# LOCAL FOOD PRODUCERS AND THEIR SUPPLY AND MARKETING CHANNELS IN SWEDEN

*Girma Gebresenbet, David Ljungberg, Ingrid Nordmark, Marcelo Cardoso*

*Department of Energy and Technology, Swedish University of Agricultural Sciences, P.O. Box 7032, S–750 07 Uppsala, Sweden*

## ABSTRACT

### 1. Objective

The societal demand for local food has been increased in the last decades. However, small scale producers are facing serious difficulties in getting their products into the conventional marketing channels. The emergence of new tendency of local and regional food production necessitates the development of new alternative logistics and supply chain management.

The main objectives of the current work was to (a) map out the supply and marketing channels of locally produced food; (b) determine the bottlenecks in the supply chain and to obtain the ideas of possibilities for development of effective logistics solutions.

### 2. Data/Methodology

The main methodologies employed were data gathering using internet based questionnaire and interviews. Prior to the development of the questionnaire, preliminary and screening questionnaire and interviews were made. The questionnaire was addressed to local food producers (primary food producers and processors) all over Sweden with the main focus of marketing channels and transport system. The interviews were made per telephone as complementary to the questionnaire. Descriptive statistics and were used for data analysis.

### 3. Results/Findings

In total 77 producers have responded to the questionnaire. Most companies used different marketing channels. The most selling channels identified were on-farm 75%, open market 66%, store 60% and restaurant 58%. The maximum distribution distance identified was 1300 km, where 38% of the distribution was within 100 km, and 68% of the producers distributed by own vehicle, mainly using passenger cars, vans or light trucks.

Transports were ranked as the largest impediment for development followed by marketing, inventory and administration. It was mainly transport distance and time and small volumes

that caused transport problem. The main bottlenecks identified were the demand for cold chain and logistics cost, particularly for transport and green refrigerated vehicles. Authorities and regulation were seen as main causes for impediments.

The producers expressed the need for common logistics solutions with common transports together with the need and necessity for more easily handled regulatory framework and less bureaucratic hassle.

## 4. Implications for Research/Policy

The main implication of the current work was increased knowledge on performances of local food supply chain and the improvement of economic competitiveness of local food sectors, through improved cost effective alternative logistics system. Main constraints were identified and the results demonstrated that there are potential possibilities of distribution system of local food producers with large scale food supply chains.

*Keywords: Small scale, food production, Sweden, survey, local food supply chain*

# INTRODUCTION

There is an increased interest in locally produced food often called *local food* (Jones et al, 2004; Smith, 2008; Zajfen, 2008; Nilsson, 2009) and the Swedish consumers have high expectations on this kind of food. The main reasons why to buy local food were shorter transports which is better for the climate, to support economic competitiveness of local producers, and the knowledge on where and how the food is produced , promote employment, environment, living conditions, countryside and support farmers (Coop, 2009, Björklund et al., 2008; Ipsos-Eureka, 2004).

Small scale producers are often working with low number of employees and therefore the work of developing the business and overcoming challenges can be tough. The markets for food products have a long history but the deliveries to open-air markets often rely on a disconnected and inefficient logistics system (Wallgren, 2006; Coley et al., 2009; Nilsson, 2009).

In order to understand the distribution for the producers of locally produced food and be able to see how to improve the situation one must have knowledge of the system. Bloom and Hinrichs (2010) express it "*By identifying and evaluating diverse distribution models for local and regional foods, we can better recognize and support the changes in institutions, enterprises and individuals that offer promising pathways to a more sustainable food system*." Mapping marketing channels of small-scale producers has been done for example by Ilbery et al. (2010) for organic producers. Mapping of local producers have been performed in some countries, as UK (Ilbery et al. 2006), Canada (Ling & Newman, 2011), Finland (Töyli et al., 2008; Lehtinen, 2012) and Hondurs (Blandon, Henson & Cranfield,

2009). Still, this is an area of research where much more effort is required to get better knowledge of how to develop better logistic systems. There are potentials for more efficient distribution of local food (Bosona & Gebresenbet, 2011; Bosona et al., 2011a; Bosona et al., 2011b).

