable business models for safe water.

3. A massive demand pull is needed through hygiene education and awareness creation for safe water. This will never be commercially viable: it is a public health task and will require massive subsidies for social marketing campaigns and political will.

4. Instead of building one weak supply chain exclusively for SODIS, another one for filters and a third for chlorination, a joint effort is needed to promote a range of options available in one common supply chain – perhaps even linked to other programmes such as malaria bednets, described in the next case study.

5. It is, of course, necessary to have many scientists in microbiology, water treatment and health on board, but professional marketing is now what is most needed.

To summarise: If all of the broad experience and knowledge available today is put together, if joint dissemination strategies are developed, and if the technical know-how is complemented by the best inputs in marketing and social marketing, then one thing is sure: the job can be done!

The burden of malaria is one that weighs heavily on Africa's development: it is responsible for a high child mortality – 25% of all child deaths in sub-Saharan Africa – and it has also a strongly negative impact on economic growth. A study by Jeffrey Sachs revealed: "Malaria and poverty are intimately connected. Controlling for factors such as tropical location, colonial history, and geographical isolation, countries with intensive malaria had income levels in 1995 of only 33% that of countries without malaria, whether or not the countries were in Africa."³⁵

10.1. MALARIA AND INSECTICIDE-TREATED (BED) NETS (ITNS)

After some setbacks in the 1980s and 1990s (reduction of DDT use, resistances against common anti-malaria drugs), there is again progress in the fight against malaria. There are significantly more funds available to combat malaria, new drugs are becoming available and the discovery of insecticide-treated bednets (ITNs) has led to renewed malaria prevention. Several large-scale studies have documented the beneficial impact of ITNs on malaria disease and on child-mortality.

ITNs have a smart double-impact: a) they protect those sleeping under the net from mosquito bites – Anopheles mosquitoes bite at night only – and thus reduce the under-five mortality by about 20%; b) they kill the mosquitoes which touch the netting and thus reduce their number drastically. This second effect has also a strong community impact, as those people not sleeping under a net are benefiting as well. Overall, more than half a million deaths could be avoided every year if most children in sub-Saharan Africa could be protected.

10.2. FROM STUDIES TO IMPLEMENTATION: DISSEMINATION CHALLENGES

With numerous studies showing such positive results, how could a successful dissemination strategy be implemented? Is it simply a matter of distributing free bednets to everybody in the same manner as for example vaccines are given out for free in clinics? Should dissemination focus on the most vulnerable groups (namely children under five years) or target the whole population? Is there a need for a more holistic programme including community health and awareness creation? These were some questions raised by research teams

and early implementers. These questions also pointed out the importance of distinguishing between efficacy and effectiveness of a public health intervention: while scientific studies had shown the efficacy of ITNs under very controlled conditions, there was uncertainty that the same interventions would also be effective under real-life delivery conditions.³⁶

In searching for an effective dissemination strategy three issues had to be addressed:

1. Intervention technology³⁷: Even though a bednet is something simple that every village tailor can make, many technical issues are associated with netting durability and the insecticide treatment. There is also an issue with mosquito nets in houses in which a normal net cannot be hung (for example because the space is insufficient). Conventional insecticide needs to be renewed every 6–12 months. Experience in many settings showed that many people did not bother to perform these re-treatments. ITNs require the combination of two totally different products, a bednet and an insecticide. One is produced in a textile mill and the other one by a chemical industry. At the outset, programmes attempted to bundle nets with an insecticide sachet, such as in Tanzania. Fortunately, the development of long-lasting insecticidal nets (LLINs) has largely solved this issue and there are currently six excellent products on the market.

2. Implementation models³⁸: Early experiences showed a broad variety of implementation approaches that worked and others that did not. Sometimes there was a potential demand but no supply; sometimes people wanted nets but could not afford them at market prices, and in a third case people wanted to buy nets but local dealers would not stock them because the margins were not attractive or for other reasons. In China and Vietnam, dissemination was organised as a public health strategy: the private households had to buy the net and the malaria control programme would give them the insecticide for free. Another approach was to target the most vulnerable groups (pregnant mothers and their newborns) through a public health system delivery (free in Eritrea, highly subsidised in Kenya and Malawi). In recent years many countries have also had free distribution of nets linked to measles or polio vaccination campaigns. Tanzania chose a combination of several elements based on an approach involving largely the private sector. This was based on the conviction that "one size does not fit all" and that people would need different types of nets, and the only way to deliver this choice of



The textile industry in Tanzania and many other countries in Africa has to compete with containers of second-hand clothes from Europe



These machines were used for knitting t-shirts by TMTN in Dar Es Salaam but the factory had to close down. It is now producing bednets again.



Sunflag is one of the large textile mills in Arusha and produces large amounts of bednets for the market in Tanzania



A to Z is a large textile mill in Arusha now producing long-lasting nets; the insecticide is already dissolved into the polyethylene granules



Logistics to handle several million bednets per year are demanding; A to Z produces plastic items and can load its truck with both products



A man carries some 600 bednets from a distributor to a sub-distributor; this is what the private sector means by 'doing the heavy lifting jobs'



A small retailer near a bus stand in Dar Es Salaam. Bednets and school books are his main business.



A major wholesaler in Dar Es Salaam. He buys entire truckloads and then distributes them through sub-distributors and retailers.



A medium-sized 'mobile' retailer at a rural market. It is good business but a hard job to move around every day to another market.



This lady received her first net with a voucher when she was pregnant and is now buying a new net. She saved the money from her small trading business.



Pregnant women in Tanzania get one voucher worth US\$ 2.70 to buy a bednet. They have to pay some US\$ 0.85 more to the dealer.



Dealers can redeem vouchers for new nets. Vouchers create a market instead of discouraging dealers by free net distribution.

products was by setting-up a supply chain that would reach even remote villages. Further, there was a realisation that the public health system was not strong enough to deliver ITNs consistently over the next decades.

3. Promotion³⁹: Sleeping under a bednet implies behavioural changes and this always takes time. Social marketing was thus felt to be required to spread the right messages and to ensure the right use of the nets. One of the key messages of a social marketing campaign of PSI was: "Malaria Haikubaliki – Malaria is not acceptable". People perceived malaria as something so common that they had into way to deal with it. This attitude needs to be changed before meaningful progress can be made.

10.3. THE TANZANIAN NATIONAL NET PROGRAMME (NATNETS)

Approximately 100,000 deaths are attributed to malaria yearly in Tanzania – about 80,000 of these deaths are among children under-five. The total Tanzanian population at risk from malaria amounts to nearly 35 million. Young children and pregnant women bear by far the highest risk of dying from malaria. It is estimated that 4% of this risk population, 1.4 million, are pregnant women

and that there are approximately 6.4 million under-five children in Tanzania.

NATNETS is a large integrated programme with currently four main components:

1. A national coordination unit (ITN cell) within the National Malaria Control Programme, supported by the Swiss Agency for Development and Cooperation (SDC) and implemented by the Swiss Tropical Institute (STI).

2. The Tanzania National Voucher Scheme (TNVS) aiming to provide every pregnant woman and every infant coming for measles vaccination with a voucher worth, in Tanzanian Shillings⁴⁰, TZS 3,250 (US\$ 2.85) that can be redeemed against a bundled polyester net at a shop of a participating retailers. The women pay a top-up contribution which in 2005 averaged around TZS 1,000 (US\$ 0.88). By 2007, the top-up had risen in line with petro-chemical prices to about TZS 1,600 (US\$ 1.40). The idea to give women a voucher rather than a highly subsidised net is two-fold: (1) that it leaves the trouble of ITN distribution entirely to the commercial sector, and (2) that it stimulates strongly the development of the commercial net sector, which can then also cater for non-target groups and provide a sustainable distribution mechanism. Support comes from the Global



Bundling of nets: all bednets come now with a treatment kit included and hopefully soon all nets will be pre-treated with long-lasting insecticides (3 years and more)

Fund to fight AIDS, TB and Malaria (GFATM) and the US President's Malaria Initiative (PMI). Most TNVS activities are sub-contracted to implementing partners such as Mennonite Economic Development Associates (MEDA) for the logistics of the vouchers.

3. The free-of-charge provision of insecticide treatment kits for bundling with all polyester nets manufactured and sold in Tanzania, the marketing of subsidised, stand-alone re-treatment kits and the facilitation of LLIN technology transfer to the Tanzanian net manufacturers. These activities are financed currently by the PMI and the Royal Netherlands Embassy (RNE).

4. Demand creation and Behaviour Change Communication. Two complementary programmes have now replaced the successful SMARTNET social marketing programme (2002–2007). The COMMIT programme supported by the PMI and implemented by a consortium led by the Johns Hopkins Bloomberg School of Public Health Center for Communication Programs, and the GFATM-supported Behaviour Change Communication programme implemented by Population Services International (PSI).

In 2008, two additional components will be added to NATNETS:

5. Catch-up: Since coverage of risk groups increased too slowly under the voucher scheme, NATNETS will conduct a mass "catch-up" distribution campaign to provide free LLINs to all 6.4 million children under five years of age. This will be co-funded by the GFATM, the World Bank and the PMI.

6. Re-treatment: At the same time as the 'catch-up' campaign, a National Net Re-treatment Campaign will be carried out to re-treat approximately 6.5 million polyester nets with support from the World Bank.

In the first four components, impressive results had been achieved: four manufacturers in Tanzania launched large bednet production programmes, some of them becoming significant exporters. Over 6,400 retail outlets are now selling almost three million bednets per annum (compared with 1.1 million in 2001). Some 13.1 million bednets and 12.5 million re-treatments have been delivered from 2002 to 2007. Some 2.96 million nets were sold or distributed in 2007 alone, at prices ranging from TZS 2,000 (US\$ 1.75) to TZS 8,000 (US\$ 7) depending on type, size and material. Importantly, a true culture of bednet use has been introduced into the country, putting future programmes on a strong basis.

10.4. STUMBLING BLOCKS TO DISSEMINATION

Affordability is clearly the most important hurdle for the dissemination of ITNs, especially in rural areas (where the coverage is less than that of urban areas). The

number of children below the age of one sleeping under any net has increased from 31% to 55% (from 2005 to 2007) and the same figure for treated nets are 12% to 34%. Even with the voucher subsidy, the top-up price of one dollar seems to be a hurdle for many poor women. "Lack of money" is a reason for not redeeming about 15% of the vouchers (another 15% are not redeemed for other reasons, including that the woman/mother owns already enough nets).

Another big issue are the re-treatment kits. Conventional insecticides lasted only for some six months and are now being replaced by longer-lasting ones lasting over 12 months. But even with improved timing, re-treating existing nets is a problem, with only 20% of nets getting a repeated insecticide treatment. There is now an agreement on the need to switch over to long-lasting impregnated nets (LLIN) with a pre-treatment lasting for the entire lifespan of the net of three to four years. However, this switch is technically a big jump for manufacturers and requires the industry to convert from traditional textile industries to a high-tech production. Understandably, the manufacturers are reluctant, due to high investment costs and the small margins they make on a net; some manufacturers claim that their margins are only around TZS 100 per net (US\$ 0.09). This may be an understatement but it is a fact that the market is very competitive.

Currently, the best LLINs are polyethylene nets with insecticide dissolved into the plastic (Olyset nets). Unfortunately these nets are much more expensive than conventional nets (roughly US\$ 6 versus US\$ 3 ex-factory) and because of the extreme price elasticity there is currently no market for such a product. On the other hand, LLINs are cheaper per 'treated net year' of protection because their higher cost is largely compensated by their much longer use life.

10.5. BALANCING CATCH-UP AND KEEP-UP

Over the years, a consensus has been built up in Tanzania that ITN dissemination strategies based on a subsidised commercial sector approach are the right answer to the current malaria challenge. It is an ongoing debate, in which another viewpoint, proclaimed by Jeffrey Sachs, calls the delay in the delivery of bed nets "one of the shocking crimes of our time"⁴¹. He advocates dropping the present NATNETS strategy and calls the social marketing approach a total failure. Already well before these strong words, however, the stakeholders in Tanzania had agreed to a mass free distribution of LLINs; indeed, this decision had been the basis for the Round 7 proposal to the GFATM. The discussion is now

proceeding on the importance of achieving rapidly universal coverage of the population as a whole.

There is, at present, at least some level of consensus among malaria specialists that an approach is needed which combines both a catch-up and a keep-up strategy for ITNs⁴². Basically, more than one approach is required and the value of complementary distribution mechanisms has been very well shown in Kenya, Tanzania and Malawi.

1. 'Catch-up strategies': There is a need to increase coverage fast and this may only be possible through free, or highly, subsidised mass distributions. Public distributions linked to measles vaccination campaigns have made a big impact in, for example, Niger, Sierra Leone and Togo (where a 1- or 2-week campaign achieved 50% to 60% coverage in children under five years). Recently a very large distribution campaign spread over three years has been initiated in Ethiopia.

2. Keep-up strategies: Massive free net distributions are time-bound and hence a sustainable and continuous system is also required to reach newly-pregnant women and newly-born children. Further, there is a need to continue getting messages out to the population to ensure further behaviour change. Keep-up strategies can involve clinic distribution of ITNs (such as in Kenya or Malawi) or a voucher scheme (as in Tanzania).

In the case of Tanzania, reconciling campaigns with a continuous commercial sector distribution is challenging as the private sector can obviously not compete with free nets. The voucher system in Tanzania, while a more complex system initially, does allow reconciling the two strategies. The TNVS is likely to survive the mass free distribution of LLINs to children, since there will still be a large part of the population requiring nets. However, it is unlikely that the voucher scheme will survive a universal mass distribution. In the latter case, a new form of 'keep-up' mechanism would need to be implemented.

10.6. HOW THE PUBLIC AND THE PRIVATE SECTOR CAN COOPERATE BEST

The story of insecticide-treated nets in Tanzania is a major success story, but there are still many challenges left. A basic problem is that long-lasting nets cost from US\$ 5 to US\$ 6 to produce and US\$ 2 to US\$ 3 to distribute, including management and promotion costs. Those who need the nets most (the most vulnerable and poorest groups) cannot afford to pay even one dollar for a net. Paradoxically, this is so despite the fact that many poor families pay a much higher cost to treat malaria episodes

or in lost productive time. Malaria is truly a disease that increases poverty and hampers development.

ITNs are a good answer to this problem, and spreading them is a public health task and an investment into development, the basis for economic growth and prosperity. The development of the ITN programmes has already reduced the burden of malaria considerably, although it is too early to see an effect on economic development.

Any meaningful ITN distribution strategy requires a smart way of using subsidies. Subsidies can either compete with the goal of sustainability or go along with it, as with vouchers. Smart subsidies are needed to make the bednets affordable to poor vulnerable groups for a long time. Another form of subsidy is justified temporarily if they can prime the market. For example, if all pregnant women get one voucher for a bednet, they may buy another net once it is worn out.

The ITN programme in Tanzania is an outstanding example of a public-private partnership (PPP). Given careful planning, it is possible to have commercial sector delivery alongside limited free distribution campaigns. The fact that substantial subsidies for such programmes have been made available has led the private sector to make huge investments in producing conventional and long-lasting nets. In Tanzania, this has created a new and thriving export industry. In 2007, all Tanzanian companies had an estimated total production of at least 20 million pieces, most of it being exported. No figures are yet available in terms of turnover and tax revenues but this industry has generated at least 3,000 new jobs.

What is needed now is a rational and constructive debate between the advocates of free distribution and those of other approaches, with the aim of building a multi-channel programme with maximum reach and sustainability. Repeated experience in sustainable development has taught us that putting all one's eggs in the same basket is not the best strategy. In the case of ITNs, it is clear that a diversity of strategies is best for reducing the enormous human and economic burden imposed by malaria.

PART THREE: CASE STUDIES ON VALUE CHAIN DEVELOPMENT

Value chain development is the fashionable new approach to integrating farmers into markets and ensuring that they can participate with high-value crops.

Almost every day for the last 50 years, farmers have been facing a secular decline of agricultural commodity prices, and any appeal in producing agricultural goods has been eroded.

Of late, for some produce and on some markets, this price trend has reversed, and the world has entered a new round of debate about food production – to the extent that some even discuss 'the end of food' in terms of classical agriculture as practised for the last 9,000 years.

It is too early to say with any certainty if small farmers will still benefit from the price hikes for food which the world is facing in 2008 and later. Being better equipped to exploit the value chain is one essential way to optimise that opportunity.

Three value chain case studies are presented in this chapter:

1. Water control: Ending poverty with water control and market access – linking farmers to the value chains and markets of the future, (www.poverty.ch/irrigation)

2. Organic cotton: Where fashion designer and farmer know each other – Globalization with a human face in an organic cotton value chain, (www.poverty.ch/organiccotton)

3. Coffee: Supplemental irrigation in coffee – improving yields and quality of high-value coffee in Central America (no publication)

INTRODUCTION

How can small farmers benefit from high-value markets? How can the losers in globalisation become winners? The secret of increasing the incomes of smallholders lies in linking them to value chains, but this is often a challenging task. Agricultural marketing has become much more demanding and small farmers can only participate if they can get over some of the considerable hurdles imposed by the new markets:

1. Differentiation, traceability: If farmers are to sell their products as 'commodities' they will just get what the market – and very often intermediaries – pay for

the weight of the harvest, so many rupees, or shillings or pesos per bag, quintal or ton. Paying attention to sorting, grading and packing can already bring significantly higher prices for the top qualities even though somewhat less for lesser qualities. If the product is not only high quality but it can be differentiated and certified, then prices can even be better. More and more markets are demanding 'traceability' and certification. Despite the difficulties faced by small farmers in getting certification, there are often great benefits to differentiate their products in this way.

