



Research for the Sustainable Development of the Megacities of Tomorrow - Energy and Climate efficient Structures in Urban Growth Centres

Hyderabad as a Megacity of Tomorrow: Climate and Energy in a Complex Transition towards Sustainable Hyderabad – Mitigation and Adaptation Strategies by Changing Institutions, Governance Structures, Lifestyles and Consumption Patterns

Project funded by Federal Ministry of Education and Research (BMBF), Germany.

THE MARKET FOR ORGANIC FOOD IN HYDERABAD/INDIA

Consumer Attitudes and Marketing Opportunities

Nina Osswald and Christoph Dittrich

Hyderabad as a Megacity of Tomorrow: Climate and Energy in a Complex Transition towards Sustainable Hyderabad – Mitigation and Adaptation Strategies by Changing Institutions, Governance Structures, Lifestyles and Consumption Patterns

Project funded by Federal Ministry of Education and Research (BMBF), Germany:
“Research for the Sustainable Development of the Megacities of Tomorrow”

Humboldt University Berlin
Leader of the Project Consortium:
Prof. Dr. Dr. h.c. Konrad Hagedorn

Coordinator of the Project:
Dr. Ramesh Chennamaneni

Department of Agricultural Economics and Social Sciences
Division of Resource Economics
Philippstr. 13, House 12
10099 Berlin
Germany

Phone: ++49 30 20936305
Fax: ++ 49 30 20936497

Email: k.hagedorn@agrar.hu-berlin.de
r.chennamaneni@agrar.hu-berlin.de
Web: <http://www.sustainable-hyderabad.de>
<http://www.agrar.hu-berlin.de/wisola/fg/ress/>

The Market for Organic Food in Hyderabad/India

Consumer Attitudes and Marketing Opportunities

Nina Osswald & Christoph Dittrich

Institute of Cultural Geography
University of Freiburg, Germany
Werthmannstrasse 4, D-79085 Freiburg

Email:

Project coordination and co-author: christoph.dittrich@geographie.uni-freiburg.de

Author: nina.osswald@gmx.de

Background Study

May 2009

Abstract

This paper examines the market for organic food in the emerging megacity of Hyderabad in the framework of sustainability of the urban food system. It provides an overview of the structure of the market and compares different retailing strategies with regard to their climate impact. The paper also analyses consumer awareness of organic food, considerations motivating their purchasing decisions and obstacles to purchasing organic products. Empirical data for this study was collected in interviews with consumers, retailers and experts. The findings point to a moderate but rapidly growing demand for organic food, especially among the middle classes. However, availability is limited and not able to satisfy the demand at this stage. Based on these findings, the paper assesses the potential for future development of the organic segment as part of a sustainable urban food system. It also develops recommendations for achieving this development.

Table of Contents

Table of Contents.....	vi
List of Figures	viii
List of Tables.....	viii
Glossary and List of Acronyms.....	ix
Acknowledgement	x
1 Introduction.....	1
1.1 Subject of the Study	1
1.2 Objectives and Structure of the Study	4
2 Conceptual and Analytical Framework	5
2.1 Life-Cycle Analysis and Carbon Footprinting in the Food Sector.....	5
2.2 Organic Food as Part of a Sustainable Urban Food System.....	6
2.3 Climate Impact of Different Farming Systems.....	7
2.4 Food Miles and Supply Chains	9
3 Research Methodology	12
3.1 Definitions and Research Categories	12
3.2 Primary Data Collection.....	13
3.3 Secondary Data Collection.....	15
4 Structure of the Market for Organic Food	16
4.1 Context: Organic Farming and Marketing in India	16
4.1.1 Organic Production in India.....	16
4.1.2 Institutional Context and Organic Certification.....	17
4.1.3 The Domestic Market.....	19
4.2 Availability of Organic Food in Hyderabad	20
4.3 Organic Shops	24
4.3.1 “24-Letter-Mantra Organic Food Superstore”	24
4.3.2 “Fabindia”	25
4.4 Supermarkets.....	27

4.5	Direct Marketing	29
4.5.1	CSA and “Sahaja Aharam”	31
4.5.2	DDS Organic Mobile	32
4.5.3	HACA NPM Vegetable Outlet	33
4.5.4	Small Health-Food Shops	35
5	Patterns of Organic Food Consumption.....	35
5.1	Awareness of and Knowledge about Organic Food	35
5.2	Profile and Consumption Habits of Consumers of Organic Food	39
5.3	Motivations for Organic Food Purchasing.....	41
5.4	Constraints for Organic Food Purchasing.....	44
5.5	Importance of Organic Labels for Purchasing Decisions	46
6	New Opportunities for Marketing of Organic Food	49
6.1	Context: Trends in Urban Food Consumption.....	49
6.1.1	Changes of Purchasing Patterns	49
6.1.2	Diversification and Changes of Dietary Preferences	51
6.1.3	Health-Consciousness	53
6.2	Growth of the Organic Segment	54
6.3	Modern Retail Formats	55
6.4	Traditional Retail Formats and Alternative Marketing Strategies.....	56
6.5	Bulk Buyers of Food	58
7	Conclusion and Recommendations	60
7.1	Summary of Findings.....	60
7.2	Scenario.....	61
7.3	Recommendations	63
7.3.1	Consumer Education and Awareness Raising	63
7.3.2	Independent Small-Scale Organic Farms	64
7.3.3	Decentralized Supply Chains	65
7.3.4	Further Research	65
8	Bibliography	67
Appendix	77
Pictures	77

Key Stakeholders and Experts	83
Internet Directory	86
Questionnaires	87
Quantitative Interviews.....	87
Qualitative Interviews.....	88

List of Figures

Figure 4-1: Official India Organic label.....	18
Figure 4-2: PGS (Participatory Guarantee System) Organic label	19
Figure 4-3: Overview map of organic outlets in Hyderabad and Secunderabad	21
Figure 4-4: Map of organic outlets in central Hyderabad and Secunderabad....	23
Figure 4-5: Means of transport used by purchasers of organic food for shopping in different locations (several replies per person possible)	29
Figure 5-1: Concern over chemical residues in food, and awareness of organic food	36
Figure 5-2: Sources of knowledge about organic food.....	38
Figure 5-3: Consumption of organic food compared across interview locations	39
Figure 5-4: Average income and education levels among respondents of the qualitative survey	40
Figure 5-5: Concepts about “healthy food”	43
Figure 5-6: Awareness of India Organic label among purchasers and non- purchasers or organic food.....	47
Figure 5-7: Awareness of PGS Organic label among purchasers and non- purchasers or organic food.....	47

List of Tables

Table 3-1: Interview locations, average consumer profile in this location and number of interviews.....	13
Table 3-2: Income levels of research population of the qualitative survey	14
Table 3-3: Education level of research population of the qualitative survey	15
Table 4-1: Outlets for organic food in Hyderabad and Secunderabad.....	21

Glossary and List of Acronyms

APEDA	Agricultural & Processed Food Products Export Development Authority
Brinjal	Eggplant / aubergine
Bhindi	Ladyfingers / okra
CROPS	Centre for Rural Operation Programmes Society
CSA	Centre for Sustainable Agriculture, Hyderabad
CWS	Centre for World Solidarity
DDS	Deccan Development Society, Hyderabad and Zaheerabad
DRDA-IKP	District Rural Development Agency, Ranga Reddy District, a Government Agency for Rural Development, in charge of the state-wide rural poverty reduction project “Indira Kranthi Patham” which is implemented by SERP
HACA	Hyderabad Agricultural Cooperative Association
IFOAM	International Federation of Organic Agriculture Movements
INR	Indian Rupees
ISCOP	Indian Society for Certification of Organic Production
Jaggery	Traditional unrefined non-centrifugal sugar made from cane juice
Kirana store	Small general stores, approximately equivalent to “mom-and-pop stores” in the US
MACCS	Mutually-Aided Consumer Cooperative Society
NPM	Non-Pesticide Management, a method of sustainable agriculture that eliminates the use of synthetic pesticides
PGS	Participatory Guarantee System
Sahaja Aharam	“Natural Food”; a producer company and organic brand developed by farming cooperatives working with CSA
SERP	Society for Elimination of Rural Poverty

Acknowledgement

I would like to thank all interview respondents for their time and cooperation in conducting this survey. In particular, the staff of Center for Sustainable Agriculture (CSA) and Deccan Development Society (DDS) has been extremely helpful by sharing their valuable knowledge, experience and publications. They also provided me with direct access to small farmers working in organic agriculture. I am very grateful to Sresta Bioproducts Ltd. for granting access to their vegetable farm in Medchal, as well as all shop managers that gave permission to conduct interviews in or in front of their stores. Many thanks to Usha Rani and Rajyalakshmi from Sannihita, Centre for Women and Girl Children for providing access to the interview partners in Batkammakunta. Finally, I would like to thank my field assistants Asna and Pareekshit for their translations, explanations, and company.

1 Introduction

1.1 Subject of the Study

The food system of the emerging megacity of Hyderabad has been undergoing a number of changes connected with trends of globalization over the past years. A food system can be defined as the spatial, functional, social and environmental integration of four sub-systems: production, distribution/ exchange, marketing/ delivery, and consumption of food. It comprises all biophysical and socioeconomic processes and relationships involved in these subsystems (Cannon 1991, CIAS 1995). Diet is responsible for around one fourth of the total ecological footprint of individuals, and each of the subsystems of a food system can thus make specific contributions to its sustainability.

One of the key areas in this context is the impact on the environment and climate. For the past decades, the climate of our world has been undergoing a dramatic and accelerating trend of global warming. There is widespread consensus that this development is caused by increased emissions of several greenhouse gases. Among the main contributors to emissions of the greenhouse gases methane, nitrous oxide and carbon dioxide are agriculture and diet. Agricultural land use contributes approximately 15% to global greenhouse gas emissions, and most of the global nitrous oxide emissions as well as roughly two thirds of methane emissions originate from agriculture (Kotschi and Mueller-Saemann 2004).

A number of trends have contributed to aggravating the overall environmental footprint of the food system of Hyderabad. Firstly, at the production stage of the food system the expansion of intensive conventional agriculture over the past decades has depleted the natural resource base of many parts of rural India. While the Green Revolution technology certainly succeeded in tremendously increasing production levels for a certain period of time, it also “led to the poverty of the soil and the people” due to its reductionist approach (DDS 2008: 3). Soils have been degraded and polluted with chemical pesticides and synthetic fertilizers, and biodiversity has been diminished. Conventional agriculture also contributes significantly to global warming due to its high consumption of fossil fuels, for example for the production and transport of synthetic pesticides and fertilizers.

Organic farming on the other hand can help mitigate global warming by both reducing emissions and increasing sequestration of greenhouse gases. Organic food is grown without the use of any chemical pesticides and synthetic fertilizers and it rejects genetically modified organisms. It is processed without ionizing radiations and food additives or growth promoters. In organic livestock keeping animals feed on organically grown fodder and are reared without the use of

antibiotics or growth hormones. More than an inventory of techniques, however, organic agriculture was originally intended as a holistic and systemic approach to agriculture:

“Organic agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved.”

(Definition by IFOAM, www.ifoam.org/growing_organic/definitions/doa/)

Secondly, the globalization of the economy and changes in urban purchasing patterns have led to changes at the distribution and marketing stage, in particular longer supply chains and a marked increase in the number of supermarkets. Longer supply chains have caused a rise in energy used for transportation and temporary storage. In urban India, current trends in food retailing are largely the result of the preference of young and affluent consumers for shopping in malls and supermarkets. These retailing formats with their sophisticated infrastructure such as lighting and cooling facilities results in higher energy consumption than traditional formats such as markets, Kirana stores or street vendors.

Thirdly, dietary changes among urban consumers have also led to an increased energy consumption of the food system. While undernourishment is still a major problem among lower-income groups, there is a greater variety of food available to the higher-income groups than ever before, and eating out is increasingly fashionable as consumerism has become a new status symbol. Trends such as the increasing consumption of meat, highly-processed or convenience food¹ and fast food result in a higher environmental footprint at the consumption stage.

In addition to environment and climate, health is another area that is highly relevant to the sustainability of a food system. At the production stage, conventional farming poses health risks to producers due to exposure to toxic chemicals in the field. Every year, Warangal District in Eastern Andhra Pradesh records over one thousand cases of pesticide poisoning and hundreds of deaths (Rao et al. 2005, cf. Prabu 2009a). Chemical residues in food products are endangering food safety. The nutritional quality of conventionally grown food products also decreases due to soil degradation. At the consumption stage, changing dietary habits among the middle classes such as increased consumption of processed and convenience food, fast food, high-calorie food, meat, sugary beverages and alcohol have resulted in an increase in nutrition-related health problems such as secondary malnutrition, obesity and diabetes among urban consumers, causing high social and economic costs for society. As

¹ Third-level processed or convenience foods are products that are ready to consume (ready-to-heat, ready-to-eat or ready-to-drink).

a result of negative health implications of these dietary changes, a new health consciousness has been emerging among some people as a kind of countermovement. However, there is a lack of awareness of what people are eating and what kind of food is healthy.

“While food security does exist for Indian middle-classes due to their high standard of living, food safety does not, due to the lack of knowledge and a lack of availability of healthy food. An improvement towards food security as well as food safety for all strata of urban India is one of the biggest challenges Hyderabad has to face over the next few years.” (Lohr and Dittrich 2007: 28) Organic food plays a vital role in meeting this challenge of achieving both food safety and healthy diets. At the same time, the changes in purchasing patterns and dietary habits will also have significant implications for the future development of the domestic organic market segment.

The economic implications of a food system that is not sustainable are largely related to the externalized costs of conventional farming and unhealthy eating habits as well as inefficient supply chains. Organic farming can reduce these external costs, although the farming system alone is not sufficient. Rather, the way the entire supply chain is organized needs to be considered. Finally, organic agriculture can also contribute to improving social sustainability, for example through employment creation and strengthening of rural communities.

The total area currently under organic cultivation worldwide is more than 24 million hectares, and global demand for organic food is growing, with high growth rates estimated at somewhere between 10-15% (Garibay and Jyoti 2003). At this stage, demand is concentrated primarily in developed countries like the USA, European countries and Japan. Developing countries and countries in transition are mainly exporters of organic food. The Indian domestic market for organic food is still in an early stage of its development, and currently most of the organic food production in India is targeted towards exports. However, the importance of organic farming and domestic demand are both growing rapidly. One indication of this which is currently gaining international attention is the fact that the First BioFach India organic trade fair will be held in Mumbai in November 2009. At this stage, availability of organic products as well as commercial demand in India are concentrated mainly in the metropolitan centres. The organic market in Hyderabad still lags behind somewhat if compared to other megacities like Delhi, Mumbai or Bengaluru.

In light of increasing numbers of affluent, quality-conscious consumers in the newly emerging urban middle class and the recent trend towards health food, the domestic market in India has a huge potential and has been called a “sleeping giant” (Eyhorn 2005: 74). In which way this potential will be developed in the future will depend on the direction in which the urban middle classes will develop. Changing consumption patterns, the rise in health consciousness and other factors motivating or stopping consumers from

purchasing organic food will all have an influence on the development of organic market.

1.2 Objectives and Structure of the Study

All the above trends are causing high social, environmental and monetary costs for producers, consumers, local communities as well as society at large. This paper will argue that an increase in the consumption of organic food in Hyderabad can contribute to meeting the challenges that these trends pose. However, despite its benefits organic farming alone will not be sufficient as a solution to the problems posed by the trends in the urban food system. Different approaches to marketing of organic food will therefore be analyzed and compared with regard to their contribution to the sustainability of the urban food system at large.

According to Chakrabarti & Baisya (2007), there is a lack of adequate information on consumer attitudes and purchasing behaviour of buyers of organic food in India. At this stage, no study on the market for organic food in the emerging megacity of Hyderabad has been conducted yet. This paper provides an overview of the market for organic food in Hyderabad and Secunderabad. It examines the role of organic food in the urban food system and explores new marketing opportunities with a view to their overall sustainability and in particular their climate impact.

The specific objectives are:

- to assess availability and price levels of organic food products in different retail formats across Hyderabad
- to examine the commodity chains from producer to end consumer for organic agricultural products that are produced within a radius of 150 km from Hyderabad
- to assess awareness of and knowledge about organic food among consumers as well as common misconceptions about organic food
- to assess the level of demand and purchasing motivations of buyers of organic food, and obstacles preventing consumers from buying (more) organic products

The framework of analysis in this paper is the current state of research on the climate impact of food production, in particular the comparative impacts of different systems of cultivation, different types of supply chains, different retailing strategies and different consumption patterns. Chapters 2 and 3 of this paper establish the analytical framework and present the research methodology used for the empirical case study.

Chapter 4 provides an overview of the existing market for organic food and a comparative analysis of different retail formats with regard to their product

availability, price levels, customer profile, suppliers and supply chain organisation. The paper then proceeds to discussing patterns of consumption of organic food in Hyderabad. In particular, the socio-economic differentiations of consumers with regard to their awareness of organic food as well as their purchasing preferences are examined. Motivations for purchasing organic food and constraints stopping consumers from buying more organic products are discussed as an indication of the future potential of various strategies for marketing organic food. Chapter 6 compares different retail formats with regard to their feasibility for marketing organic products in Hyderabad, and assesses their future prospects of development, in particular what could be a realistic scale to achieve in terms of growth in the mid-term.

Based on the findings, recommendations for developing the urban market for organic food in a sustainable manner are developed. The final chapter also points towards areas where further research on the role of organic products in a sustainable urban food system is needed.

2 Conceptual and Analytical Framework

2.1 Life-Cycle Analysis and Carbon Footprinting in the Food Sector

According to Collins and Fairchild (2007), diet is responsible for around one fourth of the total ecological footprint of individuals. An ecological footprint is an aggregated indicator of the demand of human consumption on the natural resource base. It can be applied to organizations, cities, regions and individuals. In addition to the overall ecological footprint, it is also possible to calculate the carbon footprint as a measurement of the impact on climate change. Life-cycle analyses for food, that is attempts to assess the climate impact of a food product from farm to plate, have to take into account all steps involved in the production, distribution and consumption of that product. In the US, the food industry consumes nearly one fifth of total petroleum consumed. In order to produce one calorie of food and get it to the consumer's plate, it takes seven to ten calories of fossil fuel energy (Pollan 2006).

In countries like the UK and Switzerland, carbon and climate footprint labels are already available in the food sector (Asan 2008). An example of a label awarded to products with a low carbon footprint across their product lifecycle is the Swiss initiative climatop¹ awarding the green "approved by climatop" label to the product with the lowest climate impact of all competitors in the same category. The assessment of the climate impact is based on a life-cycle analysis done by independent agencies. The label is currently in a pilot phase, it will be expanded to include other environmental factors than climate impact as well (ecological footprint rather than just a climate footprint). Another example is the

¹ see <http://www.climatop.ch>

Carbon Reduction Label by the Carbon Trust² in the UK. The British Standards Institution also developed the new PAS 2050, a product carbon footprinting standard which “provides a method for assessing the greenhouse gas emissions arising from products across their life cycle, from initial sourcing of raw materials through manufacture, transport, use and ultimately recycling or waste.” (<http://www.carbontrust.co.uk/carbon/briefing/pre-measurement.htm>)

In the 1990s, approximately 15% of greenhouse gas emissions globally have been due to agricultural land use (Cole et al. 1997), and most of the global nitrous oxide emissions as well as roughly two thirds of methane emissions originate from agriculture (Kotschi and Mueller-Saemann 2004). The overall ecological footprint of a food product is determined to a large degree by the type of food item³ (Collins and Fairchild 2007). In general, animal products have a much higher environmental impact than products of plant origin, meat and fish making up the biggest share. The type of meat also makes a significant difference, cattle having the highest impact and chicken the lowest. For agricultural products, cultivation for crops or rearing for livestock is usually the stage in the product life-cycle with the highest energy use, carbon emission and overall environmental impact, for example due to water consumption and pollution of soils and water (Asan 2008).

2.2 Organic Food as Part of a Sustainable Urban Food System

The production of food and the quality of food products are vital aspects of the sustainability of a food system. Growing food organically has benefits for the climate, soils, water and biodiversity. “Green revolution technology [...] has been very successful in achieving spectacular results in food grain production during the last three decades. However, signs of fatigue in the natural resources have already emerged and have unleashed various agro-ecological problems. It has badly damaged the natural resource base of the country.” (Singh, T. 2004: 1) Conventional farming also consumes more fossil fuel, for example for the production and transportation of synthetic inputs and for farm machinery. Organic farms rely primarily on renewable resources and on-farm inputs such as compost or manure. Supply chains of organic food also tend to be shorter and involve less processing due to preferences of the average consumers for regional and natural products. The climate impact of organic farming compared to conventional will be discussed in detail in Chapter 2.3.

In addition to its environmental benefits, organically grown food is also beneficial to the health of producers as well as consumers. It contains fewer residues of harmful chemicals and more micronutrients (Pollan 2006). A study conducted in 1996 by the Indian Council of Medical Research found that 51% of

² see <http://www.carbontrust.co.uk>

³ For an overview on the footprint of different items see Collins and Fairchild 2007 for Cardiff, or <http://www.stepsforward.org.uk/ef/food.htm> for the Southwest of England.

all analyzed food items were contaminated with pesticide residues, 20% even above tolerance levels (Lohr and Dittrich 2007). India is among the countries with the highest levels of toxic residues in food in the world (Chander 1997).

In the long run, organic farming is also economically more viable because it reduces both input costs for the farmers and external costs to society as a whole caused by adverse environmental and health effects. Small organic farms also tend to have a lower level of technology, thus using less energy as well as creating more labour (Singh 2004). For a concise but comprehensive overview of the advantages of sustainable agriculture over conventional, growth-oriented agriculture see Singh, J. (2004: 281-3).

An analysis based on case studies of different farming systems concluded that organic farming systems are superior to conventional agriculture both in terms of their productivity and their sustainability. Organic farming has a high cost-effectiveness, and even though yields⁴ may be smaller than in conventional agriculture for some crops and farming sites, the total average yield and the net profit for farmers are both higher in the long run (Singh 2004, cf. Eyhorn 2005, Pollan 2006).

2.3 Climate Impact of Different Farming Systems

Apart from the question of the resources used and greenhouse gases emitted in the production of different food items⁵, the type of farming system has a significant impact on the ecological footprint of a product as well. The study by Kotschi and Mueller-Saemann (2004) discusses the potential of organic agriculture to avoid and to sequester greenhouse gases, and makes comparisons with conventional agriculture. It clearly states that organic agriculture contributes significantly to the reduction of greenhouse gas releases and to sequestration of carbon in soils and biomass. Agriculture could in fact be a factor mitigating climate change. However, “mainstream agriculture is moving in an opposite direction; increasing releases of greenhouse gases from the green sector have made agriculture a producer of global warming rather than a mitigating factor” (Kotschi and Mueller-Saemann 2004: 7).

According to the findings of Kotschi and Mueller-Saemann (2004), organic agriculture can make a significant contribution to reducing emissions of carbon dioxide, methane and nitrous oxide⁶. Carbon dioxide (CO₂) is not the most effective greenhouse gas, but as it exists in relatively high concentrations it contributes most to global warming. Fossil fuel consumption is a major source

⁴ The experts interviewed in this survey generally agreed that the yields can be higher in organic farming for some crops, for example for leafy vegetables, and that overall they are almost equal to conventional farming.

⁵ See Chapter 2.1

⁶ For an overview of direct and indirect reduction on agricultural greenhouse gas emissions arising from the principles of Organic Agriculture see Kotschi and Mueller-Saemann 2004: 37, Table 14.

of carbon dioxide emissions in agriculture. On average, organic farming has a 30-70% lower overall energy consumption per unit of land (Kotschi and Mueller-Saemann (2004). Organic agriculture uses significantly less fossil fuel than conventional agriculture, and in most cases has a more favourable energy balance. In Germany, for instance, organic farming has been found to have 48-66 percent lower CO₂ emissions per hectare than conventional farming systems (Burdick 1994, Haas & Köpke 1994, Stolze 2000, DFG-Forschergruppe Klimarelevante Gase 2002, all cited in Kotschi and Mueller-Saemann 2004), even though the differences per unit of production are less pronounced because depending on the crop organic yields are often lower than in conventional agriculture (Kotschi and Mueller-Saemann 2004).

The main reasons for the lower fossil fuel consumption and carbon emissions of organic agriculture are that synthetic pesticides and fertilizers whose production and transport are highly energy-demanding are avoided, external animal feeds are reduced to a minimum and less agricultural machinery is used. Organic farming relies mainly on alternative strategies of maintaining soil fertility and fighting pests such as crop rotation, crop diversification, legume cultivation and mechanical pest control. In addition to these it uses primarily farm-internal inputs such as compost, manure and bio-pesticides. Another opportunity for reducing carbon dioxide emissions in organic farming is the use of biomass as a substitute for fossil fuel (Kotschi and Mueller-Saemann (2004: 8).