## The Swedish food producers

Sweden has nearly 1,2 million companies registered (in year 2011) and approximately 110 thousand were categorized as crop and animal production, hunting and related service activities, nearly 2000 in fishing and aquaculture, approximately 3400 in manufacture of food products and 167 in beverages manufacturing. Approximately 1400 of the food manufacturing companies are one-person-companies and approximately 700 have more than ten employees (SCB, 2012). Approximately 3000 of the members of Federation of Swedish Farmers (LRF) work with some kind of small scale food production (Lorentzson et al., 2011).

The situation for small scale food producers in Sweden with emphasis on distribution chain has often focused on the locally produced food. Good examples of local distribution have been highlighted in a number of reports (EkoMatCentrum, 2012), and many have described cooperation on municipal, regional and county council level (Hultgren, 2008; Jonsson, et al., 2009; Miljöstyrningsrådet, 2009; Sahlström, 2010).

Consumer trends influencing the production at food companies have during the previous year specially been locally produced, products with few or no additives, products of higher quality , low price products, convenience food products and “other” (Livsmedelsföretagen, 2011a, 2011b, 2012).

Direct distribution between factories and shops has decreased in a historic perspective since centralised logistics systems have proven to be more economically viable. Some products however have alternative supply chains and this can be locally produced food or goods with special requirements. Existing conventional supply chains can be difficult to use for the some of the local food. Seasonal production can be one reason to work outside of the conventional supply chains rather than use existing chains.

In order to further develop the companies the small scale food producers, in the LRF-member surveys (Lantbrukarnas riksförbund, 2009; Lorentzson et al., 2011), were mainly missing fast internet connection, good roads, good municipal business service, good local and region traffic, food stores and postal and bank services.

The distribution of local food often takes other ways to the producer than the through the larger retail chains. Especially, if the production amount is low and/or it is seasonal. Small scale producers often handle several activities in the supply chain by themselves to shorten the chain and hopefully gain economic profit. But to handle several areas of expertise rather than a few is not necessary a good strategic choice.

The main objectives of the current work was to (a) map out the supply and marketing channels of locally produced food; (b) determine the bottlenecks in the supply chain and to obtain the ideas of possibilities for development of effective logistics solutions and to generate knowledge on the logistics of local food system.

# METHODOLOGY

A web based questionnaire investigation was carried out among small scale food producers in Sweden. The survey was directed to primary producers, selling their products at a local market. Paper and telephone answers were offered as complement to increase the accessibility for the producers. The selection aimed for participants from all Swedish counties, preferable small-scale producers, representing different branches, both local and regional food producers and including producers from the most important producer networks.

The questionnaire survey was part of a larger research project searching for hindrance, possibilities and suggestions for local food producers and larger food retail chains see Björklund et al. (2009). The project contained three parts: Swedish network for local food producers and single producers were mapped, the questionnaire for producers was carried out and the large retail chains were interviewed.

From approximately 1100 producers, identified through web portals, lists of farmyard shops, homepages for producers and producer networks and interviews with key persons (Björklund et al., 2009), 150 identified producers were invited. In the first phase, December 2007-January 2008, 25 producers (17%) answered. This was low and initiated a second phase to give more producers possibility to tell their point of view. An open invitation to the questionnaire was sent out during January - March 2008 through producer networks and 52 additional producers answered making the total number 77.

The questionnaire contained 31 questions, divided into sections: Company and production, Distribution, Cooperation and networks and Questions on development. Descriptive statistics were used for data analysis.

# FINDINGS

The average production level among the producers in the survey were 61 tonnes/year and the average turnover 1.7 MSEK. The variation in turnover was however large, **Table 1**. It was most typical to be one part time employee and no one on fulltime. In average the producers put more money into distribution than administration and marketing, **Table 1**. The geographical positions, based on stated zip codes, of the producers are illustrated in **Figure 1**. Out of 25 counties 22 were represented. The survey companies were according to EU definitions (Commission Recommendation 2003/361/EC) microenterprises rather than small enterprises in regards of turnover and staff size.