2. High-quality inputs, extension, credit: Only if small farmers can get access to seeds, know-how, inputs, and credit, will they be able to raise their productivity.

3. Transaction costs, scheduling of crops: Small farmers have often very high transaction costs in marketing their products, mainly because of small and irregular volumes. Unless they can organise their marketing efforts and schedule their crops, they may simply not have access to markets, or only get meagre prices at best. To illustrate this: a cooperative in Ecuador produces broccoli for export and they need to deliver nine tons of broccoli every day to make good use of the airplane space. Without irrigation, this tight scheduling is not possible.

4. Supermarketisation: The growing market share of supermarkets in agricultural marketing – also in developing countries – is a major challenge for small farmers. They often cannot provide sufficient quantities: quite literally in one case, the truck of the supermarket only stops where at least 20 boxes of tomatoes can be loaded on every trip, three times a week.

The following three case studies will shed some light on these issues.

WATER CONTROL AND MARKET ACCESS: THE IMPORTANCE OF PRECISION IRRIGATION

11.1. FINDING THE WAY OUT OF LOW-PRODUCTIVITY AGRICULTURE

Traditional smallholder farming with low-productivity practices and occasional local marketing of surplus production is in most places of the world no longer profitable. Staple crops, and increasingly also commodities (such as coffee and cotton), face declining prices and are only viable if grown on larger areas. Small farmers do better if they specialise in products with a high return per area, extracting the maximum out of whatever land they have. They have a chance to make a decent livelihood out of a few acres, but only if they can play in the league of high-value crops⁴³. The recent price hikes in most food crops may become an opportunity to increase net incomes also by selling staple crops. Many smallholders, however, will also have to buy staple crops from the market as their cereal crops do not produce a surplus beyond their own level of self-sufficiency.

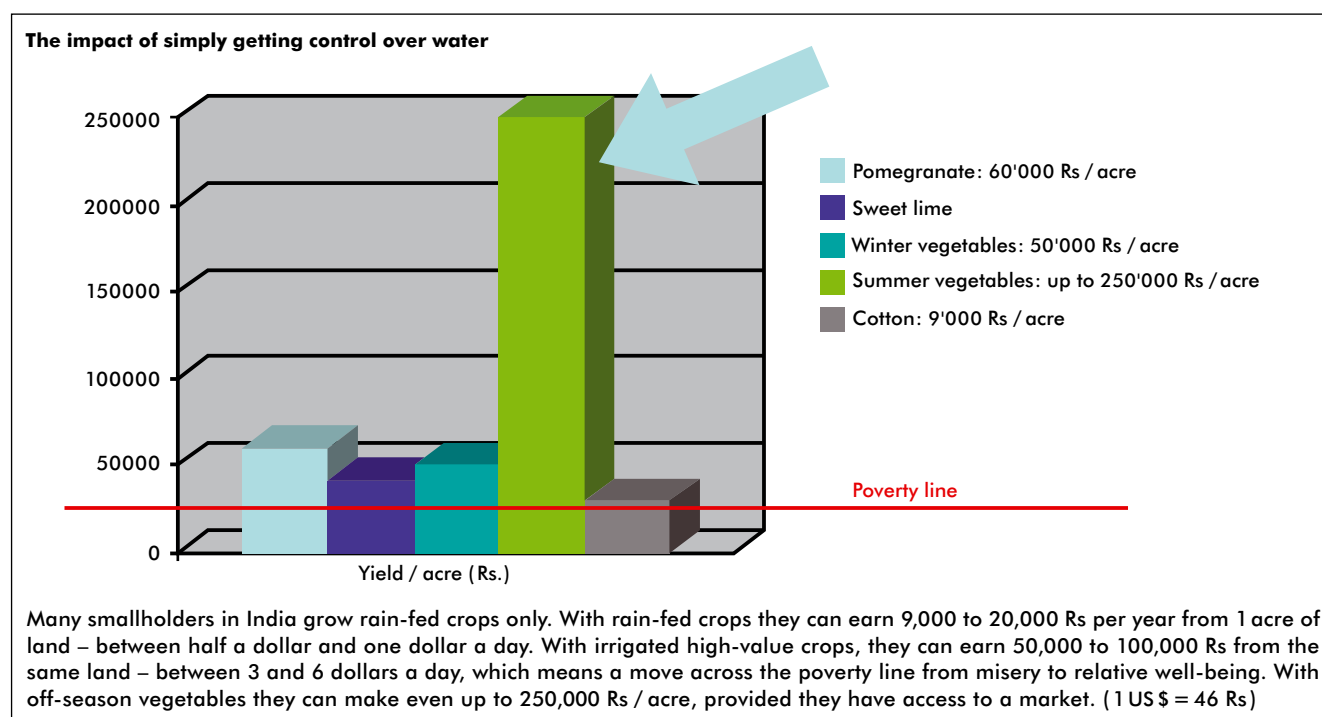
Horticultural crops play a major role in poverty alleviation. Notwithstanding their relatively small use of arable land area, their value is impressive. In many countries, the value of horticultural production equals or even surpasses the value of cereal production⁴⁴. Staple crop production is important for the food security of smallholders. Growing their own staple food reduces

their need for cash, and it is an – often overlooked – fact that poor people spend more than half of their income on staple food⁴⁵. However, nowadays they increasingly need also cash, besides food, and high-value horticulture crops are an efficient way to generate cash, even on a small plot of land. The challenge for poor smallholders lies thus in increasing the productivity of their staple crops, and at the same time producing crops to meet their needs for cash.

Many of the poorest smallholder farmers live under difficult conditions, in arid and semi-arid areas, in mountains, or far away from markets and services. Evidently under such conditions, it is very difficult for small farmers to produce high-value crops and market them when they fetch high prices, at the time and in the quality required.

11.2. A THREE-PILLAR APPROACH

A promising approach to enable smallholders to play in the high-value league and to get out of poverty is based on three pillars: **1.** Water control, through affordable low-cost technologies; **2.** Viable supply chains for these technologies; **3.** Access to profitable marketing opportunities.



The graph shows the incredible differences in income per acre of land that simply the availability of water for irrigation can make.

Let us now look at the three pillars one by one:

11.2.1. PILLAR 1: AFFORDABLE WATER CONTROL TECHNOLOGIES

More than just irrigation, water control is the management of water so that it is applied precisely as the plants need it throughout the growing period. Water control is a key entry point to more productive and profitable farming in many places, not only in semi-arid areas. Water scarcity, and water stress, is just one reason for introducing better water control technologies such as drip irrigation, but it is not the only one. Even in water-abundant regions, rainwater is highly volatile whereas high-value crops need regular and reliable water supply.

A pre-condition for small farmers who want to play in the league of high-value crops, they cannot only produce better quality and higher quantities, but can also schedule harvests for marketing when demand and prices are highest.

Having such control over crops changes the rules of market engagement for the small-holder. With rain-fed farming, what, how much and when something actually grows is at the mercy of the weather. In such circumstances, market-oriented farming is, therefore, very difficult. Being able to better determine which markets to focus on, whether local and more distant, and to produce food during the dry season, improves livelihood security for the small farmer.

The range of affordable water control technologies includes low-cost drip irrigation; treadle, rope and similar pumps; small-scale water storage; and low-cost well drilling technologies. It also extends to watershed management measures and micro-dams.

What remains a core issue is the accessibility not only of the markets, but also the technologies. That is the second pillar.

11.2.2. PILLAR 2: VIABLE SUPPLY CHAINS FOR TECHNOLOGIES AND INPUTS

Many development organisations and programmes working in rural areas distribute useful technologies to poor families, free of charge, through credit or subsidies, and train them in its use. These well-meaning strategies

are neither sustainable nor do they have the outreach needed. In a very real way, they distort the supply chain of technology.

No NGO or government institution will be able to deliver subsidised or free goods forever to all poor farmers – and also assure the availability of spare parts and the 'embedded services' which are usually part of a package of technologies.

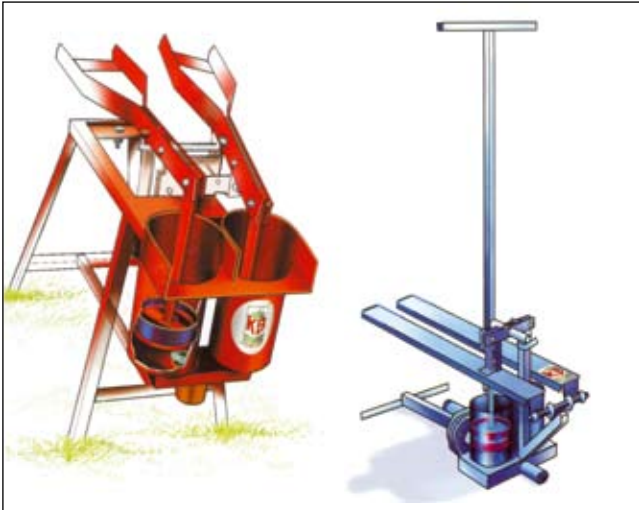
It is only technologies that are commonly available in local markets that have a real chance of being widely and sustainably accessible to smallholders. This requires an economically viable, profitable supply chain in the private sector, covering all possible steps – from raw materials, through manufacture and assembly, to distributors, retailers and spare-part dealers. With low-cost, and thus low-margin, technologies and products for poor people, such supply chains normally do not develop by themselves. They can be fostered, though, through market creation approaches⁴⁶.

Working on parallel fronts, a market creation approach builds up demand for a technology, and develops a viable supply chain where every link is profitable and there is room for a reasonable number of suppliers. Market creation may well take several years and will demand substantial marketing know-how, reserves of patience and nerves of steel since it is much like a 'walk on the tight rope'. It is rich in dilemmas, or opportunities: to be profitable, a manufacturer or dealer of water control equipment needs a certain volume of sales, but this volume may not be easy to attain: small farmers are conservative buyers, and they tend to only buy a new technology after seeing it successfully in operation for some time.

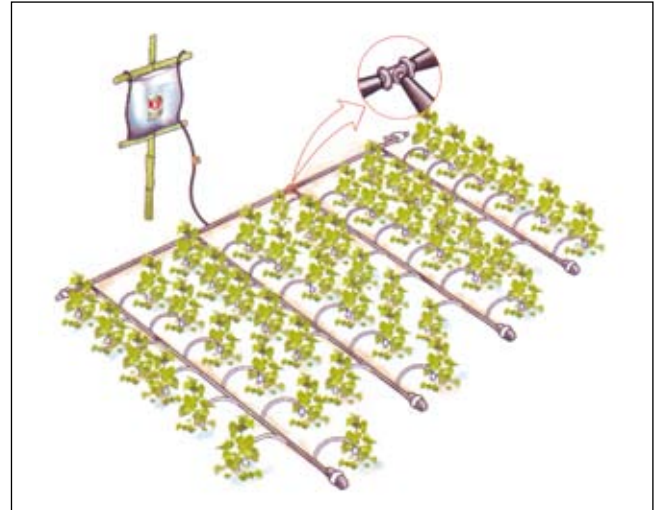
Farmers also need access to agricultural inputs, guarantees, information and advice, on both production and marketing, especially when being expected to enter into risk. Alongside supply chain development, complementary interventions will be needed to make these other services sustainably accessible.

11.2.3. PILLAR 3: HIGH-VALUE PRODUCTION AND PROFITABLE MARKETING

Water control alone is usually not sufficient for substantial livelihood improvement. Traditional smallholder farming is characterised by mainly staple crop production for household consumption; surplus products and small quantities of cash crops are marketed occasionally. These practices no longer provide adequate income for poor households and frequently also harm the environment. Profitable production of staple crops, and, with



Affordable pumps such as these treadle pumps from India can help people to 'pedal out of poverty'. They cost only around US\$ 25 in Asia.



Low-cost drip irrigation systems developed in India: the smallest system starts at 50 m² and costs much less than conventional systems



Drip irrigation not only saves water but allows precision irrigation so that each plant gets exactly as much water as needed



International Development Enterprises (IDE) has radically simplified the technology and brought the cost down



The lesson was learned from the farmers: they used the tape of these popular drink sachets despite them only lasting a few months



IDE has systematically improved technologies and also developed low-cost sprinklers that work with only little pressure



As important as the technology is a profitable supply chain for local production, as with this treadle pump workshop in Bangladesh



Dealers play an important role in a supply chain: they stock materials, systems and spare parts



Generic promotion of new technologies to farmers is performed by a facilitator from an NGO – this task goes beyond what small dealers can do



Low-cost drip systems can be produced locally by small manufacturers in India and the technology transferred to other countries



This owner of a fruit tree nursery is also part of a functioning supply chain



Dealer of low-cost drip systems in Nepal: IDE has chosen agrovet shops as dealers. It means good business for them, with low costs.



Market access is crucial for small farmers to obtain good prices. One key problem is the high transaction costs due to low volumes.



Organising the marketing of fruits and vegetables can greatly reduce these transaction costs and make small farmers competitive



As more agricultural products are distributed through supermarkets – also in developing countries – the rules change for smallholders



Much produce is processed, as in this turmeric processing factory. Links with processors are important for smallholders.



Broccoli farmers in Ecuador need to deliver nine tons of broccoli every day, 365 days a year, to make best use of the space in airplanes



Off-season tomatoes provide better cash than selling vegetables at the peak harvesting period; this is only possible with irrigation

the decreasing world market prices, increasingly also of commodities (such as coffee), requires larger areas. Small farmers will do better if they can specialise in crops that have a high return per area.

This does not, of course, mean that small farmers should stop producing staple crops for their household food security. High-value crops are obviously more risky than low-value staple crops, and smallholders generally prefer to produce their own food crops. Even if this is not the most viable option in terms of comparative advantages, it is the best option in terms of food security and risk minimisation. Thus, when fostering the entry of smallholders into commercial production, it is important that food security and risk are taken into account and support strategies are designed accordingly. One such strategy is to encourage production of intensive high-value crops on part of the land to generate cash income while at the same time supporting increased productivity of staple crops⁴⁷.

The markets for agricultural products are changing very fast. Smallholders can only get a competitive advantage if they produce what is demanded in the market (in terms of quantity, quality, packaging and timing) in a tailor-made way. An IFPRI conference on 'The Future of Small Farms'⁴⁸ highlights the importance of small farms in poverty reduction but also the potentially dramatic consequences of a 'business as usual approach'.

In producing high-value crops, smallholders face constraints in high transaction cost in marketing and lack of information, but they also have a unique advantage, and this is their ability to 'care' for their crops. For instance, silk worms are best reared by small families with caring women who feed the worms every 2–3 hours, much like they look after children. Many horticulture crops have similar characteristics.

Likewise, an astute injection of the right technology can make all the difference: it is this combination that allowed one-fifth of treadle pump farmers in Bangladesh to earn US\$ 500 from half an acre.⁴⁹

Promising high-value opportunities need to be identified through an in-depth analysis of value chains with a potential for poor smallholders. This should include a study of the optimum points for intervention. For example, a new crop must be compatible with the smallholders' livelihood system.

It is a process that requires as much sensitivity as it demands entrepreneurial vision. Such new opportunities will be varied and unfamiliar, and need to be selected and presented with great care. If not, for a smallholder, the thickets of novelty will seem like a jungle, and a

place into which any risk-resistant small farmer will not likely venture.

There are issues of novelty in technology and hardware: new crops, new products or new varieties. Equally, the small farmer is being expected to interact with new partners, and to digest and assess price and market information. Marketing networks, especially to more distant markets and certification, become more complex to join, and to function in. Joint actions with other farmers to reduce transaction costs, or to strengthen local processing or build links to processors, require, in practice, degrees of cooperation which may not also be easy.

Organisation and management are issues too: off-season production, storage when prices are low and selling when prices are good, require stock methods. Even more complex considerations are how small producers can organise their access to, and negotiations with, sophisticated market actors on a broad raft of themes including branding, credit, savings, insurance, hedging funds and supermarkets.

WHERE FARMER MEETS FASHION DESIGNER: THE ORGANIC COTTON VALUE CHAIN

Cotton is grown in more than countries, and belongs to the most important commodities in world trade. It employs over 100 million farming units globally and provides an income source for many small farmers and for millions of textile workers along the entire value chain.

12.1. COTTON BRINGS WEALTH AND MISERY

The history of cotton is almost identical with the economic history of trade and globalisation: cotton has led to wealth and prosperity, but it is also linked to colonialism, slavery, to the industrial revolution with its bright and its dark sides, to ecological disasters through excessive pesticide use, and to the drying up of the Aral Sea, and other large lakes, because of over-consumption of water. Cotton has played an important role in all these historic events and it lost innocence long ago. Since the book 'Uncle Tom's Cabin' was published in 1852, every school child in the United States, and far beyond, has known that cotton picking and slavery have been two sides of the same coin.