Another greenhouse gas contributing to global warming, methane, was found to contribute roughly 15% to global warming (Bockisch 2000, cited in Kotschi and Mueller-Saemann 2004). Two thirds of methane emissions are of anthropogenic origin and originate mainly from agriculture (Ahlgrimm and Gaedeken 1990, cited in Kotschi and Mueller-Saemann 2004). Sources and emission levels of methane differ across geographical regions and depend on the level of agricultural intensification. In Western Europe, 17% of methane emissions are caused by animal dung and one third by application of semi-liquid manure. In tropical countries, the most important sources of methane emissions are paddy fields and wetlands, which together make up around one third of global gross emissions of methane (Kotschi and Mueller-Saemann 2004). In organic livestock farming changes in ruminant diet considerably reduce methane production.

Nitrous oxide is a greenhouse gas that contributes to global warming and also affects the depletion of stratospheric ozone. A major part of global gross nitrous oxide emissions stem from soils, mainly from mineral and organic nitrogen fertilizers or nitrogen fixed by legumes. With the massive increase in the application of synthetic nitrogen fertilizer, nitrous oxide levels have dramatically increased as well. As a result, nitrous oxide emission even partly offset reductions in CO₂ emissions (Kotschi and Mueller-Saemann 2004, Pollan 2006). Nitrous oxide emission are reduced in organic agriculture because no synthetic

nitrogen fertilizer is used, avoiding emission during the energy-intensive process of fertilizer production. Tight nutrient cycles also minimize nitrogen losses. Limited animal stocking rates and thus limited application of animal manure as well as changes in livestock diet also result in lower emission of nitrous oxides (Kotschi and Mueller-Saemann (2004).

In addition to its potential for reducing greenhouse gas emissions, organic farming also has a huge sequestration potential. This is achieved by following the principle of tight nutrient and energy cycles, improved practices in cropland management and agroforestry and through organic matter management in soils. Through long and diversified crop rotations and legume cropping and by regularly adding organic materials to the soil in the form of organic manures and compost it helps maintain or even increase soil organic carbon (Kotschi and Mueller-Saemann 2004).

All of the above-mentioned factors and techniques could in fact be used in any kind of agricultural system. However, “Organic Agriculture is unique in the sense that it offers a strategy which systematically integrates most of them in a farming system” (Kotschi and Mueller-Saemann 2004: 9). It also has the advantage of reliability and transparency since it operates with compulsory standards well-functioning mechanisms of inspection and certification guaranteeing compliance with organic principles and standards.

At least as much as the question of conventional versus organic, the scale of the farming system is also an important factor to be considered. Generally farms as well as supply chains become more energy-intensive the larger their scale. The more agriculture is intensified in an industrial manner, the more it contributes to carbon emissions due to fossil fuel consumption. In India, a 10-20% increase in yield achieved by mechanization will cost an extra 43-260% in energy consumption (Pretty 1995, cited in Kotschi and Mueller-Saemann 2004). Pollan (2006) shows for the US that organic food produced on an industrial scale has an equal or in some cases even worse ecological footprint than conventional food. This is probably not true to the same extent for India, since agriculture is generally less industrialized than in the US and thus less resource intensive whether synthetic inputs are used or not. However, the trend in India is also towards producing organic food as part of a commercialised commodity chain than has consumer preferences and profit margins in view at least as much as the sustainability of the farming system.⁷

2.4 Food Miles and Supply Chains

According to figures cited by Pollan (2006), only one fifth of the total energy consumption of a food product is consumed on the farm, whereas the rest is used for processing and transport. A major part of the energy consumed in the life-cycle of a food product is used for processing. The higher the level of

⁷ See Chapters 4 and 5.

processing, the more energy-intensive the product becomes. For ready-to-eat, prewashed and packaged organic lettuce in a US supermarket, it takes more than 57 calories of fossil fuel energy per calorie of food. The figures would only be about 4% higher if the lettuce was grown conventionally. Of course, these figures cannot be taken as representative for India, but there too the tendency towards more highly processed foods is visible throughout urban retail markets.

The concept of Food Miles refers to the distance over which a product is being transported in the course of its production and distribution. It appears rather obvious that the more local the origin of a product the more environmentally friendly it is. However, recent studies have found that food miles do not in fact constitute the major part of the carbon footprint, and even less so on the overall ecological footprint of a food product compared to the production stage (De Weerd 2009, cf. Chapter 2.3). For the food system of Cardiff, UK, for example, Collins and Fairchild (2007) calculated that it only makes up 1.7% of the total footprint. However, even though the concept of food miles may not be sufficient for determining the sustainability of a product, transport is still a significant contributor to carbon emissions, particularly if the same products are compared with regard to different supply chains. When considering the footprint of a food product from farm to plate, one also has to take into account how the distribution system is organized and how products get transported to the end consumer's home.

The final stages of the supply chain, retailing and transport to the end consumer, are another significant stage of the life-cycle of food products. Retail formats differ significantly with regard to their energy consumption, for example large malls and supermarkets with their lighting, air-conditioning and cold storage facilities will have a significantly higher impact than farmer's markets, street vendors etc. that do not even use electricity. However, if consumers regularly visit local farmers by car, the emissions contribute a major share to the overall footprint of the product.

Overall, even though food miles may be only one factor among many in the total ecological footprint of a product, assuming that all other factors are equal – type of food, farming system, processing, retailing etc. – the carbon emissions saved in transport still matter. Furthermore, the regionalization of supply chains and strengthening of local food systems makes other contributions to the sustainable development local communities and ecosystems than merely reducing carbon emissions. Organic farming plays a vital role in the localization of food systems. It is less resource intensive and supports the local economy by creating more employment and sourcing more of its inputs locally. In the US the local food movement is very strong (Wikipedia 2009a).

Increasingly popular systems of marketing and distribution that are associated with local food systems include community-organised agriculture⁸ initiatives, box delivery schemes and the like, which aim to establish more direct linkages between producers and consumers. In addition to food miles and freshness of produce, another benefit of local food systems is their higher degree of transparency for consumers. The shorter the distance between producers and consumers and the more direct the link between them the more accountable the producers are likely to be. Furthermore, a local food system is best suited for supplying local crops that are best adapted to the ecological conditions, the traditional farming systems and the traditional cuisine and eating habits.

⁸ These projects have become especially popular in the US. Of course their overall environmental impact may in fact be higher, given that many consumers travel to their community farm every weekend by car and thus offset the fossil fuel savings of organic farming.

3 Research Methodology

3.1 Definitions and Research Categories

One of the most important premises for conducting this survey was a clear definition of “organic food”. In the Indian context, a good deal of confusion exists among consumers and even some experts about the meaning of organic¹. In order to make sure that consumers have the same conception about organic food, the strategy of triangulation was used in consumer interviews. If a consumer reported to have heard of even to be buying organic food, they were also asked to briefly state what it is according to their view. The minimum reply that was accepted as indicating at least the most basic understanding of organic was “farming without chemicals”. Another related question was how to classify products. The case is quite clear with certified organic products, but a significant part of the organic products available in Hyderabad are not certified². Other methods of sustainable agriculture are therefore considered in this study as well, in particular NPM (Non-Pesticide Management³). For practical reasons, the term organic food will be used throughout the paper as comprising both production according to official organic standards and NPM if monitored by NGOs, third-party laboratory tests or operating under a Participatory Guarantee System⁴.

The classification for regularity of purchasing organic products used by Chakrabarty & Baiya (2007) of regular buyers spending more than 75% of expenditure on organic food in a food category, and occasional buyers spending 25%-75% was found not to be practical. Regularity refers more to a frequency than a percentage. Furthermore, many consumers were found not to be able to estimate the share of organic food in their total food expenditures per food category. Therefore an attempt was made to assess regularity by asking consumers about the frequency of buying each organic food category per week or month. In order to assess the relative importance of organic food consumption, they were also asked whether organic products make up more or less than 50% of their expenditure in a food category. However, due to the low availability of organic food in Hyderabad, the distinction was not found to be very relevant. For most points, it proved not very useful to distinguish between regular and occasional buyers at all, because most buyers are occasional due to the limited availability of organic products.

¹ See Chapter 5.1 for the most common misconceptions existing among respondents of this survey.

² For a definition of organic farming see Chapter 1.1, for the Indian Organic standards see Chapter 4.1.2

³ Cf. Chapter 4.5

⁴ Cf. Chapter 4.1.2

3.2 Primary Data Collection

One part of this survey comprised a total of 144 very concise, structured quantitative interviews⁵. The objective was to get a broad overview of attitudes and knowledge among different parts of the general population. Interviews covered questions on potential concerns over chemical residues in food products, awareness of organic food, purchasing of organic food and awareness of organic labels. Thirty percent of the respondents in the quantitative survey purchase organic products regularly or occasionally.

A total of 39 longer, semi-structured qualitative consumer interviews⁶ aimed at getting more information about the purchasing patterns and motivations of consumers that are aware of organic food. Of those, 18 respondents were female and 21 male. Most of them were in the middle age groups, 16 of them in the age group 20-45, and another 16 in the group 46-60. Only 7 were over 60. Almost all respondents were responsible for most of the shopping for their households, sometimes they shared responsibility with their spouse. Five never buy organic products, 16 buy them occasionally, and 18 regularly.

Table 3-1: Interview locations, average consumer profile in this location and number of interviews

Location	Geographical area and consumer profile	Quantitative interviews	Qualitative interviews
Q-Mart	Banjara Hills, predominantly upper and upper middle class	41 interviews	6 interviews
Spencer's Hyper	Musheerabad, mixed, predominantly middle class	40 interviews	5 interviews
Batkammakunta slum	Vidyanagar, lower and lower middle class	11 interviews	none
Mehdipatnam Rythu Bazaar	Mehdipatnam, mixed	38 interviews	5 interviews at Mehdipatnam Rythu Bazaar (mixed, predominantly middle class)
Vijaya Enterprises	Chikkatpally, mixed, predominantly middle class	14 interviews	4 interviews
HACA NPM vegetable outlet	Nampally, mixed, predominantly middle class	none	5 interviews
DDS Organic Mobile (in Tarnaka, Balkampet and		none	10 interviews

⁵ Questionnaire see Annex

⁶ Questionnaire see Annex

Ramanthapur)			
Brinjal Biodiversity Festival ⁷	Hitec City, mixed, predominantly middle class)	none	4 interviews

In selecting the locations and interview respondents for both the quantitative and qualitative interviews an effort was made to cover a range of different socio-economic customer profiles. The socio-economic properties of the research population indicate that there was a bias among respondents of the qualitative survey towards higher-income, educated groups as well as consumers of organic food as a result of the choice of interview locations. Most respondents in the qualitative survey belonged to the middle classes (see income categories Table 3-2). Socio-economic categories of consumers used in this study are based on the income categories (see Table 3-2) established by NCAER (2005). In addition to income, education level (see

Table 3-3), occupation of all income earners and mode of transport used for shopping were used for assessing the socio-economic background of respondents. The average household size was 3,8 and varied between 3 and 4,1 across income groups. The distribution of respondents with regard to level of education was similar to the income groups and overall relatively high. In line with their educational level, most respondents spoke English at an excellent level (27,6%), or at least well enough to be able to do the interview in English (44,8%), and less than one third (27,6%) needed a translation into Telugu or Hindi.

Table 3-2: Income levels of research population of the qualitative survey

Income category	Estimated total household income per month in INR	Percentage of total respondents
Category 1	Less than 90,000	3 %
Category 2 (lower middle class)	90,000 to 200,000	27 %
Category 3 (upper middle class)	200,000 to 500,000	38 %
Category 4 (higher middle class)	500,000 to 1 million	12 %

⁷ A food festival organised at the Shilparamam Art Gallery on March 8 by several local NGOs including CSA and DDS; organic millet was for sale by DDS.

class)		
Category 5	1 to 2 million	12 %
Category 6	More than 2 million	8 %

Table 3-3: Education level of research population of the qualitative survey

Education category	Education level achieved	Percentage of total respondents
Category 1	Less than high-school degree	7 %
Category 2	High-school graduate	10 %
Category 3	Graduate degree	45 %
Category 4	Postgraduate degree	35 %
Category 5	Doctorate	3 %

Semi-structured and unstructured qualitative interviews were conducted with farmers from cooperatives in rural and peri-urban areas within a radius of 150 km from Hyderabad, farmers selling at Mehdipatnam Rythu Bazaar and the HACA NPM outlet in Hyderabad, retailers and supermarket managers (Q-Mart, Spencer's Hyper, Food Bazaar, 24-Letter-Mantra). In order to get an assessment of the potential for marketing organic products to bulk purchasers of food, several shorter phone interviews with hotel restaurants and canteens were conducted. A number of informational meetings and semi-structured and unstructured interviews with experts from research institutions, NGOs and government organisations working in the field of sustainable agriculture or food and nutrition were conducted on various aspects of organic agriculture, marketing of organic products and the urban food system in general⁸.

Interviews were conducted in English where respondents had a very good command of English, and with the assistance of a translator speaking Hindi and Telugu in the other cases. In order to avoid distortions due to terminology, both the Hindi and Telugu terms for organic farming⁹ were used in addition to the English term.

In addition to interviews, a database of shops selling organic and NPM products in Hyderabad was compiled¹⁰. For each outlet, photographs were taken, question-led observations made and a survey of availability and price levels of

⁸ For a list of the key stakeholders see Annex

⁹ Hindi: Sajeew Kheti, literal translation meanig living agriculture or natural farming; "a way of farming that lays maximum emphasis on regenerating the living soil."

(http://www.imsc.res.in/~nick/kalp_bio.doc); Telugu: Sendriya Vyavasayam

¹⁰ See map Figure 4-1 and Table 4-1

organic products compared to conventional products conducted. Primary data collection furthermore comprised an analysis of the discourses on agriculture, food, nutrition and health in articles in magazines and newspapers.

3.3 Secondary Data Collection

Research for secondary data and literature was done at the NIN library in Hyderabad and on the Internet¹¹. Relevant publications were also received by NGOs and experts. Among other studies, the findings of the study “Purchase Motivations and Attitudes of Organic Food Buyers” (Chakrabarti & Baisya 2007) conducted in the National Capital Region (NCR) and a survey conducted by Garibay & Jyoti (2003) in Mumbai were be used as a basis for the survey in Hyderabad.

¹¹ See Internet Directory, Annex

4 Structure of the Market for Organic Food

4.1 Context: Organic Farming and Marketing in India

4.1.1 Organic Production in India

According to Battacharyya (2004), realistic estimates of the total area under organic cultivation figure somewhere between 50,000 hectares and 3.5 million hectares. APEDA estimates the area under export-oriented certified organic cultivation at 2.8 million hectares. The area under organic production has been growing steadily over the past years. In 2004, 332 new organic certifications were issued, and the estimated number of organic farms grew to 12,000 (ITC 2009). Most of these are smallholder producers. Major products produced in India under organic farming are tea, rice, fruits and vegetables, wheat and cotton as well as smaller quantities of coffee, spices, pulses, oil seeds and herbal extracts. Most of these are sold in semi-processed or raw forms (Garibay and Jyoti 2003, ITC 2009).

The highest estimate of the area under organic cultivation in India that can be found in the literature is 7 million hectares (Battacharyya 2004). This is based on the fact that in many parts of India such as the Himalaya, the Deccan Plateau or the Adivasi area across Central India farmers still practice a traditional way of farming with very low or no external inputs that is essentially organic (Battacharyya 2004: 175). According to Anshu and Mehta (n.y.: 1) only one fifth of dry land farmers in India use chemical inputs at all. "India has a rich heritage of agricultural traditions that are suitable for designing organic production systems. In several regions of India, agriculture is not very intensive regarding the use of agro-chemicals, especially in mountain areas and tribal areas" (Garibay and Jyoti 2003). This facilitates conversion to organic production, so that the resource poverty of farmers could in fact offer an opportunity for them to enter directly into the organic market. Of course, not all of these farmers adhere strictly to organic standards, and might often use some chemical inputs as well, albeit often at lower levels than in other parts of the country or in the developed world. The level also depends on the crops: Pesticide-levels are high in crops like chillies, leafy vegetables, okra, brinjal and cotton and lower in tuber crops. The regions in Western Andhra Pradesh are mainly drylands with rainfed agriculture and fewer pesticides are applied there compared to the Eastern irrigated farmlands.

4.1.2 Institutional Context and Organic Certification

India's National Agricultural Policy (NAP) launched in 2000 aims to attain "Growth that is sustainable technologically, environmentally and economically."

(Government of India 2000) In this context, the National Programme for Organic Production (NPOP) was launched by the Ministry of Commerce. National Standards for Organic Products (NSOP, see Government of India 2005) regulating production, processing, labeling, storage and transport as well as inspection and certification procedures were developed on the basis of guidelines by the IFOAM.

Although the National Horticulture Mission and State Horticulture Mission do support organic horticulture (fruits, vegetables, spices) and vermicompost production to some extent, their programmes do not reach small independent farmers. The Department of Agriculture, Government of India, is not supporting organic production for the domestic market (cf. Richter and Kocacs 2005), only for big and well-off farmers that produce for the organic export market. The New Agricultural Policy of the Government of India also displays a strong export orientation (Singh, J. 2004: 286, Carroll 2005, cf. IBEF 2004). There is no overall strategic attention for greening agriculture¹ (Anshu and Mehta n.y.: 10) or developing the domestic market for organic food.

According to DDS, the government supports organic farming on the policy level, but it is not connected to the farm level. At present, most support for small organic farmers with regard to training, extension services, information and marketing assistance is delivered by the NGO sector which is very strong in India (Garibay and Jyoti 2003). However, if the domestic market for organic products is to be developed, policy changes in favour of organic agriculture are urgently needed. "Currently marginal attention is given to the policy framework and institutional dynamics. Involvement of government not just in standardization and accreditation procedures but also through proactive support to certification and market-oriented services are required." (Anshu and Mehta n.y.: 11)

The fact that NPOP was launched under the control of the Ministry of Commerce is an indication that the government views organic farming mainly as a strategy of capitalizing on demand for organic food in other countries through increased export production. Sustainable consumption on the domestic level is not the primary target, nor is the support of small-scale organic farmers and sustainable rural development through organic agriculture. The overview on research funding for modern agriculture given by DDS (2008) clearly indicates that there is a strong bias towards modern, growth-oriented conventional agriculture, in particular biotechnology. This is due to the increasing engagement of agroindustry corporations in research funding. Many universities in India are funded by agricultural corporations to carry out research, and many government research institutions have entered into agreements and collaborations with private corporations (DDS 2008: 3). There is hardly any

¹ One indication of this is the fact that the website on Organic Farming of the Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India (<http://agricoop.nic.in/TaskForce/chep15.htm>) was last updated in 2005.

funding for research projects or institutions working on sustainable farming practices.

Under the framework of the NPOP, a national organic label (see **Fehler! Verweisquelle konnte nicht gefunden werden.**) was developed, and it was stipulated that inspection and certification by one of the nationally accredited certification bodies is mandatory for labelling and selling products as “organic”. At present there are six official accreditation agencies in India: APEDA, Coffee Board, Spice Board, Tea Board, Coconut Development Board and Cocoa & Cashew Nut Board. There are also a number of certification agencies accredited under NPOP, for example ECOCERT, IMO, INDOCERT, LACONGmbH, SGS and SKAL.



Figure 4-1: Official India Organic label

Source: APEDA

The official India Organic label can be found on organic products exported from India or sold domestically in organic stores and supermarkets. At this stage, it is mainly large-scale operators that are certified with the India Organic label. The fees for organic certification² are one of the main obstacles for small farmers applying for the organic label. Garibay and Jyoti (2003) found that the most important constraint stopping farmers from applying for organic certification are the high costs.

In order to provide an alternative for the costly official organic certification schemes for small organic farmers, increasing numbers of rural development NGOs across the world prefer to work with Participatory Guarantee Systems (PGS). These are local-level quality assurance systems certifying producers through a system of participation and peer monitoring. Around the world, a significant number of PGS has evolved as part of the organic agriculture movement. These systems vary in terms of methodology and approach, but they share common principles and values. PGS are often linked to localized and alternative approaches to marketing.

² See list of certification fees from INDOCERT: <http://www.indocert.org/services.aspx?id=1> and Garibay and Jyoti 2003

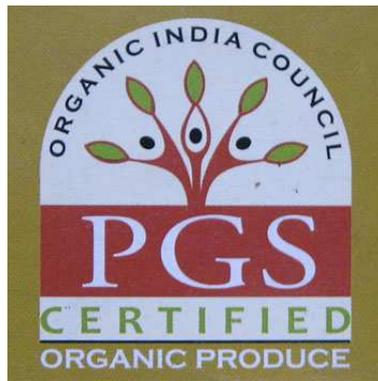


Figure 4-2: PGS (Participatory Guarantee System) Organic label

Source: PGS Organic India Council

In India, the PGS India Organic Council developed the PGS Organic label (see Figure 4-2) in cooperation with the Food and Agricultural Organisation (FAO) and the Ministry of Agriculture, Government of India. This label “certifies sustainably grown organic farm crops that are built on the foundations of quality, trust and alliance through a farmer’s social network” (PGS India Organic Council brochure).

4.1.3 The Domestic Market

Currently about 70% of Indian organic production is being exported (Carroll 2005), and according to Garibay and Jyoti (2003) domestic sales of organic products even amount to only about 7.5% of the total organic production. This is a result of the export-oriented government policies and the fact that world market prices for organic products are about 20-30 percent higher than for conventional products (Carroll 2005). The demand for organic food within India is expected to rise in the near future Garibay and Jyoti (2003). The major markets for organic products are in the metropolitan areas, especially Mumbai, Delhi, Kolkata, Chennai, Bangalore and Hyderabad.

The main obstacles impeding the development of the domestic market for organic food are lack of knowledge about organic farming among farmers, limited and inconsistent supply, inadequate retail presence and an incomplete product range, intransparent market structures (e.g. price levels), high certification costs and hence lack of certified products, uncompetitive price levels, lack of awareness among consumers, low demand, and government policies that are skewed towards exports (Carroll 2005: 1, Battacharyya 2004: 164). Despite the benefits of organic food for environment, society and economy, consumer price levels of organic food are still significantly higher than for “conventional” food, so that “organic food is priced over 25 percent more than conventional food in India” (Organicfacts 2006).

Within the Indian retail market for organic food, two major segments can be distinguished. The first could be called the corporate retail strategy. At present, the most dominant representatives of this category in Hyderabad is Sresta Bioproducts and their shop 24-Letter-Mantra as well as supermarkets selling organic products from different suppliers that mostly operate India-wide and are certified with the India Organic label. “Wholesalers/traders and super markets play major role (60% share) in the distribution of organic products.” (Battacharyya 2004: 163).

The second segment is constituted by various strategies for direct marketing by small farmers. They are usually supported by local rural development NGOs. These two systems differ in terms of the farming system, the structure of the supply chain, and the retailing strategy they involve, all of which significantly influence the group of consumers they are targeted at as well as their climate impact. Most domestic-bound organic products are uncertified, because the majority of producers are small or marginal farmers and small cooperatives (Carroll 2005).

4.2 Availability of Organic Food in Hyderabad

Availability of organic food in Hyderabad is still quite restricted compared to other Indian Megacities. Other than organic tea and herbal medicines by the brand India Organic, which are available in most supermarkets, organic products can only be found in selected stores (see Figure 4-3). At this stage, the only two shops that have a largely organic range of products and can thus be called organic shops are 24-Letter-Mantra and Fabindia. Otherwise the market is constituted by supermarkets, most of which in fact sell 24-Letter-Mantra products, and different initiative for direct marketing by small farmers.