Table 1 – Summary of production data from the producers.

| | *Mean (range)* | *Median* | *Std Dev* | *Respondents, n* |
|---|---|---|---|---|
| Production (tonnes/year) | 61 (0.8 to 1040) | 7.5 | 149.6 | 71 |
| Turnover (MSEK/year) | 1.7 (0.02 to 16) | 0.55 | 3.07 | 72 |
| distribution (% of turnover) | 6.2 (0 to 17) | 5 | 4.52 | 65 |
| administration (% of turnover) | 4.5 (0 to 30) | 3 | 4.92 | 65 |
| marketing (% of turnover) | 2.7 (0 to 15) | 2 | 3.08 | 65 |
| Employees, full time (persons) | 1.7 (0 to 5) | 1 | 1.32 | 59 |
| part time (persons) | 2.4 (0 to 29) | 1 | 3.73 | 66 |

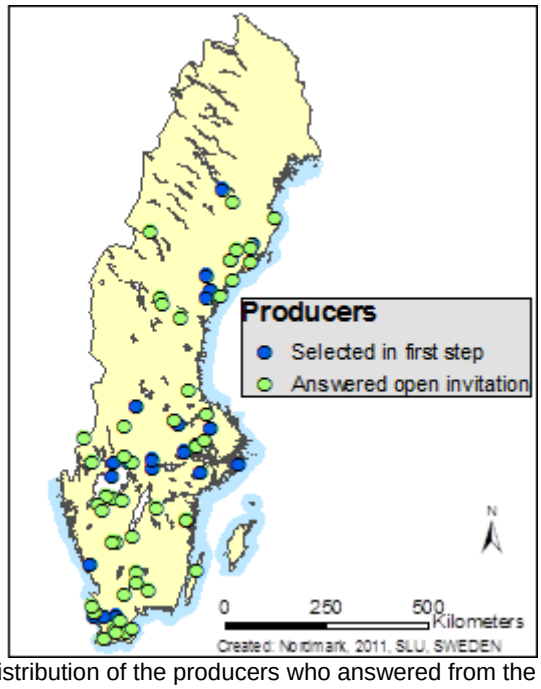


Figure 1 – The geographical distribution of the producers who answered from the first and the second part of the survey.

## Branches and product availability

The dominating branches of production were “Meat” and “Fruit, vegetables and potatoes” while the smallest number of producers were those working with “Dairy products”, **Table 2**. Most of the producers (n=51) stated that they only worked in one branch, while 13, 11, 1 and 1 producers stated two, three, four or five branches, respectively. More than half of the producers refined their products at their own farm. Only a minor part did neither refinement nor packaging.

The products were available for delivery during a major part of the year. Almost all producers (90%) could deliver at least 9 month/year. A large number of the producers (64%) could also deliver all year round. Fresh products were available at least 9 month/year for half of the producers (51%) and all year round for two fifths of them (39%). The number of producers having fresh and stored products varied in periods during the year especially among the meat and vegetable producers.

Table 2 – Branches of production, distribution ways, refinement and market regions of the producers.

| Variables | Survey, n (%) |
|---|---|
| *Branches* | |
| Meat | 41 *(53)* |
| Fruit & vegetables | 35 *(46)* |
| Eggs | 12 *(15)* |
| Grain & bread | 12 *(15)* |
| Dairy | 7 *(9)* |
| Other | 12 *(15)* |
| *Distribution* | |
| Own vehicle | 52 *(68)* |
| Farm shop | 48 *(62)* |
| Buyer collect | 31 *(40)* |
| Transport companies | 28 *(36)* |
| Cooperation | 23 *(30)* |

## Customers

Almost all producers, 92%, sold directly to private customers but many of them, 70% and 64% respectively, sold to retail stores and restaurants or public catering customers. In these three main customer groups, farm shops, single shops and restaurants were the most occurring, **Table 3** for customer type. In average the producers had four types of customers.