Due to heavy pest attacks and ever higher pesticide and fertiliser applications, soils have become depleted and in some cases totally intoxicated. The case of Nicaragua is the most notorious, where the cultivated area peaked in 1977 at 220,000 hectares. Farmers became locked into the 'pesticide treadmill' to the extent that, in the late

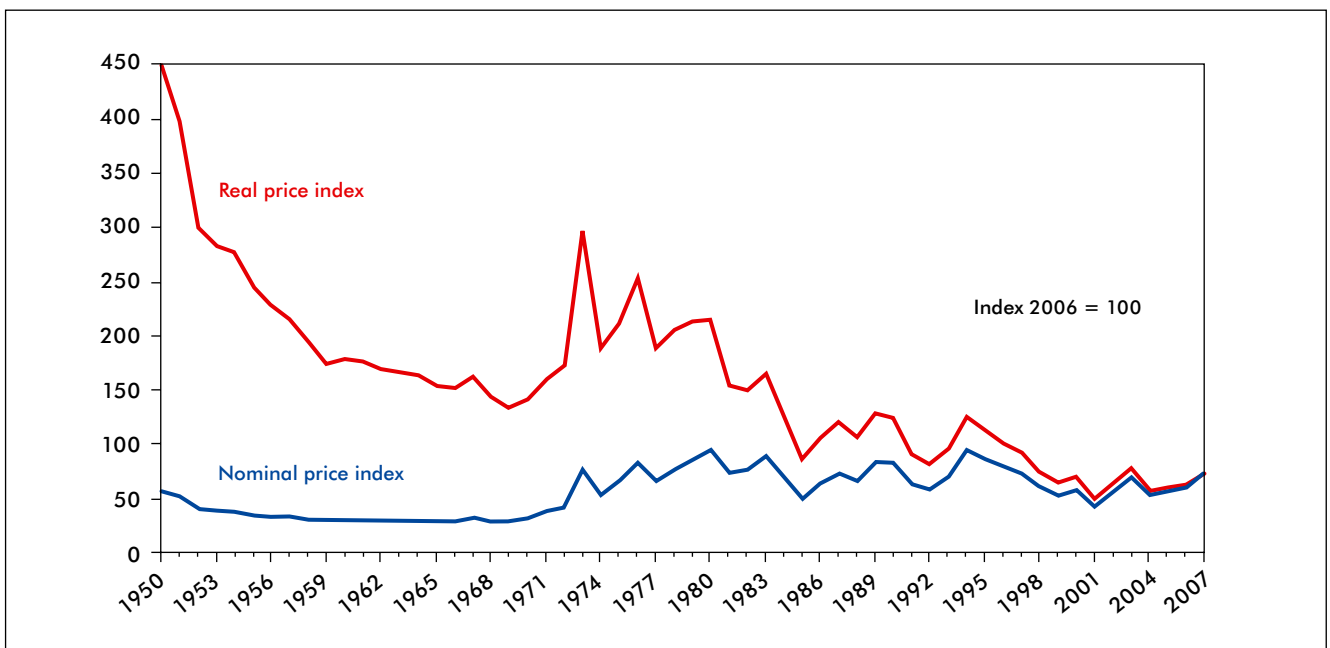
1980s, pesticides accounted for half of their production costs, making cultivation no longer economically viable. The cultivated area today stands at around 2,000 hectares, less than one percent of what it was at its best.⁵⁰

The pesticide treadmill is also a reason for the indebtedness of many cotton farmers in India and Africa: cotton is a very risky crop and farmers may lose quite significant investments in case of crop failures. In their desperation, many farmers in India are using the last bottle of pesticides to commit suicide and avoid losing face in front of the entire village if it is known that they are bankrupt.

Another key problem is the secular decline of commodity prices in real terms. The following graph shows cotton prices since 1950 in nominal and in real terms (index 2006 = 100) and clearly shows that cotton prices have declined by almost a factor 10 in real terms⁵¹. It is thus a real challenge for farmers to make a decent living from cotton under today's conditions (see graph below).

12.2. THE BIORE ORGANIC COTTON PROJECT IN INDIA AND TANZANIA

Organic cotton was initiated as a large-scale alternative to conventional cotton growing in the Maikaal-bioRe project in 1991 as a private venture by Patrick Hohmann, president of Remei pvt. Ltd., Switzerland, a relatively





Coop Naturaline is the global pioneer of marketing organic cotton in mainstream markets in Switzerland



Smallholders like Parvati Katare are at one end of an organic cotton value chain such as the Maikaal BioRe – India company



Mrs. Kiran Yadav, a smallholder linked to Coop Naturaline has managed to get free of debt and build some modest wealth for her five children



In one of the annual meetings between farmers and clients, she met with Eliane Kobler, the fashion designer of Coop Naturaline



To be competitive in the market, the clothes must be fashionable; consumers do not compromise on quality, design or price



The fashion designer is thus the key person at the other end of the value chain: if her collection sells, the farmers can sell their cotton as well



Farmers in India and Tanzania who join the organic cotton value chain have slightly lower yields initially, but soon they achieve higher incomes



Growing cotton organically is a challenging task and needs a good agricultural extension service and timely supply of inputs



Farmers sell directly to the organic cotton chain, not on open markets. Their cotton is not anymore a commodity but a traceable product.



Cotton seeds have to be removed first and they represent two-thirds of the total weight: cotton lint weighs 33% of cotton seeds



The first processing step for cotton is the ginning factory where the seeds are extracted and cotton lint is produced



The next step is spinning of yarn. One kg of cotton lint produces 0.65 kg of cotton yarn.



Spinning is a large-scale process with only a small value added: only mass production is economically viable



Dyeing is the most crucial part in the process: colours must conform to ecological standards, and be fashionable and light-proof



This baby pyjama has three colours that need to match: the left side is dyed cloth, the stripes are dyed yarn and the figure is printed



All details such as fittings, button and zippers have to match quality standards of the mainstream textile market



The organic cotton collection is presented as 'shop-in-shop marketing' and Coop Naturaline is promoted as a brand



Fashion shows are held first among its own staff, to familiarise them with the collection

small yarn trading house. What began as a mere experiment, soon turned into a successful enterprise. Some 17 years later, in 2008, almost 8,000 farmers in India – and more than 2,000 farmers in Tanzania – are cultivating organic cotton and participating in an integrated value chain from fibre to fabric. A worldwide pioneer, although since copied by many, Hohmann still runs the largest organic cotton programme in the world, selling more than 3,000 tons of cotton yarn per year.

During these 17 years – and overcoming many setbacks which sometimes threatened the survival of the company – he is firmly convinced that a fully integrated organic cotton value chain is a much-needed option: "We have chosen biodynamic agriculture because we are convinced that it leads to the understanding of the farm as an 'organism' whose main characteristic is an effort to increase the soil's life."

This statement sounds more like an idealistic green vision manifesto than an innovative yet reliable business model. Could the same system not work with conventional cotton or genetically-modified cotton too? This case study shows that conventional or GM cotton cultivation, with high input costs and high risks, is not suitable to harmonise livelihoods and productivity in the same way as organically grown cotton does. Organic cotton and the link to an integrated value chain provides the best chances for small cotton farmers to step out of poverty.

12.3. BENEFITS FOR THE FARMERS: LESS RISK AND DEBTS

The cultivation of organic cotton has led, in all cases in India and Tanzania and in Helvetas projects in West Africa and Kyrgyzstan, to better incomes for the farmers. Admittedly, during the conversion phase from conventional to organic farming, yields may decrease and lead to lower incomes temporarily. However, after the third year, organic growers usually have better incomes than conventional farmers, mainly due to lower input costs. This in turn reduces the risks inherent in crop failures. One clear overall impact of organic cultivation is that farmers have put an end to their indebtedness with the money-lenders.

The income effects cannot be determined quite so clearly, as there may be wide price variations and fluctuations over the years. One gain, though, comes from one special feature of organic cotton cultivation, in that farmers must rotate their crops. Their total income is thus determined not only by cotton – usually not more than 50% of total income – but also from their rotation crops such as wheat, sesame, pulses and chillies.

12.4. GLOBALISATION WITH A HUMAN FACE, FROM FIBRE TO FABRIC

What started as organic cotton cultivation, linked to a spinning mill, soon required the establishment of a fully integrated value chain, from fibre to fabric. It is not viable to produce certified organic cotton, unless the products can be traced from the seed to the final product in the shop. Such an integrated value chain is a complex undertaking and it presents a demanding management challenge.

The case study seeks to examine and explain some of the intricacies of the entire value chain. Actually, the key feature of such an integrated chain is very obvious and simple: it is not anonymous. It is a chain composed of, and connecting, people who otherwise would not normally meet or cooperate.

Alongside the remarkable economic and social benefits of the COOP Naturaline chain (involving the Swiss COOP retailer) is another great achievement, in overcoming such anonymity. Now, the people working along this chain and their human faces and features are visible to all. Dreamlike perhaps, but a productive relationship too: people of such diverse backgrounds as the chairman of the board of COOP, the fashion designer of COOP Naturaline and farming families can meet and try to understand each other. In this sense, linking farmers and fashion-designers and all the other members in the value chain is like re-writing 'Uncle Tom's Cabin': if people know who has grown, dyed, knitted, stitched, packed and put their cotton shirt on the shelf, our globalised world may become a little more human. This idea, and business proposition, all this may just cost a tiny little bit more, as we will see.

12.5. THE CHALLENGES OF MANAGING AN INTEGRATED ORGANIC TEXTILE CHAIN

Managing an integrated organic textile value chain is totally different from the normal textile business. In a larger retail shop or chain, the main concerns of a procurement manager for textiles are probably about getting the next collection of textiles on time, at a good price and in the right sizes, qualities and – above all – fashionable designs. Should he – on top of that – also be bothered with the worries and sorrows of a few thousand farmers? This would probably be a little too much, for the average manager. Yet that concern is inevitable in an organic textile value chain, from seed to fabric, involving a time-span of up to two years from when the farmer ploughs the soil to harvesting, ginning, spinning, knitting or weaving, dyeing and stitching the textiles.

Some years ago, organic textiles were a short-lived fashion, but this faddish market soon collapsed when the fashion changed again. Today's organic textiles have to be as fashionable as all the other textiles and the consumer makes no compromise, either on quality or on price. Organic textiles have to be 'cool' – even in the case of children's and baby clothing – and should neither shrink while washing, fade in the light nor de-colour while sweating.

Marketing organic textiles in the mainstream market has thus been quite an effort over more than 10 years. Throughout, an exceptional degree of cooperation between the COOP cooperative and Remei in the development of the brand 'Naturaline' has contributed much to a breakthrough. Today, the Naturaline collection comprises over 8,400 different products and has a turnover of CHF 56 million (Swiss Francs), or US\$ 54 million, per year.

Astonishingly, the increase in market share is not only a question of demand; the main bottleneck and challenge was – and still is – to produce a broad range of products. Initially, in 1995, socks were only available in the colour beige and the market was, obviously, very narrow. A breakthrough came when cooperation with the Ciba-Geigy chemicals company resulted in producing dyes that conform with the European organic standards and can produce all colour tones imaginable. Furthermore, for each tone, Ciba Geigy produced a detailed recipe on how to dye the textile, be it the yarn, the cloth or even a printed piece.

12.6. BEING COMPETITIVE WITH HIGHER COSTS

Organic cotton is more expensive, for two key reasons. One reason is the payment of a premium of 15%. The major factor is in the cost of a sizeable extension service to support the farmers. Because the entire value chain has to be traceable, in particular at the farmer's end, a sophisticated internal control system has to be set up and maintained, so that the organic production can be inspected externally and certified.

This leads to significantly higher costs than for conventional cotton. The cost of one kg of cotton lint (after the seeds are extracted) is easily 40% to 50% higher than world market prices. This makes little difference in principle, a shirt or t-shirt containing only some 350 grams of cotton yarn – for which some 1,350 grams of cotton seeds need to be harvested and the farmer will get some US\$ 0.80. The difference on the world market price is not more than US\$ 0.20 to US\$ 0.40. However, the issue is the classical one in many value chains: margins

on margins, and multipliers. In the textile chain, the normal calculation practice is to add the value added percentage-wise for each step. The additional costs will be added with a multiplier over the entire chain, and increase the final price noticeably.

In the conventional textile markets, a target costing is aimed for and retailers will always try to reduce the purchase cost in order to increase their margins. For this reason, there is a considerable squeezing effect on the prices in the entire value chain and the farmer's share, small as it is, is always under enormous pressure.

The key – and the challenge – to competing in the mainstream textile market, despite higher costs for the raw materials, is thus to add these costs without the standard multiplier effect. This is only possible if a company is in control of the entire value chain. Over the years, therefore, Remei has increased their value added by shifting from yarn trading to entire finished fabrics.

12.7. THE HELVETAS / SECO ORGANIC COTTON PROJECT

The Swiss NGO Helvetas has also started a significant organic cotton programme in Benin, Burkina Faso, Kyrgyzstan, Mali and Senegal. Altogether, this project already involves some 8,000 farmers producing a total of 1,000 tons of yarn in 2007 – about one third of bioRe's production. High growth projections are planned in the future and the yarn is subject to a minimum price set by the international mechanism of the Fair Trade **Labelling** Organizations (FLO) and certified with the Max Havelaar label. The costs of the yarn are still higher than in the case of production sourced by Remei; an additional difficulty is that West Africa does not have any processing industry.

This value chain is less integrated and Helvetas as an NGO operates mainly as a facilitator. The key players in the chain are yarn trading house Reinhart as the key intermediary, and Marks and Spencer, Switcher, Hess Natur and Migros as garment producers and retailers. An evaluation has confirmed that the programme has a high social and economic impact for the farmers but it raised doubts about whether sustainability is attainable, even in the long run. The project has until 2011 to prove this. A key issue is that the buyers at the end are little involved in the value chain, not always show adequate ownership. This is addressed with regular stakeholder meetings, with the aim of enabling the buyers to identify with the farmers and to convert the textile value chain – as in the case of bioRe – from an anonymous trade to a personal commitment where buyers and farmers will

see a human face behind each transaction. The results are remarkable, especially in view of the great needs to improve the cotton economy in West Africa.

12.8. MARKET TO FARMER APPROACHES AND NEW FAIR TRADE MODELS

A textile value chain is extremely complex and demanding: it can only be managed by professional textile specialists. To involve farmers in an organic cotton textile chain will also require public support as the mainstream textile industry cannot be expected to bother directly with organising and supporting farmers and certifying them. The additional cost associated with organic cultivation, and allied certification, can only be borne if it is added at the level of pricing the end-products; it would be prohibitive if it was added to the raw materials.

It is becoming more evident that organic cotton textiles will need a market-to-farmer approach, working as a backward linkage programme. The market will demand a broad range of products, and this will require different yarn qualities. Some products, such as fine underwear or shirts, will need long-staple yarns that can only be produced in certain climatic conditions.

It may also be necessary to revise the Fair Trade labelling models that were originally developed for simple products such as bananas and coffee, both with much less complex value chains with fewer processing steps. Fair trade schemes should, in particular, be able to reward textile chains that absorb higher raw material costs without passing them on through a multiplier in conventional mark-up cost calculations.

There is an important, strategic, role here for donors, especially in the form of public-private partnerships: it is to organise, train and support farmers until they are empowered enough to become suppliers of certified organic cotton for integrated textile chains.

This third case in the development of value chains has a slightly different genesis to the previous two. It is not the result of one of the series of case studies which are the basis of Parts Two and Three. Instead it comes from the involvement of the author in a project in northern Nicaragua to implement low-cost drip irrigation in the coffee value chain. It is a joint exercise in cooperation between International Development Enterprises (IDE), the Rainforest Alliance, Nestlé S.A. and the ECOM Coffee Group, the second largest coffee trader in the world.

13.1. SUPPLEMENTAL IRRIGATION IN COFFEE

Coffee is conventionally described as the second largest traded commodity in the world, coming only after oil – although one tangential viewpoint is that water is traded several times more than oil. Some 20 to 25 million farmers are involved in global coffee production; 80% of them are smallholders. Some five million have very meagre incomes and live on less than US\$ 2 a day. They were hit the hardest when a severe crisis hit the sector from 2002 to 2005 – with the prices plummeting below production cost: they reached an all-time low of US\$ 0.60 to US\$ 0.80 per pound, compared with production costs at around US\$ 1 per pound.

The project aims to enhance coffee yields and producer incomes by introducing low-cost, supplemental, irrigation. During their two flowering periods, when coffee trees are critically sensitive to water stress, supplemental irrigation can increase yields by an estimated 30% to 40% and improve the quality. Together with a package of best practices, these improvements could help

Situation of coffee farmer now:

- 1.5 ha under cultivation;
- $400 \text{ kg / ha} = 600 \text{ kg} \times \$ 2.25 = \$ 1,350$
- Purchased Inputs = \$ 450
- Net Income: \$ 900 / Family of Five

Situation of coffee farmer in future:

- 1.5 ha under cultivation;
- $1,000 \text{ kg / ha} = 1,500 \text{ kg} \times \$ 4.00 = \$ 6,000$
- Purchased Inputs = \$ 1,500
- Net Income: \$ 4,500 / Family of Five

small coffee producers to enter the expanding market of specialty coffee, including better hybrid varieties, which command higher prices. By raising income levels to at least US\$ 3 a day per person, greater productivity can lead to significant reductions in poverty.

13.2. EMBEDDED IN THE COFFEE VALUE CHAIN

The on-the-ground dynamics of the project are illustrated in the adjoining photo page, but it also has a wider contribution to the general discussion on value chain development. Its principal worth is in being totally embedded in the coffee value chain. The ECOM Coffee Group has set up a professional extension service to provide farmers with consultancies, new hybrid varieties from their tissue culture lab, agricultural inputs such as pheromone traps, supplemental irrigation, fertiliser and credit. Many of the farmers are now certified through a variety of certification schemes such as UTZ CERTIFIED, Rainforest Alliance, Fair Trade Coffee, 4C and even Nespresso's AAA.

Nestlé is providing financial support and advice, being interested in large-scale replication, once the results are reliably proven in the field. A rigorous external monitoring system, in the hands of the Swiss College of Agriculture (SHL), has been set up for this purpose. IDE is supplying low-cost drip irrigation systems from India that cost US\$ 850 per hectare instead of almost US\$ 2,000 for the conventional systems available now. Local manufacture is planned for 2009 with a private plastic producer, and a social enterprise will be set up as a wholesale company for to produce low-cost drip materials by IDE.

There are two main advantages of being part of existing private sector value chains:

1. Coffee is such a sophisticated product – if it is considered from the niche perspective of specialty coffees, and not just as a commodity – that success in the market is only possible with strong professional partners. The ECOM group has a rich set of skills and experience, and a very valuable infrastructure. In Nicaragua alone, there are 52 rural agencies, 12 technicians, several for processing, storage and tasting in each coffee region, a credit line for farmers and links to certification agencies. Similar setups exist elsewhere in Central America and in all other coffee-producing countries.