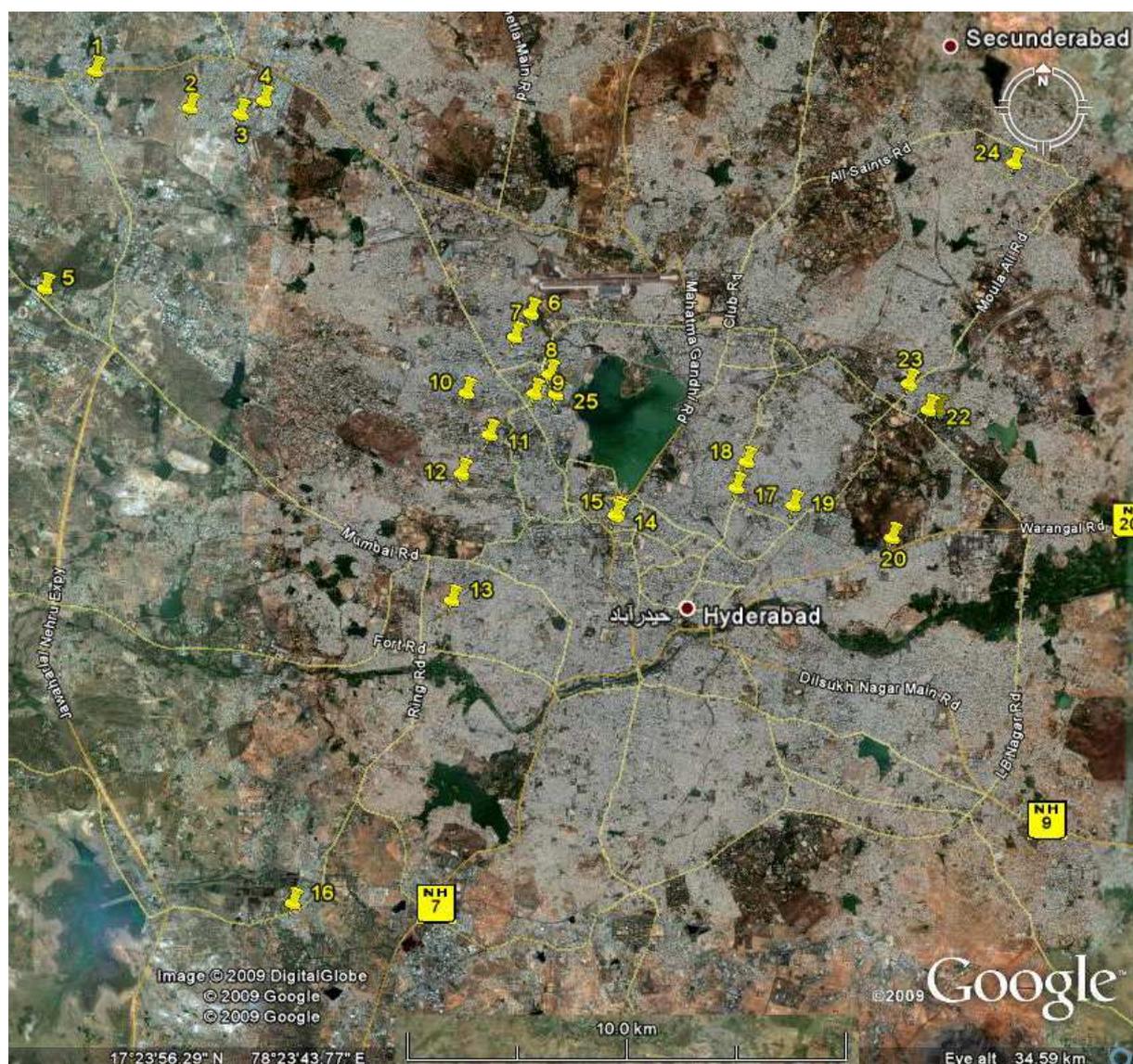


Figure 4-3: Overview map of organic outlets in Hyderabad and Secunderabad (detailed map of central Hyderabad see Fehler! Verweisquelle konnte nicht gefunden werden.; list of outlets see Fehler! Verweisquelle konnte nicht gefunden werden.)

Source: Google Earth, own data

Table 4-1: Outlets for organic food in Hyderabad and Secunderabad (see maps Figure 4-3 and Figure 4-4)

No in map	Name of store	Neighbourhood	Opening days
1	Spencer's Daily	Miyapur	daily
2	Organic Mobile	Kukatpally	Tue
3	Organic Mobile	Malaysian Township	Tue

4	Spencer's Daily	Kukatpally	daily
5	Organic Mobile	Gachibowli	Tue
6	Organic Mobile	Balkampet	Tue
7	Spencer's Super	Ameerpet	daily
8	SPAR	Begumpet	daily
9	Food Bazaar	Panjagutta	daily
10	Q-Mart	Banjara Hills	daily
11	Fabindia	Banjara Hills	Tue-Sun
12	24-Letter-Mantra	Banjara Hills	daily
13	Organic Talk	Gudimalkapur	daily
14	HACA NPM vegetable outlet	Nampally	Mo, Tue, Thu, Fri
15	Organic Mobile	Nampally	Wed
16	Organic Mobile	Rajendranagar	Tue
17	Vijaya Enterprises	Chikkatpally	daily
18	Spencer's Hyper	Musheerabad	daily
19	Organic Mobile	Tarnaka	Wed
20	Organic Mobile	Ramanthapur	Wed
21	Organic Mobile	Vidyanagar	Wed
22	CSA / Sahaja Aharam	Tarnaka	daily as of June 2009
23	Spencer's Super	Taranaka	daily
24	Spencer's Daily	A. S. Rao Nagar	daily
25	Spencer's Daily	Somajiguda	daily

Source: Own data



Figure 4-4: Map of organic outlets in central Hyderabad and Secunderabad (see Figure 4-3 for an overview map and Table 4-1 for a list of outlets)

Source: Google Earth, own data

4.3 Organic Shops

4.3.1 “24-Letter-Mantra Organic Food Superstore”

24-Letter-Mantra is the name of the shop and the company brand of Sresta Bioproducts Ltd. It is the first India-wide organic retail chain. The shop in Hyderabad (see Annex Pictures 1 to 5) opened in 2005. Part of the shop is an organic bistro selling small meals (including salads, a vegetarian burger, and Indian snacks), icecream, milkshakes and the like. Of all the retail outlets selling organic food in Hyderabad, this shop has the broadest product range. The product range consists mainly of a complete range of grains and pulses, but also comprises spices, tea (Organic India an own brand), jams, bread, biscuits, snacks and – newly introduced in 2009 – ready-made microwavable dishes. In addition to their organic range, they also have a considerable amount of conventional products in the categories fruits and vegetables, muesli, convenience food such as biscuits, ready-to-serve dishes, because the full product range is not available in organic quality, but customers want to be able to get everything in one shop. All products are in the shop are advertised as “natural”, but not all certified organic. They are organic whenever possible. Those that are certified organic correspond to the EU 2092/91, USA NOP and NPOP standards. The products are currently priced 30-40% higher than conventional, but the prices are likely to come down once the scope increases. According to the National Sales Manager, this will happen in the next five years, the long-term goal is a price of 10-15% more than conventional.

Sresta Bioproducts has an India-wide supply chain. Raw materials are sourced from all over the country and transported by road to Hyderabad for packaging. According to the National Sales Manager, processing is as decentralized as possible out of climate and energy concerns, the facilities are all over India, but packaging is centralized in Hyderabad for better control. Sresta has relationships with thousands of farmers as well as own field production projects across the country. They work with contract farmers who have exclusive contracts for them. Since the scope of the company requires a certain commitment in terms of scope and reliability, bigger farms or groups of farmers are more viable for them to source from. At this stage, the company both produces and buys organic products, but the aim is to produce the entire supply themselves from 2010 onwards, once the conversion stage is over for all the farming projects. This will drastically reduce production costs.

Only part of the fruits and vegetables for sale in the shop are grown near Hyderabad. Sresta Bioproducts Ltd. has a vegetable farm³ of 7 acres as well as their processing and packaging factory in Medchal, Rangareddy District. Products from the vegetable farm are transported to the store in Hyderabad on a

³ See Annex Pictures 6 to 8

daily basis, by the regular public buses. For the remaining products, the supply chain is organized India-wide, and transportation is outsourced to transport companies. The conventional fruits and vegetables are bought from the wholesale market in Hyderabad and sourced from a local supplier on the road to Medchal, which means that most of them are probably from the peri-urban areas around Hyderabad.

According to CSA, the profit for farmers in this system is very low. Sresta Bioproducts procure at low cost but sell at a high premium. The self-proclaimed target of the company is to scale down on their purchases from external farmers to zero, and to grow all products on company-owned farming projects. Another point of criticism from NGOs of this system is that there is no community-involvement and that farm workers do not get paid well enough. Also, female and male workers do not get paid the same wages (own data). Despite such criticism however, the big merit of companies like Sresta is the sheer amount of land that they bring under organic cultivation: Sresta Bioproducts has more than 5,000 acres under organic cultivation across India.

According to the store manager, the typical customer profile is highly educated, high socioeconomic profile, and mixed in terms of age. Their primary motivation is health concerns, general environmental consciousness only secondarily. As opposed to the assessment of other supermarket managers (see below), certification is very important to the consumers buying here. The broad range of natural medicines and health supplements such as stevia, wheat grass powder, aloe vera, soja extract products, etc. indicates that customers are also strongly health-oriented.

The 24-Letter-Mantra store offers home delivery twice a week, free of charge for minimum order of 500 INR. Ten percent of customers make use of this service, which is more than in other supermarkets. Sresta Bioproducts are also looking into supplying to company canteens, they are already busy targeting companies and according to the assessment of the Manager Exports there is a big potential there, there is a readiness to pay more for organic food. At this stage, they make more sales in export than domestic market, but the domestic market is growing continuously. The number of supermarkets that Sresta Bioproducts supplies to is growing continuously, and they are planning to expand into other supermarkets as well as to open two to three new franchising stores. The current monthly turnover of the 24-Letter-Mantra store in Banjara Hills is 800,000 INR; once a monthly turnover of 1 million has been reached, a new store will be opened in Secunderabad.

4.3.2 “Fabindia”

The company Fabindia was founded in 1960, primarily as an export house for handloom textiles. They have expanded their presence all over India, and also have a number of stores abroad. In the twin cities, Fabindia has two outlets, one

in Banjara Hills⁴ and one at the International Airport. The company continues to focus on crafts products such as garments, upholstery, furniture, crafts and interior decoration. They recently took up cosmetics and jewellery, and in 2004 they started their organic food product line (Kalita et al. 2008). All products are at least partly handmade, and an important component of the company profile is their support for poor artisans and rural livelihoods. The unique selling points of Fabindia are high product quality, a unique ethnic style and store decor and ambience. The style of their textiles in particular is quite timeless, so that garments will be worn for a long time which is very sustainable.

Fabindia wants “to offer customers a complete organic lifestyle” (cited in Carroll 2005). So far, they have a limited product range of organic food items: muesli, pasta, jams, fruit concentrate, spices, tea (Organic India an own brand), and natural medicines. Efforts are being made to increase the range, however. Unfortunately, no data was available from the management about their supply chain, sales figures, number of customers reached or potential plans for expanding the product range.

With regard to public relations, Fabindia relies mainly on word of mouth as a means of advertising (Kalita et al. 2008: 2). They do not have a customer acquisition strategy but focus mainly on customer retention. About 85% of the customers are repeat customers (Kalita et al. 2008: 5). They use in-store posters and leaflets to raise awareness of the origin of the products, such as their rural suppliers or organic farming.

According to Kalita et al. (2008: 7), Fabindia’s sourcing strategy is heavily supplier-centric, and it follows a centralized hub model of supply chain management. This is apparently causing some problems with long delays in supply, so that the organic food products are not always available. The highly centralized supply chain means that quite a lot of energy is spent for transportation from producers to the stores which are located in all major cities across the country.

Fabindia and 24-Letter-Mantra have a very similar clientele comprising mainly highly educated, often Western-educated, modern, well-off and health- and lifestyle-conscious people, with an affinity to eco-friendly culture. In correspondence with this target group, both shops are located in upmarket locations that are best reached by individual motorised transport. Price levels vary between products, but are generally significantly higher than conventional products. “Fabindia initially focussed on providing an Indian experience to the foreign buyer. In the 80s, it realised there is an untapped market among the upper and higher middle class. With the economic boom in the 90s, the focus has shifted to the upwardly mobile consumers in metros [...]. The target audience is college going youth and young professionals and just married couples in the higher middle class category.” (Kalita et al. 2008: 2)

⁴ See Annex Picture 9

(Kalita et al. 2008: 6) mention the organic food market as one of the opportunities for future development for Fabindia. Future plans include expanding the organic food products range. However, Fabindia's strategy does not seem to be to offer a complete range of food items like 24-L-M but a selection of high-value niche products such as pasta and muesli that appeal only to a small but affluent segment of the population. Also, only 8.3% of consumers interviewed by Kalita et al. (2008) mentioned wider product range as an area of improvement for Fabindia.

4.4 Supermarkets

The average, smaller supermarkets that can be found all over the city do not stock any organic products other than Organic India tea, and sometimes natural medicines as well as Himalaya natural cosmetics. However, several of the larger and more upmarket supermarkets (see map Figure 4-3) have started selling organic food products over the past few years. Spencer's supermarkets and Q-Mart sell 24-Letter-Mantra products, and SPAR and one Food Bazaar in Banjara Hills have a small range of products from other organic suppliers. SPAR, the world's largest independent food retail chain, opened up Hyderabad's largest hypermarket to date of 20,000 square feet in Begumpet only in October 2008 (Reachout Hyderabad 2008).

Q-Mart and Spencer's both decided to include organic products in their product range because customers asked for it. According to the managers of Q-Mart and Spencer's, their prime motivations are health concerns as well as a fashionable image of organic and health foods. Q-Mart⁵ tries to cater to this clientele through modern shop design and appealing, easily intelligible in-store information on organic food. The Regional Manager Merchandising for Andhra Pradesh of Spencer's thinks that organic food is "a fashion rather than a need, people don't buy it because of the inherent benefits of organic food but because of a lifestyle image." The supermarket managers interviewed confirmed that the clientele buying organic products is mixed, but dominated by middle-aged, educated members of the upper middle and upper class, often foreign-educated.

The supermarket managers all felt that the organic segment has been growing for a few years now, but the overall share of the total food product range is still small. Spencer's only started selling organic products in 2007, and the SPAR hypermarket only opened in 2008. The total food sales of Spencer's are 60 million INR per month, of which organic makes up only 0.2 million INR, or 0,33 percent. SPAR would like to expand its range in organic products, which as yet is very small, but they would only do so provided that supply is constant and reliable and at competitive price levels. Spencer's believes that organic food will be an important category in the future, but they do not have any immediate plans of expanding their range. They might once the sales increase.

⁵ See Annex Pictures 10 and 11

None of the supermarkets specifically advertise their range of organic products, except for some in-store posters in Q-Mart. The manager of SPAR said: “We would like to advertise it, but the problem is that an increasing demand should be supported by enough supply. There is no point in getting more customers to demand organic if we can’t satisfy a bigger demand yet.”

With regard to their climate impact, supermarkets can be compared to the organic shops found in Hyderabad. The organic products they supply tend to be sourced from across India, thus having supply chains that involve long transportation and temporary storage. Several stages of processing, packaging and storage also result in high energy-consumption, higher retail prices and less profits for the farmers. The products are usually sourced from larger certified organic producers and companies such as Sresta Bioproducts (Spencer’s, Q-Mart) or the Bengaluru-based Pro Nature Organic Foods (SPAR) rather than small farmers. The supermarket managers interviewed agreed that certification is probably not important to most consumers, however for them it is vital because they need to be able to rely on claims made by the suppliers to avoid the risk of getting into legal problems. There is also a tendency towards highly processed, energy-intensive products, which are popular among the typical clientele of supermarkets (see Chapter 5.1.2).

The sophisticated infrastructure of supermarkets results in a much higher energy consumption compared to traditional retail formats such as Kirana stores or street vendors. In its publicity, SPAR boasts that “The vegetables and fruits at SPAR are hand picked at source and maintained at controlled temperatures till they reach the store. SPAR also uses state-of-the-art technology to keep the produce fresh even in-store. For example, the Fish counter at SPAR offers freshly cut and cleaned fish packaged in ice so that it stays fresh till it reaches your home. [...] Most of the produce is sourced directly from farmers / wholesalers, quickly placed in cold storage to retain the nutritive value of the food and brought to the store, all this within 18 hours from when the produce is picked up” (Reachout Hyderabad 2008).

With regard to the climate impact of different retail formats, it is not only important to look at the shops themselves but also at the typical shopping habits of the average consumers, especially the mode of transport they use to go shopping. Consumers buying in supermarkets tend to go shopping by car more than in other retail categories. Among respondents of this survey, the most commonly used means of transport for getting to supermarkets is the car, second-most common two-wheeler. A few respondents also go by autorickshaw, walk or take a bus. Most respondents go to markets by car or two-wheeler as well. It can be assumed that most consumers buying at Kiranas do so on foot, near their home or workplace.

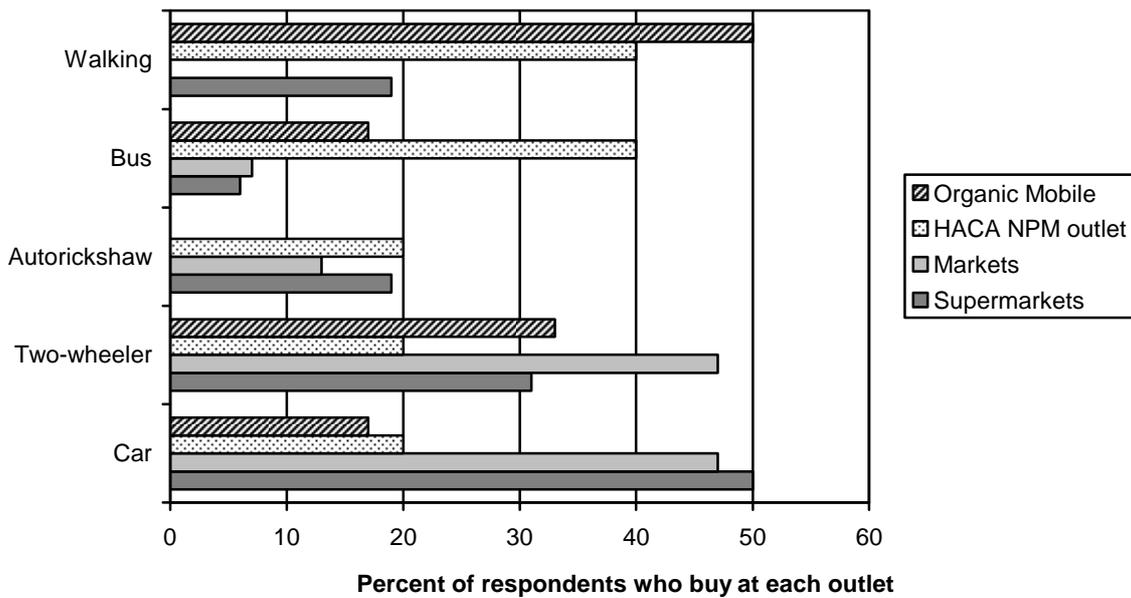


Figure 4-5: Means of transport used by purchasers of organic food for shopping in different locations (several replies per person possible)

Source: Own data

The percentages for consumers at 24-Letter-Mantra and Fabindia can probably be assumed to be similar to that for supermarkets. A bigger share of those respondents interviewed at the HACA NPM vegetable outlet and the Organic Mobile walked there, because they lived in the neighbourhood, although even there some come from further off by car or two-wheeler. This development is also expressed in people's shopping preferences. Almost two-thirds find it important to be able to buy all their needs in one shop, which means they are likely to be prepared to travel further for that. Only 38% find it important to be able to do their shopping within walking distance from home or work.

4.5 Direct Marketing

Various NGOs work with small farmers in peri-urban and rural areas of Andhra Pradesh in order to promote sustainable agriculture. The approaches to rural development and marketing of organic products that NGOs like CSA, DDS and SERP pursue are very similar. They work in different geographical regions and with different crops, but all support small organic farmers in their efforts of making their farming systems more sustainable and improving their livelihood and food security. CSA and DDS also both work in consumer awareness raising with the objective of making the urban food system of Hyderabad more sustainable.

The primary goal of these NGOs is not commercial interest but to support small-scale sustainable farming systems and increase rural food security. Their strategies for achieving this includes technical support, promotion of locally adapted crops, and the formation of farmers' cooperatives that help farmers in accessing technical support, making larger investments for example in processing facilities, and joint marketing. Another objective is to promote healthy eating habits among the rural and urban population.

They usually do not aim for certification with the India Organic label but instead work with Participatory Guarantee Systems (PGS) and independent laboratory sample tests for quality assurance. They reject the official India Organic certification system because it is too costly for the farmers.⁶ For the PGS certification, farmers only pay a fee of 1,000 INR (Misra 2009a). PGS systems are based on participatory principles and community ownership is thus much higher. The farmers they work with also do not even necessarily adhere strictly to set organic farming standards. Other practices of sustainable agriculture include NPM, a method of sustainable agriculture that eliminates the use of synthetic pesticides, and Integrated Farming Systems such Integrated Nutrient Management (INM), Integrated Pest and Disease Management (IPDM) and Integrated Weed Management (IWM). The aim of NPM is not necessarily to get into organic production, but primarily zero pesticide-exposure for farmers. The prime concern is their health. Instead of synthetic pesticides, NPM relies on home-made concoctions made from neem⁷, garlic, chillies, plant and herb extracts, cow dung and cow urine. These are used along with pheromone traps and other traditional methods of pest control (Misra 2009a: 33). Synthetic pesticides are the costliest input in agriculture, so NPM helps farmers cut costs while the yields stay the same and crops fetch better prices.

NPM and Integrated Farming Systems are sometimes seen as a compromise between organic farming and intensive conventional agriculture, or as a temporary stage for farms that are in conversion to organic. For the moment, there is no agency for verification of NPM. However, SERP have regular independent laboratory tests done to guarantee that vegetables do not contain any pesticide residues.

When it comes to marketing, the main focus of the small farmers they work with is the domestic market. There are various strategies and channels for direct marketing. One of them is selling at farmer markets like the Rythu Bazaars. When the study Lohr and Dittrich (2007) was conducted, organic products were for sale at Erragadda Rythu Bazaar, but the farmer selling there had to stop meanwhile. At present, there are no farmers markets in Hyderabad where organic products are available.

⁶ See Footnote 7, Chapter 3

⁷ See Annex Picture 8

From the point of view of achieving an urban food supply system with a low climate impact, the strategy pursued by these NGOs appears most sustainable. For one thing, small farms have been proved to be more efficient⁸ (DDS 2008: 3). Small organic farms tend to be more diversified and less mechanized. Organic farms that operate on larger scales and depend more on external albeit organic inputs (biopesticides, biofertilizer) have higher energy consumption. According to CSA, the government and bioinput companies push for this kind of agriculture to support the growth of the market for commercial bio-inputs. NGOs working in sustainable rural development rather recommend that farmers produce their own bio-pesticides and fertilizers such as manure and vermicompost from farm-internal raw materials.

Conventional supply chains are very long and thus involve a lot of waste of energy through transport and storage and monetary losses to middlemen. Usually products are supplied by a farmer in the peri-urban area to local collectors, then to the wholesale market in Hyderabad and finally to retailers or street vendors both in Hyderabad and peri-urban areas. If products are sourced from elsewhere in India, especially for supermarkets, the supply chain is more or less the same but might involve more middlemen and transport is often refrigerated.

Small-scale farming and direct marketing with its decentralized supply chain is more sustainable in many other ways, too: It strengthens rural communities, creates more employment, increases profit for farmers through higher producer prices and the products reach broader strata of consumers because of the lower end consumer price levels. At the moment, 30% of the end price goes to the farmers, but that includes their production costs, so their net profit is only 5-10%. When selling directly to consumers it can be as much as 80%.

The support for small-scale sustainable agriculture has a broader importance for the entire region. The peri-urban fringe of Hyderabad where much of the urban food supply is produced has important functions as a green belt (ecological, micro-climate, recreation) and for the supply of the city with fresh food products, without the need for long transportation. Thus buying organic products from the region within a radius of 100-150 km contributes to the sustainable development of the entire urban and peri-urban area.

4.5.1 CSA and “Sahaja Aharam”

CSA work with farmers’ cooperatives in a radius of up to 150 km around Hyderabad, primarily in Warangal district. Up until now, these farmers sell their produce in rural and local small town markets. CSA assisted farmer’s cooperative in launching the brand Sahaja Aharam (natural food). With the

⁸ Several large-scale comparative studies (cited in Pollan 2006) as well as individual success stories (e.g. traditional farming systems in Medak District, cited by Avadhani 2009) support this argument.

support of CSA and the NGOs CROPS and SERP, a number of outlets⁹ have been set up in peri-urban areas.

There used to be a stall outside CSA where farmers sold organic produce once a week (cf. Lohr and Dittrich 2007), but it was difficult for the farmers to come there regularly, therefore they decided to rather focus on developing local markets. Apart from supporting small farmers, CSA also does consumer awareness raising, for example through brochures about the Sahaja Aharam brand and organic agriculture. In April 2009, they launched a consumer cooperative, the “Sahaja Aharam Consumers’ Cooperative Society”. It started with 300 members, but the target are 2,000. The cooperative is planning to open up a permanent organic food shop in the CSA office building, and to organize weekly home deliveries of vegetables directly to consumers’ homes. This will be more convenient for the consumers, and also help the farmers in developing production and business plans.

The consumers’ cooperative is planning to purchase a van for transporting the supplies and doing home deliveries. Once the outlet is established and running well, the target will be to open more subsidiaries across the twin cities, for example in Banjara Hills. The long-term goal is for the shop to have a broad range of products, with a focus on first- and second-level processed food. At this stage there are still very few third-level processed foods such as sauces or pickles, but the objective of CSA is to move farmers up the value chain and thus increase their net profits.

The main target group in terms of customers are the lower and upper middle classes. According to CSA, this is a different group than the customers at shops like 24-Letter-Mantra who mostly belong to the upper class. Due to the short supply chain and direct marketing as well as the less costly certification system, the price levels for organic products sold by these farmers will be significantly lower than in organic shops and supermarkets. Consumers at the Sahaja Aharam outlets are not much more expensive for many products, often only 1-2 INR; rice, for example, costs 26 as compared to 24 INR on the local market.