Table 3 – Customers and market channels.

| Customer and market channel | n (%) |
|---|---|
| *Private consumer market* | |
| Farm shop (on the own farm) | 58 (75) |
| Farmer's market | 51 (66) |
| Farm shop (out of the farm) | 16 (21) |
| E-trade | 9 (12) |
| Self-pick | 5 (6.5) |
| Subscription / Box scheme | 4 (5.2) |
| *Retail market* | |
| Retail outlet (single) | 46 (60) |
| Retail chain (national) | 17 (22) |
| Local wholesaler | 16 (21) |
| E-trade | 6 (7.8) |
| *Catering market* | |
| Private restaurant | 45 (58) |
| Wholesaler | 15 (20) |
| Catering (public sector) | 14 (18) |
| E-trade | 4 (5.2) |
| *Other distribution channels* | 4 (5.2) |

More than half of the producers, 53-60%, had their market region within the own municipality and county. One fourth sold in adjacent counties, one fifth in the whole country and less than one tenth sold on export. For selling in the own and adjacent counties the maximum distance was 110 km. For selling in the own county maximum distance was 70.6 km. Within the own municipality the maximum distance was 37 km.

The maximum distance to the delivery places was in average 169 km and one producer had 1300 km to the most distant delivery place. For two of the producers, the closest delivery places were 400 and 450 km away. 38% of the producers had all their customers within 100 km, 45% had all customers within 200 km while 12% had some customers on more than 200 km distance. There was a wide variation in the shortest distances to the delivery places, from 1-450 km.

The survey was directed producers, selling their products at what they defined as a local market. Seen to the answers received the local food market could be up to 1300 km away from the farm. However producers answering with the longest distances engaged transport companies as one of several distribution channels and it is possible that they only regarded the market close to them as local. It was remarkable that one producer had as far as 450 km to the nearest delivery place, still considering him- or herself as a “local” producer.

## Distribution

It was common to use 1-3 distribution solutions and 2.4 were the average. It was mainly done by distribution in own vehicle or by consumer when buying from farm shop, **Table 2**. The most common vehicles were passenger cars/small vans and light trucks/vans which 38% and 32% of the producers used, often when distributing with own vehicles. Light trucks/vans were common when distribution was in cooperation. More producers (38%) that had fixed delivery routes than those (31%) changing their routes from time to time. Less than a third (27%) had their routes on fixed days of the week.

The numbers of delivery places were 1-60. It was common to have a small number of delivery places, 35% had a maximum of 5 places while 25% had 20 or more. The deliverances took place 0-8 times/week. The quantities delivered were 0-30 000 kg/week. Half of the producers deliver maximum 500 kg/week.

Costs related to distribution were important issues. High fuel prices “the largest threat mot a living countryside” as one producer expressed, as well as high freight costs in relation to used volume were mentioned. Another area mentioned was the deliveries. It emerged that an effective ways of solve the deliveries was to use already existing and available means of transports and transport roads such as bus, own car, post car, transport companies. Supply security toward customers was highlighted as a problem.

## Load and transport demands

The average load rate was 51% when the shipment left the farm. When the estimations of load rates and distribution methods were compered, the highest load rates (67-60%) were noted when the producers cooperated and when own vehicles were used and lowest (44%) when transporter company were engaged. Almost half of the producers used standardised loading units either disposal or returnable packages.

Half of the producers had cold chain requirements for their products while less than a tenth involved animal transport, shock/vibration sensitive products or other restrictions.

Temperature related issues during distribution appeared as a very important factor for the small scale producers. They considered temperature related transport issues central since much of the attraction in their products was due to the fact that they were fresh. That was why the producers pointed out the importance of efficient and properly functioning temperature management in the transport to maintain the cold chain unbroken. This was both to fulfil the customers' quality demands and authorities' legal requirements.

## Cooperation and networks

When asked if cooperation existed in any area of the business more than one third of the producers answered "Marketing" and/or "Distribution", **Figure 2**. Half of the producers cooperated in 1-3 areas. A large part of the producers (40%) choose "No cooperation" or did not answer.