Incomes of small coffee farmers can rise significantly with a package of best practices. Higher productivity is essential to reduce poverty.



Supplemental irrigation of coffee, mainly during the critical two flowering periods, can improve yields and quality



The ECOM Group employs agronomists to support coffee farmers. These here are trained in drip irrigation installation.



The cost of the drip irrigation system has been brought down to 50% that of comparable conventional systems and local production is possible



Coffee farmers have reported increases of more than 40% – they can produce 14 bags instead of 10 per manzana (0.7 hectares)



Small farmers can get better prices if they are certified by the Rainforest Alliance. Federico Elster delivers to Starbucks now.

2. The project aims to involve 1,500 farmers in the first three years (2008 – 2010) and then to scale up significantly, with private initiative as the prime driving force. It is open to cooperatives and farmers not earlier associated with the ECOM group.

PART FOUR: CASE STUDY ON TRANSFORMING TRADITIONAL INDUSTRIAL SECTORS

Alongside the imperative of creating new jobs through value chain development, it is also important to preserve – and improve – the millions of jobs that already exist in large traditional industrial sectors. The Asian brick and the carpet industry are just two examples of vast economic sectors that provide jobs for millions of poor people – many of them migrants from extreme poverty pockets in search of a survival income. They are typically labour-intensive, low-investment industries using obsolete technologies or suffering from lack of market access.

Upgrading such industries and making them more competitive is another important task in the battle against poverty.

One in-depth case study on the Asian brick industry and a brief review of similar problems in the carpet industry are presented in this chapter:

- 1. Asian brick industry:** The Herculean task of cleaning up the Asian brick industry. www.poverty.ch/bricks
- 2. Carpet industry:** The carpet industry in Asia – declining demand. A review of a huge, labour-intensive industry that is faced with a change of consumer preference for other flooring materials. (no publication)

14.1. BACKGROUND

In 1992, the Swiss Agency for Development and Cooperation (SDC) launched a global environment programme⁵² focused, in India, on improving energy efficiency in small and medium industries. It was felt then that environmental issues would become an increasing problem in the fast-growing emerging markets. The large and diverse sector of brick production was selected as an intervention area after the promising results of the Vertical Shaft Brick Kiln (VSBK) in China. Earlier attempts to transfer the technology to Nepal, Pakistan and Bangladesh had failed, however, mainly because the technology was not adapted to local conditions and due to lack of support in resolving operating problems. For this reason, when work really got underway in India in 1996, SDC started with an action-research programme, to identify key issues in ensuring the smooth introduction of the technology, rather than entering directly into dissemination.

This case study tells the story of the VSBK saga with its successes and shortcomings. In the meantime, the SDC-supported brick programme has spread to Nepal, Vietnam and Afghanistan and is also under consideration in Pakistan.

14.2. THE BUILDING VOLUME: 100,000 EMPIRE STATE BUILDINGS PER YEAR

Brick production is a very large and very traditional industry in many parts of Asia. It is now a booming industry as the demand for bricks is increasing almost universally due to fast economic growth, urbanisation and prosperity. Every Asian citizen consumes, statistically, some 250 bricks per year, though the usage patterns vary: while consumption is higher in fast-developing urban areas, there is also a strong trend towards using bricks for improving rural houses. The most common dream of poor rural people is to replace their thatch houses with solid building materials, and as they may not have the money to build their house in one go, they do it 'brick by brick'. In Bangladesh and on the river plains of northern India, where no stones are found, large amounts of bricks are used to make gravel for the substructure of roads or as an aggregate in concrete.

This surging demand results in the almost unimaginable figure of 1,000 billion bricks being produced and

consumed in Asia per year. It is the equivalent volume of 100,000 New York Empire State Buildings – the corresponding surface area would be 10 times the present area of Manhattan, covered by buildings more than 100 storeys high. This unbelievable amount of built-up area and volume is being created in Asia, year upon year, carbon ton upon carbon ton, often foot-pugged and hand-moulded, in a vast number of kilns.

14.3. SAME CO² SAVINGS POTENTIAL AS GLOBAL AIRLINE INDUSTRY

The figures may be mind-boggling, but they do serve to emphasise the tremendous importance of transforming the Asian brick industry. It consumes 110 million tons of coal per annum to produce its 1,000 billion bricks, another figure that is hard to imagine. If this coal was loaded on 10-ton trucks, it would create the equivalent of a three-lane traffic jam of trucks around the globe. One hundred and ten million tons of coal – without counting the electricity used in brick production, the diesel for transporting the bricks – alone produce some 180 million tons of CO², roughly one-third of the total CO² emissions of the global airline industry (550 million tons of CO²). While one may argue that this is less than 1% of the total world CO² emissions, it still represents much energy and the potential for savings in the brick industry is enormous.

Up to 40% of the 180 million tons of CO² emissions of the Asian brick industry could be saved just by switching to more efficient kilns such as the VSBK. Further energy savings could be made by introducing hollow bricks. This could directly cut the energy used for firing (a lower mass of clay to be fired) as well as through the better insulation of walls made of hollow bricks, thus reducing the energy required for heating and cooling buildings. This aspect is especially relevant, as in urban areas of Asia the share of air-conditioned buildings is increasing very quickly. Even with a very conservative calculation that only 25% of the CO² emission can be saved, some 44 million tons of potential CO² savings are possible by introducing more efficient brick kilns and resource efficiency measures in the Asian brick industry. This is similar to the potential savings in the airline industry that would result if all airlines switched to the new Boeing 787 Dreamliner with its 20% better energy efficiency.



The Asian brick industry is huge and contributes heavily to pollution in the form of both local and global emissions



1,000 billion bricks are produced in Asia each year, equivalent to a built-up volume of 100,000 Empire State Buildings



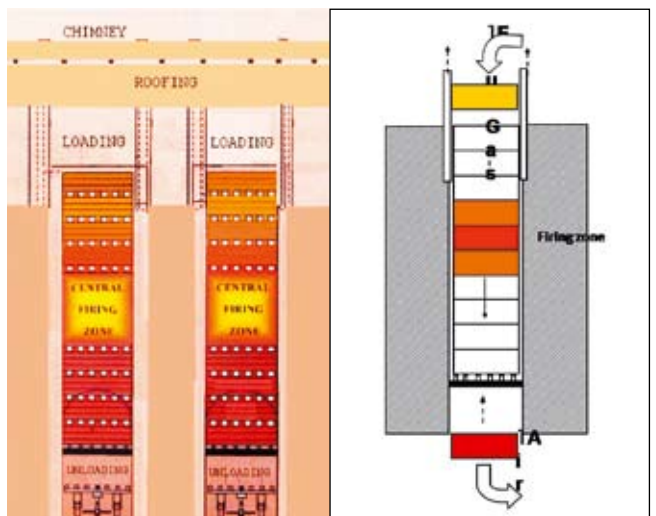
Huge amounts of coal are used: 110 million tons equal a 3-lane traffic jam around the Equator if loaded on 10-ton trucks



CO₂ emissions are roughly one-third of the global airline industry. The 40% savings potential equals the expected savings of the Boeing 787 Dreamliner.



The Vertical Shaft Brick Kiln (VSBK) is the most efficient brick kiln; it saves up to 40% coal compared to conventional kilns



The VSBK is so efficient because the bricks flow down a vertical shaft (like inside the chimney) into the firing zone



This large industry is also a source of income for millions of seasonal workers. These brick-moulders are from the poverty pockets of India.



Many smallholders have to migrate during the dry season from their villages and seek work on brick kilns in northern India and Nepal.



Especially the firemen are all from specific pockets in Uttar Pradesh and Bihar. They migrate to the kilns for six months.



Wife of a fireman: she has to look after the family for six months. Organising firemen has improved social conditions.



Social improvements are also possible by changing ownership: this women's Self Help Group is striving to run a brick kiln



The first carbon finance cheque is handed over to the brick kiln owner to reward the 40% reductions in CO² emissions of his VSBK



Child-care-centres (CCS) have been introduced on kiln sites in Nepal – a win-win situation for kiln owners too



Better building methods can improve the energy efficiency of buildings: this rat trap bond masonry saves bricks and insulates better



The market is very conservative and it needs to be shown that attractive buildings can be made with VSBK bricks in Nepal



Over 300 VSBKs are already in operation in Vietnam where regulations also enforce better working conditions. Hollow bricks are popular.



Selective mechanisation of all tasks relating to drudgery has been imposed by the Vietnam Government



Vietnam has also developed cheaper tunnel kilns – potentially an interesting solution in the rest of Asia

14.4. ON BRICKS AND KILNS: WHAT IS A VSBK?

The firing of clay bricks has been practised for more than 4,000 years. The brick firing process consists essentially of increasing the temperature of the bricks progressively over a period of time, holding it at a peak temperature (between about 800 °C and 1,100 °C), and then cooling back down to the ambient temperature. Over the years, brick kilns have basically evolved from rudimentary 'intermittent' kilns to more complex energy-efficient 'continuous' kilns. In intermittent kilns, bricks are fired in batches. Generally, bricks and fuel are stacked in layers and the entire batch is fired at once; the fire is allowed to die out and the bricks to cool after firing. In a continuous kiln, on the other hand, the fire burns continually and bricks are warmed, fired and cooled simultaneously in different parts of the kiln. The heat in the flue gases is utilised for heating and drying the green (unfired) bricks and the heat in the fired bricks is used for preheating air for combustion. With the incorporation of heat recovery features, continuous kilns are more energy-efficient.

14.5. ENERGY EFFICIENCY OF DIFFERENT KILNS

Energy consumption between different types of kilns varies significantly, as shown in the adjoining table. Overall, between 11 and 70 tons of coal is needed to fire 100,000 bricks. Put another way, every brick (of 3 kg weight) consumes between 110 to 700 grams of coal.

Most brick kilns in Asia are still operating as traditional industries with very limited investments. Batch-fired clamp kilns are the most widespread kilns in rural areas and in South Asia the continuous 'Bull's Trench Kiln' (BTK) is very popular. It has either a moveable or a fixed chimney and is a moving fire kiln, namely with the fire moving through the bricks stacked in an oval-shaped trench. Tunnel kilns are the most common type of kilns in industrialised countries and are also found in some Asian countries like China and Vietnam. They are usually highly mechanised and require substantial investments. In tunnel kilns, the bricks move through a 'tunnel' on a cart.

14.6. VSBK – THE MOST EFFICIENT KILN

In a Vertical Shift Brick Kiln, the green bricks are loaded on the top platform and moved slowly down to the central firing zone: the fresh air coming from below cools the fired bricks before unloading. The kiln works as a counter-current heat exchanger, with heat transfer taking place between the upward moving air (continuous flow) and downward moving bricks (intermittent movement).

Comparison of Kilns: Energy Use

Type of kiln	Specific Energy Consumption (MJ / kg of fired brick)	Specific coal consumption* (tons / 100,000 bricks)
Continuous Kilns		
VSBK (India, Nepal, Vietnam)	0.7 – 1.0	11 – 16
Fixed chimney BTK (India)	1.1 – 1.5	17.5 – 24
Moving chimney BTK (India)	1.2 – 1.75	19 – 28
Tunnel kiln (Nam Dinh, Vietnam)	1.4 – 1.6	22 – 25
Modern tunnel kiln (Germany)	1.1 – 2.5	17.5 – 40
Intermittent kilns		
Clamp and other batch kilns (Asia)	2.0 – 4.5	32 – 70

* Specific coal consumption corresponds to gross calorific value of coal as 18.8 MJ / kg (4,500 kcal / kg) and for a fired brick weight of 3 kg

The maximum temperature is achieved in the middle of the shaft where fire is maintained. At an interval of two to three hours, a batch of fired bricks is unloaded at the bottom. A batch of bricks consists of four or six layers of bricks.

To understand why the VSBK is the most efficient kiln, one has to appreciate that, in a brick kiln, only a small part of the heat is utilised for the firing and drying operations and most of the heat is lost. A more efficient heat transfer process and lower heat losses make VSBK more efficient.

There are thus excellent reasons to promote such an energy-efficient kiln. However, the VSBK does also have its limitations and it may not be the best solution for all situations. Due to its relatively short firing period of around 24 hours, the green brick must be able to withstand fast heating and cooling to produce high quality bricks. Similarly, the firing process needs skilled personnel. BTK and intermittent kilns are much less sensitive to green brick quality as the bricks take several days to be fired.

14.7. BEFORE DISSEMINATION: THE SOCIAL DIMENSION

The prime motivation for initiating an intervention in the Indian brick industry was indeed to find a solution to a global environmental problem – it was financed, after all, from a special global environmental fund. Yet for an agency like SDC, it was obvious that the intervention had – at the same time – to improve the social conditions of the workers. This was not an easy task as the brick industry is well-known for its very harsh working conditions. Millions of people from the poverty pockets of India and Bangladesh migrate every year during the dry season – when there is no work as farm labourers – to the over 50,000 brick kilns in northern India, desperately seeking a job as firemen or as brick-moulders. As long as this poverty remains, this 'industrial reserve army' will flock out to these kilns. There are few incentives for brick kiln owners to invest in better working conditions or in selective mechanisation: as long as it is cheaper to pug clay by foot and mould bricks by hand, there will be no machines.

Despite these constraints on change, the different brick teams in India, Nepal and Vietnam took up the challenge and tried to find different ways of techno-social integration. Many promising social innovations were tried, many of them successfully:

1. Technical improvements: Some of these social innovations require technical improvements such as better air quality through chimneys and ventilation; and mechanical pugmills and mechanised brick-moulding machines instead of treating the clay by foot and moulding the bricks by hand.

2. Better working conditions for workers: Significant practical improvements are possible, often after a straight dialogue between brick workers, firemen, moulders and kiln owners. Running child-care-centres at brick kiln sites is one, rather than leaving children to play in the mud. Another is to have a simple mobile phone available on-site for communication between firemen and their families back home.

3. New forms of ownership: Different models of new ownership have been tried out. In Orissa, in southern India, for example, six community-owned kilns are operating, with 11 women Self-Help Groups operating a VSBK. They are struggling with management issues but with the right support they could succeed.

3. Organising small brick-makers and workers: More than 20,000 brick firemen and their families have been organised in northern India. Similarly, capacity-building and organised dialogue has been undertaken with hundreds of small brick-makers in Nam Dinh province of Vietnam.

14.8. RESISTANCE TO CHANGE IN AN INDUSTRY WHERE NOTHING HAS CHANGED FOR 50 YEARS

In South Asia in particular, there is strong resistance to change as the conventional way of firing bricks is quite profitable and does not require high initial investments. Although more modern kilns, and especially the VSBK, provide significant savings in energy, they also require higher initial investments. The situation is quite similar, though on a different scale, to that of the energy-saving lamp where the initial cost is higher but savings are possible through lower energy bills and a longer lifespan; yet even in industrialised countries, people are shying away from these upfront investments.

The situation is even more complex since the operation of modern kilns demands a revolution in management compared to the traditional brick kilns with their well-known technologies and where the kiln owner does not need to know anything about firing. He can just hire migrant firemen and labourers for the dry season; basically, he has to oversee the kiln once a day and his most important job is perhaps to look after the cash-box. VSBKs, on the other hand, require a 24-hour operation in several shifts, and serious fixed investments such as owning the land. With a drying shed for green bricks, the kiln can be operated the whole year round. "But why should I bother to work the whole year round when I can make my money within six months", commented a brick kiln owner in Nepal.

There are, moreover, market factors too. In South Asia especially, and probably due to British influence, demand is for a solid red brick with a good 'ring' sound. Such bricks are best produced in traditional Bull's Trench Kilns. It is not easy to change this demand pattern as house-owners, architects, contractors and masons all have the same perception. Even if VSBK bricks have been shown in tests to have a higher compressive strength, the traditional perception is quite strong. It will require continued market education over time to change. Not that it is impossible to change traditional perceptions: in Vietnam, different types of hollow bricks have now gained a 40% to 50% market share thanks to the efforts made by the government over the last 30 years.

14.9. THINGS CHANGE FAST IN VIETNAM, WHEN POLICIES AND CONDITIONS ARE RIGHT

The history and nature of the brick industry in Vietnam is quite different to that of South Asia. The Government has been taking steps to 'industrialise' the brick industry through the introduction of machines and new technologies such as the tunnel kiln since the 1960s and

1970s. Several brick-making processes have been mechanised and it is impossible to find hand-moulded bricks in Vietnam. This has created very strong incentives for improved brick technologies and has also paved the way for hollow bricks. Conditions have thus been more favourable for adopting a technology like VSBK.

Despite the fact that the Government has still not approved the VSBK officially, it has had a fast uptake: more than 600 shafts have been installed in only three years. This has been aided by a strong regulation: the Vietnamese Government has plans to ban all traditional kilns by the year 2010 and so far only tunnel kilns have received the official stamp of approval. Several new technical innovations have taken place with VSBKs in Vietnam and the SDC project is facilitating the development of a sustainable brick industry in Vietnam including a model enterprise based on VSBK technology.

14.10. THE STICK IS REGULATION, AND THE CARROT, CARBON FINANCE

Transformation in this traditional industry will only be achieved through a mix of measures, including a combination of right policies and incentives. The conventional policies for environmental regulation in India and Nepal have not really worked in the brick sector. When, for example, the Government of Nepal banned the moveable chimney BTKs in the Kathmandu valley due to an unbearable pollution, the kiln owners immediately switched to fixed chimney BTKs: these kilns have higher chimneys and spread the pollution over a larger area. A similar phenomenon had occurred in the early days of environmental protection laws in Europe and America, when the practice of using tall chimneys was introduced and acid rains no longer fell in the immediate vicinity but in far-away areas.