4.5.2 *DDS Organic Mobile*

Deccan Development Society has been working with small farmers in Medak District since 1983. One of their main objectives is to promote sustainable farming methods as well as the cultivation of traditional crops, mainly millets and pulses, as a means of improving the livelihoods of small farmers. The use of millets has declined dramatically in favour of rice and wheat¹⁰, which are more fashionable among urban consumers, even though millets are better adapted to the semi-arid climate of Western Andhra Pradesh as well as nutritionally superior.

⁹ See Annex Pictures 12 and 13

¹⁰ Cf chapter 6.1.2

The mission of DDS is to revive the traditional regional food culture which is based on cereals, millets and pulses. Millets have been neglected for the past 25 years because the market does not reward millet cultivation. Rice has a market edge over millets: 27 INR for rice (producer price 8 INR), 25 INR for millet. The cost of production is lower because there are no inputs needed, but farmers are often not qualified to calculate their production costs very well so they easily get carried away by the idea that the price is slightly higher. Also, there is not much commercial demand for millet (as opposed to rice, cotton or sugar cane), partly because there has been a shift in dietary preferences; millets were not perceived as fashionable among urban consumers.

In order to create a market for the farmers that started growing millets, Deccan Development Society established a shop and organic café, Café Ethnic, in Zaheerabad four years back, and runs a mobile sale system called “Organic Mobile”.¹¹ The café attracts both health-conscious locals and interested passers-by with its range dishes based on local crops such as millets, wheat and pulses that are grown organically by small farmers. The Organic Mobile van stops in Sangareddy, Medak District, on Mondays and tours several neighbourhoods in Hyderabad on Tuesdays and Wednesdays.¹² It currently reaches about 50-100 consumers in Hyderabad regularly. Sales amount to 7-10.000 INR on average for for 3 days of sales in Hyderabad and Sangareddy, Medak District. The main problem at this stage is product supply which is often irregular and not adequate to demand (cf. Annex Picture x of the Organic Mobile running low on stocks). Products are processed in Pastapur village in Medak District, about 150 km from Hyderabad, and transported in the Organic Mobile van.

In addition to supporting farmers and their marketing, DDS also works in awareness raising on nutritional quality of millets.¹³ At events such as the Brinjal Biodiversity Festival¹⁴ they sell organic millets and pulses and provide information to consumers. They also published a brochure with information on different millet varieties, their nutritional properties and traditional recipes collected from farming women in Medak District with the aim of increasing awareness and consumption of millets and pulses.

4.5.3 HACA NPM Vegetable Outlet

The NPM vegetable outlet at HACA Bhavan is a joint project of HACA and SERP. HACA provides the space in their building, and SERP is the link between them and the farmer. SERP is implementing the state-wide rural poverty reduction project “Indira Kranthi Patham” of the District Rural

¹¹ See pictures 14, 15 and 17

¹² See map of organic outlets Figure 4-3, Figure A-1 and Table A-1

¹³ See informational brochure on <http://milletindia.org/EatSmart-EatMillets.pdf>, and MINI et al. (2008).

¹⁴ See Footnote 7, Chapter 3

Development Agency (DRDA-IKP), a Government Agency for Rural Development. The project focuses on the poorest of the poor households and aims to enable them to improve their livelihoods through community organising. They also assist farmers in implementing NPM production in 3,000 villages across 18 districts, and there are 300 NPM shops run by farming women's self-help groups across the state (Misra 2009a). Part of SERP's mission is to link producers in peri-urban areas to consumers (mostly middle-class) and encourage producers to access new marketing channels.

The NPM vegetable outlet at HACA Bhavan is managed by farmers from Manchal village, 50 km from Hyderabad in Ranga Reddy District. Srinivas Reddy, the young farmer selling the vegetables on four days a week, collects produce from ten farmers there. The product range depends on supply and includes various vegetables such as carrots, brinjal, tomatoes, okra, chillies and green leafy vegetables. The vegetables are not certified, at this stage it is a trust-based system, but independent laboratory tests are used for verifying that no pesticides have been used in cultivation.

Initially the outlet was only open on one day a week, but in 2008 this was expanded to four times a week. It has since proved a big success; sometimes the vegetables are sold out within a couple of hours. The outlet is frequented by 100-125 customers per day, with a mixed customer profile from lower middle class to teachers, small businessmen, government officials and political leaders. HACA or SERP do not do any activities in consumer awareness raising, but Srinivas said: "It isn't our objective to sell in supermarkets, we prefer a separate outlet. The purpose is not only to sell, but to make people aware that our products are different."

A major incentive for consumers buying here is that the vegetables are always very fresh and taste better (cf. Misra 2009a), that the location is convenient for many people living or working nearby, and also that they are hardly more expensive than conventional produce. This last point is due to an agreement with HACA stating that the prices may not be more than 2-3 INR more per kg than the prices fixed by the government for the Rythu Bazaars. Srinivas Reddy said he would in fact need another 2-3 INR extra in order to fully cover his production costs, though. Compared to certified organic products, there is not much more net profit in NPM production, which is why he is not producing at a larger scale at this stage. HACA wants to adhere to the price limit, at least until the outlet is firmly established. Partly this is due to fears that the number of customers might go down if prices were higher. However, the demand already increased since the outlet was started, and there are plans to expand sales in the future. HACA also plans to open a separate counter in the future on a daily basis, and with a different range of products also including fruits, rice and pulses.

4.5.4 Small Health-Food Shops

The small store Vijaya Enterprises in Musheerabad is an example of a shop catering to health-conscious consumers looking for high-quality health food and other health products. Beside food items like grains, pulses, peanuts, dates, honey and sweets, the product range comprises soy-based food supplements, wheat grass powder, sprout-makers, yoga-mats and the like. Products that are sometimes available in organic quality are: brown rice (hand-pounded), wheat, millets (Finger, Foxtail, Little), pulses (green gram, black gram, red gram, bengal gram), jaggery, and sometimes vegetables and leafy vegetables. The supply chain of Vijaya Enterprises depends on the type of products. The rice, for example, is sourced from small organic farmers from villages around Zaheerabad. Transport is done by truck, by a local transport company.

The philosophy behind the shop is not so much commercial interest as providing healthy food at reasonable prices, and spreading awareness of healthy food and “helping the people”, as the owner and manager said in a personal interview. The organic products at Vijaya Enterprises cost about 20% more than conventional, but according to the owner only about 10% of the customers buy organic products there and they do not mind the higher prices. Even the conventional products are grown by small farmers using very little chemical inputs, according to the owner, but they are not more expensive than elsewhere. The customers have a mixed socio-economic background. However, only about 10% of them are aware that some of the products are organic, according to the owner nobody really enquires after that. Some of the customers come from quite far, as far as Hitec City or even outside Hyderabad, to go shopping there, and the shop appears to be very busy every day.

Other similar stores might in fact exist in other places across the city, but be hard to find since their publicity is largely restricted to word of mouth. A small store in Gudimalkapur run by Mr. Gowtham also sells some organic products, according to information given on the phone mainly hand-pounded rice and pulses.

5 Patterns of Organic Food Consumption

5.1 Awareness of and Knowledge about Organic Food

The majority of respondents in the quantitative survey expressed a concern over potential residues of harmful chemicals in their food. The values varied between interview locations and social background of respondents (see Figure 5-1). Respondents at Vijaya Enterprises who are a particularly health-conscious group as a result of the shop concept had the highest value of 100%. Among the lower-class respondents, only 50% were worried about chemicals. Overall, concern increased with social status and education level. In the slum area where

interviews were conducted, the women interviewed were aware that they should wash fruits and vegetables because there are chemicals on them. More than half of the respondents said they were worried about chemical residues in their food. They heard from elders that food used to be grown without chemicals. None of them had heard about organic food though.

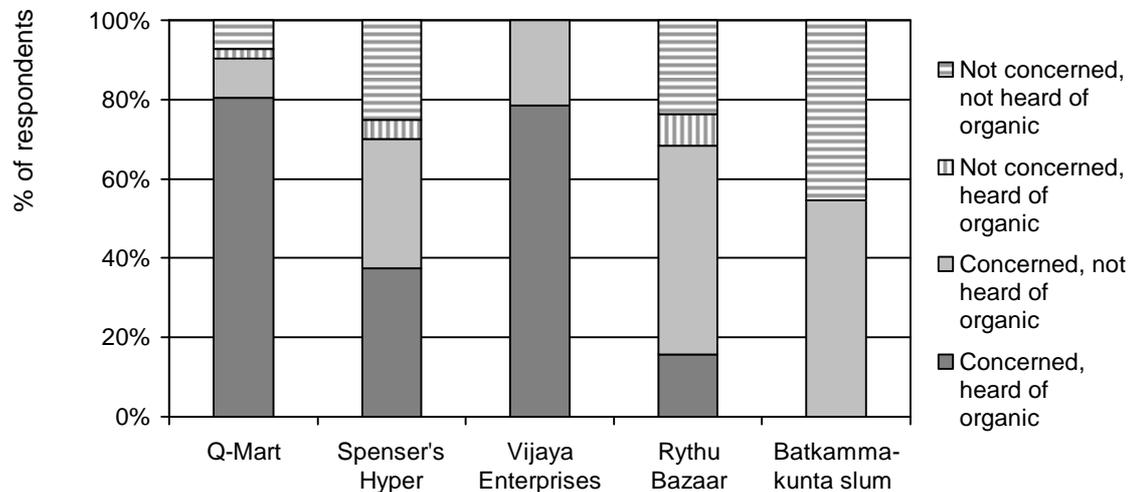


Figure 5-1: Concern over chemical residues in food, and awareness of organic food, in % of respondents of the quantitative survey

Source: Own data

Awareness of organic food was found to be surprisingly high among respondents of the quantitative survey. As many as 57% percent had heard of organic food and had at least a basic understanding of what it means. However, this figure is not representative of the general population at all, as a comparison across interview locations reveals (see Figure 5-1). Lohr and Dittrich (2007) found in their survey of supermarket customers in Hyderabad that 76% had never heard of organic food before, and only 3% ever purchased organic food. Those that had heard about organic food all belonged in the higher middle class stratum. Some of the supermarket managers interviewed said that it does happen that customers do enquire after availability of organic products, but they are a very small minority.

The level of awareness appeared disproportionately high in places where organic food is being sold, and where customers belong to higher-income and higher-education groups. The figures for Mehdipatnam Rythu Bazaar and the slum area are probably a better indication of the average level of awareness among the overall population. The people that are most likely to be aware of organic food are those that are young, educated, know English (read and write, too) and had some international exposure, for example living abroad or visiting relatives. The survey conducted by Garibay and Jyoti (2003) among consumers

in Mumbai revealed that 25% were aware of organic food. They belonged to the highest socio-economic classes.

Even among farmers, there is a big lack of awareness of organic farming. Some farmers interviewed at Mehdipatnam Rythu Bazaar said they did not use any pesticides, or very few for some crops such as potatoes. At the same time, they did not believe that it could be possible to grow certain other crops without pesticides, and they had never heard of organic farming before.

The need for more awareness and information is obvious when considering the number of people that have never heard of organic food, and also in light of the many misconceptions about what organic food is and about agriculture in general. For example, some people that think conventional agriculture in India or AP does not use a lot of chemicals so that they do not see a need for organic farming. Others take the opposite view and believe that the land, air and water are so polluted by DDT and other chemicals that it is not possible to farm truly organically at all. The latter view appears to be particularly wide-spread in lower social strata (Hofmann 2009). This emphasizes the need for more information and awareness-raising on organic farming.

Some confusion appears to exist among consumers about the differences between such terms as “organic food”, “natural food” or “health food” (Chakrabarti & Baisya 2007). “Natural” basically means that a product has undergone minimal processing and does not contain any additives or preservatives, but the term is not protected in any way and there is not certification. “Health food” is another term that is not clearly defined and is usually used for referring to products with low sugar, high fiber, high vitamin and mineral content. Many diabetic products and functional food fall in this category. Products advertised as “natural” are easily confused by consumers with organic products (see Annex Picture 24). Some companies in fact try to exploit this lack of knowledge by using non-committal expressions such as “natural”, that invoke in consumers an association with the general semantic field of healthy and organic but do not guarantee any quality standards at all. Two of the customers interviewed at Vijaya Enterprises thought the products there are all organic even though only some of them are.

Products that are fresh and generally considered healthy – especially fruits and vegetables – are easily mistaken for organic by consumers as well. In interviews and informal discussions many consumers claimed to have seen or even be buying organic in places that do not in fact sell any organic products. For example, some consumers thought that the fruit and vegetable shops Pure and Natural or Choupal Fresh stock organic products.

Even the shop assistants, whether in shops that sell or do not organic products, are not always aware of what organic means. At Fabindia, for example, a shop advertising to provide “a complete organic lifestyle”, one shop assistant was unable to answer the question whether the cotton used for their

clothing was organic. He was only able to stress that it is “pure” and “natural” cotton.

An indication as to which channels of communication could be effective for spreading awareness and information about organic food are sources of knowledge about organic food that respondents mentioned. The most important ones were television and newspapers as well as doctors or naturopaths¹ (see Figure 5-2). The latter is important in particular for people who already had health problems such as diabetes and started changing their diet and overall lifestyle due to that. Television is thus an important means of spreading awareness and information about organic food. This is supported by the fact that the media, especially television and advertising, have a major influence on urban consumers’ consumption patterns by boosting the social prestige of certain types of food (Lohr and Dittrich 2007). According to the assessment of DDS, most people believe television advertising on processed food products such as milk-based fortified drinks for children which are considered prestigious and “rich” food. Home-made food does not have high prestige among today’s urban consumers. A new trend towards healthy eating habits and sustainable consumption in general could be supported by media campaigns counteracting the positive image of convenience food, fast food and the like.

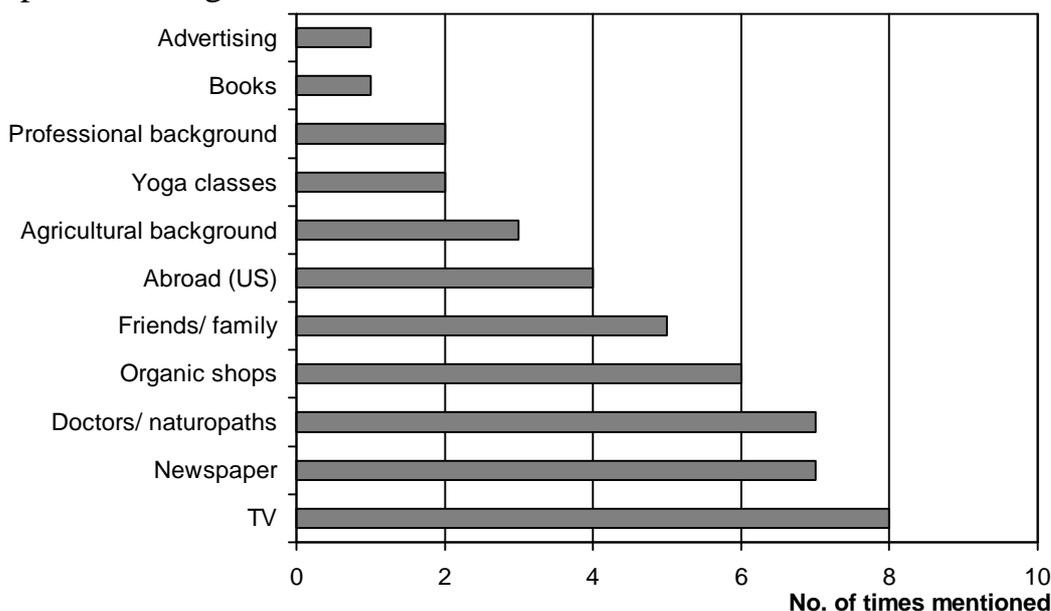


Figure 5-2: Sources of knowledge about organic food (several replies per person possible)

Source: Own data

¹ Several customers at Vijaya Enterprises and the Organic Mobile mentioned the famous TV naturopath Dr. Manthena Satyanarayana Raju, naturopathist/ Naturecure Specialist, see <http://www.teluguone.com/health/manthena/index.jsp>

Another indication are the sources where the people interviewed by Sudershan et al. (2008a) learned about food labels: 53% from TV, 16% from health workers and 21% from friends and relatives. In the survey conducted by Kalpagam et al. (2006), respondents in the Southern region also got information on food labels mainly from TV (73%), radio (7%), friends and relatives (13%) and newspapers (3%), but only 2% from health workers. Consumers' "preferred sources of information on food safety issues" among mothers interviewed by Sudershan et al. (2008a: 511); Kalpagam et al. (2006: 65).

5.2 Profile and Consumption Habits of Consumers of Organic Food

Thirty percent of the respondents in the quantitative survey purchase organic products regularly or occasionally. A comparison across interview locations (see Figure 5-3) reveals that the values are highest for those places where organic food is sold, and where the average socio-economic and educational level of customers is high. As was to be expected, this is very similar to the findings for levels of awareness.

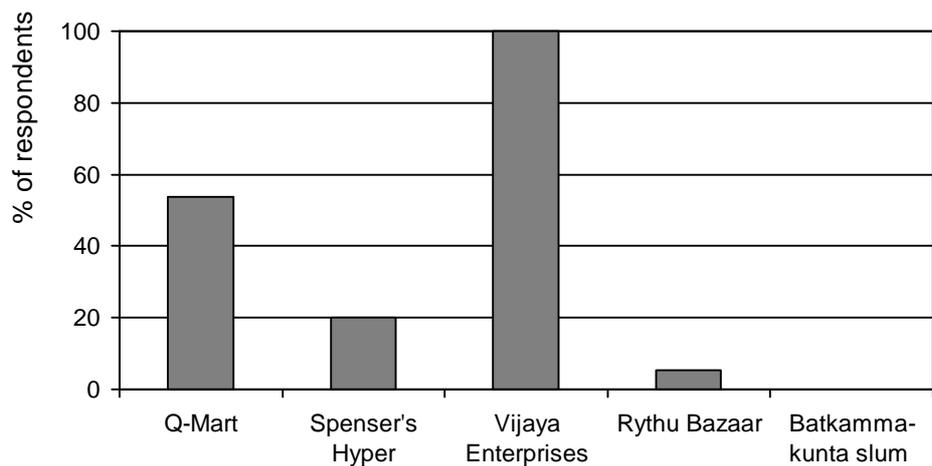


Figure 5-3: Consumption of organic food compared across interview locations, in % of respondents of the quantitative survey

Source: Own data

Most respondents in the qualitative survey that buy organic food belonged to income category 2 (24%) or 3 (40%). Income categories 4, 5 and 6 were represented by 8% each, and only 4% belonged in household income category 1. This indicates that the average Indian income distribution (see NCAER 2005) is not adequately represented among the population consuming organic food. High but also middle income households are overrepresented. However, not *all* organic consumers – albeit the majority of – them belong to the high-income and highly educated group. “Surprisingly, it is not only the upper society which is increasingly health aware and ready to pay a higher price for quality food. Middle-class families seem to be the more promising clientele, as experience

from a number of smaller initiatives selling organic products in towns and cities have shown” (Eyhorn 2005: 75).

The distribution of respondents with regard to level of education was similar to the income groups and overall relatively high. The majority had a graduate degree (40%), or even postgraduate or doctorate (40%), and only 20% had a highschool diploma or quit after tenth grade. In line with their educational level, most respondents spoke English at an excellent level (24%), or at least well enough to be able to do the interview in English (44%), and less than one third (32%) needed a translation into Telugu or Hindi. Twelve percent had lived abroad for more than one year. The intake of high-quality food increases with income and education, and the educational level of the heads of household has a particularly positive influence on food consumption patterns in the case of women, but not in the case of men (Mujeeb-ur-Rahman and Visweswara 2001). According to CSA, women do most of the cooking and are more responsible for food shopping in the households. They also tend to be more interested in organic food. Characteristics of consumers purchasing organic food globally according to (Battacharyya 2004: 158): health conscious, educated, affluent, taste-conscious, with strong concern on environment.

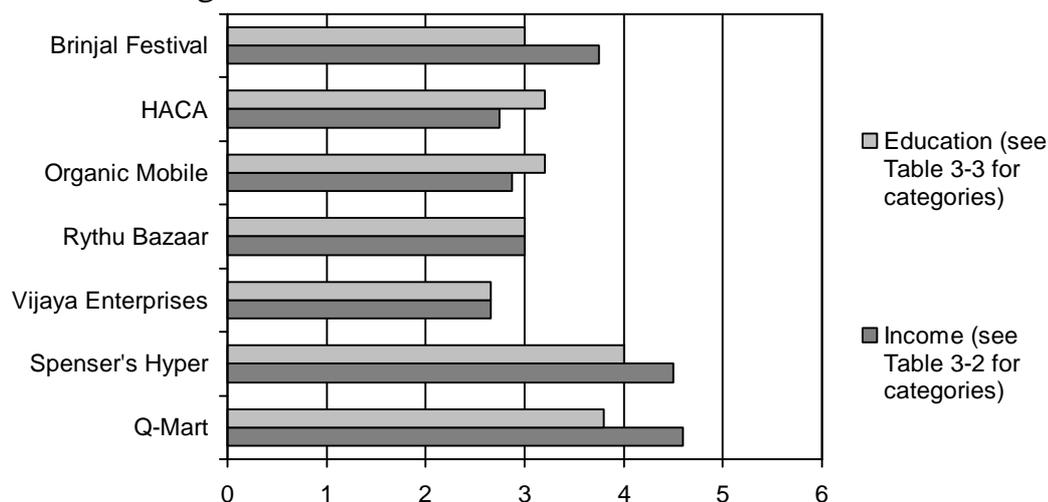


Figure 5-4: Average income and education levels among respondents of the qualitative survey

Source: Own data

As a result of the limited product range available in organic quality at this stage, the products bought most commonly are unprocessed or low-level processed foods. The organic products that respondents purchase most commonly are millets, rice, other grains, pulses and vegetables. No one reported to be buying fresh organic fruits, because they are not available except sometimes at 24-Letter-Mantra.

This range of products is probably distorted by the selection of interview locations. Interviews at the 24-Letter-Mantra store would certainly have yielded different results, and a broader selection of products including more processed products. Most respondents buy organic products only in the place where they were interviewed, and a few also go to 24-L-M. Unfortunately, a permission to conduct interviews with consumers there could not be obtained. Therefore the majority of organic consumers in Hyderabad were probably not captured by the survey. The 24-Letter-Mantra management was also not able to provide any figures about the estimated number of customers reached with their organic products.

The majority of 78% of respondents goes shopping in supermarkets, most of them at least once a week. Nevertheless, most still buy fresh fruits and vegetables at markets. Almost all (95%) of respondents go shopping on markets as well, mostly at least once a week. One respondent at Mehdipatnam Rythu Bazaar said, “Since I have time now, I prefer to buy vegetables of my own choice. I used to buy them in supermarkets, but they are not as nice, they look more hybrid. I feel the vegetables here [Mehdipatnam Rythu Bazaar] are more natural because they very different, not so standardized.”

Fewer respondents buy from the traditional retail formats Kirana stores (50%) or street vendors (27%). This trend could have to do with the increasing individual motor traffic – since increasing numbers of people own a car or two-wheeler, they are finding it hard to park near Kirana stores (Lohr and Dittrich 2009). It also has to do with the income class – lower-income groups that are less likely to own a vehicle and whose radius of action is therefore smaller will certainly go shopping on foot near their homes more.

5.3 Motivations for Organic Food Purchasing

There is strong evidence that the purchasing of organic food is not motivated by a general environmental consciousness as much as by health concerns. All respondents without exception gave health as their only or at least primary motivation for purchasing organic food. Almost two thirds (64%) even gave health as the sole motivation. Another 24% mentioned environmental consciousness and 12% taste in addition to health. The quantitative survey revealed that those that buy organic food belong without exception in the group that is also concerned about chemicals, which is another indication that the prime motivation is health concerns. Lohr and Dittrich (2007) also found that most consumers that buy organic food do so because they already suffer from health problems. Consumers often only learn about organic food during treatment for health problems such as diabetes from naturopaths.

An indication of the presence of a general environmental consciousness could be the fact whether people find it important to buy regional products. The fact that more than half of the consumers of organic food do not prefer regional

products thus also supports the assumption that the majority of organic consumers is not motivated by a general environmental consciousness. For the remaining ones that find it important, it is not entirely clear why they prefer regional products, e.g. environmental reasons, support for the regional economy, mistrust of quality of imported products, local patriotism etc.

These findings correspond closely to the results of the survey conducted by Chakrabarti and Baisya (2007) in the National Capital Region. They found that the prime motivation for purchasers of organic food in India is health and nutrition, and that an environmental awareness has yet to emerge. Jain and Kaur (2004b) found that environmental awareness and knowledge are far lower in India than in developed countries. Garibay and Jyoti also found that the major motivation for purchasers of organic food in Mumbai was health. They came to the conclusion that “Environmental reasons or concerns for the well being of farmers were not stated and are likely to be of minor relevance to Indian consumers in general” (Garibay and Jyoti 2003: 17).