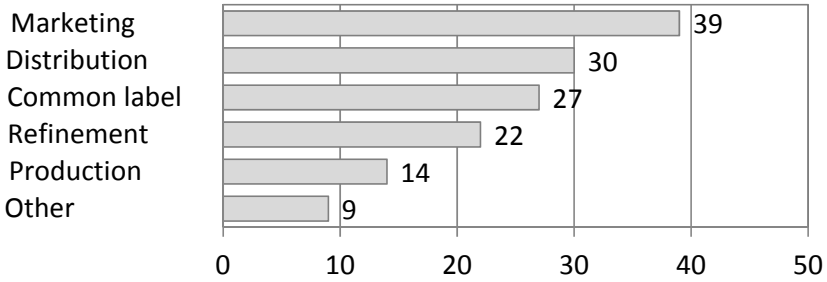


Figure 2 – Percentage of producers cooperating in some area.

The advantages seen in cooperation were diverse and cooperation took place in various fields and levels. Areas mentioned were transport and logistics, security of deliverance, administration and authority affiliated issues. The comments were mainly positive and all in all cooperation seemed to give producers great opportunities in helping each other and profit by the others knowledge and experiences. Disadvantages with cooperation were connected to social and economic aspects, among other things how to agree when strong and opposite wills were in the same group, and when the extra work and costs for cooperation sometimes exceeds the benefits since the deliverances were small.

## Impediments for business development

The largest impediments to development were transport, followed by marketing, inventory and administration, **Figure 3**. Unfortunately the question to rank the impediments seemed to be too advanced since only 28 producers had given complete answers. A larger number however answered the question "If transport is causing problems, in which way?" which indicates that more than those answering the impediment question actually had problems with their transport.

For those that thought that transports caused problems it was mainly due to distances/time consuming, followed by small volumes and limitation of the vehicles (accessibility/design), **Figure 4**. The lack of green and low-cost refrigerated vehicles, the economic aspects due to VAT deduction for certain kind of refrigerated vehicles, high fuel prices and freight cost in related to volume used were stressed as transport hindrance.

The main bottlenecks identified were the handling of cold chain requirements and the logistics costs, particularly for transport and green refrigerated vehicles. The need for efficient cold chain was expressed by more than half of the producers. In combination with the perceived high logistics costs, this indicates a potential for the producers to cooperate in order to achieve a high degree of usage of modern vehicles.

The causes of impediments were mainly due to authorities/regulations **Figure 5**.This impediment causes from other actors were ranked higher than causes under more direct influence of the producers, such as lack of financial resources, labour or competence.

One hindrance concerned the possibilities to get clear answers from authorities and officials. This was connected to the extra administrative work load the producers' experienced that the authorities put upon them. There were e.g. different forms to be completed, which were considered costly and time consuming.

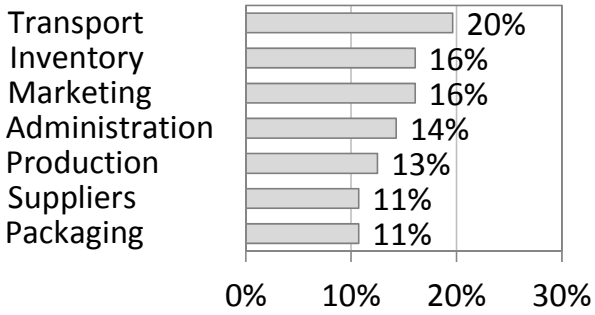


Figure 3 – Impediments for company development, areas ranked highest (and second highest) by the producers (in per cent).

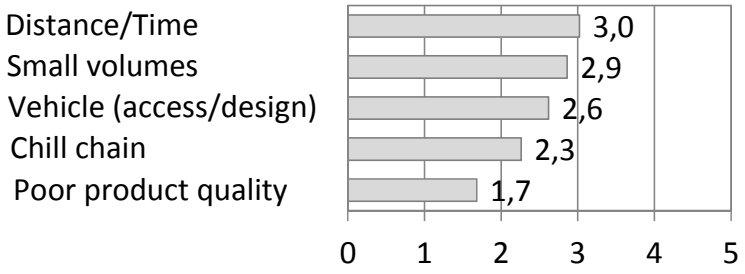


Figure 4 – Causes for transport problem, graded from 1=low importance to 5 =high importance (n=45).