To be cajoled into transformation, the industry would require a comprehensive set of regulations which address a whole package of issues: environmental pollution, occupational health, abolition of drudgery and decent working conditions and – most importantly – new brick quality standards which take into account the resource-efficiency and insulation properties of bricks.

This stick – a stick of several prongs, indeed – should be accompanied by financial incentives. It has proven practically feasible to include the VSBK under the Clean Development Mechanism (CDM). Development Alternatives, in association with the World Bank, has successfully handed over the first carbon finance cheques to VSBK owners in India. However, this carbon finance would be more effective if it could be made available

upfront in form of soft loans. Especially attractive seems to be the mobilisation of Voluntary Emission Reduction (VER) credits, as this would also help shine the spotlight on this forgotten but so important industry. One VSBK kiln saving 500 tons of CO² can compensate, for example, a full Airbus flight from Europe to Kathmandu and, in effect, make it carbon-neutral. In fact, if all brick kilns in Nepal were to switch to VSBKs, it would compensate the entire air traffic tourism of this country.

14.11. AIR CONDITIONERS AND HOLLOW BRICKS: THE IMPORTANCE OF BETTER INSULATION

Many more savings are possible, simply enough, inside the brick, since the insulation property of solid bricks is very bad. Hollow bricks not only need much less energy in the firing process – bricks with 20% hollows have an accordingly lower mass than solid bricks – their insulation property is considerably better. It is estimated that up to 5% of air-conditioning energy could be saved if a room is built of hollow bricks instead of solid ones. A small detail, apparently, but it makes a big difference: more and more urban middle-class families in the Asian mega-cities aspire to install air-conditioners in their apartments. This market is growing at 25% per year and coverage is still very low, with only some 2% of the population having air-conditioners. An average family consumes some 7,200 KWh of electricity, and produces some six tons of CO², every year. If 5% of this electricity could be saved, it will not only reduce the degree of household stress about energy scarcity and expense, but it would also save some 12 tons of CO² over the lifespan of the building.

Against this background of rapid building expansion in Asia, it is essential, therefore, to look at better bricks from this angle of design and composition. This should then be translated into improved insulation standards, revised building codes and minimum-energy building technologies, in enforceable form.

14.12. A LONG, DEEP BREATH: TRANSFORMING AN INDUSTRIAL SECTOR

Much has been achieved so far in India, Nepal, Vietnam and Afghanistan, though it may not yet be very impressive in numbers. It already adds up, in no uncertain way, to a major achievement for a small agency like SDC – it has paved the way for some 500 brick kilns, it has adapted an environment-friendly and economically-viable brick-firing technology and it has created a team that has mastered all technical, social and economical knowledge required.

To replicate this initial experience into a broad innovation, and then to upscale it into the mainstream, will require many more years of effort. This will have to be in various thrusts: to facilitate regulatory changes; to provide brick-makers with easy access to carbon finance; and to build the capacity of brick-makers. It may require a regional long-term initiative and involve many more donors, governments, civil society organisations, climate change agencies and the private sector.

With these measures, it will be possible to dramatically reduce the amount of coal burnt in traditional brick kilns. It will be realistic to add much decency to the work of the millions in that industrial reserve army of poor people who find no work in agriculture. It will prevent severe power shortages, and reduce energy stress, by saving on air-conditioning with the introduction of better insulated bricks. It will reduce global CO² emissions in a tangible way, in a sizeable part of one of the famous wedges that are needed for a post-carbon future.

If all of these experiences made so far with the VSBK can bear their fruit in Asia and elsewhere, then one can indeed say that the glass is half-full and not half-empty.

THE CARPET INDUSTRY IN ASIA – DECLINING DEMAND 15

The hand-knotted and hand-woven carpet industry employs 2.5 million workers directly in India alone; similar figures are reported from Iran. The image of the carpet industry has recently been tainted mainly by reports of child labour. While a few years ago, an oriental carpet was a sign of prestige in the living room, it is now often associated with drudgery and exploitation.

Some initiatives have tried to change this image by introducing certified labels such as Rugmark or STEP. The STEP label is given to retailers in Switzerland, Germany and Austria and their entire supply chain is traced and needs to be certified. A premium on the retail price is used to support social improvements such as regular health checks and doctor's visits.

While such certification has, to some extent, been able to improve the image of carpets and take away the 'bad taste' of association with child labour, the carpet industry is faced with an overall stagnation of the market. Carpets compete with other flooring materials, the domain of an industry that is highly organised and effective in promotion. The carpet industry is a highly scattered and very informal industry – even the trade is not well organised – and is not in any position to position carpets optimally in the fast-changing markets of the developed countries.

There is thus a high risk that the overall decline or stagnation in demand for handmade carpets will affect millions of livelihoods in the poorest pockets of the world. It has much in common with the brick industry, in the sense of being faced with transformation, with the need to adapt and organise to survive. It differs, to some extent, from the brick sector, where transformation makes sense from social and environmental perspectives yet demand for (some form of) bricks is soaring.

As with most sector chains, the carpet one is not only the main source of income for the knoter and the weaver, but for an entire industry cluster. There is an entire industry upstream and downstream, from wool or cotton production to spinning, dyeing, transporting, trading and even to the makers of handlooms and all kind of equipment.

There is, here, an important case for development cooperation agencies to assist this industry in opening up new markets, and provide inputs in designs and new techniques and materials, and image promotion. It was impressive for me to see how some weavers in a small

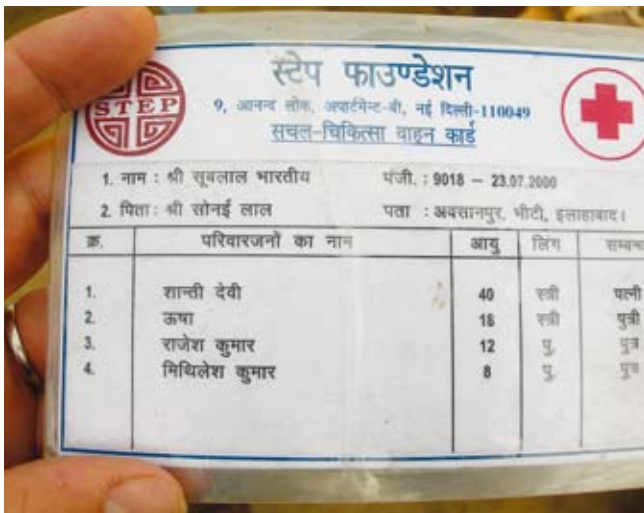
hut near Varanasi made beautiful white carpets – the very latest and fashionable designs for an IKEA shop in Europe. The skills and the potential are there: what is now required is a major initiative in market creation, and for a millennia-old value chain, to no small degree, to re-invent itself.



Millions of workers are employed in the carpet belt of northern India



Fine hands are needed to make the knots of traditional and modern carpets. The key problem is the stagnating market for carpets.



The STEP label ensures fair working conditions in the carpet industry: here, a health card of a carpet weaver



Some producers are producing new, very modern designs, but carpets are having to compete with other flooring materials



Traditional carpets may involve weeks and months of manual work. With new lifestyles, traditional carpets have lost market shares



The carpet industry also employs also millions of people in such upstream and downstream activities such as spinning, dyeing and transport.

PART FIVE: HOW TO MAKE MARKET APPROACHES WORK? – THEORY AND TOOLS FOR DEVELOPMENT AGENCIES

We shall here first resume the theory of the market creation approach as it was outlined in the original study 'poverty alleviation as a business'. In the following chapters the approach will become broader and include the development of value chains and the transformation of industrial sectors.

16.1. MARKET CREATION APPROACHES AND SUPPLY CHAIN DEVELOPMENT

Let us first ask why public intervention is needed to create markets that are relevant for poverty reduction and analyse the major obstacles for these markets to emerge.

16.1.1. HURDLES IN CREATING MARKETS FOR POVERTY REDUCTION

The creation of markets for products and services that are relevant to poverty reduction is a path with several obstacles, make it a tricky and cumbersome task:

- **Price elasticity:** Poor people are not so attractive as customers in the short run: they turn their penny many times before they spend it and they buy only in small quantities. It may be quite tough and harsh to develop these markets.
- **Conservative attitudes:** Poor customers are often conservative and – by nature – risk-resistant. Conservatism, especially in rural areas, is notorious: a market is only created after some early adopters have taken up the product, and after many followers have seen and tested it. Only then will the whole mindset change and the critical mass emerge for the private sector to supply products profitably.
- **Cultural barriers:** Quite often, there are also cultural barriers that hamper the development of markets for innovative products. In many regions, for example, it is culturally not accepted that women use bicycles or go to the market. And, at least as clear is the absence of utilities service – a regular electricity supply, whether on- or off-grid, is a prerequisite for marketing electric appliances.
- **Urban bias of mainstream markets:** Rural markets, and those of the poor in general, are underserved because of the urban bias of many marketing efforts. This may be rooted in the preference of marketing managers to live and work in a familiar environment, where they can send their children to good schools and health services, and other factors which hide rural realities and poverty from their awareness. Within such a strong bias

towards urban mainstream marketing, there is an even stronger bias towards 'marketing to the affluent'. In the earlier chapter on making markets work for the poor, we noticed the number of best-sellers with this, or a similar, title⁵³ and the absence any single book about 'marketing to the poor' – at least before Prahalad's work on 'The fortune at the bottom of the pyramid'⁵⁴

- **Affordability and spending pattern:** The poor cannot afford to buy big quantities. The most revolutionary marketing idea for rural markets is the 'sachet', a tiny portion packaging, which allows selling small quantities for an affordable price. It is an irony that a poor person may pay several times more when buying small quantities rather than the 'jumbo pack' which rich people can afford. This reflects the fact that it is more expensive to market to the rural poor, smaller quantities make the products accessible to people who have little cash.

16.1.2. WHY DOES THE PRIVATE SECTOR NOT CREATE THESE MARKETS?

Despite the enthusiasm created by Prahalad's work 'The fortune at the bottom of the pyramid', it is in practice often very costly to develop viable markets of poor customers. The small private sector will only step in once there is enough sales volume to run a profitable supply chain. This is very often not the case initially, as sales are very low.

Initially, it is therefore not only justified but necessary to support the market development with subsidies. Market development is even a good investment for development cooperation agencies, provided it is done correctly. The question remains: why does the private sector not invest in market development on its own, and does it hold back?

Most enterprises producing products for the poor are small industries – the latrine producers in Bangladesh are an inspiring example. In Tanzania, mosquito nets were produced by larger firms but with great reluctance initially, and only recently have larger firms started investing in this market. Vestergaard and Frandsen, a Danish company is now producing around five million long-lasting mosquito nets per months, but their main reason for investing in such large volumes was due to the fact that UNICEF and other large donor agencies are buying mosquito nets in bulk. None of the companies producing nets have significantly contributed to the creation of the markets. Once the market was there – and once Population Services International (PSI) conducted

nationwide social marketing campaigns – then the enterprises invested in new technologies and production facilities.

Market creation is a typical task of marketing, and the large corporate sector does it all the time. However, the small private sector does not invest in activities such as:

- R&D, research and product development
- setting-up of marketing and supply channels
- large-scale promotional activities leading to the creation of a market
- and even less to change attitudes and behaviours such as hygiene promotion.

The prime reason is that the small private sector cannot recover these costs as it is difficult to defend the exclusivity of the product. It may be possible, in the future, to recover more of these costs through branding and other means, but the products can often not be protected and copy-cats are just waiting around the corner. A related issue, not made any easier by the lack of exclusivity, is the cultural and organisational issue of small private business developing and maintaining a relationship with R&D facilities.

16.1.3. OVER THE AFFORDABILITY HURDLE: RENT AND LEASE MODELS

Selling to the poor is especially difficult if we talk about investment goods or durable goods: poor people cannot cross the hurdle of up-front investment. Innovative financing mechanisms, in addition to conventional micro-finance loans with low instalments, such as renting and leasing are the only way to make such goods accessible to the poor. A successful and innovative model of 'rent-a-cow' provides high-yielding cows to small farmers on a rental basis: instead of investing in a cow – and bearing the risk for the entire asset – small farmers can rent it and pay the rental fee with the milk.

Similarly, solar lighting devices are most attractive if they can be paid on a daily basis rather than being purchased in one go. Successful models have been developed by SELCO in India and Sunlabob in Laos to rent solar lighting to households and small businesses⁵⁵. SELCO rents out charged batteries to small shops and hawkers in a Bangalore market for 10Rupees a night.

Micro-finance models are thus very important in making market creation approaches work. In some cases, subsidies may be needed for certain goods such as mosquito nets to make them affordable to those target groups who need them most.

16.1.4. PHASES OF THE PRODUCT-CYCLE AND EFFECTS ON MARKET CREATION

How does a market creation approach work over time? The following graph⁵⁶ incorporates different parameters:

- the sales curve
- the profit curve
- the number of micro-enterprises that join the supply channel and
- the poverty alleviation effect (such as number of clients, and income generated)

In marketing theory about the product cycle, it is well known that all products undergo four different phases:

1. In the R & D phase, sales are zero, and only prototypes are produced and tested. It is important to realise that feedbacks from test marketing should feed the R&D efforts, and many products need considerable adaptation in every new region.

2. In the introduction phase the product needs to be test-marketed. During the R&D phase and the introduction phase, even a corporate sector company makes losses. The marketing channel is developing slowly, those who join the channel (as manufacturers or dealers) are the 'scouts', often called the pathfinders or pioneers. Their characteristics are discussed in more detail below. However, some poverty alleviation is already taking place with every product sold.

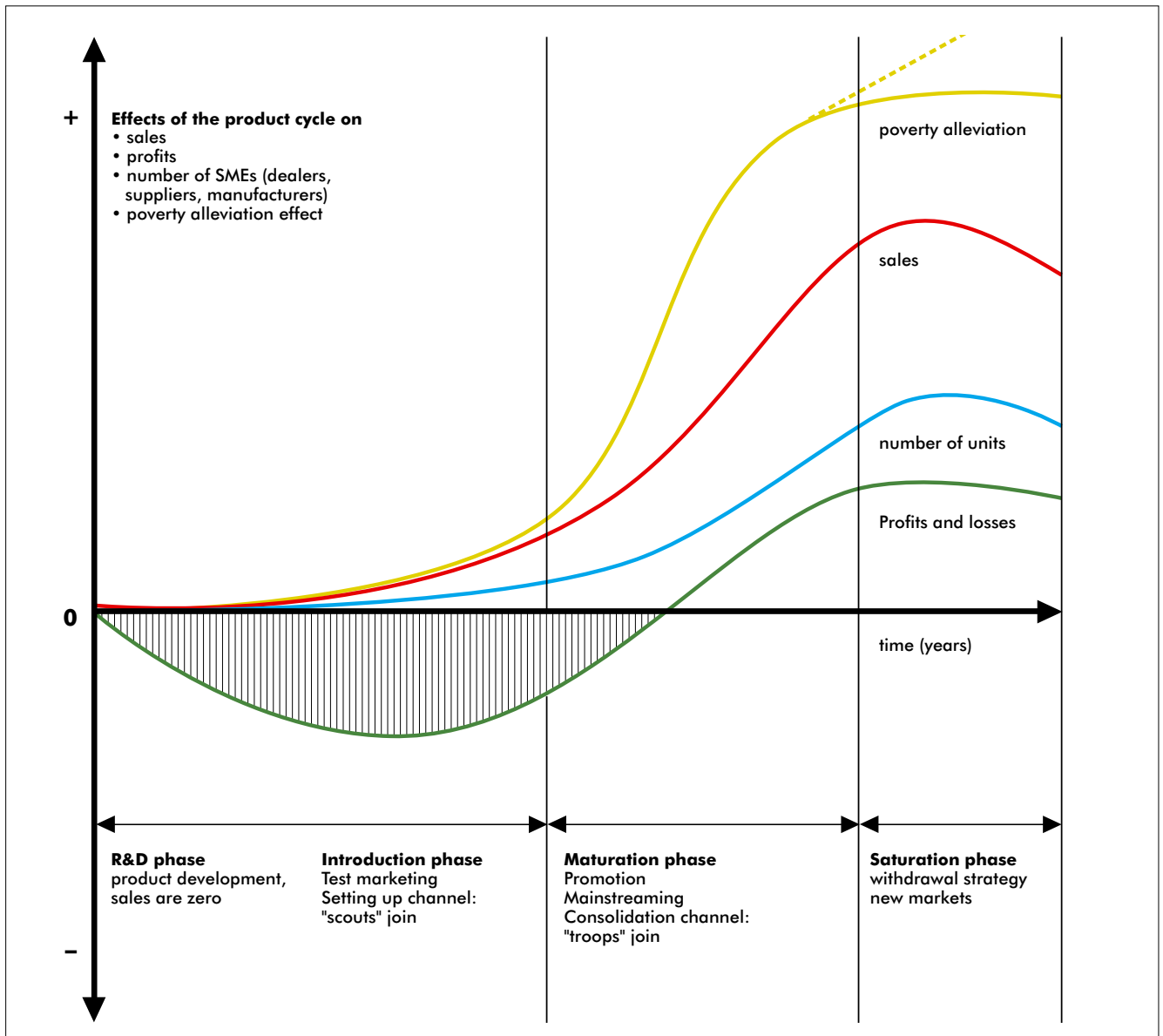
3. In the maturation phase, the market picks up and demonstration effects lead to higher sales and higher profits; if the market pioneers make profits, more and more units join the channel; the 'troops' of dealers and manufacturers will play more safely than the pioneers. The poverty alleviation effect is now reaching its peak (cumulative effects of all adopters).