Overall there does not appear to be any significant trend towards sustainable consumption patterns as a fashion or a green or organic lifestyle yet. The phenomenon of the market for LOHAS (Lifestyle of Health and Sustainability) which is a huge hype in developed countries like the USA or some European countries. This trend might well emerge in the future though; there is already some indication in the existence of fair-trade clothing such as Industree Crafts² or Fabindia, and organic cotton clothing available for example at Splash or from Chetna Organic Farmers Association. However, these products are either mainly for export, or reaching only a very small fraction of Indian upper middle and upper class. Also, the widespread misconceptions about organic food³ might indicate that part of the consumers buying organic are motivated more by a certain lifestyle and image conveyed by these shops than by informed support for organic farming.

The importance of health as a motivation for consumers purchasing organic products is also reflected in the fact that most marketing strategies by shops and supermarkets place organic food more or less directly in the health segment. The retail managers interviewed also confirmed that the prime motivation for consumers are health concerns. Q-Mart places its organic product range in the section with health and diabetic products. 24-Letter-Mantra also has health supplements and products for diabetics. The most clearly health-oriented shop concept is Vijaya Enterprises, a shop that is more oriented towards a wholesome diet and healthy lifestyle (with wheatgrass powder, soy-based health supplements, sprout-makers etc.), and free advice by the shop owner) of all shops selling organic products in Hyderabad. In fact the store does not always stock organic products, but only when there are supplies available. However, the

² See <http://www.industreecrafts.com>

³ Cf. Chapter 5.1

owner and manager Mr. Bubarao has personal relations with the producers of most of his products and says that they generally do not use a lot of chemicals so that the products are more healthy than conventional even though they are not strictly organic. The DDS Organic Mobile also targets a health conscious clientele, for example people eating millets rather than rice as a diabetic-friendly option. A lot of respondents mentioned diabetes (themselves or family members) as a motivation for changing their dietary patterns and buying products such as millets.

Interestingly, not all consumers that claim to be buying organic food for health reasons have a very clear idea of what constitutes a healthy diet. Quite a few respondents were not able to answer this question, or only came up with organic food and fresh vegetables. Of those respondents that buy organic food regularly or occasionally, almost all think that organic food is healthy in the sense that it does not contain any harmful chemical residues. All of those who gave health as a primary reason for buying organic food think it is better for their health in that it does not contain any harmful chemical residues (no adverse health effects). None of the respondents mentioned superior nutritional quality in terms of micronutrient content as a reason why they think organic food is better for their health (positive health effects). Other factors considered healthy are shown in Figure 5-5. One respondent had a remarkable clear idea of what constitutes healthy food: “Low nonessential fat, low sugar, low carbohydrate, high protein, fresh, essential oils.” For about three fourths of respondents, calorie-content is an important consideration when shopping for food, among both purchasers and non-purchasers of organic food. Overall, organic consumers tend to rely more on natural means of eating healthy rather than food supplements. While a significant part of them (43%) buys functional food/ food supplements, the share among those that do not buy organic products is even higher (75%). Fresh fruits and vegetables were mentioned as often in this group though.

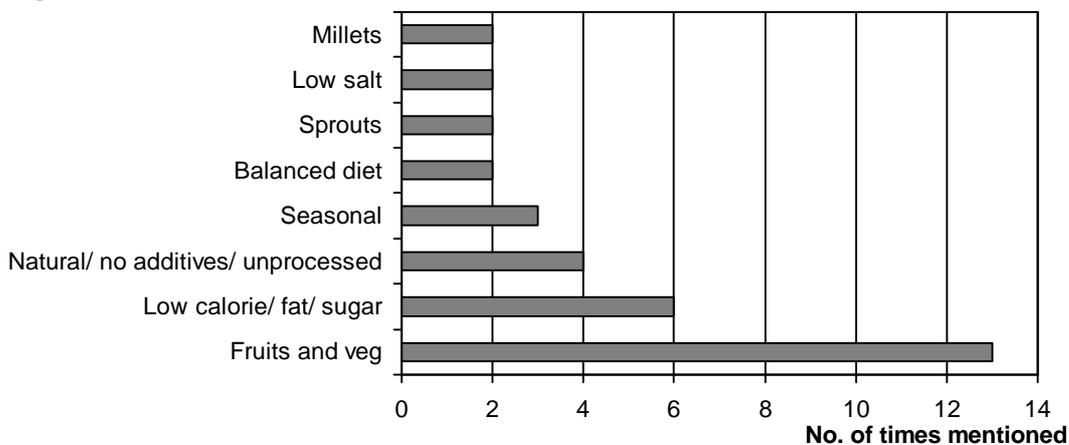


Figure 5-5: Concepts about “healthy food”

Source: Own data

5.4 Constraints for Organic Food Purchasing

Reasons for not buying organic food, or buying it rarely, are varied: Some young people who do know about organic food hardly do any grocery shopping because they still live with their parents. The number one reason for consumers not buying organic products is their lack of awareness of organic food. Even though increasing numbers of Indians are concerned about their health, especially in relation to food and nutrition, very few are aware that an alternative to conventional food exists.

Among those that *are* aware of organic food and willing to buy it, the biggest obstacle to buying (more) organic is the lack of availability. As the map of organic food outlets (Figure 4-3) reveals, there are very few and rather scattered outlets for organic food in a city of over 7 million inhabitants, where traffic and public transport are a hassle and where the nearest Kirana store is often no more than a few meters away from people's doorstep. One respondent said, "It requires a separate trip to the only organic store there is. If the supermarket starts keeping organic food, I will buy." Most consumers that are aware of the concept of organic food at all know very few, if any places for purchasing these products. The by far most well-known shop is 24-Letter-Mantra, although people do not seem to be very well able to remember the store's name. More often than not it is referred to by "the store in road number 12" or "the store in Banjara Hills", or more or less arbitrary variations on the real name such as "24", "24 Mantra" or "24 Carrots". There is also a lack of information on where to buy organic food. At the Brinjal Biodiversity Festival⁴, for example, several visitors expressed an interest to buy organic products more often but were not aware where to find them.

One respondent said he does not know how to tell if a product is organic. In light of the degree of confusion existing around definitions of organic and NPM (see 3.), it is easy to imagine that consumers get confused about how to recognize organic products, especially since most are not aware of organic certification at all⁵. Garibay and Jyoti (2003) found that the main reason stopping consumers from purchasing organic food in Mumbai is also lack of awareness, and The Nielsen Company found in its 2005 Global Consumer Opinion Survey that together with a lack of availability of organic food, the price premium is one of the main obstacles for consumers choosing organic options in India (The Nielsen Company 2007, Chakrabarti & Baisya 2007).

For most respondents in this survey that are aware of organic food, price is not in fact a major obstacle. Only one fourth of those who do not buy organic said that the prices were too expensive. Several of those who buy organic regularly or occasionally mentioned that they would like to buy more organic products if they were more easily available: "I tried to find organic food in three

⁴ See Footnote 7, Chapter 3

⁵ See Chapter 5.5

or four places. I would buy everything organic if it was available!” According to a report on organic vegetable sales in the daily newspaper *The Hindu*, “customers do not mind paying for healthy vegetables” (*The Hindu* 2009b).

Garibay and Jyoti (2003: 17) found that in department stores in Mumbai organic products cost up to twice as much as conventional. As has been demonstrated in Chapter 4, the price levels of organic food in Hyderabad differ significantly between the different retail formats and across product categories. Of those respondents that buy organic regularly or occasionally, 72% think it is more expensive. Among those respondents that do not purchase organic products, two thirds believe that the prices are higher. One woman buying millets from DDS said “Here it's hardly more expensive, but the supermarkets add on. 24-L-M is too expensive.” And it is not only the product prices however, that are a consideration for consumers: “I don't mind spending a little extra, but it also depends on the distance to the nearest organic outlet - if I have to add transportation costs it becomes very expensive.”

However, most think that the higher prices are justified: “Compared to the health benefits organic products are not expensive.” Also, for many health-conscious consumers higher prices are not a major constraint. A few respondents said that they would not mind paying more, or that the price does not matter to them as long as they get good product: “I don't mind spending more on organic.” For as many as 46% of those that purchase organic products regularly or occasionally, price is not an important consideration, and for another 25% only a secondary consideration if the product quality is high. Price is an important consideration for half of those that do not purchase organic products, and not a very important consideration for the other half. When compared across the different income groups, it turns out that the price level is more of a concern for the lower income groups. Most of those for whom it is not important at all belonged in income category 3. This indicates that there is a section of the middle class that is affluent enough to be able to afford to prioritize quality or other factors like healthfulness over price. They are an important target group for marketing efforts for organic food.

Both Spencer's Hyper and SPAR tried to sell organic fruits and vegetables, but they did not go well because the prices were almost double and consistent supply was difficult. In this segment, the higher prices are particularly relevant for consumers because vegetables are a daily commodity. Carroll (2005) cites similar experiences made by shops in the fruits and vegetable segment. One should keep in mind that the vast majority of Indians (cf. income distribution) belongs to lower social classes and might indeed not be able to afford even 2 or 3 INR more that, for example, the NPM vegetables at HACA cost. As one respondent said: “The prices are justified, but to reach many people it would have to be cheaper.” However, while that stratum of society that can afford to is a small minority, their purchasing power nevertheless makes them an important target group for the high-quality organic food segment.

5.5 Importance of Organic Labels for Purchasing Decisions

A major precondition for consumers buying organic food, especially if they have to pay a higher price for it, is credibility and transparency of the standards of production. There are two main strategies how customers can verify whether the products they purchase were really produced according to organic standards. One is a trust-based personal relationship to the producers. This is the strategy that many small farmers rely on in direct marketing. The other strategy is an official certification⁶ process, where the different stages of the supply chain from production to packaging as well as the final product are inspected or tested by independent third-party agencies. In contrast to the export markets, where certification is very important, uncertified organic products do have quite some success on the domestic market (Carroll 2005).

Organic certification was found not to be an important criterion in taking purchasing decisions for the majority of consumers simply because of the low level of awareness of organic labeling. Awareness of the India Organic and PGS Organic labels was generally low among the respondents of the quantitative survey. Only 10% had ever seen the India Organic label before, and 8% the PGS label. Among those that purchase organic products regularly or occasionally, the degree of knowledge was slightly higher (see Figure 5-6 and Figure 5-7). Values varied significantly between interview locations, although no data on knowledge of the PGS label could be collected for Q-Mart and Spencer's Hyper. Again the number of those that were aware of either or both of the labels were highest in the higher-income and more educated groups, as the values for awareness and purchasing of organic food above suggest.

⁶ See Chapter 4.1.2

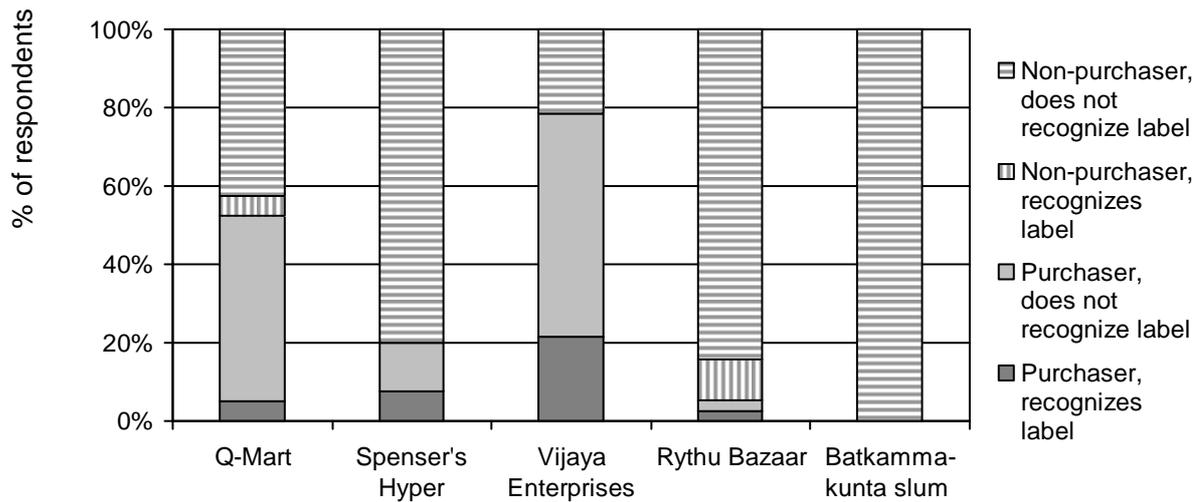


Figure 5-6: Awareness of India Organic label among purchasers and non-purchasers or organic food, in % of respondents of the quantitative survey

Source: Own data

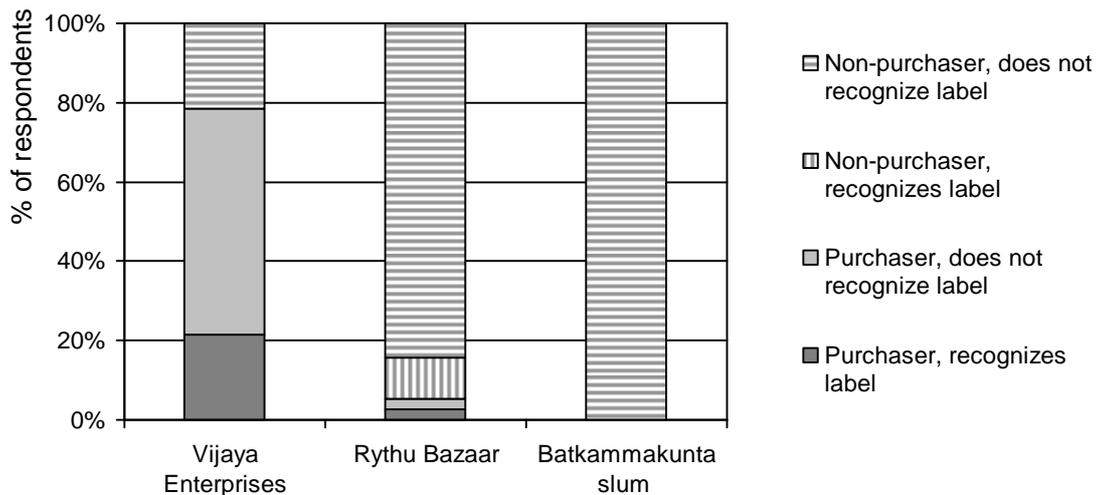


Figure 5-7: Awareness of PGS Organic label among purchasers and non-purchasers or organic food, in % of respondents of the quantitative survey

Source: Own data

Among the respondents of the qualitative survey, 88.2% of those who buy organic regularly or occasionally do not recognize the India Organic label, and only 11.8% do (HACA and Organic Mobile), but neither of them knows what it means. 10 (58.8%) do not recognize the PGS label, 7 (41.2%) do (6 Organic Mobile/ Brinjal Biodiversity Festival, 1 HACA), but most of these (5) do not actually know what it means. Those that know the PGS Organic label were

almost all customers at the Organic Mobile or Brinjal Biodiversity Festival. The only two respondents who knew what the PGS label means do not know the India Organic label. One of them used to be associated with DDS, that is knows about organic farming from a professional background, and the other regularly buys from the Organic Mobile.

Sudershan et al. (2008a: 511) have found that only 20% of respondents buying packaged food are able to recognize the symbols on food labels. Similarly, Kalpagam et al. (2006) found that country-wide 21% of their respondents know food labels. In the Southern region, most of these are aware of ISI mark (97%), followed by AGMARK for agricultural products (39%) and FPO (Fruit Products Order) (13%). In a personal interview, Sudershan and Rao from NIN said that the more educated the people the more likely they are to recognize labels. The most commonly known label is the ISI mark⁷, whereas Agmark⁸ and FPO license⁹ are hardly known by consumers. Consumers here (as opposed to industrialized countries) mainly trust in the producers, because supply chains are shorter, many people come from farming backgrounds, and more processing is done at home. There is still a big trust in producers and vendors, even though the consumers do not know them personally. According to Sudershan and Rao's judgement, brands are also very important for many consumers. Even though consumers may be aware of the labels, illiteracy and lack of knowledge of English may prevent them from actually checking the information on food labels, most of which are in English (Kalpagam et al. 2006). In the Southern region, many women do see the labels though and relate ISI mark to the quality of the product.

Another important question with regard to certification is whether consumers trust in the reliability of this process, and whether they know how to recognize certified products at all. Less than half of all respondents place an importance on product brand when doing their shopping, whereas over 80% finds it important to be able to trust the producers or vendors. The majority of overall respondents (75%) said they trusted organic labels, or would trust them after they were given a brief explanation of their meaning. Seventeen percent said they would probably trust the labels once they got more information about how certification works.

Overall, a great deal of consumer education and awareness raising is still to be done in order for organic labelling to fulfil its function of assuring consumers that the products are actually worth the higher price. This is in line with the findings of Sudershan et al. (2008a: 512) who emphasize "the need to spread awareness about checking quality symbols and information on food labels."

⁷ Indian Standards Institute, awarded by the Bureau of Indian Standards: <http://www.bis.org.in>

⁸ For agricultural products that meet certain quality standards: <http://agmarknet.nic.in>

⁹ Fruit Products Order, for processed fruit products: <http://www.fssai.gov.in/Fruit-Prod.aspx>

6 New Opportunities for Marketing of Organic Food

6.1 Context: Trends in Urban Food Consumption

The food system of Hyderabad is undergoing some profound changes related to economic growth and the globalization of nearly all aspects of life (Lohr and Dittrich 2007). These overarching trends in the urban food system of Hyderabad will influence the development of the organic market in the future. A greater diversity of food products is available, and the number of consumers who are in a socio-economic position to afford these products is constantly increasing together with the size of the Indian middle class. According to NCAER (2005: 2), “The rapid rise in incomes will lead to an even faster increase in demand for consumer durables and expendables.” As a result of the customer profile established above¹, the development of the Indian domestic market for organic products will depend largely on the development of dietary and purchasing habits of the newly emerging middle classes.

6.1.1 Changes of Purchasing Patterns

Several trends in purchasing habits such as increasing levels of motorization, new purchasing habits like going to malls, supermarkets, and preference for one-stop-shopping resulting in higher energy-consumption for going shopping. One of the most visible aspects of changes in consumption patterns is the expansion of supermarkets and hypermarkets in the city. As Lohr and Dittrich (2007) illustrate, several phases of development of the retail scene in Hyderabad can be distinguished over the past few decades. In the first phase small neighbourhood stores dominated the retail market. The second phase began around 2001 with the opening of the first large malls in Abids and Musheerabad. These malls are essentially structured like department stores, usually with a food supermarket in the basement. The current third phase or the “retail revolution” (Lohr and Dittrich 2007) only began in 2005/06. It is marked by a rapid increase in the number of supermarkets – over 100 new ones in Hyderabad over the last few years (Srivastava 2009) –, the emergence of real discount supermarkets and an increase in the average size of supermarkets and a trend towards Hypermarkets and larger malls. The most recent opening of SPAR in Begumpet, the largest hypermarket in Hyderabad at this stage, is an example of this. Only in May 2009 did the latest hypermall open up in Banjara Hills: GVK One is the largest mall in Hyderabad to date.

New malls opening up in the well-off neighbourhoods are an indication of an increasing affluence and lifestyle-orientation of young middle-class consumers

¹ See Chapter 5.2

as well as of a preference for shopping in stylish, clean, secure and air-conditioned surroundings. Shopping is also increasingly perceived as an experience rather than a necessity, and takes on the quality of a leisure activity for the whole family. Supermarkets these days promise “the SPAR Supermarket in Hyderabad promises to elevate shopping from a daily chore to a world class shopping experience that also offers value for money.” (Reachout Hyderabad 2008)

The structure of the retail market is also influenced by the degree of mobility among consumers. There has been a dramatic increase in individual motorised traffic in twin cities over the past five to ten years, and Lohr and Dittrich (2007) found that increasing numbers of consumers go shopping by two-wheeler and cars. This has resulted in a greater fluctuation of customers at Kirana stores, because there are fewer pedestrians and it can be very difficult for potential customers to find a parking space. It also means that people have become more likely to do their shopping in bulk on a weekly or monthly basis, which favours supermarkets and hypermarkets where all daily consumption needs can be satisfied at once (one-stop-shopping).

It is mainly young, well-off consumers who buy on bulk on a weekly or monthly basis that buy in supermarkets. Lohr and Dittrich (2007) found that the products most commonly bought in supermarkets are processed and convenience foods as well as non-food items. The most important reasons for shopping in supermarkets are time pressure, fashionable image, special offers, credit card facilities, the air-conditioned, hygienic atmosphere, arrangement of goods and higher variety. The preference for certain retail formats is also a generational question: Supermarkets seem to be more in line with the lifestyle of the younger generation. Lohr and Dittrich (2007) found that respondents below thirty years of age mostly prefer shopping at supermarkets to Kirana stores.

Despite this trend, the vast majority of the population still does not frequent supermarkets on a regular basis but relies mainly on traditional retail formats such Kirana stores, markets and street vendors for their daily needs. Especially fruits and vegetables are rarely bought in supermarkets but rather from markets or street vendors. Lohr and Dittrich (2007) found that between 75% and 100% of consumers in different income classes purchase fruits and vegetables at Rythu Bazaars. These markets were established by the Government of India in order to lower costs for consumers as well as increase revenue for farmers by eliminating middlemen from retailing of agricultural produce.

Reasons for preferring traditional retail formats such as Kirana stores, street vendors and markets vary. The main advantages of Kirana stores are proximity to home, high product quality, flexibility and long opening hours, long-term personal relationships with clients and, related to this point, the opportunity to buy on credit. The women interviewed in a slum said they do not purchase in supermarkets because it is too costly. They buy vegetables from small local Kirana stores and street vendors, and they also buy through the Public

Distribution System. Although supermarkets may be cheaper for some products, especially when buying in larger quantities, the small volumes sold at Kirana stores are more convenient for consumers with cash flow problems. Many consumer who may never even have been to a supermarket before do not think that supermarkets supply fresh products, especially in the field of fruits and vegetables, and that they are more expensive than traditional retail formats.

In 2006, the Kirana owners interviewed by Lohr and Dittrich (2007) did not feel threatened by competition from supermarkets yet, despite the preferences among the young generation (cf. chapter 5.1). They thought that customers value their cheaper prices, flexibility and proximity to customers. The increasing entry into the market of supermarket chains did stir up fears of competition in the future, though. Although the number of Kirana store is still far bigger than supermarkets, the share of the total value of retail spending on food was estimated by Gupta (2005) to be less than fifty percent.

However, the food segment is not that dramatically influenced by these developments (yet). Due to the continuing importance of Kirana stores for daily consumption (chapter 5.1) as well as the overall economic recession, malls and supermarkets have increasing problems with financial feasibility. Despite expansion plans of some companies, these are not equal to the growth rates of the population. Several supermarkets especially in malls have in fact already closed down again. In 2008/2009, over 30 supermarkets have shut down in Hyderabad (Srivastava 2009). The space in the basement of GVK One reserved for a supermarket also remains unoccupied as yet. The “retail revolution” of the past few years (Lohr and Dittrich 2007) is slowing down somewhat, due to a combination of peaking rents and decreasing sales. Customers also opt for cheaper varieties of products, and cut down on spending for luxury products such as health drinks (Srivastava 2009). The long-term impact of this crisis will remain to be seen, and will depend on the overall economic climate, in particular the purchasing power of the middle classes and the rents for commercial space.

6.1.2 Diversification and Changes of Dietary Preferences

Changes in lifestyle of the new urban middle classes have resulted an on-going process of nutrition transition among India’s middle class (Lohr and Dittrich 2007). New dietary habits² have emerged, replacing traditional food items such as pulses and millets by increasing consumption of polished rice, and more recently still wheat products, meat and sugar. The replacement of traditional crops was spurred by the influence of urbanization as well as market factors. The public distribution system contributed to the replacement of millets by rice, because it supplies very cheap rice to low-income citizens. Consumption of convenience food such as ready-to-eat dishes has also increased, and an

² On dietary preferences, see also the background study by Hofmann (2009) on food culture.

increasing amount of money is being spent on fast food and eating out (Lohr and Dittrich 2007). Between 1995 and 2005, spending on eating out in Hyderabad increased by 100% (Kalanidhi 2006). A new preference for “western products like hamburgers, pizza, French fries etc.” (Pai 2007: 29) is also visible in the increasing numbers of fast food restaurants, food snack bars, coffee shops and ice-cream parlours in particular in well-off neighbourhoods like Banjara Hills or Himayatnagar (Lohr and Dittrich 2007).

Another trend associated with globalization and greater affluence of the middle classes is the increasing popularity of packaged food, Rapid urbanization, changes in working hours and increasing numbers of working women together with changing dietary preferences have resulted in an unprecedented demand for convenience food (Pai 2007: 29). “Convenience foods or tertiary processed foods are foods which are designed to save consumers times, reduce wastage from spoilage, and reduce financial costs using economies of scale. These foods require minimum preparation, typically just heating, and are packaged for a long shelf life with little loss of flavour or nutrients over time. They were developed with an aim of handling the oversupply of agricultural products in order to stabilize the food markets in developed countries” (Paradkar et al. 2007: 39).