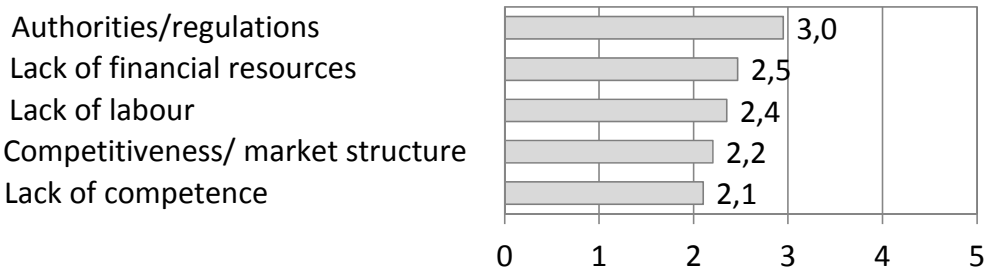


Figure 5 – Causes for the impediments, graded from 1=low importance to 5 =high importance (n=63).

The lack of a sales organization, with selling and marketing of small scale produced food products as main responsibility, was another hindrance. Questions were raised about in which ways the existing means of transport and distribution channels can be made more effective, and how to assure reliability of delivery to the customers.

The possibilities to use other already existing supply chains in the area might be difficult and time consuming for the producers to find out, although it can be a way to make the own distribution more efficient.

### *Comments on changes needed, made by the producers themselves:*

The producers mentioned several areas within their business where they would like to do changes. These were production and handling issues such as slimmed product assortment, more easy handled packaging and different kinds of farm-based activities, such as slaughter and preparation. Questions how to increase the number of employees and how to increase cooperation with other producers were important. How to improve the personal motivation to work with sale issues and in that way open up for more sales places.

### *Comments on changes needed, made by the other actors:*

Changes to be made by other actors were mainly desired in the areas of with delivery and transport. Demand for common logistics solutions with common transports appeared as a general feature. There were also need and necessity for more easily handled regulatory framework and less bureaucratic hassle.

Active and functioning trading places on the internet were requested. Economic issues were brought forward, e.g. regarding transport support for small scale producers, taxes reliefs, and transport costs (which are seen as too high especially when the distance is long).

# CONCLUDING REMARKS

The survey was targeted mainly primary producers, selling their products at a local market. Most of the producers (34%) stated that they worked in 2-5 branches and more than half (52%) of the producers did refinements at their own farm. It was also common to have several customer types and the producers manage the distribution in multiple channels.

- The producers' turnovers had a wide spread (20 000 SEK- 16 MSEK) although all were considered as micro enterprises.
- The most frequently occurring marketing channels were farm shop on the own farm (75%), open markets (66%), single retail outlets (60%) and private restaurants (58%).
- It was common to use 1-3 distribution solutions often including distribution with own vehicle and selling at farm shop.

- More than half of the producers (53-60%) had their market region within their own municipality and county.
- The maximum distribution distance identified was 1300 km, where 38% of the producers had their customer within 100 km, and 68% of the producers distributed by own vehicle, mainly using passenger cars, vans or light trucks.
- Half of the producers said they cooperated with other producers, mainly in marketing (39%), distribution (30%) and common label (27%). More than one third (34%) said they had no cooperation with other producers.

Transports were ranked as the largest impediment for development followed by marketing, inventory and administration. It was mainly transport distance and time and small volumes that caused transport problems. Authorities and regulations caused impediments as the producers experienced extra administrative work being laid upon them. The main bottlenecks identified were the handling of cold chain requirements and the logistics costs, particularly for transport and green refrigerated vehicles.

The study identified a characteristic diversion among the producers (in terms of products, sizes, market and distribution channels and geographical location), making the group considerably heterogenic and general recommendations regarding how to decrease transport as impediment for development needs to take this into account. In addition, it is not unambiguous how to identify the local producers. Since the majority of companies in Sweden is of small- or even micro-scale, the number of companies without specific logistic knowledge would be expected to be large.