4. In the saturation phase, the sales of the promoted product decline, as do profits, and some units even withdraw. The withdrawal strategy should now define how to sustain the channel, by introducing new products or moving to new markets. The poverty alleviation effect remains at the same high level, thanks to the cumulative adopters.

16.1.5. WHAT TO SUBSIDISE, AND WHAT NOT

Although, as the graph shows, profits are rising fast with volumes, there are losses initially. Here, there is a case for subsidies in four different forms:

1. R & D and product development: Sales usually start very slowly and do not take up in the introductory phase. In our case, since there is a need for thorough R&D



and participatory product development, the R&D and introductory phases may together last between five and 10 years. The losses occurred in this phase may not be recovered with the product later on, as it is difficult to achieve the same degree of exclusivity as with a product developed by the corporate sector. Most of the R&D costs may be borne by development agencies or donors, as in the case of mosquito nets: all the trials, medical research and field testing cannot be borne by the private sector. The chemical industry may invest in developing long-lasting insecticides but would never invest in studies about the effectiveness of the insecticide on malaria.

2. Generic promotion to increase volumes: During the maturation phase, sales are going up steadily and the focus is now on setting up a delivery channel. In order to achieve an increase in volumes, generic promotion activities such as awareness creation, social marketing,

and demonstrations should be supported. Achieving behaviour changes such as hygiene promotion or using mosquito nets, or awareness creation about malnutrition or safe water, are clearly public goods and not a task of the private sector. The same is true for agricultural extension and market creation for innovations for small farmers.

3. Supporting delivery channel: As development of the channel is linked to micro-enterprises, small shops and retailers, this process may also be a relatively slow one. It is often worth including poor people with entrepreneurial spirit into the channel. For instance, there is hardly a better target group than the young unemployed as dealers for mobile phones or mosquito nets. These people are most happy to make money by running around from one rural market to another, but they lack the means to invest. It is thus justified to involve those people in social marketing activities and, for example,

give them a megaphone to increase their sales performance. If the supply chain is composed of basically small enterprises it may also be justified to support them with promotion materials, branding, training and other measures.

4. Subsidies for affordability: it is a fact that many African mothers cannot afford the outlay on a mosquito net, a water filter or a latrine despite the fact that those goods provide them enormous benefits. Five dollars, for a person living on less than a dollar a day, is a lot of money, even if the doctor's fees are higher if their child gets malaria. Subsidies are necessary and in the case of mosquito nets, this is fully recognised. The use of vouchers is an excellent way of a non-distorting subsidy that creates incentives for a supply chain rather than undermining their efforts.

5. Support for keep-up strategies: In the saturation phase, a withdrawal strategy should be applied to introduce new products that make the channel sustainable even if sales decline. This is the case for establishing a keep-up strategy: even if sales to new customers go down, it is important that retailers are still interested in selling mosquito nets to cater to the needs of mothers with newborn babies and replacements of nets.

16.1.6. THE BIG KICK START, FROM INTRODUCTION TO MATURATION

Often to create a dynamic market, a big kick start is needed: a massive initial campaign can create a dynamism that is contagious, where people are getting into mouth-to-mouth propaganda.

This is also supported by classical marketing theory: the supply channel is initially still the responsibility of a few pioneers, and sales are modest. In this phase, market creation may need a kick start to bring it into a more dynamic gear.

Without such a kick start the channel may well remain 'lethargic'. This has again to do with the phenomenon of the scouts and the troops, as Berman has pointed out: "Research on the new product diffusion process based on a study of consumer electronics retailers found that there are two types of retailers: scouts (innovators) and troops (followers). The classification is based on the extent to which one retailer influences others. Scouts are the first retailers to adopt a new product. They are likely to commit themselves to a new product or commit themselves to a new product through a small order. On the other hands, troops purchase a product only when scouts experience satisfactory sales levels."⁵⁷

There are more than enough examples of development products which have never even reached the 'scout stage',

and very few which have really managed to scale up to the stage of maturity and mass dissemination. Why? It is a telling question.

In the case of the treadle pump, for example, the product received a 'big kick' from the 'Bangladesh Tobacco Company' in Rangpur: they sold the pump to their contract farmers on a loan basis and recovered the money through purchases of tobacco. In the case of the latrines in Bangladesh, it was the 'social mobilisation campaign' that led to the critical mass necessary for troops to join the marketing channel.

16.1.7. THE SECRETS OF SUPPLY CHAIN DEVELOPMENT SUMMARISED

In summary: what is the secret behind supply chain development? What is needed to successfully involve the private sector into effective delivery of aid?

What we can conclude as lessons from the four case studies are the following:

1. Relevance: All four examples show very essential development issues where interventions are crucial to make aid delivery work: malnutrition, malaria and diarrhoeal diseases are the most important factors for child mortality, retardation and for underdevelopment.

2. Viability: The key to dynamic supply chains is profit: the more profitable it is to buy, store, stock sell and install those goods, the better. Profits depend essentially on volumes: the higher the volumes, the lower the transaction costs and the more the overall efficiency can increase.

3. R&D, market research: there is much to be done in creating an initial demand by investing in R&D, market research and product development. Poor people deserve the best products so that they can invest their few pennies in reliable, well-designed, and solidly-tested products.

4. Boost demand: It is strategically imperative to raise sales volumes fast and thus to focus on market creation and boosting demand. Promotion in the form of both marketing and social marketing is a high priority, to reach viable levels. 'Marketing' here means the promotion of physical products and services according to the 4Ps of marketing. 'Social marketing' means the promotion of behavioural changes with the methods of marketing: promoting the desired behaviour (such as use of latrines, or of net) and discouraging undesirable behaviour (such as open defecation).

5. Supply chain: At the same time, the supply side needs intervention. a supply chain needs to be developed and nurtured in order to make the products available. Many

participants in the supply chain are informal micro-enterprises, and much effort and support may be needed to inform, train and support local manufacturers, wholesalers, retailers, and installers.

16.2. LINKING FARMERS TO HIGH-VALUE VALUE CHAINS

For many small farmers, the entry level to participate in high-value markets is often too high, and they are increasingly marginalised due to the structural changes on those markets. With an ever increasing share of agricultural goods being traded in processed form and through supermarkets, perhaps a new generalisation is in its place here: it is not so much that there is no market for small farmers, quite the contrary. There is, in fact, too much market for small farmers and they often do not manage to sell to it because they do not have enough to supply, in either the quality nor quantity demanded. A key problem here are the high transaction costs.

16.2.1. VALUE CHAIN ANALYSIS AS A STARTING POINT

What can be done to overcome this? While a few years ago many development agencies advocated that small farmers should focus on their subsistence, it is now more commonly accepted that they should participate in markets. A whole library of studies and manuals has been prepared to help development agencies to improve the access of small farmers to the market. Many of them are extremely practical and useful.⁵⁸ SDC has even organised a community of practice to discuss the topic.⁵⁹ The Swiss NGO Helvetas, for example, has published a manual on 'rapid market appraisal' in response to the need for farmers avoid failures by conducting initial market research into what produce is needed.⁶⁰

Frank Lusby, a key advisor in business development for USAID, has developed a methodology in eight steps for value chain approaches⁶¹.

- Step 1: Value Chain Selection – choose a value chain with the greatest potential for growth in MSME (micro, small and medium enterprises) income and employment.
- Step 2: Value chain Analysis – gain a greater understanding of the operating context for MSMEs and intelligence on the market players, their roles, and inter-relationships.
- Step 3: Identification of Constraints and Opportunities – determine key issues hindering growth and competitiveness in the value chain.
- Step 4: Identification of (Potential) Market-Based Solutions – determine which solutions can best address the

constraints identified in Step 3.

- Step 5: Selection of Market-Based Solutions – target specific market-based solution(s) for more in-depth analysis.
- Step 6: Assessment of Targeted Market-Based Solutions – understand constraints to the sustainable supply/demand of the targeted solution(s).
- Step 7: Identification of Facilitation Activities – determine facilitation activities which address the constraints of the targeted market-based solution(s).
- Step 8: Selection of Facilitation Activities – choose the most appropriate facilitation activities to implement.

Similarly, IDE has developed the Poverty Reduction through Irrigation and Smallholder Markets approach, known as PRISM.⁶² Its participatory processes serve to:

- Identify **opportunities** for rural farm households to increase income through market participation.
- Understand **constraints** that keep people from participating in identified market opportunities.
- Develop a **business plan** that details how rural households will increase income by creating an integrated network of businesses, services, and markets. The business plan includes natural resource management strategies, socio-cultural measures, and strategies for addressing identified constraints.
- Enable **implementation** of the business plan through market channels at prices that are unsubsidised and sustainable, yet are affordable for large numbers of poor households

These are useful tools and any market-based intervention for smallholders must start with such a value chain analysis, above all an analysis and a good understanding of the constraints.

16.2.2. VALUE CHAIN APPROACHES MEAN WORKING WITH PRIVATE SECTOR

Value chain development is, nonetheless, far from being an intellectual exercise; it is first and foremost an interaction with the private sector at both the farmers' end and at the market end. This means understanding that we are talking business, business about business.

Frank Lusby reminds us that "in order for market development programs to be successful, the 'facilitators' of these programs need to develop a positive attitude towards the role of the private sector in economic development. They need to recognise that all market actors (producers, traders, processors, input suppliers, etc.) need to make a profit in order for their activity to survive. It is also important to recognise that the motivation of many market

actors (including larger firms and intermediaries) goes beyond just making money. Businesses need to make a profit as described above, but many take personal pride in their work and the impact it has on their local communities and their country's economy. Developing a mindset that respects the role of all market actors is very important in promoting 'win-win' relationships in targeted markets."⁶³

Lusby also pleads for revisiting the role of middlemen: "One of the commonly held views around the world is that middlemen (or women) are the source of low prices, inefficient value chains, and exploitative behaviour towards the MSE/poor. The automatic reaction of many projects therefore is to try and 'eliminate the middlemen.'

Middlemen or 'intermediaries' play an important role in product markets. They provide links to markets, help to consolidate production, provide transportation, and sometimes provide inputs, technical assistance, finance or other services to the MSEs they source from. They also take risks in buying products, stocking them, and finding buyers who will accept the product. These are usually tasks that individual MSEs cannot, or do not want to undertake on their own. They can also be complicated tasks that go beyond the ability of groups or cooperatives to successfully manage. It is frequently stated that the price paid by intermediaries to MSEs is very low compared to the price they receive when they sell. This is, therefore, interpreted as exploitative behaviour. Before making assumptions, however, that margins are unduly high or unfair, it is important to investigate the costs of intermediation. These costs include transportation, storage, pre-financing, and personnel, not to mention a salary for the intermediary himself / herself. Intermediaries are also taking risks – they may enjoy a good margin one day and make a loss another. Once all of these factors are taken into consideration it is frequently the case that the cause of high margins and low prices is more due to market inefficiencies such as poor roads, long distances between farms and markets, lack of adequate storage and transportation facilities, fees paid to officials, etc. – and not so much the intermediaries themselves."⁶⁴

Rather than eliminating middlemen, it is thus advisable to find suitable forms of cooperation with them. While development cooperation cannot directly subsidise private commercial bodies, much can be done without distorting the markets: traders can be, indeed should be, involved in value chain development programmes from the very beginning and their functioning could be improved through several interventions. The main role of development cooperation agencies should focus on reducing the transaction costs by organising farmers

and making their linkages with traders more effective. Investments in policy dialogue, dialogue between market players, better organisation, better infrastructure and training could make much difference and lead to sustainable improvements.

16.2.3. FARMER-TO-MARKET, OR THE OTHER WAY ROUND?

CIAT, the international research agency for tropical agriculture based in Cali, Colombia, was one of the pioneering agencies in agro-enterprise development with its work on developing the 'Territorial approach to agro-enterprise development'⁶⁵. This approach has five components, each containing a number of discreet activities:

1. Territorial selection and partnership development

- Selection of territory,
- Establishment of agro-enterprise working group,
- Bio-physical and socio-economic diagnostic of territory,
- Profiling of beneficiary groups and risk analysis,
- Group organisation and plans for collective action,
- Joint planning of action amongst partners.

2. Market opportunities identification

- Identification and evaluation of market opportunities,
- Evaluation of non traditional farm activities that could offer employment opportunities,
- Identification of a basket of opportunities that respond to market demand and can be produced under existing biophysical conditions and are of interest to local producers.

3. Enterprise design and implementation

- Detailed participatory market chain analysis,
- Evaluation of critical points in the market chain,
- Development of a business plan to design and implement an enterprise project,
- Implementation of new enterprises.

4. Strengthening of business support services

- Evaluation of local support services,
- Analysis of critical gaps,
- Development of plans to strengthen key services to support ongoing enterprises.

5. Advocacy for pro-poor marketing and trade policy at the micro, meso and macro levels

- Assessment of impact of current marketing and trade policy on income prospects,
- Support to advocacy groups targeting pro-poor policy options,
- Studies to evaluate the effects of new trade policy options.

This may work where there are suitable agencies for implementing such a programme, but this is not always

the case. The selection of the territory as the first step does limit the market opportunities considerably. The territorial approach is – unless the territory is defined in a very open sense – a 'farmer-to-market' and not a 'market-to-far-mer' approach.

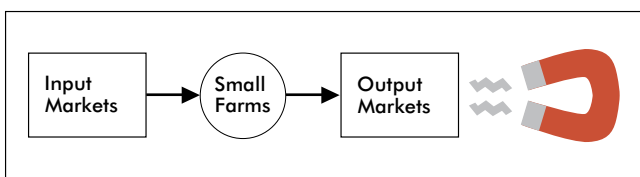
16.2.4. THE ART OF WHAT WORKS: MARKET-TO-FARMER APPROACH

The **a priori** identification of the 'territory' is – in the terms of Easterly and Duggan – a typical approach of planners rather than searchers. It follows the Jomini strategy of defining the goal first and then sending the army marching in rather than the Napoleonic way of identifying, and seizing, opportunities. In a working group of SDC on the principles of cooperation with the private sector⁶⁶ one former colleague formulated the principal difference between development cooperation and private enterprises thus: "development agencies follow a normative logic and the private sector follows the logic of opportunities". This very wise analysis serves as one of the basic truths behind the frequent incompatibility between development agencies and the private sector.

Most development agencies are organised and work along geographical criteria with a territorial approach, whether thematic, sectoral or physical. They define the boundaries of their territory and often define the poorest areas as the focal area of interventions. As a next step, they then identify what market potentials are available in this area and necessarily this departs from what already exists – or, even more, from what does not exist in terms of infrastructure. The task then is to develop value chains in a region where the pre-conditions are extremely difficult or almost non-existent: there are no (visible) opportunities. Having applied this basic method, no wonder that so many projects fail.

What is required – as shown here – is a pull from the market and not a push from the farmers' side. These different principles are well illustrated with three bee-keeping projects:

1. Lack of demand: A bee-keeping group in Niger was producing honey but they did not make any progress. Their production capacity was limited, and they found it hard to market the honey, partly due to lack of



management skills. Even after several years of support, the group continued to put the labels upside down on the jars (as an example of poor focus) and the project was finally stopped.

2. Lack of supply: A very motivated group of beekeepers in Tanzania showed me their innovative prowess in putting beehives on the trees. It was heartbreaking to hear the very motivated women tell me what their biggest problem was: in the dry season there were no flowers, for lack of irrigation and when there are no flowers, the bees fly away.

3. How it could work: A totally different approach was pursued by the Sustainable Agriculture Initiative (SAI). One of its three founders, Nestlé, produces a breakfast cereal in Thailand that includes honey. Originally, this honey was imported from Australia and one day Nestlé asked a bee-keeping association in Chiang Mai if they were ready to produce honey for them. Some technical assistance was needed to meet the quality and quantity requirements, but the rest went smoothly as the market was assured. In no time, hundreds of beekeepers were supplying their honey for this breakfast cereal.

These three examples are not the answer to all the problems and, of course, the poor people in Niger and Tanzania deserve better income opportunities. If, however, the private sector can be involved from the very beginning, and if the market is assured, then the emphasis could be on market-to-farmer approaches and, to say the least, increase the effectiveness of aid considerably. This does not solve the problem of the poor living in very remote areas where there are not even any flowers in the dry season – but, let us be honest, if the proposed solutions are not viable, nor sustainable, and if the enterprises go bankrupt, it is not a solution either. The process of looking step-by-step down, and up, along a chain is an excellent exercise in checking the elements of viability.

The inclusion of the private sector in value chain development has been discussed, *inter alia*, in the two case studies dealing with organic cotton and supplemental irrigation in coffee, in Part Three. Both have shown the intricacies and complexities of being competitive in such sophisticated markets as textiles and coffee. As a matter of deep conviction, surely development agencies can never succeed alone: no value chain analysis, on its own, can reveal even half the truth of how markets work, unless one tries oneself to make it work. The most important asset of a private enterprise is its deep knowledge of the market, of consumer preferences, of consumer trends, of qualities, logistics and, finally, of its own capacity to invest in and exploit these markets. There is an essential role for all actors to play, is there not, in partnership?

16.2.5. A PLEA FOR PUBLIC-PRIVATE DEVELOPMENT PARTNERSHIPS (PPDPS)

Value chain development programmes thus need direct modes of cooperation between development agencies and the private sector. Public-private development partnerships (PPDPs)⁶⁷ are essential to make such programmes work.