“With the advent of industrialization and the absolute influence of the West in the form of processed and fast foods, the traditional Indian diet is slowly but steadily losing its importance” (Harish 2003: 50). Lohr and Dittrich (2007) found in their survey among supermarket customers in Hyderabad that the majority still eat mostly home-cooked Indian food on a daily basis and eat out only once or twice a month. However, most retailers in their survey reported a trend towards increasing purchasing of instant food, ready-to-eat food, snacks and sweets over the past five years. They also noticed a trend towards more packed products in general for example for grains and spices.

Apart from being convenient, packaged food is being perceived as more hygienic, modern and fashionable. Sudershan et al. (2008a: 512) found that there is “a perception among many women that foodstuffs sold loose and in unpacked condition are usually adulterated.” Forty-eight percent of their respondents purchase packaged food. Kalpagam et al. (2006) found that in Southern India as many as 71% of respondents buy packaged food. Lohr and Dittrich (2007) found that 75% of middle-class families purchase processed and convenience food. According to Vijayapushpam et al. (2003) 28% of children in higher-income households eat such instant food products every day.

The typical middle-class diet these days is characterized by a high intake of processed and convenience food, but it is also becoming more diverse. Protein-rich foods (milk, meat and fish), fruits and vegetables account for an increasing share of food consumption (Singh, J. 2004). Apart from its health implications, food of a low level of processing is preferable from an environmental point of view because it has a lower energy consumption than packaged processed food.

In light of the high climate impact of animal products, the trend towards eating more animal products also increases the overall footprint of the food system.

6.1.3 Health-Consciousness

One of the results of the changes in dietary preferences are nutrition-related health problems or lifestyle diseases such as obesity, diabetes or cardiovascular diseases. Of all Indian cities, Hyderabad has the highest rate of patients with diabetes as well as an alarming number of overweight children and obese people (Rao 2006). Another problem is “secondary malnutrition”, that is the phenomenon of malnourishment despite sufficient or even excessive calorie intake. This trend could be “one of the biggest problems that India’s middle-class will face in the years to come” (Griffiths & Bentley 2001: 2694, quoted in Lohr and Dittrich 2007: 3) However, a contrary trend towards increased health consciousness is already emerging (Lohr and Dittrich 2007, cf. The Nielsen Company 2007). This is partly due to people’s realization that their dietary habits affect their health adversely. Many consumers buying organic food for health reasons, for example, only started doing so after problems with nutrition-related diseases.

The trend towards a health-conscious diet is mainly expressed in two distinct approaches: “One is by using healthful ingredients [...] and the other by adding nutraceutical substances to ordinary foods” (Pai 2007: 31). Those that have become aware of the negative effects of recent dietary trends such as increased consumption of white rice, sugar and fat are going back to brown rice, traditional crops such as millets and pulses, whole-grain bread, low-fat and low-sugar products. There is a newly-emerging demand for these among the middle- and higher-income classes. Lohr and Dittrich (2007) also found that consumption of fruits and vegetables is increasing among the middle-classes. Sudershan and Rao said in a personal interview that there has been an increase in people buying packaged foods, even though fresh food is cheaper than packaged food. High income groups tend towards packaged, processed foods, but some of them are coming back towards a diet of more natural, unprocessed products.

However, in line with the preference for convenience food³, increasing numbers of Indians tend towards the second, more convenient strategy. Health conscious consumers look for food products low in calories, fat, sugar and sodium, as well as high in fibre, vitamins and minerals (Pai 2007: 31). There is a significant potential for convenience functional food products since “Even the nutrition conscious consumers will not want to give up their taste preferences and convenience” (Pai 2007: 32, cf. Singh, K.V. 2009).

However, it remains somewhat doubtful how health conscious the generality of consumers really are, or whether claims of increasing health-consciousness

³ See Chapter 6.1.2

are not mainly the product of discourses on healthy food and of advertising. Examples of this discourse are articles in magazines and newspapers such as *Indian Food Industry*, *Food and Beverage News* or *The Hindu* claiming that there is growing health consciousness among consumers. Some of the articles in *Indian Food Industry* in particular are clearly written by representatives of the food industry trying to conjure up a newly health conscious category of consumers eager on health supplements, nutraceuticals and innovative functional food with a high level of processing and thus profits for the food industry (e.g. Pai 2007, Tewari 2007). Whether this discourse is a reliable indicator for a real growing health consciousness among consumers or rather a marketing strategy should be considered with some scepticism. It is certainly true that these products are on the rise, but a close look at the retail scene in Hyderabad does not seem to support any claims of it being a major influence on the average city dweller's diet.

Food supplements and functional food are extremely popular in India. A study by AC Nielsen (2006) found that Indian are among the world's top ten buyers of health supplements. However, this does not necessarily mean that consumers have really become more health conscious, because many of the health claims of these products are hardly more than clever marketing tricks (Rajiv 2009). This suspicion is supported by statements made in informal discussions that many consumers seem to consider food at the fast food outlet Subway healthy, merely because the otherwise high-calorie, low-nutrient sandwiches contain some greenery and come in vegetarian varieties. Sudershan et al. (2008a) found that more than half of the consumers they interviewed never check the ingredients of packaged food. Similarly, in the survey by Kalpagam et al. (2006) 23% of respondents in the Southern region always check the list of ingredients, 25% sometimes, and 52% rarely or never. These figures indicate a low level of awareness and concern over food intake.

6.2 Growth of the Organic Segment

Eyhorn (2005: 74) stated that “[o]rganic farming in India is experiencing a real boom.” The main drivers of this boom are the increase in population and wealth. While it would be exaggerated to speak of a boom of the organic market in Hyderabad at this stage, the demand for organic food in Hyderabad is certainly increasing rapidly. In 2006, there were only six outlets selling organic products (Lohr and Dittrich 2007). This number has significantly increased since (cf. expert interviews), as the map (Figure 4-3) reveals. Several respondents in the qualitative survey said they always buy certain products in organic quality, especially millets and rice, and some also said they would like to buy all their food organic if it was available. Among the respondents of the qualitative survey, 48% started buying organic products less than a year ago. Twenty-four percent started in the past 1-5 years, and 28% more than 5 years ago. These

figures are a clear indication that consumption of organic food is rapidly increasing and that a new trend is emerging. One of the staff members of CSA expects the share of the population in Hyderabad that buys organic food in ten years to be about four percent.

There appears to be enough demand for an increase in both the number of retail outlets and in the range of products available in organic quality. The products most frequently demanded in organic quality by Indian consumers are vegetables and fruits, followed by spices, rice, pulses and tea (Garibay and Jyoti 2003). For all the retail formats considered in this survey, the problem is not so much on the demand side but rather the supply, especially consistency and quality of supply. The owner of Vijaya Enterprises said: “If there was more supply and farmers would manage to bring produce regularly I could easily sell it. I’d also be interested in selling organic vegetables, but it is difficult to get supplies. Everybody wants organic, but it is hard to supply it.”

6.3 Modern Retail Formats

As a result of the growing demand, 24-Letter-Mantra is constantly expanding its product range. At this stage, this can only be achieved in the segment of processed and highly processed convenience products, since the range of unprocessed or low-level processed staples – mainly grains, pulses, vegetables, spices and tea – is already fully covered. 24-Letter-Mantra introduced a range of microwavable ready-to-heat dishes in 2009, the first stock of which sold out within weeks. Their range of snacks, biscuits and cakes also seems to be doing well. This trend is an indication that the demand for convenience food is also growing within the organic market segment. The supermarkets in Hyderabad could still significantly increase the product range they stock, and of course new supermarkets that have not taken up organic food yet could be tapped as a channel for increasing organic sales.

Since the demand is there, what the organic segment needs in order to continue its growth is more and more stable supply as well as more visibility for consumers. Supplying to supermarkets and organic stores is generally not possible for small organic farmers operating individually. In order for them to be able to sell directly to supermarkets they would have to be able to supply continuously, in large quantities, and consistent quality (cf. CIAS 1999). Cooperatives are one option for farmers that would allow them to meet these requirements more easily, however, most farmers do not have selling to supermarkets as an objective since the profit margins are small compared to direct marketing. If more supermarkets would cooperate directly with farmers cooperatives, the advantages would be for the farmers to get a higher share of profits, the supply chain would become shorter and more energy-efficient, and supermarkets could advertise their stocks as environmentally-friendly and supporting the regional economy.

Modern retail formats target those consumers who are looking for organic convenience food and health products and who do not mind spending more money on products of higher quality, whether perceived or real. The size of the middle classes in Hyderabad is on the rise, and the trends among these towards purchasing in supermarkets as well as increasing health and lifestyle orientation are likely to lead to an expansion of the format of upmarket organic shops and supermarkets. Such a development is to be welcomed from a general environmental point of view because it will boost the local market for organic food and thus increase the area under organic cultivation across India. From a more local perspective however, the impact it will have on the peri-urban area will remain limited due to the country-wide supply chains of these stores. Also, the energy consumption along the value chain – from production, distribution and marketing all the way to transportation to the end consumer's home – means that these modern retail formats are not much more sustainable than other shops selling conventionally produced food products.

6.4 Traditional Retail Formats and Alternative Marketing Strategies

The market for organic food is growing globally, but farmers in developing countries are not well aware of this opportunity (Garibay and Jyoti 2003). This is certainly true for the market in Hyderabad, too. Farmers selling vegetables at Mehdiapatnam Rythu Bazaar found it hard to believe that it should be possible to grow crops without using chemical pesticides. It is mainly farmers working with rural development NGOs that are aware of and practice sustainable agriculture. While this group is already a significant and growing force, the bulk of farmers in Andhra Pradesh has yet to learn of the new marketing potential. Creating awareness among these farmers and supporting them in shifting to organic practices will be crucial in making the urban food system more sustainable.

Awareness raising campaigns have to target rural as well as urban areas, and in particular to strengthen the linkages and networks between them – such as farmer-consumer partnerships. Battacharyya (2004: 164f) recommends several strategies for developing the domestic market for organic products, among them development of direct marketing channels such as home-delivery systems, registration of consumers for supplying organic products, and mobile sales near people's work places. Making organic food available in more decentralized localities nearer people's homes or increasing the level of utilization of home delivery is not only more energy efficient because it avoids long road transport between retail and the end consumer, but it will also increase the number of consumers purchasing organic products.

It is likely that more or even most respondents would be interested in buying vegetables at the HACA outlet. However, hardly any are aware of it, or it is too far from their place of residence. At this stage, HACA or SERP do not promote the vegetable sales actively, because the supply is limited and increasing

demand could not be satisfied at all. It seems that in the future there will be significant potential for increasing sales and opening more outlets in other locations as well. SERP already has several plans for new direct marketing channels. In cooperation with MEPMA, a government programme for eliminating urban poverty, they want to set up urban kiosks run by farmers that will sell rice, pulses, vegetables and milk. They are also considering opening an outlet at NTR Nagar vegetable market. Currently there are no plans for organic stalls at urban Rythu Bazaars, since there is no permission for setting up new stalls. SERP are not yet looking into home delivery schemes, but will look into it in the future.

All Kirana store owners interviewed by Lohr and Dittrich (2007) reported an increase in the overall number of customers over the past years. This is an indication that the rapid expansion of the population of Hyderabad creates a market potential that is not being fully met by the current number of retailers. However, among the group of consumers that buys organic food they have lost much of their importance due to increasing mobility and changing shopping preferences.

The biggest advantage of traditional retail formats such as Kiranas and street vendors is their proximity to consumer's places of residence or work, and their low-energy infrastructure. They can supply food at cheaper prices and in a more energy-efficient way than modern retail formats. In light of the relatively small contribution that both the farming system and food miles make to the overall environmental impact (see Chapter 2), efforts for limiting energy-intensive consumption patterns, promoting traditional crops and expanding climate-friendly retailing formats are of particular relevance. Since their social acceptance is still higher than that for supermarkets, traditional retail formats could also help making organic food available to broader sections of the population, including those that are as yet unaware of organic food or unable to afford the premium prices in supermarkets and organic stores. Another aspect of the social sustainability of these systems is the effect of job creation through decentralized retailing.

Community-Supported Agriculture schemes and consumer cooperatives like the Sahaja Aharam Consumers Cooperative Society are another way of building networks between producers and consumers. The German supermarket chain Edeka is an example of a consumer cooperative that evolved into a large and successful chain. They are still distinguished from many other supermarket chains but the high degree of independence of the franchising shops, and their support for small and regional marketing initiatives.

Several respondents said they would be interested in home delivery of organic food. The concept is already very common in Hyderabad, anything from drinking water to fast food and restaurant meals or your supermarket shopping will be delivered, often free of charge or for a minimum purchase amount. 24-Letter-Mantra successfully does home delivery, and so do some conventional

supermarkets. Most consumers interviewed by Lohr and Dittrich (2007) in Kirana stores make use of the delivery service, which is already offered by two-thirds of the Kirana owners interviewed by them. The most common means of transport used for home delivery are two-wheelers, or for bulky items like drinking water also small motorized cargo rickshaws. Home delivery is a strategy well worth looking into for decentralized organic food supply. For example, street vendors could tap the considerable potential for home delivery by engaging in a system where farmers supply directly to them and they deliver products to people's home by pushcart.

As has been demonstrated in Chapter 5.6, there is a potential for high-priced products, if consumers feel the prices are justified by high product quality. However, for the majority of consumers and even for some in the high-income groups, it is a consideration that might prevent them from purchasing (more) organic food if price levels are significantly higher. The lower income groups should not be left out but given an opportunity to get access to high-quality and sustainable lifestyles. In order to promote social equity and fairness, and be truly sustainable in the social sense as well, sustainable consumption should not be a privilege of the well-off.

This means that organic products have to be reasonably priced, and that consumers need to be made aware of the reasons for the higher prices, such as increased labour effort, smaller production scale or fair prices for farmers. This can be achieved through re-establishing closer links between producers and consumers in a localized food system.

6.5 Bulk Buyers of Food

An alternative or additional strategy to changing individual consumer purchasing decisions would be to take influence on bulk buyers of food. The main actors in this field are the hospitality industry (hotels, resorts, restaurants), company canteens, school canteens and public procurement.

In line with the neoliberal mentality of shifting more and more public responsibilities to individuals, consumers are asked to regulate production through their purchasing behaviour. While changing consumption patterns can certainly contribute to making the food system of Hyderabad more sustainable, Geden (2009) warns not to overrate consumer power. He argues that the opportunities for consumers to counteract climate change are very limited. In order to achieve the goal of a low carbon economy, he calls upon our social responsibility not primarily as consumers but as citizens who should try to take more influence on the political level. Governments and local authorities have a responsibility for regulating production and they also have the power to change markets through the purchasing power of public procurement. Together with aware consumers, this can make the local food systems more sustainable.

In developed countries, the power of public procurement for boosting sustainable consumption and production has been recognized for some time. Germany recently passed legislation implementing the EU directive on public procurement which states that tenders *may* contain specifications regarding social and environmental standards of production. In India, a similar development is not yet discernible, but could be a long-term perspective for contributing to sustainable food systems. As yet, there is no government policy or directive on sustainable procurement or procurement of food. It lies in the responsibility of the administration and canteen management. An enquiry at the Centre for Cellular and Molecular Biology (CCMB) which has a large canteen with a very good reputation revealed that they do not use any organic products because they are too expensive. Their customers want good food but at low prices. DDS also had discussions with district officials in Medak about procurement of organic products by the district, but the payment they could offer was not feasible for the farmers. An important field of enquiry for future studies is therefore the purchasing power, procurement mechanisms and regulations and the priorities of those in charge of food procurement in public institutions.

Lohr and Dittrich (2007) report that schools gave permission to multinational corporations for selling snacks, sweets and soft drinks in their canteens. In light of increasing numbers of overweight and obese children in Hyderabad, the interest among school administrations, parents and children for reversing this trend towards healthier and more sustainable options should be investigated. This is particularly relevant for the large private schools that have canteens providing meals for students, and where parents are most likely to be interested in paying more for high-quality meals. However, care should be taken that public schools and lower-income groups are not be left out. SERP said that one of the farmers they work with supplies vegetables to the midday meal scheme of a government school in Adilabad District. In order for more farmers to do that, better networking between NGOs, farmers and the organisers of midday meal schemes would be needed.

In light of the trends towards eating out more often on the one hand⁴ and increasing health-consciousness⁵ on the other, restaurants are a potential target group for supplying organic food. Organic restaurants along the model of Café Ethnic in Zaheerabad could have a major potential in the upmarket neighbourhoods. DDS confirmed this view, but it is currently not one of their priorities to open an outlet in Hyderabad. The fast food chain 6-Pack which marketed their products as low-calorie and healthy had already closed down again in 2009. This could be an indication that either the concept was not

⁴ See Chapter 6.1.2

⁵ See Chapter 6.1.3

accepted very well, or that products did not meet the expectations of customers in terms of quality or price level.

The awareness of organic food among upmarket hotels and resorts is already quite advanced. The head chefs at ITC Kakatiya, Novotel, Taj Deccan and Greenpark Hotel all know about organic food, but do not regularly use it. ITC Kakatiya have used some organic products before, and Novotel sometimes use 24-Letter-Mantra products but is not sure that they will continue to get supplies in the future. ITC Kakatiya stopped buying organic supplies because it was too costly and because consistent supply in required quantities proved difficult. However, they are willing to use organic products in the future provided that there is a reliable supply at acceptable rates. Greenpark Hotel and Taj Deccan would also consider it if there is enough supply and costs are “reasonable”. They all said they never get any enquiries by guests asking for organic food.

The director of Lahari Resorts outside Hyderabad started an organic farming project on the resort premises. He did not try purchasing organic food for the resort yet, but said he would not mind paying more for organic food. He said the main problem at this stage was consistent supply of high quality. Certification would be a very important factor when purchasing organic products for the resort.

Again, this indicates that there is already enough demand from bulk buyers and that the main obstacle is constant and sufficient supply at acceptable rates. This is a huge opportunity not only for commercial organic companies but also for small farmers that can produce at low costs once the conversion period has been mastered and supply chain problems overcome. Small organic producers do not have the scope for supplying to bulk buyers, but through forming cooperatives they could achieve a more consistent supply, greater product variety as well as greater volumes of supply. In addition, networks between producers and bulk buyers need to be established or strengthened so that procurers from the relevant institutions will get in touch with suppliers of organic food rather than sticking with their customary suppliers.

7 Conclusion and Recommendations

7.1 Summary of Findings

There has been a significant growth of the organic market since the overview study conducted by Lohr and Dittrich in 2007. Several supermarkets have started selling organic products, the organic product range is steadily increasing, and many consumers report having started purchasing organic products only in the past few years. Nevertheless, the retail infrastructure and the supply in the organic segment are still insufficient for meeting the demand. Retailers are in

fact wary of advertising organic products too much out of apprehension that they will not be able to satisfy a demand growing too rapidly.

The market is furthermore characterized by a lack of awareness among consumers, both of the concept of organic farming in general and of availability of organic products. The demand for organic food is growing mainly in a selected section of the population. Although the majority of the population is concerned about the quality of their food, dangers from chemical residues and their health in general, they are not well aware of the existence of organic agriculture as an alternative, nor do they know where to find and how to distinguish organic products. The most appropriate channels for distributing information on organic food were found to be TV, newspapers, doctors and family members or friends. Apart from these, direct interaction between producers or retailers and consumers is also an important source of information about organic food among consumers.

As was to be expected from previous studies on consumer motivations in India, the prime motivation for consumers of organic food in Hyderabad is health concerns. Many consumers only start changing their diet in the context of treatment of health- and lifestyle-related diseases such as diabetes. A more general environmental consciousness is hardly existent. The main obstacles for buying (more) organic food are the lack of availability and the lack of knowledge on where to find organic products.

7.2 Scenario

Two distinct models for the future development of the organic market of Hyderabad, and Indian in general, can already be distinguished. The first one is a model similar to that currently found in developed countries like Germany or the US where the organic food market is growing rapidly, and mainly in supermarkets⁶. In these markets, particularly the US, part of the organic agriculture sector has moved a long way from the original principles of organic farming.⁷ It is highly mechanized and energy-intensive and operates on industrial scales comparable to conventional agriculture (Pollan 2006). The environmental impact of such a system is often hardly lower than in conventional farming.

The second model relies on locally-adapted sustainable agricultural systems based on traditional knowledge and crop varieties such as millets. Its basis are small farms with a high level of diversification and low-technology, low-energy farming methods. Anshu and Mehta (n.y.) recommend two strategies for increasing the profit for farmers: Firstly, economies of scale, and secondly efficiency in the system. Efficient systems of production and distribution with a reduced number of intermediaries will certainly help making the food system

⁶ Cf. Holdinghausen 2009a

⁷ Cf. the definition of organic agriculture by IFOAM, chapter 1.1

more sustainable as well as increasing profit for farmers. However, while it is true that “farming on massive scale will reduce the cost of inputs and labour [... and] also help in reducing the certification cost” (ibid.), the sustainability of organic farming lies exactly in its small scale, low level of technology and short nutrient cycles.

The role of organic food in the urban food system will certainly increase in the years to come. Whether this will necessarily lead to a higher level of sustainability will depend on which of these models will prove more successful. This, in turn, will depend largely on the institutional context as well as consumer behaviour. Overall, it is not easy to predict in which way the retail scene will develop in the future. While there certainly is a trend among the younger generation for purchasing at malls and hypermarkets, increasing urbanisation and growing middle classes also bring with them an increasing number of customers for small retail stores.

A development towards an industrialized organic agriculture sector like in the US is not to be expected for several reasons. The Indian organic standards are higher than the US standards and would not allow for the same degree of intensification, the agricultural sector is structured entirely differently, the Government has a different rural development strategy, and consumer preferences also differ very much. Nevertheless, a trend pointing in the direction of the first model is indeed discernible in the organic market of Hyderabad. It is represented by commercial organic companies catering to an affluent section of consumers motivated more by image and lifestyle as well as individual health concerns than environmental consciousness. Already there are a number of highly processed food items such as ready-made microwavable meals, snacks and biscuits available in organic quality. Their existence is an indicator both of the clever marketing strategies of commercial organic companies and of the trend towards convenience food and westernized dietary patterns.

The trends towards convenience food products among consumers as well as the fact that the prime motivation for purchasers of organic food are health concerns and lifestyle orientation indicate that the potential for marketing organic food as more environmentally and climate friendly or more socially responsible will be limited. It also increases the risk of the organic industry targeting them with advertising for highly processed, high energy input products.

As the scope of the organic market increases, prices will go down in the long run due to more competition and larger volumes of production. According to CSA it is not unlikely that a development similar to the market in Germany will take place, where a big market for cheap, minimal-standard organic products has emerged. Already the first discount supermarkets have started to emerge in Hyderabad, albeit only for conventional products.

The second model is represented by small farmers and their various direct marketing strategies. Consumer motivations in this model also include health

consciousness, but there is also a potential for raising awareness among consumers of the benefits of traditional and sustainable agricultural practices for the environment, the farmers *and* the consumers. There is certainly a segment of consumers that is motivated by such considerations, represented for example in the customers of small farmers and health shops. While the majority of consumers buying in organic stores belongs to the upper middle and upper class, this model could potentially reach broader strata of the population. This is partly because price levels are more moderate, and partly because of the different image and advertising strategies.

The most likely scenario for the mid- to long-term future seems to be a combination of the two models. The balance between them will depend on the development of the middle classes, the overall economic climate and the success of alternative marketing strategies pursued by NGOs and farmer cooperatives.

7.3 Recommendations

7.3.1 Consumer Education and Awareness Raising

One strategy for achieving sustainability of the food system of Hyderabad will be sustainable growth of the organic market segment. In order to achieve this, more consumer education and awareness raising are of prime importance. Consumers need more information on where they can purchase organic products and how they can distinguish them from conventional or various “natural” and “health” products. While increasing segments of society are concerned about their health, often due to existing food- and lifestyle-related health problems, awareness of the benefits of the specific benefits of organic food is often fragmented and incomplete.

There is also a lack of awareness of the benefits of organically grown, regional and seasonal food in environmental and social terms. Consumers are rarely motivated by a general environmental consciousness. This could pose a danger for the further development of the organic market in Hyderabad in light of the scenarios developed above. Only if consumers are aware of the broader benefits of a localized system of producing, distributing and consuming organic food will they be in a position to adopt sustainable purchasing patterns and dietary habits.

Lohr and Dittrich (2007) recommend that food and nutrition related education should become part of the school curricula. Studies on the impact of nutrition education in Hyderabad came to different conclusions for different socio-economic groups. While Vijayapushpam et al. (2003) detected an encouraging improvement in the knowledge levels of upper and higher middle class schoolchildren, the survey by Raghunatha et al. (2004) showed a very low impact of nutrition education programs on adolescent girls of low income and lower middle-class families. Women and children are considered to be the most

effective multipliers with regard to health and nutrition education (Mujeeb-ur-Rahman and Visweswara 2001). DDS has made good experiences with its Biodiversity Festivals, an awareness raising and educational campaign in rural areas, as well as with the FNCC (Food and Nutrition Counselling Centre) initiative for nutrition education among schoolchildren in Zaheerabad. Both try to fill the gap left by the school curricula. Consumer clubs that are as yet rare in India could also play an important role in spreading awareness of organic food and more healthy dietary habits.