The demand for common logistics solutions with coordinated transports was one main point expressed by the producers together with the need and necessity for more easily handled regulatory framework and less bureaucratic hassle. Thus, the producers could benefit from more easily accessible advices on how to efficiently manage cold chains, cooperate with other producers and how to engage suitable transport services. Integration of locally produced food into existing supply chains, e.g. in large-scale food retail chains, should be more investigated so smaller producers can consider that option.

There is potential for more cooperation among the producers, where more suitable vehicles can be used. Due to the diversity in the local food supply chain, it is important to promote flexible distribution systems that can handle the producers' different conditions. This is important to meet the expectations from the customers and enable the continuation and growth in the local food production.

The main implication of the current work was increased knowledge on performances of local food supply chain and the improvement of economic competitiveness of local food sectors, through improved cost effective alternative logistics system. Main constraints were identified and the results demonstrated that there are potential possibilities of distribution system of local food producers with large scale food supply chains.

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## REFERENCES

Björklund, H., Cardoso, M., Gebresenbent, G., Gossas, C., Hallberg, C., Ljungberg, D. och Strömblad, F. (2008). De lokala matproducenterna och dagligvaruhandeln: kartläggning – hinder och möjligheter – förslag. Livsmedelssverige, Sveriges lantbruksuniversitet: Uppsala, Sweden

Bosona, T.G. & Gebresenbet, G. (2011). Cluster building and logistics network integration of local food supply chain. Biosystems Engineering, 108(4), 293-302.

Bosona, T., Gebresenbet, G., Nordmark, I., & Ljungberg, D. (2011a). Box-Scheme Based Delivery System of Locally Produced Organic Food: Evaluation of Logistics Performance. Journal of Service Science and Management, 4, 357–367.

Bosona, T., Gebresenbet, G., Nordmark, I. & Ljungberg, D. (2011b). Integrated Logistics Network for the Supply Chain of Locally Produced Food, Part I: Location and Route Optimization Analyses. Journal of Service Science and Management. 4 (2). 174–183.

Blandon, J., Henson, S. & Cranfield, J. (2009). Small-scale farmer participation in new agri-food supply chains: Case of the supermarket supply chain for fruit and vegetables in Honduras. Journal of International Development. 21 (7). 971–984.

Bloom, J.D. & Hinrichs, C.C., 2010. Moving Local Food Through Conventional Food System Infrastructure: Value Chain Framework Comparisons and Insights. Renewable Agriculture and Food Systems, FirstView, p.1-11.

Coley, D., Howard, M., & Winter, M. (2009). Local food, food miles and carbon emissions: A comparison of farm shop and mass distribution approaches. Food Policy, 34(2), 150–155.

Commission Recommendation 2003/361/EC. Official Journal of the European Union. L 124, p. 36-41. 20 May 2003.

Coop (2009). Coop-rapporten 2009. [Online]. Avaliabe at: http://www.coop.se/PageFiles/8271/CoopRapporten2009.pdf [Accessed 2013-01-25]

EkoMatCentrum (2012). Lokal distribution av livsmedel - Goda exempel. [Online]. Sigtuna. Available at: http://www.ekomatcentrum.se/files/GodaexempelLogistikprojektet 2012.pdf [Accessed 2013-01-25]

Hultgren, J. (2008). Samordnade leveranser inom kommuner och landsting. [Online]. Miljöstyrningsrådet. Available from: http://www.msr.se/Documents/rapporter/MSR_2008_E2.pdf, [Accessed 2013-01-25]

Ilbery, B., Watts, D., Simpson, S., Gilg, A. & Little, J. (2006). Mapping local foods: Evidence from two English regions. British Food Journal. 108 (3). 213–225.

Ilbery, B., Courtney, P., Kirwan, J., & Maye, D. (2010). Marketing concentration and geographical dispersion: A survey of organic farms in England and Wales. British Food Journal, 112(9), 962–975.