This implies a different way of working and some challenging issues need to be addressed. These challenges are mainly as follows:

- 1. Win-win:** The partnership should be based on a common goal that is shared by the public and the private sectors (such as assisting farmers to increase their incomes), but the motivation to cooperate should be the outcome of an expected win-win situation. Often, the private sector would not need a development agency to pursue their own objective but the development agency needs the private partner to achieve its goal, in this case to increase the incomes of the farmers.
- 2. Role definition:** the roles and expectations of the cooperating partners should be clearly defined and must be negotiated in a transparent manner.
- 3. Opportunity:** It is unlikely that a private company will be interested in working in the 'territory' of the development agency and it is thus essential to choose the territory jointly.
- 4. Trust:** A positive attitude is required on both sides and serious efforts of mutual understanding may be needed to pursue an effective and fruitful cooperation. It will only work if trust can be created on both sides and continuously be enhanced. It will not work if the 'chemistry' of the people involved is not right.
- 5. Measurable results:** Even more than in conventional development programmes, it is crucial to define measurable results and outcomes against the agreed shared objectives.

As an example of sharing values and goals, Nestlé S.A. subscribes to sustainable agriculture⁶⁸ in its policy of Corporate Social Responsibility (CSR)– farmers can participate in their procurement policy with a 'shared value added concept'⁶⁹. This means that when Nestlé creates value added in consumer markets, they are ready to share this added value through their supply chain with the farmer. This is an excellent basis for development agencies to cooperate with, and benefit from, the marketing strength of such a company; it is the strength to create added value.

More of a framework than a operating manual, PPDPs are not a silver bullet for success and they are very challenging for implementation. There is no guarantee for

satisfactory fruition; they may also fail, just as Napoleon lost at Waterloo. The chances for success, though, are considerably higher than they would be without such a cooperative partnership and where the marketing is not assured.

16.3. HOW TO TRANSFORM INDUSTRIAL SECTORS

As the examples of the brick and the carpet industry show there are tens of millions of poor people employed in traditional industry sectors that are often characterised by obsolete technologies, shifting market demand, appalling social conditions and severe negative impacts on the environment. Traditionally, development agencies have not engaged substantially with these sectors. Should they continue this neglect?

Let us recall the boiling frog theory. These sectors are, in fact, bound to die because the changes are gradual. If a frog is thrown into a pan full of boiling water, it will survive if it jumps out. If the frog is already in a pan of water and it is then heated up, it will struggle harder and harder until the heat is so hot that it will die. Both these industries are extremely conservative and change-resistant and they are not able to invest either in better technology or in such common tasks as market development for carpets.

The two case studies cover slightly different situations:

- 1.** The brick industry is heavily oriented towards domestic markets, and a whole series of actions has to be undertaken at different levels. To best leverage the introduction of a more appropriate technology in the beginning, an action-research programme was initiated to find out what works well. Gradually, technical solutions were identified for improving the production process, the quality of the bricks, the economics and the environmental performance. These results were, however, not satisfactory without social improvements. In the end, a technology breakthrough and scaling-up depend also on the regulatory environment and on new financing mechanisms that can make use of carbon finance.
- 2.** The carpet industry is entirely oriented towards export markets and certification and labelling can improve the social conditions significantly. However, if the overall market declines, these improvements will be gradually wiped out; indeed, in many countries, the carpet industry is under severe threat. What is needed here is a common action – with public investments – towards market development. A marketing campaign involving the carpet trade, architects, interior designers and a broader public to get rid of the tainted image would be needed. Interestingly, one of the most successful

development projects in the early days of the Swiss development cooperation agency, SDC, was the Tibetan carpet project in Nepal where SDC worked with Swiss importers to create a market for newly-designed carpets made by the Tibetan refugees.

There is also no silver bullet for transforming industrial sectors. Different situations and contexts require different methods of intervention. To put it in simple words inspired by Easterly: these are projects for searchers and not for planners.

16.4. TOOLS: MARKETING AND SOCIAL MARKETING IN DEVELOPMENT COOPERATION

While market approaches to development are more an art than a trade, there are still many tools available that are proven. Unfortunately, the toolbox of marketing and of social marketing is not so often used by development agencies and there is a great, unused, potential in many different applications.

The different case studies⁷⁰ describe many applied marketing approaches in detail, and feature the following highlights:

1. Market segmentation: Even if poor people may appear to be a homogeneous group, they are significant differences: some are poor, and some are less poor, even if they wear the same sari. In practice, there are enormous differences in needs and one has to understand this.

2. Market research: Market research is an important tool to understand these market segments and their different needs, wishes, dreams and constraints. As small companies cannot invest in market research, it would be a noble and effective task for development agencies to finance market research on the needs of the poor.

3. Design for the other 90%: It is true that the designers of this world are only focused on the 10% that have already everything. The poor deserve even better designs for their so obvious needs.

4. The 4 Ps: The 4Ps of marketing are very important and useful tools and should be applied much more in development cooperation:

Products (and services) that really correspond to needs and aspirations;

Pricing schemes that correspond to the willingness and ability to pay and make products affordable;

Place: private supply chains that deliver the goods to every corner in even remote areas sustainably;

Promotion: making the consumer aware of suitable products and services through effective means of communication.

5. The 5th P social marketing: While the 4Ps refer to physical products and services, social marketing can also be applied to introduce behavioural changes, by making the desired behaviour attractive and discouraging the undesirable behaviour. Again, market research is the key to understanding and influencing behavioural changes and to identifying champions and change agents, such as children in influencing their conservative parents.

6. Diffusion theory: Everett Rogers has developed the theory of diffusion of innovations which has become the basis of modern marketing strategies by distinguishing between innovators, early adopters, early majority, late majority and laggards. It is crucial to understand this process and to know 'who is who.'

There are many more tools available and it can be very rewarding to use more of them in development cooperation. Marketing is the ideal toolbox for searchers.

What can development agencies do to support market approaches to development? There is no blueprint available as to what should be done, and what not. In the early chapter on making markets work for the poor, the MMW4P approaches were seen facing a dilemma: one needs to find an intermediate position between 'laissez-faire' and direct intervention, instead of stimulating market actors to act.

This dilemma is not an excuse for inaction and it can be rewarding to experiment (searching) in new ways of acting as a facilitator. Below, we illustrate the potential role of a development agency with three cases. This role differs significantly from the conventional approach of bilateral development cooperation.

17.1. THE ROLE OF A FACILITATOR IN A MARKET CREATION APPROACH

How can a donor agency support market creation approaches more systematically? SDC has provided such support successfully in the past, but not as a systematic approach, however, more as an opportunity. The key issue is to have implementing partners with a good knowledge of marketing and social marketing. International Development Enterprises (IDE) is an organisation specialised in market creation, and Population Services International (PSI) is specialised in social marketing. By partnering with these and / or similar organisations, donors can support market creation approaches.

One very interesting approach for market development is the World Bank's 'Development Market Place'¹⁷¹, a competitive platform to finance innovative approaches, support good ideas and work with private actors, be they NGOs or private companies. This is especially suitable if the competitive part of the financing projects is supported and embedded in a meaningful initiative. Lighting Africa⁷² is one such, where the organisers – World Bank, IFC and a group of donors – not only finance the winning initiatives in a competition, but also embed those initiatives into a regional initiative. Lighting Africa has the objective of creating markets for innovative LED off-grid lighting in Africa and supports the projects with inputs – for example a market study – and with an intensive policy dialogue.

This format is a very positive attempt to promote market creation approaches, because it allows four key activities:

1. To define a framework of operation and setting an

important objective that may be measurable. This objective should be based on thorough sector studies, for example the fact that much of Africa is still living in the dark despite spending billions upon kerosene and that new technical solutions are now available with LED lights;

2. To involve private organisations and the private sector without distorting the market: the competitive format assures that the best proposals are selected and the funding is mainly geared towards start-up costs for setting up sustainable supply chains;

3. To create markets by supporting market studies, generic promotion activities for new LED lighting, for example by organising 'industry fairs' and bringing suppliers, traders and NGOs together;

4. To initiate a policy dialogue to improve the basic framework conditions such as tariffs, regulation and taxation.

If one or, preferably, several donors can play the role of a facilitator in a similar way, this could be a breakthrough for many other development topics such as nutrition, safe water, sanitation and malaria control where the creation of markets can be the solution.

17.2. THE ROLE OF A FACILITATOR IN A VALUE CHAIN APPROACH

Value chain approaches could be supported in a similar fashion. Here, it is even more obvious that linking small farmers to high-value crop markets is only possible in cooperation with the private sector. Development cooperation does not need to support the private sector to do their business, it is rather the other way round: development organisations cannot support small farmers without having the key players from the private sector who have access to the markets.

In today's world, it is a fact that the fastest growing markets with the highest value added are in the hands of multinational food processors, textile companies and supermarkets. Value is created by processed, branded and ideally certified products. Farmers can only benefit from these markets if they produce what this market demands. The old model of a subsistence farmer who brings the 'leftovers' to the market is no more than a romantic anachronism.

Development agencies should cooperate, therefore, with private companies from the outset. Based on their

own value chain analysis as an initial assessment, these should work on public-private partnerships (PPPs) and perform the following steps:

1. To reach a framework agreement with some key players from the private sector and assess whether there is a common value base and a potential for win-win situations;
2. To identify one, or a range of, products that target farmers can meaningfully produce, which have the potential to generate significant gains on their net income;
3. Once the products are defined, the region and the target farmers should be selected as per their competitive advantages and not the other way round. The approach should be from market to farmers, primarily. At this stage, an assessment will be needed to determine whether the poverty reduction goals are possible and whether poor farmers can be linked to such a value chain or not. If the assessment concludes that the goals are not compatible – not even in the long run – it should refrain from the cooperation and not produce frustration for both parties;
4. The lead role for marketing aspects should be with the private sector but that sector should take a substantial responsibility in identification for the value chain;
5. The key role of the development agency is to organise and empower the farmers, support them individually and collectively with infrastructure, training and skill development in a way that the farmers can take over the full responsibility and ownership after some time.

Some time ago, cooperation with the private sector was taboo in development practice. No longer – several successful models have been developed, such the PPP programme of the German agency GTZ or the Global Development Alliance programmes of USAID. All these programmes allow successful cooperation with private firms with clear development objectives, but the initiative of the private sector is the key driver. While some may argue that these programmes are supporting the private sector first and foremost, it can also be said that many of those programmes have had a much better sustainability performance than those programmes that failed to find a market.

17.3. THE ROLE OF A FACILITATOR IN TRANSFORMING INDUSTRIAL SECTORS

There are no blueprints for transforming industrial sectors. Suitable interventions depend on an analysis of the constraints and potentials of a sector and identifying suitable interventions. These technical innovations, social innovations or market or financing innovations.

For example:

1. **Brick industry:** In the case of the brick industry, technical innovations are the basis for improvement; social interventions to improve working conditions at brick kilns may also be needed. Change should come, however, from the demand side by introducing better building practices. Policy dialogue to improve the regulatory framework – and to impose sanctions against socially or environmentally unsustainable practices – are crucial to rapid change. Suitable financing mechanisms, such as carbon finance, can help to transform an obsolete industry, marked by low investment and low efficiency, into a high investment, high efficiency, industry.
2. **Carpet industry:** Here the problem is a declining demand in the Western markets due to lack of promotion; handmade carpets have lost much market appeal and cannot compete with other flooring products. While its competitors much better organised, the carpet sector is a traditional, scattered informal sector – even the trade is not organised in such a way that they could position carpets as modern flooring solutions. A suitable intervention would thus consist of market research and marketing support with such influential players as designers, architects and lifestyle magazines.

Change will be slow in those traditional industries and a long, deep, breath is required. It is not that there are only a few jobs at stake here – no, it is many millions. Compared to those potential negative impacts, suitable interventions may pay off with very high long-term impacts.

17.4. DO'S AND DON'TS FOR DONORS

As the 'Making markets work for the poor (MMW4P)' concept points out, the problems of poverty can neither be solved with a macro-economic 'laissez-faire' policy, just by creating suitable macro-economic conditions, nor is an interventionist strategy suitable, where NGOs or Governments or donors intervene directly to 'correct market failures'.

The key role for donors should focus, therefore, on stimulating the private sector to do the job. This is not an easy role and it is more of an art than a trade. Some simple do's and don'ts for donors would therefore be:

1. **Do's:** donors should act as facilitators and stimulate private initiative by creating markets, linking small farmers to value chains and transforming industries. Stimulating the private sector basically means to understand what is required for the private sector to perform, and to reduce their transaction costs by improving the

organisation and infrastructure of markets. Transaction costs can be reduced by investing in market studies, generic promotion, social marketing, skills development, and by creating better framework conditions.

2. Don'ts: donors should not act in the place of the private sector. They should not subsidise transactions, but instead introduce measures to reduce transactions costs and risks. Instead of cutting out middlemen, they should understand what meaningful role they can play, eventually support them and act as dialogue platform.

Basically the do's and don'ts of donor interventions in market approaches to development do not differ substantially from the principles as defined by the 'Business Development Services (BDS)' community.⁷³ Those principles defined for the support of Micro- and Small Enterprises are also valid for market approaches.

However, there are two – probably quite fundamental – differences between market approaches to development and a conventional BDS approach:

1. Enterprise or poverty as objectives: The BDS principles have been developed to promote small enterprises and the ultimate objective is thus to improve small enterprise performance in developing countries, as a means to achieve higher economic growth and employment, reduce poverty, and meet social objectives. Market approaches to development have the reduction of poverty as the main objective and profitable small enterprises are not an end but a means to achieve this.

2. Private or public goods: Whereas the BDS principles assume that "the majority of goods are private goods", most of the market approaches presented here are in the domain of public goods: sanitation, malnutrition, malaria control and safe water are basically public goods. Further, the tasks of linking smallholders to value chains and to transform industrial sectors have – to some extent, albeit not exclusively – the character of public goods with environmental or social goals.

Using the private sector to achieve development objectives is thus the essence of market approaches to development: delivering public goods with the means of private enterprise.

17.5. HOW TO SUBSIDISE WITHOUT DISTORTING MARKETS

A recent SDC publication⁷⁴ on the issue of subsidies has established some sound principles on good subsidies that do not distort markets. Instead of setting up clear and universally applicable rules, the publication talks of an 'art' of spending subsidies in a smart way.

We fully subscribe to those principles and also to the statement that giving subsidies is an art. Here are some examples of smart subsidies related to our case studies:

1. Creating markets: Investment in social marketing and marketing to create a market and achieve high volumes of sales is an incentive for the private sector; it makes their business profitable. In particular, investments in generic promotion and awareness creation are smart subsidies. The more people are willing to use a mosquito net or a latrine, the more profitable it is for the supply chain. Specific promotion is then the task of the private sector: they can promote their own brand of latrine, mosquito net or filter.

2. Reducing transaction costs: Investments in better infrastructure – such as road construction, market facilities, irrigation or watershed management – are all geared to reduce transaction costs. They thus make the business – not of one individual company but of all companies – more profitable. Similarly, organising farmers in order to get higher volumes, more regular supplies and better qualities will reduce transaction costs and make these groups of farmers more competitive.

3. Affordability vouchers: It is a fact that often the poorest people would benefit most from a latrine or a mosquito net but cannot afford it. The use of voucher schemes such as the Tanzania Voucher Scheme for mosquito nets targeted to pregnant women is a good example of an incentive targeted to a vulnerable group – it does not distort the market but rather creates one. Giving mosquito nets free of charge – for example in vaccine campaigns – can also stimulate demand if a private supply chain exists. Free distribution is good for a catch-up strategy (to reach a critical mass) while it is essential to also pursue a keep-up strategy and ensure that the number of nets in use remains constant or is on the increase.

4. Cross-subsidies: There is also no way that the most vulnerable – malnourished children – can pay for even low-cost food additives such as Spirulina. Cross-subsidies from selling Spirulina products on more profitable markets in order to ensure the sustainability of local production is an interesting avenue. It needs to be tested further to ascertain whether scaling-up is possible.

5. Carbon finance: Carbon finance funds for improved brick kilns or LED lanterns or biogas plants can stimulate demand for innovations and enable a more rapid rate of adoption. However, such carbon funds should be made available upfront, in order to finance the initial higher investment. This could be implemented in the form of loans, whereby resulting energy savings could pay for servicing the loans; in the case of lighting – and other suitable products – rental and leasing systems should be envisaged.

6. Market transparency: More market transparency through market studies, trade fairs and model and demonstration installations are all areas of feasible investments by donors. They will stimulate emerging markets.

Public investments have to serve the public, not individuals. This principle is a restriction on spending public money on private sector development. As this study has shown, the private sector has a crucial role to play if development is to become more effective. There is thus, in effect, a vast potential for cooperation with the private sector – as soon as several people, or their organisations, are benefiting from public investment in a democratic and non-exclusive way, then this criteria is fulfilled, as in the case of a group of farmers, or a group of small industries.

More sensitive is the issue of cooperation with one single firm as, for example, in a value chain. Such cooperation could be envisaged, nonetheless, and is legitimate if it is not an end but a means to better achieve development objectives. It is an especially suitable format in PPPs (public-private partnerships) or PPDPs (public-private development partnerships). Several rules have to be observed, using in part the lessons already learned in making such PPPs effective and fruitful.⁷⁵

18.1. MAIN ROLE OF PRIVATE SECTOR

"The business of business is business" said Milton Friedman. This is pretty much the role too that the private sector should play in contributing to development objectives. There is no special philanthropic role expected, but there must, of course, be a clear policy of honesty and transparency and a long-term vision that allows for win-wins of both parties, namely the private sector and the development agencies. Empathy with the woes and worries of poor people is obviously a better basis to work from than greed. Yet, at the end of the day, what is basically expected of the private sector is that it perform its business efficiently.

Small is dynamic, oftentimes. The case studies in this publication have been a reminder – not a revelation, surely? – that the most important contribution of the private sector often surges from myriads of micro-, small and medium enterprises. Their dynamism, driven by their profit motive, can unleash an unheard-of energy and often move 'Heaven and Earth' to deliver a mosquito net, a latrine or a flask of chlorine to the remotest households.