7.3.2 Independent Small-Scale Organic Farms

Improved consumer awareness of organic food will lead to increased demand for organic food. However, even at present the demand by urban consumers can not be adequately met. Therefore a sticking point for the future development of the organic market of Hyderabad could be sufficient supply of organic products. At present, many farmers are not aware of the marketing potential of organic products, nor are they familiar with the concept of organic farming at all. In addition to awareness raising and education about organic agriculture and its environmental, social and economic benefits, small farmers in periurban and rural areas of Andhra Pradesh need technical training on methods of organic farming and financial support to help them during the difficult conversion period.

In light of the scenarios developed above (chapter 7.2.), it is of particular importance that small farmers get more support, rather than subsidizing large-scale export agriculture directly or indirectly. Under a commercialized organic production regime, it is in fact not organic farmers or small organic shops that benefit from the boom, but mainly large food corporations and a few big farmers (Unbekannt 2006). Unbekannt (2006) therefore suggests that it is time for a new organic movement that operates according to the principles and strict standards of the original ideas of organic farming rather than for commercial profit and at an industrial scale. Such a development is very much in line with the strategies pursued by NGOs in Hyderabad working with small organic farmers, and it is also the most promising strategy in light of efforts of making the city's food system more sustainable and climate-friendly. A holistic approach to organic farming can make sure that environmental, social and economic benefits are maximised, rather than just exploiting a new marketing niche.

At present, small farmers and their marketing efforts are supported mainly by dedicated NGOs. More support by the Government of India for sustainable agriculture, farmer cooperatives, marketing initiatives by small farmers and NGOs working in sustainable rural development (cf. Singh, J. 2004) is vital for developing the domestic market for organic food in a sustainable manner that will benefit not only organic food companies and well-off urban consumers but also rural communities and larger segments of the urban population.

7.3.3 Decentralized Supply Chains

The promotion of a decentralized, local food system with short supply chains is a vital aspect of a sustainable and climate-friendly development of the local food system. Together with low-energy production systems, this will minimize fossil fuel consumption through reduced transportation. Alternative retail formats such as direct marketing on farmers' markets, home delivery by low-energy modes of transport, and decentralized marketing by Kirana stores, street vendors, farmer cooperatives and consumer cooperatives have a lower environmental impact. Food purchasing within walking distance is a traditional pattern that has to be strengthened.

More direct links between producers and consumers with no or a minimum number of middlemen would result in increased profits for farmers. Furthermore, direct consumer involvement in marketing will also help increase levels of knowledge (education and information) and awareness among consumers, and it will increase accountability of farmer, regardless whether they are certified organic or not. Particularly in a country like India where many consumers are wary of concepts like official certification due to widespread corruption, transparency and personal trust and involvement figure particularly high as a criterion in purchasing decisions.

7.3.4 Further Research

The assessment of climate impact and carbon footprints in this study is based on general data taken from studies such as Kotschi and Mueller-Saemann (2004) and Foodwatch (2008). Different supply chains and retailing formats could only be compared in a relative sense and based on estimates. In order to develop a detailed and site-specific ecological footprint analysis for specific food items and to compare the impact of various modes of production, supply chains and retailing formats more and very specific data would be required. Gathering this data was beyond the scope of this study but provide valuable evidence for a more detailed assessment of the different levels of climate impact of various supply chains, retailing formats and food products.

More research is also needed on the readiness of other potential target groups to purchase organic products. Since this study was focused mainly on middle and higher-income and educated consumers who were already aware of organic foods, the attitudes of the general population, especially the lower-income groups, towards organic food would be a subject for further research. This would be of particular relevance with a view to expanding the availability of organic products into lower-income social groups. In addition, a detailed survey of the attitudes and purchasing criteria of bulk buyers such as the hospitality industry, large canteens or government institutions could provide valuable insights into the potential for increasing organic sales in this area and for reaching a broader spectrum of the population than through retail.

Finally, the willingness of consumers to engage in producer-consumer networks and direct marketing efforts should be assessed in order to provide an indication of their future potential. To date, there has been very limited experience with such initiatives in Hyderabad. The extent and sustainability of response to the consumer cooperative launched by CSA early in 2009 and the shop they are planning to open in Tarnaka will remain to be seen. The long-standing involvement of CSA with both producers and consumers of organic products certainly promises a high degree of sustainability. In order to assess the scale to which similar schemes could potentially grow in Hyderabad, further research into the matter will be necessary.

8 Bibliography

- Adhavani, R. (2009). Women vow to fight against GM crops: Mobile bio-diversity festival concludes. *The Hindu*, 14.02.2009.
- Anshu, Kumari and Mehta, Jitender (no year). Promotion of organic food. Opportunities & Challenges: National Institute of Agricultural Marketing. Internet Source: <http://www.indiabschools.com/Promotion%20of%20Organic%20Foods.pdf>, accessed: 15.01.2009.
- Asan, Yildiz (2008). Klimafreundlich einkaufen. Internet Source: <http://www.nachhaltigkeit.org/20081114491/materialien-produkte/hintergrund/klimafreundlich-einkaufen>, accessed 03.05.2009.
- Asan, Yildiz (2009). Veraenderung durch Konsum. Internet Source: <http://www.nachhaltigkeit.org/200903011354/mensch-gesellschaft/hintergrund/veraenderung-durch-konsum>, accessed 03.05.2009.
- A. T. Kearney (2008). Lebensmitteleinzelhandel: Verbraucher verlangen nach sehr viel mehr als nur Öko-Labels. Pressemitteilung. Internet Source: http://www.atkearney.de/content/veroeffentlichungen/pressemitteilungen_detail.php/id/5049, accessed 18.04.2009.
- Baksi, Rajni (2001). New Possibilities. *The Hindu*, 21.01.01. Internet Source: <http://www.hinduonnet.com/thehindu/2001/01/21/stories/1321002a.htm>, accessed 21.01.2009
- Barghava, Sandeep (2006). Organic Certification: Why and for What? *Indian Food Industry* 25 (3), 6-7.
- Battacharyya, P. (2004). *Organic Food Production in India: Status, Strategy and Scope*. Jodhpur: Agrobios.
- Bhatta, Archita (2008). Farm differently: A report riles industrial farming nations and agribusiness. *Down to Earth*, July 1-15, 27.
- Bhatta, Archita (2008). Lentil Report: Pulses in India contribute less to global warming. *Down to Earth*, October 16-31, 46.
- Burdick, B. (1994). Klimaänderung und Landbau. Die Agrarwirtschaft als Täter und Opfer. *Ökologische Konzepte* (85). Bad Dürkheim, Germany.
- Carroll, Arati Menon (2005). India's Booming Organic Food Bazaar. Internet Source: www.ia.rediff.com/money/2005/oct/17spec1.htm, accessed: 15.01.2009.
- Chakrabarti, Somnath and Baisya, Rajat K. (2007). Purchase Motivations and Attitudes of Organic Food Buyers. *Decision* 34 (1), 2-22.
- Chander, M. (1997). Organic Farming: Towards Sustainable Agricultural Development. *Social Action* 47 (1), 216-230.
- Chaudry, Pradeep (2007). Health Supplements: Bringing smiles to young India. *Indian Food Industry* Nov-Dec, 45.
- Choo, H.; Chung, J-E and Pysarchik, D.T. (2004). Antecedents to new food product purchasing behavior among innovator groups in India. *European Journal of Marketing* 38 (5/6), 608-625.
- CIAS (1995). Regional Food Systems Research: Needs, Priorities, and Recommendations. Centre for Integrated Agricultural Systems. Internet Source:

- <http://www.cias.wisc.edu/farm-to-fork/regional-food-systems-research-needs-priorities-and-recommendations/>, accessed 04.05.2009.
- CIAS (1999). New markets for producers: selling to retail stores. Centre for Integrated Agricultural Systems, Research Brief No. 38. Internet Source: <http://www.cias.wisc.edu/farm-to-fork/new-markets-for-producers-selling-to-retail-stores>, accessed 04.05.2009.
- Cole, C.V.; Duxbury, J.; Freney, J.; Heinemeyer, O.; Minami, K.; Mosier, A.; Paustian, K.; Rosenberg, N.; Sampson, N.; Sauerbeck, D. and Zhao, Q. (1997). Global estimates of potential mitigation of greenhouse gas emissions by agriculture. *Nutrient Cycling in Agroecosystems* 49, 221-228.
- Collins, Andrea and Fairchild, Ruth (2007). Sustainable Food Consumption at a Sub-national Level: An Ecological Footprint, Nutritional and Economic Analysis. *Journal of Environmental Policy and Planning* 9 (1), 5-30. Internet Source: <http://www.scribd.com/doc/97599/Ecological-Footprints-of-Food>, accessed 08.05.2009.
- CSA (no year). Sahaja Aharam. Informational Brochure. Internet Source: <http://www.csa-india.org/sahajaaharam/SAHAJA%20AHARAM%20ENGLISH%20.pdf>, accessed 08.05.2009.
- Dalgaard, T.; Dalgaard, R.; Nielsen, A.H. (2002). Energy consumption in ecological and conventional agriculture. *Gron-Viden-Markbrug* 260.
- Dalgaard, T.; Kelm, M., Wachendorf, M.; Taube, F. and Dalgaard, R. (2003). Energy balance comparison of organic and conventional farming. OECD workshop on organic agriculture, Washington DC, USA 23-26 September 2003, 127-138.
- DDS (2008). Farmer-Proofing Agricultural Research: Current Trends in India. A Fact Sheet. *Democratising Agriculture Series* Vol. 1. Hyderabad: Deccan Development Society.
- DeWeerd, Sarah (2009). Is Local Food Better? Worldwatch Institute. Internet Source: <http://www.worldwatch.org/node/6064?emc=el&m=227941&l=4&v=0c378b5401>, accessed 30.04.2009.
- Dietler, Christof (2003). Indian Organic Agriculture. Report to the State Secretariat for Economic Affairs (seco) on the Need Assessment carried out from December 8-12, 2003. Internet Source: <http://www.iccoa.org/pdf/Need%20Assessment.pdf>, accessed 22.01.2009.
- Dittrich, Christoph (2009). The Changing Food Scenario and the Middle Classes in the Emerging Mega City of Hyderabad/India. In: Lange, H. and Meier, L. (Eds.): *Globalizing Lifestyles, Consumerism, and Environmental Concern: The Case of the New Middle Classes*. Berlin: Springer, 289-303.
- dpa (2009): Bio-Fast-Food boomt. Internet Source: <http://portal.gmx.net/de/themen/gesundheit/ernaehrung/7607232-Bio-Fast-Food-Trend-fuer-Figurbewusste,page=0.html>, accessed 16.02.2009.
- Down to Earth (2009). Trial and Error: Farmers adapt to changing weather by switching crops. *Down to Earth* 17 (20), March 15, Internet Source: http://www.downtoearth.org.in/full6.asp?foldername=20090315&filename=news&sec_id=9&sid=48, accessed 08.05.2009.
- Enquete Kommission „Schutz der Erdatmosphäre“ (Ed.) (1994). *Schutz der grünen Erde, Klimaschutz durch umweltgerechte Landwirtschaft und Erhalt der Wälder*. Enquete Kommission „Schutz der Erdatmosphäre“ des Deutschen Bundestages. Bonn: Economica Verlag.

- Eshel, Gidon and Martin, Pamela A. (2006). Diet, Energy, and Global Warming. *Earth Interactions* 10, Paper No. 9, 1-17. Internet Source: <http://geosci.uchicago.edu/~gidon/papers/nutri/nutriEI.pdf>, accessed 04.05.2009.
- EurActiv (2009). Agri-food sector to assess its environmental footprint. Internet Source: <http://www.euractiv.com/en/cap/agri-food-sector-assess-environmental-footprint/article-182083>, accessed 11.05.2009.
- Eyhorn, Frank (2004). Organic Agriculture in India. Research Institute of Organic Agriculture (FiBL), Frick, Switzerland. Internet Source: <http://orgprints.org/2768/>, accessed 08.05.2009.
- Eyhorn, Frank (2005). Success Story: Organic India. In: Willer, Helga and Youssefi, Minou (Eds.). *The World of Organic Agriculture. Statistics and Emerging Trends 2005*. Bonn: International Federation of Organic Agriculture Movements (IFOAM), and Frick (CH): Research Institute of Organic Agriculture, 74-75.
- FAO (2002). Organic Agriculture, environment and food security. *Environment and Natural Resources Series* Vol. 4, Rome, Italy.
- Food and Beverage News (2008). Food Processing Sector to Double by 2010. *Food and Beverage News*, December 1-15, 1-2.
- Food and Beverage News (2008). The Way Kiranas Outsmart Big Retailers. *Food and Beverage News*, December 1-15, 15.
- Foodwatch (2008). *Organic: A Climate Saviour? The foodwatch report on the greenhouse effect of conventional and organic farming in Germany*. Based on the study "The Impact of German Agriculture on the Climate" by the Institute for Ecological Economy Research (IÖW) 2008. Internet Source: http://www.foodwatch.de/foodwatch/content/e6380/e24459/e24474/foodwatch_report_on_the_greenhouse_effect_of_farming_08_2008_ger.pdf, accessed 18.04.2009.
- Garibay, Salvador V. and Jyoti, Katke (2003): Market Opportunities and Challenges for Indian Organic Products. Internet Source: <http://orgprints.org/00002684>, accessed 15.01.2009.
- Geden, Oliver (2009). Strategischer Konsum statt nachhaltiger Politik? Ohnmacht und Selbstüberschätzung des „klimabewussten“ Verbrauchers. *Transit – Europäische Revue* 36 (Winter 2008/2009), Klimapolitik und Solidarität, 132-141.
- Gill, M.S. (2008). Increasing organic food production through cropping systems. *Indian Farming*, June, 4-6.
- Goodall, Chris (2007). Is organic food better for the climate? Internet Source: <http://www.carboncommentary.com/2007/09/15/7>, accessed 08.05.2009.
- Government of India (2000). National Agricultural Policy. Department of Agriculture and Cooperation, Ministry of Agriculture. Internet Source: <http://www.nls.ac.in/CEERA/ceerafeb04/html/documents/agri.htm>, accessed 08.05.2009.
- Government of India (2001). Report of the Working Group on Organic and Biodynamic Farming. Internet Source: http://planningcommission.nic.in/aboutus/committee/wrkgrp/wg_organic.pdf, accessed 15.01.2009.
- Government of India (2005). National Programme for Organic Production. 6th Edition. New Delhi: Department of Commerce, Ministry of Commerce and Industry. Internet Source:

- http://www.apeda.com/organic/ORGANIC_CONTENTS/English_Organic_Sept05.pdf, accessed 08.05.2009.
- Greenberg, Laurie (2000). Selling Certified Organic Produce to Retail Produce Markets in the Upper Midwest. Center for Integrated Agricultural Systems. Internet Source: <http://www.cias.wisc.edu/wp-content/uploads/2008/07/greenbrg.pdf>, accessed 18.04.2009.
- GTZ (no year). Non Pesticide Management in Andhra Pradesh, India. Internet Source: <ftp://ftp.fao.org/sd/sda/sdar/sard/ipm-india.pdf>, accessed 16.01.2009.
- Gupta, Surajeet Das (2005). Who is afraid of Wal Mart? *Business Standard*, December 5. Internet Source: www.rediff.com/cms/print.jsp?/docpath=/monez/2005/dec/05/spec.htm, accessed: 08.05.2009.
- Gupta, S.K. (2008). Reviving Organic Farming for Prosperity. *Indian Farming*, May, 12-17.
- Haas, G. and Köpke, U. (1994). Vergleich der Klimarelevanz ökologischer und konventioneller Landbewirtschaftung. In: Enquete Kommission „Schutz der Erdatmosphäre“ des Deutschen Bundestages (Ed.): *Schutz der Grünen Erde, Klimaschutz durch umweltgerechte Landwirtschaft und Erhalt der Wälder*. Bonn, Economica Verlag.
- Haas, G.; Wetterich, F. and Geier, U. (2000): Life cycle assessment framework in agriculture on the farm level. *Int. J. LCA* 5 (6), 345-348.
- Hanchata, Chetan L. (2008). Supply chain management in developing economies: Opportunities threats and ethics. *Indian Food Industry* Sep-Oct, 56-58.
- Harish, Ranjani (2003). Indian Dietary Habits. The Changing Trend. *Food & Nutrition World* November 2003, 49-50.
- Hirschfeld, Jesko; Weiss, Julika; Preidl, Marcin and Korbun, Thomas (2008): *Klimawirkungen der Landwirtschaft in Deutschland*. Schriftenreihe des IÖW 186/08. Berlin: Institut für ökologische Wirtschaftsforschung (IÖW). Internet Source: http://www.foodwatch.de/foodwatch/content/e10/e17197/e17201/e17220/IOEW_Klimawirkungen_der_Landwirtschaft_SR_186_08_ger.pdf, accessed 18.04.2008.
- Hofmann, Rebecca (forthcoming 2009): Changing Food Culture in Globalising Hyderabad. Analysis and Action for Sustainable Development of Hyderabad, Research Report. Internet Source: <http://www.sustainable-hyderabad.in>
- Holdingshausen, Heike (2009a). Bio erfolgreich im Supermarkt. *die tageszeitung*, 21./22.02.2009.
- IBEF (Indian Brand Equity Foundation) (2004): Tapping India's eco-farming potential. Internet Source: http://www.ibef.org/artdisplay.aspx?cat_id=86&art_id=4488, accessed 30.01.2009.
- IBEF (Indian Brand Equity Foundation) (2009): Food Industry. Internet Source: <http://www.ibef.org/industry/foodindustry.aspx>, accessed 30.01.2009.
- IBEF (Indian Brand Equity Foundation) (2009): Retail. Internet Source: <http://www.ibef.org/industry/retail.aspx>, accessed 08.05.2009.
- IFOAM (2006). Organic Agriculture and Participatory Guarantee Systems. Leaflet. Internet Source: http://www.ifoam.org/about_ifoam/standards/pgs/pdfs/IFOAM_PGS_Leaflet_Final_new.pdf, accessed 08.05.2009.
- Indian Food Industry (2006). Biofortification: The New Buzz Word. *Indian Food Industry* 25 (3), 8.

- INTRACEN (2009). Country Profile India. International Trade Center UNCTAD/ WTO. Internet Source: <http://www.intracen.org/organics/Country-Profile-India.htm>, accessed 08.05.2009.
- IPCC (1994). Radiative forcing of climate change. The Report of the Scientific Assessment Working Group of IPCC, Summary for Policymakers. WMO/UNEP, Geneva, Switzerland.
- IPCC (1996). Climate Change 1995. Impacts, Adaptions and Mitigation of Climate Change: Scientific Technical Analysis. Intergovernmental Panel on Climate Change. Cambridge.
- IPCC (1997). Revised 1996 Guidelines for Greenhouse Gas inventories. IPCC/OECD/IEA. IPCC, Geneva, Switzerland.
- IPCC (2000). Land use, land use change, and forestry. Intergovernmental Panel on Climate Change. Special Report IPCC. 377 p. Cambridge, UK.
- IPCC (2001). Climate Change 2001: The Scientific Basis. Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change. [Houghton, J.T., Y. Ding, D.J. Griggs, M. Noguer, P.J. van der Linden, X. Dai, K. Maskell, and C.A. Johnson (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
- Jain, S.K. and Kaur, G. (2004a). Green marketing: An Indian perspective. *Decision* 31(2): 168-209.
- Jain, S.K. and Kaur, G. (2004b). Green marketing: An attitudinal and behavioral analysis of Indian consumers. *Global Business Review* 5 (2), 187-205.
- Joshi, Sopan. (2006). Out of the trap: Andhra farms show the future of pest management. *Down To Earth* May, 1-11.
- Joshi, Sopan (2007). Fresh trouble: Retail chains get into fruits and vegetables. *Down to Earth*, June 30, 24-25.
- Kalanidhi, M.L. (2006). The fast food boom (Cover Story). *Wow! Hyderabad* Aug, 26-32.
- Kalita, Anurag; Doshi, Kopal; Dalmia, Shristi; Baweja, Amit and Shetty, Ashit (2008). Fabindia. Study submitted to Dr. Raja Saxsena, School of Business Management NMIMS. Internet Source: <http://www.scribd.com/doc/11569951/A-Marketing-Project-on-FabIndia>, accessed 08.05.2009.
- Kaur, Ravleen (2008). Shelf destruct: Government Study kicks up the supermart vs. small store debate. *Down to Earth*, July 1-15, 22-23.
- Kilcher, Lukas (2007). How Organic Agriculture Contributes to Sustainable Development. In: Willer, Helga und Yussefi, Minou (Eds.) (2007). *The World of Organic Agriculture - Statistics and Emerging Trends 2007*. Bonn: International Federation of Organic Agriculture Movements (IFOAM), and Frick (CH): Research Institute of Organic Agriculture.
- Khosla, Ron (2006). A Participatory Organic Guarantee System for India. FAO Report. Internet Source: http://www.ifoam.org/about_ifoam/standards/pgs/pdfs/PGS%20for%20India%20_Final%20Report.pdf, accessed 18.04.2009.
- Kohli, K. (2005): It's more than food. *The Hindu*, 03.04.2005, 8.
- Köpke, U. and Haas, G. (1995). Vergleich Konventioneller und Organischer Landbau Teil II: Klimarelevante Kohlendioxid-Senken von Pflanzen und Boden. *Berichte über Landwirtschaft* 73, 416-434.

