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**The Open
University**

Unlocking the Potential of Community Composting

Full Project Report

WR0211 Defra's Waste and Resources Evidence Programme

The Open University
December 2010

[Start date: December 2006]

This research was commissioned and funded by Defra. The views expressed reflect the research findings and the authors' interpretation. The inclusion of or reference to any particular policy in this report should not be taken to imply that it has, or will be, endorsed by Defra.

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Suggested citation

Slater, R., Frederickson, J. and Yoxon, M. (2010) *Unlocking the potential of community composting: full project report*. Report to the Department for Environment, Food and Rural Affairs (Defra), London.

Acknowledgements

The authors would like to thank Defra for funding this research. Thanks also go to our project partners for their significant contributions: the Community Composting Network, London Community Resource Network (LCRN) and the New Economics Foundation (**nef**).



The authors would also like to acknowledge the many community composting groups that participated in this research, thank you for your valuable contributions and for your time and effort.

The research for the project was completed in 2008. The Government perspective and policy frameworks referred to in the report were current when the research programme was carried out.

The research was commissioned and funded by Defra under the Waste and Resources Evidence Programme, contract WR0211. The views expressed in this report reflect the research findings and the project team's interpretation; they do not necessarily reflect Defra policy or opinions, the views of The Open University or the partner organisations.

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Executive Summary

Aims and objectives

The main aim of this research project was to evaluate the extent of the contribution the community composting sector can make towards Defra's waste related targets and to Government's more broadly based environmental and social objectives. As the focus of this research is community composting it should be noted that the project does not investigate the role of commercial (sometimes known as centralised) composting. Any assessment of the relative merits of community compared with commercial composting is beyond the scope of this project but is an important area for further research.

The research team was led by the Integrated Waste Systems (IWS) research group at the Open University (OU) in collaboration with the New Economics Foundation (**nef**), the Community Composting Network (CCN) and London Community Resource Network (LCRN).

- The project had eight key objectives:
 1. Data collection on the type and level of activities in the community composting sector.
 2. To analyse data collected in Objective 1 and write a report to profile and characterise the community composting sector, identify key success factors and barriers and investigate the relationship between different models and collection environments.
 3. To develop and test a practical framework to evaluate community composting initiatives.
 4. To apply the framework to evaluate community composting initiatives, analyse and report interim findings.
 5. To develop a toolkit for practitioners.
 6. To develop a set of scenarios to assess the potential role of an expanded community composting sector.
 7. To prepare project outputs: Final Report, non-technical summary, toolkit, academic papers.
 8. Further dissemination and 'mainstreaming' of results to include briefings, conferences, industry press and relevant websites, journal articles.
- The project was undertaken in four sequential stages:
 - Conduct a postal survey to help characterise the community composting sector with emphasis on acquiring quantitative data related to sector profile, activities and capacity as well as sourcing initial qualitative data such as sector success factors and barriers.
 - Devise and test an evaluation framework to identify broadly-based benefits. Apply the framework using an extensive programme of workshops and also to explore key success factors and barriers in more detail.
 - Interview key community composting experts with the aim of identifying emerging trends.
 - Undertake an assessment of the current contribution of the community composting sector towards Defra's waste related objectives and to more broadly based environmental and social objectives and discuss the potential for sector growth in the context of a set of scenarios based on emerging trends.

Profile of the community composting sector and wider benefits

- Findings from the 2006 survey found that community composting includes groups that collect/receive and compost material, run education campaigns, promote home composting and facilitate others to develop/promote community composting.
- For 40% of organisations, undertaking composting was their main objective and activity. For the majority (60%), composting was an activity which complements other social and environmental activities and objectives.
- The estimated number of community composting sites was 170.
- Around half of sites processed ≤ 10 tonnes per annum (tpa) and two-thirds processed ≤ 30 tpa. Twenty eight sites processed ≥ 100 tpa (including three processing ≥ 1000 tpa) which collectively accounted for 93% of all material composted by the sector.
- A total of approximately 21,500 tonnes of material was composted specifically at community composting sites in 2006.