Many of the private enterprises engaged in these tasks are intermediaries who buy and resell, stock or transport something and make a living out of this activity. Yet intermediaries are sometimes seen askew, through the

special prism of development agencies. Before attempting to eliminate them, those agencies should assess whether their role is really redundant. If it appears that they take an unduly high share of the benefits, measures to increase competition should be envisaged rather than attempts to undermine their existence.

When it comes to the marketing of agricultural produce, large firms with marketing and branding power are the only entry ticket into the high-value markets. Access to the increasingly dominant supermarket concerns and their procurement agencies will also require new strategies of cooperation, organisation and reduction of transaction costs.

It takes two to win-win. A win-win situation can only occur if each side understands the needs of the other: farmers should understand what products are needed, when, and in what quantities and qualities and the company should understand, and help to overcome, the potential constraints faced by small farmers. Trust is absolutely crucial on and from both sides: the farmers must be confident that they are paid correctly, and equally they must be loyal to their clients, avoiding sell produce to another middleman because of a momentarily better price, or mixing low-quality items among the good. An important task of development agencies working with market approaches is to build trust.

18.2. KEY ROLES FOR GOVERNMENTS

Market approaches to development are rooted in the faith that market forces can perform efficiently. This is, however, only possible if the framework conditions are set right. Market approaches to development need governments to perform their main duties, especially in the following areas:

1. Regulation, incentives, taxes: A conducive regulatory framework is important for market approaches to development. It is not necessary, for example, to prescribe precisely what type of latrine people need to buy. However, banning polluting industries, such as traditional brick kilns, and prohibiting working conditions associated with drudgery are legitimate and necessary areas for regulatory interventions.

2. Banning bad behaviour: Just as it is legitimate to restrict smoking in public places and buildings, so it is to ban open defecation – both can work in part through regulation and, to a large extent, through public awareness creation. Initiatives to promote desired and to ban

undesirable behaviour are a legitimate public health activity. Similarly, awareness creation campaigns in schools and through other media are effective government tasks and can stimulate the demand for desired goods and services. Governments have usually an excellent capacity to reach out to large numbers of people.

3. Cooperation with civil society: Especially for awareness creation and mobilisation campaigns, the cooperation of civil society is essential. The involvement of religious leaders, youth leaders, schools, army and government staff and working with NGOs is instrumental in creating markets for public health goods such as latrines, mosquito nets and safe water devices.

Market approaches to development are thus in no way a neo-liberal form of 'laissez-faire'. On the contrary, they require strong, efficient and transparent government interventions. In a way similar to the do's and don'ts for donors, governments should not act on behalf of, or instead of, the private sector, but create the conducive framework conditions in which the private sector can perform, and perform its tasks, efficiently.

18.3. OUTLOOK

This series of seven case studies on market approaches to development is an eye-opener on what public and private sector can achieve together. Market approaches to development are promising strategies that can achieve development goals more effectively than if the public sector or NGOs would work alone.

It remains a demanding task and no simple recipe can be given: market approaches are highly contextual and will usually work differently if those contexts change. Much knowledge on the specific context is required. This may sound complicated, but it is very much the same situation as any private company faces when wanting to do business with another geographical region or product: they must know the market, the market players and the prevailing regulations and legal practices. The tools of marketing and management, together with common sense and an open, creative mind, can help a business to be successful in other regions and cultures. And so it is for market approaches to development. Many promising opportunities are there and can be exploited.

To come back to William Easterly, whom we quoted at the beginning: this is definitely a job for searchers and not one for planners.

ENDNOTES

- 1 Tushaar Shah et al: *Pedalling out of poverty: social impact of a manual irrigation technology in South Asia*, IWMI, Colombo, 2000
- 2 William Easterly: *The White Man's Burden: Why the West's Efforts to Aid the Rest Have Done So Much Ill and So Little Good*, The Penguin Press, 2006
- 3 William Duggan: *The art of what works – how success really happens*, New York, 2003
- 4 Duggan, op. cit, page 16, 18
- 5 Now evolved into different programmes such as LEAF and SAAKTI (see www.intercooperation.ch). VFFP is described in Urs Heierli: *Poverty alleviation as a business*, SDC, Berne, 2000
- 6 Duggan, op. cit. page 81
- 7 Urs Heierli with Paul Polak: *Poverty alleviation as a business – the market creation approach to development*, Berne, SDC, March 2000, www.poverty.ch
- 8 Paul Polak: *Out of poverty: what works when traditional approaches fail*, Berrett-Koehler Publishers, San Francisco, 2008
- 9 Op.cit. page 34
- 10 Op.cit. page 41
- 11 C. K. Prahalad: *The fortune at the bottom of the pyramid*, Wharton School Publishing, Upper Saddle River, N.J., 2005
- 12 Paul Polak: op.cit, page 51
- 13 Paul Polak: op cit, page 115f.14
- 14 Alan Gibson, Hugh Scott and David Ferrand: *Making Markets Work for the Poor – An Objective and An Approach for Governments and Development Agencies*, Commark Trust, Woodmead, South Africa, July 2004, www.commark.org/files/publications/Final_MMW4P_paper.pdf
- 15 Thomas J. Stanley: *Marketing to the Affluent*, New York, 1988
- 16 Op. cit.
- 17 Alan Gibson et al: op. cit, page 12ff.
- 18 C. K. Prahalad, op. cit.
- 19 Malcolm Harper: *Public services through private enterprises – micro-privatisation for improved delivery*, Vistaar Publications, New Delhi, 2000
- 20 Rhett Buttler: *Cell phones may save Africa*, www.mongabay.com, July 11, 2005
- 21 Vodaphone policy papers: *Africa - The impact of mobile phones*, www.vodafone.com

- 22** Nigel Scott et al: *The impact of mobile phones in Africa, prepared for the Commission for Africa*. Gamos, 2004
- 23** Neil Gough: *Introduction to the Vodafone policy paper*: op. cit, p.1, www.vodafone.com
- 24** See www.lightingafrica.org
- 25** See www.worldbank.org/developmentmarketplace
- 26** An exhibition on 'Design for the other 90%' was held from May to September 2007 at the famous Cooper Hewitt, National Design Museum in New York. Similar exhibits elsewhere in 2008 and 2009 are also listed on that museum's dedicated Website on the theme. <http://other90.cooperhewitt.org/visit/>
- 27** Op. cit.
- 28** Paul Polak: *Water and the other three revolutions needed to end rural poverty* World Water Week, Stockholm, August 2004
- 29** Paul Polak: op. cit. Polak has now moved on from IDE, International Development Enterprises and has created a new organisation, D-Rev, www.d-rev.com
- 30** Philip Kotler et al: *Social Marketing – Improving the Quality of Life*, London 2002
- 31** Skylark Chadha, Martin Strauss: *Promotion of Rural Sanitation in Bangladesh with Private Sector Participation*, SDC, Dhaka, 199032
- 32** Catherine Ferrier: *Bottled Water: Understanding a Social Phenomenon*, WWF, April 2001, pages 6 and 13.
- 33** Malcolm Gladwell: *The Tipping Point – How Little Things Can Make A Big Difference*, London 2000.
- 34** The Cochrane Collaboration is a global network of dedicated volunteers to document systematic reviews of the effects of health care interventions. See www.cochrane.org
- 35** J.L. Gallup and J. Sachs: *The Economic Burden of Malaria*. *American Journal of Tropical Medicine and Hygiene*, Vol 64, 1 Suppl, 85-96
- 36** C. Lengeler, J. Cattani, D. de Savigny: *Net Gain – a New Method for Preventing Malaria Deaths*, IDRC / WHO, Ottawa and Geneva 1996, page 10ff.
- 37** Op.cit, page 17ff.
- 38** Op.cit, page 55ff.
- 39** Op.cit, page 111ff.
- 40** The illustrative rate of exchange is Tanzanian Shillings TZS 1000 = US\$ 0.8775
- 41** Science, Vol318, op.cit. page 56
- 42** C. Lengeler et al: *Quick Wins Versus Sustainability: Options for the Upscaling of Insecticide-Treated Nets*, *American Journal of Tropical Medicine and Hygiene*, 77 (Suppl 6), 2007, pp 222-226
- 43** See also: *Farming systems and poverty – improving farmers' livelihoods in a changing world*, FAO, World Bank, 2001

- 44** *Horticulture for poverty alleviation – the unfunded revolution*, AVRDC, World Vegetable Centre, Working Paper No.15
- 45** See Michael Lipton: *Rural Poverty Report 2001*, IFAD, Rome, 2001, page 22ff
- 46** See Urs Heierli and Paul Polak: *Poverty alleviation as a business – the market creation approach to development*, Berne, SDC, 2000
- 47** Michael Lipton points out how important staple crop production is for the poorest farmers, mainly in terms of food security and thus reduction of vulnerability. To increase the productivity of staple crop for home-consumption is thus an important issue as well (see Michael Lipton, *Rural Poverty Report*, IFAD, Rome, 2001)
- 48** The proceedings of this conference are available at:
<http://www.ifpri.org/events/seminars/2005/smallfarms/sfproc.asp>
- 49** See Tushaar Shah: op. cit. 50
- 50** Dorothy Myers and Sue Stolton: *Organic cotton – from field to final product*, IT Publications, London 1999, page 14ff.
- 51** Source ICAC, International Cotton Advisory Com-mittee
- 52** In 1991, on the occasion of the 700th anniversary of Switzerland, the Swiss Parliament had sanctioned a special credit of 700 million Swiss Francs (CHF), approximately US\$ 485 million, of which CHF 400 million were earmarked for debt relief and CHF 300 million for global environmental programmes.
- 53** See: Thomas J. Stanley: *Marketing to the Affluent*, New York 1988 (Op. cit.); Thomas J. Stanley: *Selling to the Affluent*, New York 1991. Stanley is also author of the bestseller *The millionaire next door*
- 54** Op. cit. (C. K. Prahalad: *The fortune at the bottom of the pyramid*, Wharton School Publishing, Upper Saddle River, N.J., 2005)
- 55** www.selco-india.com; www.sunlabob.com
- 56** This graph is based on the chapter Product cycle strategies in Philip Kotler, Gary Armstrong: *Principles of Marketing*, Prentice Hall, New York, New Delhi, 1999, page 288ff.
- 57** Barry Berman: *Marketing Channels*, New York, John Wiley, 1996, page 354
- 58** A good overview is available from the SDC focal point for rural development at www.sdc-valuechains.ch
- 59** see Daniel Roduner: *Donor interventions in value chain development – working paper*, SDC Berne, July 2007, www.sdc-valuechains.ch
- 60** Stefan Joss et al: *Clients first – a rapid market appraisal tool kit*, www.helvetas.ch
- 61** Frank Lusby et al: *Value chain program design: promoting market based solutions for MSME and industry competitiveness*, USAID, www.actionforenterprise.org
- 62** see <http://www.ideorg.org/method/index.php>
- 63** Frank Lusby, Action for Enterprise: *Useful principles for adopting a market development approach for enterprise development organizations*, International Journal of Emerging Markets, 2006, www.actionforenterprise.org
- 64** Frank Lusby: op.cit, page 343

65 Mark Lundy et al: *The territorial approach to agro-enterprise development*, CIAT, Cali, 2003, http://www.ciat.cgiar.org/agroempresas/pdf/CIAT_Agro_Enterprise_Strategy_Paper.pdf

66 see SDC: *Position paper on cooperation with the private sector*, Bern, SDC, 2004, http://www.deza.admin.ch/ressources/resource_en_24355.pdf

67 We use here the term PPDP for public-private development partnership. These PPDPs have a clear development goal that is shared by the private and the public partner, but each has different and clearly defined roles. The key role for development agencies is focused on 'public tasks' such as organising farmers, training, infrastructure development etc. whereas the role of the private sector is to ensure the marketing tasks. The term PPP is used primarily for cooperation in infrastructure development programmes.

68 Nestlé was one of the founders of SAI, the Sustainable Agriculture Initiative aiming at making agricultural systems sustainable in the long run. The initiative is carried and supported by the major players in the food processing industry. www.saiplatform.org

69 See Nestlé S.A.

70 to access all the case studies please consult www.poverty.ch

71 see www.worldbank.org and especially <http://siteresources.worldbank.org/DEVMARKETPLACE/4416738-1196093766795/21583185/DM.htm>

72 see www.lightingafrica.org

73 see BDS Guiding Principles 2001; <http://www.sedonors.org/resources/item.asp?resourceid=1>

74 SDC: *Development aid and subsidies – an art*, available from SDC, Employment and Income Division, 2008, e-i@deza.admin.ch

75 The SDC Employment and Income Division has done some substantial groundwork, see http://www.sdc.admin.ch/en/Home/Themes/Employment_and_the_economy/Private_Sector_Development

POVERTY ALLEVIATION AS A BUSINESS – THE MARKET CREATION APPROACH TO DEVELOPMENT

is the title of the original study by the author of this – unrevised – 2006 volume, Urs Heierli. Published in March 2000, it summarised the experiences of his 12 years working as country director of SDC in Bangladesh and India (1987–1999).

Can poor people make a business with goods and services that are relevant for poverty alleviation? The answer is yes, as the six examples of the original study show. To make it happen, markets should be created and technologies must be validated, tested and introduced. If a critical mass of demand is created, small private enterprises will emerge to respond to these new business opportunities.

The following six examples are examined in detail. They are analysed according to the 4 Ps of marketing (Product, Price, Place and Promotion) and various performance parameters, especially in view of the potential for scaling them up and replicating them in other countries.

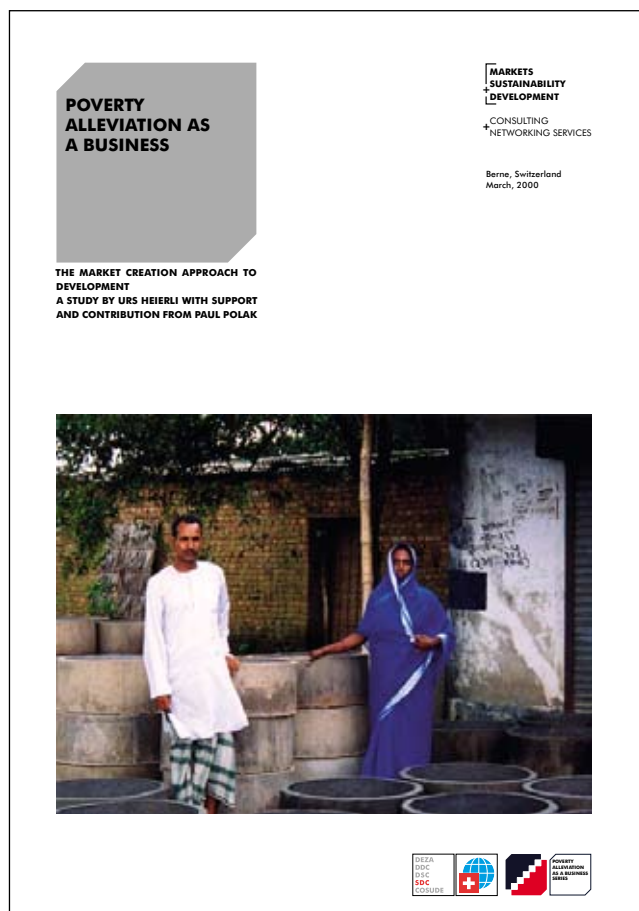
1. 'Hundred million trees as a social insurance scheme: the village and farm forestry programme in Bangladesh'
2. 'Pedalling out of poverty with the treadle pump in Bangladesh, India and Nepal'
3. '60 kilograms more maize per family with "Postco-secha" silos in Central America'
4. '2'000 micro-concrete roofing workshops produce over 150'000 roofs per year'
5. '6'000 private workshops produce over one million latrines per year in Bangladesh'
6. 'The rope pump in Central America: the scope for private drinking water supply'

ORIGINAL PUBLICATION:

Poverty Alleviation as a Business – the Market Creation Approach to Development
by Urs Heierli, with contributions from Paul Polak
SDC Berne, March 2000

Hardcopies of the original publication can be ordered from SDC, Employment and Income Division, Freiburgstrasse 130, CH-3003 Berne Switzerland, email: e-i@deza.admin.ch

Electronic copies can be downloaded from:
www.poverty.ch



POVERTY ALLEVIATION AS A BUSINESS (NEW SERIES)

What is this publication about?

'Market approaches that work for development' describes how the private sector can contribute to poverty reduction, drawing the lessons from a series of seven case studies conducted in stages between 2004 and 2008. These studies are a follow-up to the original study 'Poverty alleviation as a business - the market creation approach to development' by Urs Heierli, first published in 2000.

Reviewing a rich set of experiences in nutrition, sanitation, safe water, malaria control, water control, organic cotton and brick production, this book deals with the issues of harmonising the best mix of public and private sector interventions. A series of practical and theoretical discussions and recommendations show how public and private sectors can jointly achieve development objectives.

The seven case studies – listed below – are summarised in this volume. Each study is available as a separate publication.

Four case studies on supply chains:

- Sustainable Approaches to Combat Malnutrition – Small-scale Production and Marketing of Spirulina
- One Fly is deadlier than 100 tigers – Total Sanitation as a Business and Community Action in Bangladesh
- Marketing safe water – why it is so hard to get safe water to the poor and so profitable to sell it to the rich
- Should bednets be sold, or given free? The role of the private sector in malaria control

Two case studies on value chains:

- Ending Poverty with Water Control and Market Access – Linking small farmers to value chains and markets of the future
- Where farmer meets fashion designer – Globalisation with a human face in an organic cotton value chain

One case study on transforming industrial sectors:

- Brick by Brick: The Herculean task of cleaning up the Asian brick industry

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