- Köpke, U. and Haas, G. (1997). Umweltrelevanz des Ökologischen Landbaus. In: Nieberg, H. (Ed.): *Ökologischer Landbau: Entwicklung, Wirtschaftlichkeit, Marktchancen und Umweltrelevanz*. Landbauforschung Völkenrode. Sonderheft 175. Braunschweig.
- Kotschi, Johannes and Müller-Sämann, Karl (2004). The Role of Organic Agriculture in Mitigating Climate Change - A Scoping Study. IFOAM – International Federation of Organic Agriculture Movements.
- Kumar, Karthik (2008). Organic Farming: Reality behind the myths. *The Hindu Businessline*. Internet Source: <http://www.thehindubusinessline.com/2008/09/02/stories/2008090251610900.htm>, accessed 08.05.2009.
- Kumar, V.V. Ravi (2006). Health foods – Targeting the new age disorders. *The Hindu Businessline*. Internet Source: <http://www.thehindubusinessline.com/2006/02/15/stories/2006021500791100.htm>, accessed 08.05.2009.
- Lohr, Kerstin and Dittrich, Christoph (2007). Changing Food Purchasing and Consumption Habits among Urban Middle-Classes in Hyderabad. Analysis and Action for Sustainable Development of Hyderabad, Research Report 3. Internet Source: <http://www.sustainable-hyderabad.in> or <http://www.nexus-berlin.com/megacity/uploads/documents/Microsoft+Word+Megacity+Report-3.pdf>, accessed 02.02.2009.
- Mahale, Prabha (2008). National Study: India – The role of agriculture and rural development in India. UNESCAP. Internet Source: www.unescap.org/rural/doc/OA/India.PDF, accessed 08.05.2009.
- Mahesh, Koride (2005). Now, a swanky rythu bazar for Page 3 people. *The Times of India*, 7 Apr 2005, Internet Source: <http://timesofindia.indiatimes.com/articleshow/1070952.cms>, accessed 18.04.2009.
- MINI, NIRD and DDS (2008). *God's Own Crops: National Consultation On Millets*. National Institute of Rural Development, Hyderabad, June 5 & 6, 2008. Millet Network of India, National Institute for Rural Development, Deccan Development Society. Internet Source: <http://www.ddsindia.com/www/default.asp>, accessed 08.05.2009.
- Misra, Savvy Soumya (2008). Get on a diet coarse: Millets and corn can be a healthier and cheaper alternative to wheat and rice. *Down to Earth* June 1-15, 52.
- Misra, Savvy Soumya (2009a). Made it. Cover Story: Agriculture. *Down to Earth* 20 (16), January 1-15, 31-38. Internet Source: http://www.downtoearth.org.in/cover.asp?foldername=20090115&filename=news&id=10&sec_id=9, accessed 18.04.2009.
- Misra, Savvy Soumya (2009b). No to Organic Farming: Punjab Farmer Commission says it's not feasible. *Down to Earth* January 16-31, 19.
- Mujeeb-Ur-Rahman and Visweswara Rao, K. (2001). Effect of Socio-Economic Status on Food Consumption Pattern and Nutrient Intake of Adults – A Case Study in Hyderabad. *The Indian Journal for Nutrition and Dietetics* 38 (4), 292-300.
- Nair, K.P. Prabhakaran (2009). Agro-culture gets its due: Let business lose. *Down to Earth*, January 1-15, 40.
- Namitha, M. (2003). Junk foods are anything but nutritive. *Food and Nutrition World* January, 28.
- NCAER (2005). The Great Indian Market. Results from the NCAER's Market Information Survey on Households. National Council of Applied Economic Research. Internet

- Source: <http://www.ncaer.org/downloads/PPT/TheGreatIndianMarket.pdf>, accessed 06.05.2009.
- Organicfacts (2006). Organic Food Consumption in India. Internet Source: <http://www.organicfacts.net/organic-food/organic-food-trends/organic-food-consumption-in-india.html>, accessed: 16.01.2009.
- Pai, J.S. (2007). Health Foods: Future of Indian Food Industry. *Indian Food Industry*, Nov-Dec 2007, 29-32.
- Paradkar, Manish; Sharma, Kirti; Singh, Jasvir and Mallya, RR (2007). Ready-to-Eat Foods: Technological Process and Indian Perspective. *Indian Food Industry*, Nov-Dec, 39.
- Pepper, Daniel (2006). India now gets pick of the crop. Mom-and-pop-shops make way for Supermarkets. *San Francisco Chronicle*, Chronicle Foreign Service, November 25. Internet Source: <http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2006/11/25/BUGKOMHBI61.DTL>, accessed: 08.05.2009.
- Polasa, Kalpagam, R.V. Sudershan, G.M. Subba Rao, M. Vishnu Vardhana Rao, Pratima Rao, B. Sivakumar (2006), KABP Study on Food and Drug Safety in India: A Report, Food & Drug Toxicology Research Centre, National Institute of Nutrition, Hyderabad.
- Pollan, Michael (2006). *The Omnivore's Dilemma. A Natural History of Four Meals*. London: Penguin.
- Prabu, M.J. (2009a). A farmer develops a herbal pest repellent after suffering from chemical pesticides: The farmer suffered a severe paralytic stroke for nearly three years. *The Hindu*, 26.02.2009.
- Prabu, M.J. (2009b). Self-help is the best help: that should be every farmer's motto. *The Hindu*, 19.03.09.
- Prakash, T. et al. (1997). Sustainable Development: Experiences of Indian Agriculture. In: Agarwal, A. (Ed.): *The Challenge of Balance*. New Delhi: Centre for Science and Environment.
- Pretty, J.N. and Ball, A. (2001). Agricultural Influences on Carbon Emissions and Sequestration: A review of Evidence and the Emerging Trading Options. *Centre for Environment and Society Occasional Paper 2001-03*. University of Essex, UK.
- Radhakrishna, G.S. (2005). Organic chicken to hit shelves. Internet Source: http://www.telegraphindia.com/1050507/asp/nation/story_4705946.asp, accessed: 08.05.2009.
- Raghunatha Rao, D.; Vijayapushpam, T.; Grace Maria Antony, T.; Subba Rao, G.M. and Rameshwar Sarma, K.V. (2004). *Nutrition Knowledge and Dietary Habits of School Going Adolescent Girls in Hyderabad*. Report of the National Conference on Human Health and Nutrition, Hyderabad 12.-13.12.2004.
- Rajiv, M. (2009). Busting health-boosting claims. *The Hindu Metro Weekend*, 11.04.09.
- Rao, C.H. Srinivas; Venkateswarlu, V.; Surender, T.; Eddleston, Michael and Buckley, Nick A. (2005). Pesticide Poisoning in South India – Opportunities for Prevention and Improved Medical Management. *Trop Med Int Health*, 10 (6), 581–588.
- Reachout Hyderabad (2008). SPAR launches its 1st Supermarket in Hyderabad. Internet Source: <http://www.reachouthyderabad.com/business/bizretail/spar.htm>, accessed 18.03.2009.
- Richter, Toralf and Kovacs, Annamaria (2005). Strategies to support domestic organic markets in countries with emerging organic sectors. Beitrag präsentiert bei der Konferenz: Researching Sustainable Systems - International Scientific Conference on Or-

- ganic Agriculture, Adelaide, Australia, September 21-23, 2005. Internet Source: <http://orgprints.org/4455/>, accessed 08.05.2009.
- Samajdar, Sabyasachi (2009). Health Food Segment is Growing at 15%. *Food and Beverage News*, January 1-15, 3.
- Sanchez, P.A. (2000). Linking climate change research with food security and poverty reduction in the tropics. *Agriculture, Ecosystems and Environment* 82 (1-3), 371-383.
- Seshadri, Subadra (2003). Labelling should be mandatory for fast foods. *Food and Nutrition World* January, 29.
- Sharma, A.B. (2003). India's Future lies in organic farming. Internet Source: <http://www.financialexpress.com/news/India%92s-Future-Lies-In-Organic-Farming/87721/#>, accessed 08.05.2009.
- Shetty, Anmol (2008). The Next Disruption: Skyrocketing phosphorous prices threaten our fertilizer-dependent agriculture. *Down to Earth*, October 1-15, 53.
- Shiby, V.K.; Siniya, V.R. and H.N. Mishra (2007). Ready-to-eat health foods: A promising concept. *Indian Food Industry* Nov-Dec, 47-54.
- Shrivastava, Swati; Alam, Tanweer and Goyal, G.K. (2007). Modern food retailing in India. *Indian Food Industry* Sep-Oct. 39-43.
- Singh, Jagdish (2004). Organic Farming and Agribusiness for Food Security in India. In: Singh, Tapeswar (Ed.): *Resource Conservation and Food Security: An Indian Experience* Vol. I. Concept Publishing, 277-288.
- Singh, Komal Vijay (2009). Nutrition in a packet: The mallscape encompasses a rich array of health foods with consumers making a grab for them. *The Hindu Metro Plus*, 25.02.2009.
- Singh, Tapeswar (Ed.) (2004). *Resource Conservation and Food Security: An Indian Experience* Vol. I. Concept Publishing.
- Sondhi, Neena and Vani, Vina (2007). An Empirical Analysis of the Organic Retail Market in the NCR. *Global Business Review* 8 (2), 283-302.
- Sridhar, Vijayalakshmi (2009). The Changing Face of Retail. *The Hindu Retail Plus*, 17.04.09.
- Srivastava, Roli (2009). Supermarkets shut shop, face rent crisis. *The Times of India*, 05.02.2009.
- Stolze, M.; Piore, A.; Häring, A. and Dabbert, S. (2000). The environmental impacts of organic farming in Europe. *Organic Farming in Europe: Economics and Policy* Vol. 6. Stuttgart: Universität Hohenheim.
- Sudershan, R.V.; Subba Rao, G.M.; Rao, Pratima; Vardhana, M. Vishnu and Polasa, Kalpagam (2008a). Food safety related perceptions and practices of mothers – A case study in Hyderabad, India. *Food Control* 19 (5), 506-513.
- Sudershan, R.V.; Subba Rao, G.M.; Rao, Pratima; Vardhana, M. Vishnu and Polasa, Kalpagam (2008b): Knowledge and practices of food safety regulators in Southern India. *Nutrition & Food Science* 38, 110-120.
- Sudhir, Uma (2008). Andhra villages declared pesticide-free. NDTV, 22 January 2008. Internet Source: <http://www.ndtv.com/convergence/ndtv/story.aspx?id=NEWEN20080039173&ch=1/22/2008%2010:55:00%20AM>, accessed 08.05.2009.
- Tewari, G.M. (2007). New Concepts and Innovations in Food & Beverage Industry. *Indian Food Industry*, Nov-Dec, 33-37.

- The Hindu (2005). Sresta organic food store in Hyderabad. *The Hindu Business Line*. Internet Source: <http://www.thehindubusinessline.com/2005/05/07/stories/2005050702171700.htm>, accessed 08.05.2009.
- The Hindu (2009a). 'Brinjal Food Fest' to Protect Native Varieties. *The Hindu Online*, March 3, 2009. Internet Source: <http://www.thehindu.com/2009/03/03/stories/2009030354600600.htm>, accessed 03.03.2009.
- The Hindu (2009b). Organic vegetables up for grabs. *The Hindu*, 28.01.2009.
- The Hindu (2009c): Savour Brinjals, but not the GM Variety. *The Hindu Online*, March 9, 2009. Internet Source: <http://www.thehindu.com/2009/03/09/stories/2009030957370200.htm>, accessed 09.03.2009.
- The Nielsen Company (2006). Indians Amongst the Top 10 Buyers of Foods with 'Health Supplements' Globally but Lack Access to Organic Food Products. Internet Source: <http://in.nielsen.com/news/20060220.shtml>, accessed 16.01.2009.
- The Nielsen Company (2007). Unavailability and price the major reasons for Indians not purchasing organic products. Internet Source: <http://in.nielsen.com/news/20071203.shtml>, accessed 16.01.2009.
- Unbekannt, Irina (2006). Brauchen wir eine neue Bio-Bewegung? Regionale Kreisläufe fuer Lebensqualitaet statt globaler Kreisläufe fuer Profit. *Allercon-News* 6. Internet Source: http://www.bio100.de/html/body_11_archiv.html, accessed 05.05.2009.
- Verma, A.M.; Singh, P.K. and Pandey, P. (2008). Organic animal husbandry in India. *Indian Farming*, July, 29-30.
- Vijay, Nandita (2008). Focus on snacks for health accelerates food R & D and process innovation. *Food and Beverage News*, December 1-15, 9.
- Vijayapushpam, T.; Menon, K.K.; Raghunatha Rao, D. and Maria Antony, G. (2003). A qualitative assessment of nutrition knowledge levels and dietary intake of schoolchildren in Hyderabad. *Public Health Nutrition* 6, 683- 8.
- Warschun, Mirko and Rühle, Jens (2008). Zwischen ÖkoLabels, grüner Logistik und fairem Handel Lebensmitteleinzelhandel auf der Suche nach Wegen zur Nachhaltigkeit. A. T. Kearney GmbH. Internet Source: http://www.atkearney.de/content/veroeffentlichungen/executivebriefs_practice.php/practice/retail#article50493, accessed 18.04.2009.
- Watkiss, Paul (2007). Current Trends in Distribution and Packaging. Chapter 4.3 of *ESF/COST Forward Look on European Food Systems in a Changing World*. Paul Watkiss Associates Consultancy. Internet Source: <http://www.a8creative.co.uk/paulwatkiss/projects.htm>, accessed 05.05.2009.
- Wikipedia (2009a). Local Food. Internet Source: http://en.wikipedia.org/wiki/Local_food, accessed 08.05.2009.
- Willer, Helga and Youssefi, Minou (Eds.) (2005). *The World of Organic Agriculture. Statistics and Emerging Trends 2005*. Bonn: International Federation of Organic Agriculture Movements (IFOAM), and Frick (CH): Research Institute of Organic Agriculture.
- Willer, Helga und Youssefi, Minou (Eds.) (2007). *The World of Organic Agriculture - Statistics and Emerging Trends 2007*. Bonn: International Federation of Organic Agriculture Movements (IFOAM), and Frick (CH): Research Institute of Organic Agriculture.

- Willer, Helga; Youssefi-Menzler, Minou and Sorensen, Neil (2008). *The World of Organic Agriculture. Statistics and Emerging Trends 2008*. Bonn: International Federation of Organic Agriculture Movements (IFOAM), and Frick (CH): Research Institute of Organic Agriculture.
- Yadav, J. and S. Kumar (2006). The Food Habits of a Nation. *The Hindu*, 14.08.2006, 12.
- Yadav, Baljeet S., Ritika B. Yadav and Chaitali Debnath (2007). Organic Foods: Production and Certification. *Indian Food Industry* 26 (2), 62-70.

Appendix

Pictures



Picture 1: 24-Letter-Mantra Organic Food Superstore



Picture 2: The organic bistro at the 24-Letter-Mantra store



Picture 3: Range of organic pulses and grains at the 24-Letter-Mantra store



Picture 4: Range of conventional processed food at the 24-Letter-Mantra store



Picture 5: Organic vegetable cold storage shelf at the 24-Letter-Mantra store

Picture 6: Workers at the Sresta Bioproducts organic vegetable farm in Medchal, Rangareddy District



Picture 7: Vermicompost production unit at the Sresta Bioproducts organic vegetable farm

Picture 8: Neem for making biopesticides at the Sresta Bioproducts organic vegetable farm



Picture 9: Fabindia store in Banjara Hills



Picture 10: Q-Mart hypermarket in Banjara Hills



Picture 11: The shelves for health and organic food in Q-Mart



Picture 12: Newly opened Sahaja Aharam organic store in Jangoan, Warangal District, which is supported by CSA, CWS and CROPS and sells products from Enavabi village (cf. Misra 2009a)

Picture 13: Sahaja Aharam stall in Bhongir, Nalgonda District



Picture 14: DDS Organic Mobile on its weekly tour through Hyderabad

Picture 15: Organic millet and pulses sold by DDS



Picture 16: Consumer education at the Brinjal Biodiversity Festival organized by CSA, DDS and other NGOs on March 8, 2009

Picture 17: Consumer education about different varieties of pulses and millets at the Organic Mobile



Picture 18: Café Ethnic, organic café and restaurant in Zaheerabad, Medak District



Picture 19: Sangham organic shop in Zaheerabad, Medak District



Picture 20: NPM vegetable outlet at HACA Bhavan



Picture 21: Customers selecting fresh vegetables at the HACA NPM outlet



Picture 22: Vijaya Enterprises health shop



Picture 23: A selection of products at Vijaya Enterprises health shop



Picture 24: “Natural” – but not organic – products at Mehdiapatnam Rythu Bazaar

Key Stakeholders and Experts

Centre for Sustainable Agriculture (CSA) and Sahaja Aharam

12-13-445, Street No. 1, Tarnaka, Secunderabad - 500 017, Andhra Pradesh, India

Phone: +91 40 2701 7735 or +91 40 2701 4302

Fax: +91 40 27005243

Internet: <http://www.csa-india.org>

Mr. Dr. Ramanjeevulu (Ramoo) (Director), mobile: +91 9000699702

Mr. Zakir Hussain (Program Manager), mobile: +91 9849258262, email: zakir@kirca.com

Daaram (Dastkar Andhras Handloom Retail Store)

Naik Estate, ICICI Bank Lane, Beside Airport Lane, Begumpet, Hyderabad - 500 016, Andhra Pradesh, India

Phone: +91 40 27765503

Email: daaram.da@gmail.com

Internet: <http://daaram.blogspot.com>

Ms. Latha Tumurru, mobile: +91 9849023417

DDS Liaison Office

101 Kishan Residency, 1-11-242/1 Street No. 5 (Opp. Pantaloon Show Room), Shyanlal Building Area, Begumpet, Hyderabad - 500 016, Andhra Pradesh, India

Phone: +91 40 2776 4577 or +91 40 2776 4744

Fax: +91 40 2776 4722

Internet: <http://www.ddsindia.com>

Mr. Giradhar (Associate Director), mobile: +91 9440048659, email: hyd2_ddspvr@sancharnet.in

Mr. Kiran Sakkhari, mobile: +91 9490419135, email: kiran.dds@gmail.com

Mr. Ramuloo (Manager Organic Mobile), mobile: +91 9440762461

DDS Project Office and Café Ethnic (organic café)

Pastapur Village, Zaheerabad Mandal, Medak District - 502 220, Andhra Pradesh, India

Phone: +91 8451 282809 or +91 8451 275632

Fax: +91 8451 282271

Internet: <http://ddsindia.com/www/cafeethnic.htm>

Mr. Srinivas Reddy, mobile: +91 9963200085, email: ddskvk@gmail.com

Organic Farming Association India (OFAI), Andhra Pradesh Secretariat

c/o Deccan Development Society,

101 Kishan Residency, 1-11-242/1 Street No. 5 (Opp. Pantaloon Show Room), Shyanlal Building Area, Begumpet, Hyderabad - 500 016, Andhra Pradesh, India

Phone: +91 40 2776 4577 or +91 40 2776 4744

Internet: <http://www.ofai.org>

Mr. Giradhar (Associate Director), mobile: +91 9440048659, email: hyd2_ddspvr@sancharnet.in

Mr. Kiran Sakkhari, mobile: +91 9490419135, email: kiran.dds@gmail.com

Society for Elimination of Rural Poverty (SERP)

5th Floor, Summit Building, Adarsh Nagar, Hill Fort Road, Hyderabad - 500 004, Andhra Pradesh, India

Internet: <http://203.200.212.139/SHG/>

Mr. D.V. Raidu (IAS, Rtd.; State Project Advisor (Agri-NPM)), mobile: +91 9000400509, email: raidudv@gmail.com

Mr. Jayaram Killi, mobile: +91 9000400508, email: jayaram.killi@gmail.com

Ms. Vishwasree Nakka, mobile: +91 9701001621, email: vishwasree@gmail.com

Hyderabad Agricultural Cooperative Association Ltd. (HACA)

5-10-193, 2nd Floor, HACA Bhavan, Hyderabad - 500 004, Andhra Pradesh, India

Phone: +91 40 23235029 or 23230302

Internet:

<http://www.aponline.gov.in/apportal/departments/departments.asp?dep=01&org=6&category=Introduction>

Mr. B. Krupakar Reddy (Assistant Director of Agriculture; NPM), mobile: +91 9440372820 or 9440902939

National Institute for Nutrition (NIN)

Jamai Osmania Post, Tarnaka, Hyderabad - 500007, Andhra Pradesh, India

Phone: +91 40 2719 7321

Fax: +91 40 2701 9074

Internet: <http://www.ninindia.org>

Mr. G.M. Subba Rao, mobile: +91 9701933391, email: gmsubbarao@yahoo.com

Mr. Dr. R.V. Sudersham

Sresta Bioproducts Ltd.

Sresta House, Plot No. 7, LIC Colony, Sikh Village, Secunderabad - 500 009, Andhra Pradesh, India

Phone: +91 40 2789 3028

Fax: +91 40 2789 3029

Internet: <http://www.sresta.com>

Mr. Rajashekar Reddy Salaam (Managing Director), mobile: +91 09000008003, email: rajseelam@sresta.com

Mr. D.V. Raghavanand (National Sales Manager), mobile: +91 09000008002, email: raghav.d@sresta.com

24-Letter-Mantra Organic Food Superstore

Road No. 12, Banjara Hills, Hyderabad - 500 0034, Andhra Pradesh, India

Phone: Phone: +91 40 2330 0202 / 303 / 404

Internet: <http://www.24lettermantra.com>

Ms. Aarti Samat (Store Manager), mobile +91 9392483420, email: aarti.samat@sresta.com

see also Sresta Bioproducts Ltd.

Fabindia

Uma Enclave, Road No. 9, Banjara Hills, Hyderabad - 500 034, Andhra Pradesh, India

Rajeev Gandhi International Airport, International Departure Concourse, Level: F, Unit No.: C, Shamshabad, Ranga Reddy District, Hyderabad, Andhra Pradesh, India

Phone: +91 40 23354526, 23353956

Fax:

Internet: <http://www.fabindia.com>

Ms. Sumana Dobhal (Area Manager A.P.), mobile: +91 9391045791, email: samana.dobhal@fabindia.net

Q-Mart

5th Floor, Uptown Banjara, Road No. 3, Banjara Hills, Hyderabad - 500 034, Andhra Pradesh, India

Phone: +91 40 23553347 to 49, ext. -202

Mr. P.V.J. Varma (Manager), email: varma@qmart.in

SPAR

Max Hypermarket India Pvt Ltd., Oasis Center 3rd Floor 'D', No. 6-3-1112, Ward No. 87 & 92, Block A, Green Lands, Begumpet, Hyderabad - 500 016, Andhra Pradesh, India

Phone: +91 40 44386233

Mr. Kumaraswamy P.S. (Store Manager), mobile: +91 9177101020 or 9886114576, email: kumaraswami.ps@maxhypermarkets.com

Spencer's Retail Ltd.

222, Bakaram Road, Musheerabad, Hyderabad - 500 048, Andhra Pradesh, India

Phone: +91 40 27632693 to 96

Internet: <http://www.spencersretail.com>

Mr. Saurabh Maheshwari (Regional Manager - Merchandising), mobile: +91 9908588817, email: saurabhm@spencersretail.com

Vijaya Enterprises

Shop No. 7, Sangam Complex, Inside 1-1-80, RTC 'X' Roads, Hyderabad - 500 020, Andhra Pradesh, India

Phone: +91 40 6457 9991

Mr. Buba Rao S., mobile: +91 9948320999

Internet Directory

24-Letter-Mantra Organic Food Superstore: <http://www.24lettermantra.com>

Acharya N G Ranga Agricultural University (ANGRAU): <http://www.angrau.net>

Agricultural & Processed Food Products Export Development Authority (APEDA):
<http://www.apeda.com>

Café Ethnic, Zaheerabad: <http://ddsindia.com/www/cafeethnic.htm>

Centre for Sustainable Agriculture (CSA), Hyderabad, India: <http://www.csa-india.org>

Daram (Dastkar Andhras Handloom Retail Store): <http://daaram.blogspot.com>

Deccan Development Society (DDS), Hyderabad and Zaheerabad: <http://www.ddsindia.org.in>

Hyderabad Agricultural Cooperative Association Ltd. (HACA):

<http://www.aponline.gov.in/apportal/departments/departments.asp?dep=01&org=6&category=Introduction>

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT):

<http://www.icrisat.org>

Indocert: <http://www.indocert.org>

International Competence Centre for Organic Agriculture (ICCOA), Bangalore:

<http://www.iccoa.org>

International Federation of Organic Agriculture Movements: <http://www.ifoam.org>

Indian Society for Certification of Organic Production (ISCOP):

<http://iscoporganiccertification.org/>

National Institute for Nutrition (NIN): <http://www.ninindia.org>

National Horticulture Mission, Government of India: <http://www.nhm.nic.in>

National Programme for Organic Farming (NPOP), Government of India:

<http://www.apeda.com/apedawebsite/organic/index.htm>

Organic Farming Association India (OFAI): <http://www.ofai.org>

PGS Organic India Council: <http://www.pgsorganic.in>

Society for Elimination of Rural Poverty, Hyderabad: <http://203.200.212.139/SHG/>

Sresta Bioproducts Ltd.: <http://www.sresta.com>

Timbaktu Collective, Anantapur: <http://www.timbaktu.org>

Questionnaires

Quantitative Interviews

Interview No.	1	2	etc.
1. Are you concerned about harmful chemicals in your food? (Y / N)			
2. Have you ever heard about organic food or Non-Pesticide Management? (Y / N)			
3. If yes: Do you buy organic products? (Y / N)			
4. If yes: Where?			
5a. Do you recognize this label [<i>show India Organic label</i>]? (Y / N)			
5b. Do you recognize this label [<i>show PGS label</i>]? (Y / N)			
6. If yes: Do you the label(s)? (Y / N)			

If no: Would you trust such a label? [give some basic info about what it is first] (Y / N)			
--	--	--	--

Qualitative Interviews

<p><i>Interview # :</i></p> <p><i>Location:</i></p> <p><i>Date, time:</i></p> <p><i>Age group:</i> <input type="checkbox"/> under 20 <input type="checkbox"/> 20-45 <input type="checkbox"/> 46-60 <input type="checkbox"/> over 60</p> <p><i>Gender:</i> <input type="checkbox"/> female <input type="checkbox"/> male</p> <p><i>English competence:</i> <input type="checkbox"/> excellent <input type="checkbox"/> good <input type="checkbox"/> needs translation</p>

1. Do you buy organic or NPM products?
 - yes, regularly
 - yes, regularly
 - no, never
 - no, not usually, but bought them before
2. How did you learn about this shop/ outlet/ market/ Organic Mobile etc.?
3. Who does the shopping for your household?
4. How often do you come here? Where else do you do your shopping and how often do you go there?
5. Which mode of transport do you use to go shopping?
6. Where do you buy fresh fruits and vegetables?
7. Where do you buy organic products?

	this place	supermarket	kirana store near my home	street vendors	farmers' market	
x times a week						
x times a month						
mode of transport						
fruits & veg						
organic						

8. Which organic/ NPM products do you buy?

	fair price for producers	brand	children's preferences [if applicable]	everything in one shop / one-stop-shopping	within walking distance from home	enough parking facilities
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. In general, what kind of food or diet do you think is healthy?

- organic food
- fresh fruits and vegetables
- low-calorie food
- food supplements/ functional food
- food with low level of processing
- traditional, freshly cooked food
-

16. Do you take any food supplements (vitamins, minerals)?

- Yes No

17. Are organic products (here) more expensive than conventional products?

- Yes No

18. Do you think the price differences to conventional food are justified?

- Yes No

General statistical information

19. Where do you live?

20. Education level

- High School
- Graduate
- Postgraduate
- Doctorate
- Vocational training
-

21. Did you ever live abroad for a longer period of time?

22. Occupations of all income earners in the household

-
-

23. Total household income

A – less than 90,000 per year (= monthly: less than 7,500)

B – 90,000 - 2 lakh per year (= monthly: 7,500 - 17,000 per month)

C – 2 - 5 lakh per year (= monthly: 17,000 - 42,000 per month)

D – 5 lakh - 1 million per year (= monthly: 42,000 - 84,000 per month)

E – 1 - 2 million per year (= monthly: 84,000 - 168,000 per month)

F – more than 2 million per year (= monthly: more than 168 per month)

24. How many persons live in your household? _____ adults _____ children