Ipsos-Eureka, 2004, Lokal och regional mat - En studie om konsumenters, producenters och handelsinställning och erfarenhet av lokal och regional mat. [Online]. Available at: http://www.regionalmat.se/images/pdf/rapporter/lokal_regionalmat_rapporten.pdf, [Accessed 2013-01-25]

Jonsson, P., Persson, P.-O., Pettersson, M. & Santén, V. (2009). Analys och sammanställning av projekt inom samordnad distribution. Analys & Stategi, WSP Sverige AB. Stockholm.

Jones P., Comfort D. and Hillier D., (2004). A case study of local food and its routes to market in the UK. British Food Journal, 106(4), 328-335.

Lantbrukarnas riksförbund (2009). Barometer 2009 för entreprenad, hästverksamhet, uthyrning, turism och småskaligt livsmedelsföretagande. [Online]. Lantbrukarnas riksförbund, Stockholm. Available from: http://www.lrf.se/Documents/Regionalt/M%C3%A4lardalen/LRF_barometer_2009_tryck.pdf. [Accessed 2012-12-09].

Ling, C. & Newman, L.L. (2011). Untangling the food web: farm-to-market distances in British Columbia, Canada. *Local Environment*. 16 (8). 807–822.

Livsmedelsföretagen, (2011a). Livsmedelsåret 2010. [Online]. Available from: http://www.li.se/branschfakta. [Accessed 2012-12-11].

Livsmedelsföretagen, (2011b). Li:s konjunkturbrev, september 2011. [Online] Available from: http://www.mynewsdesk.com/se/pressroom/livsmedelsforetagen__li/pressrelease/download/resource_attached_pdf_document/674878. [Accessed 2013-01-23].

Livsmedelsföretagen, (2012). Livsmedelsåret 2011. [Online]. Available from: http://www.li.se/branschfakta. [Accessed 2012-12-11].

Lorentzson, J., Svensson, J., Forssell, L., Jöngren, E., Lundell, A. & Qvarford, E. (2011). Grönt entreprenörskap 2011 entreprenad, hästverksamhet, småskaligt livsmedelsföretagande, turism och energi. [Online]. Lantbrukarnas Riksförbund, Stockholm. Available from: http://www.lrf.se/PageFiles/21747/gront-entreprenorskap-2011.pdf. [Accessed 2012-12-19].

Miljöstyrningsrådet (2009). Goda exempel Samordnade leveranser. [Online]. Available from: http://www.msr.se/Documents/goda_ex/msr_goda_ex_samordnande_leveranser.pdf. [Accessed 2010-09-20].

Nilsson H., 2009. Local food systems from a sustainability perspective: experiences from Sweden. International Journal of Sustainable Society, 1(4), 347-363.

Sahlström, K. (2010). Goda exempel på logistiklösningar - med fokus på livsmedel i kommuner. [Online]. Miljöresurs Linné. Available from: http://www.miljoresurslinne.se/rapporter.aspx. [Accessed 2012-11-28].

SCB (2012). SCB:s Företagsregister 2012. ISSN 1653-4883, ISBN 978-91-618-1557-9.

Smith, B.G. (2008). Developing sustainable food supply chains. Philosophical Transactions of the Royal Society B: Biological Sciences, 363(1492), 849-861.

Töyli, J., Häkkinen, L., Ojala, L. & Naula, T. (2008). Logistics and financial performance: An analysis of 424 Finnish small and medium-sized enterprises. International Journal of Physical Distribution & Logistics Management. 38. 57–80.

Wallgren, C. (2006). Local or global food markets: A comparison of energy use for transport. Local Environment. 11 (2). 233–251.

Zajfen V. (2008). Fresh Food Distribution Models for the Greater Los Angeles Region: Barriers and Opportunities to Facilitate and Scale up the Distribution of Fresh Fruits and Vegetables. [Online]. Occidental College. Available from: http://www.uepitestsite.dreamhosters.com/wp-content/uploads/2012/11/Pub-Fresh_Food_Distro_Models_LA.pdf. [Accessed 2013-01-23]