- Over 1,000 volunteers were involved with the sector in 2006. In addition the sector also offered trainee opportunities or placements for over 200 workers and employed 178 core, paid staff.
- Rural based schemes made up 57% of the sector active in collecting and composting and urban based groups made up 43%.
- Around one-third of organisations received some form of funding from local authorities. One of the main success factors for groups surveyed was support from their local authority. Most (79%) of the groups who work with their authority reported having a positive relationship. Important support factors included start-up or other small grants, recycling credits, renting or donation of equipment, staff time and resources and service level agreements (SLA). Only five groups had full service contracts.
- Other “internal” success factors included clarity about what groups want to be and do, leadership, knowing how to produce good compost and securing income. Cited “external” factors included having local residents as participants, being active in the local community and having a good external profile.
- The restriction on importing material onsite and exporting material off site under the Waste Management Licensing Exemptions was considered a barrier by community composting practitioners. Waste licence regulations have been superseded by Environmental Permitting Regulations (EPR)¹. Exemptions from the need of an environmental permit lift this import/export restriction which should make it easier for groups to set up and operate small garden waste community sites in the future.
- EPR Exemptions also introduce significantly reduced quantity limits intended to address concerns that larger-scale commercial sites were operating under previous exemptions (Defra, 2009a). The quantity limits of 80t and 60t (depending whether the material is produced and used on or off site) means around 30% of community composting groups are unlikely to meet the exemption criteria, and the 10t food waste limit may be problematic for the small number of community groups approved to compost food waste (4). Following a consultation with its members CCN proposed a 50t food waste limit as more appropriate as it covered current activities in the sector (and these groups are regulated under ABPR) whilst still being at a level to exclude commercial scale sites. Of the 30% of sites that will not qualify for exemptions the cost of the Standard Rules Environmental Permits are likely to be prohibitive for the vast majority. An alternative for these sites would be to decrease the amount of waste they handle to meet the proposed limits.
- The Animal By-Products Regulations (ABPR) (2005) address animal health risks from the treatment of kitchen and catering waste. ABPR compliance, particularly the cost of small-scale in-vessel systems, was considered a barrier by community composting practitioners interested in composting food waste. Some of these groups are developing alternative activities which this research explores through a set of scenarios.
- The British Standards Institution (BSI) ‘Publicly Available Specification for Compost’ (PAS100) sets out a minimum compost quality baseline and requires producers to have management systems to ensure compost that is fit for purpose. Community composting practitioners considered PAS100 to be inappropriate for the very small-scale of their activities. Out of the 150+ producers certified or applying for PAS100 (AfOR, 2009) only three are community composting groups.
- Competition from large waste companies was also perceived as a challenge, as was lack of funding, lack of space, maintaining volunteers, and securing support from the local council and commitment from the local community.
- Five models that characterise most community composting activities related to processing municipal household waste were developed.
- In addition to documenting the practical aspects of undertaking and promoting community composting, the research project identified a range of wider benefits or outcomes that were associated with community composting activities and these are explored in the main report. These important social and environmental benefits were categorised according to their relationship with either individual change or community change. Benefits to individuals associated with community composting activities included improved health and well-being, feelings of safety and belonging and the opportunity to engage in pro-social / pro-environmental behaviour. Benefits associated with community change included increased

¹ The Environmental Permitting (England and Wales) Regulations 2010

community cohesion and environmental quality as well as direct financial benefits within the local economy.

The role of the community composting sector in achieving waste targets and other environmental and social objectives:

- The Waste Strategy for England (Defra, 2007) set targets for recycling and composting of household waste – 40% by 2010; 45% by 2015; and 50% by 2020. We estimate the targets to equate to approximately 10 Mt per annum combined recycling and composting in 2010 rising to 13 Mt per annum in 2020 (see main report Section 4.1). Assuming the contribution to the combined recycling and composting target from composting remains relatively static at around one-third sets a target of around 3.3 Mt per annum of composting in 2010 rising to 4.3 Mt per annum in 2020. This research reports a total of approximately 21,500 tonnes composted by the community sector in 2006 which is less than 1% of that composted by the commercial sector in the same year (2.9Mt). This suggests that if the current profile of the sector and the current sector growth rate is maintained, the community composting sector is likely to make only a minor contribution (<1%) to the proposed Waste Strategy (2007) recycling and composting targets. However, there are sites within the sector that provide a significant local service.
- As shown in this research, the sector delivers many more social and other benefits in addition to biodegradable waste diverted from landfill, which contribute to Government's wider policy agendas of improving local communities and developing well-being. It may be concluded that the individual and community level benefits identified in this research contribute to the visions and wider social objectives of various Government strategies and guidance (outlined in the Section 4).
- This research project confirmed the importance of investment from the Community Recycling and Economic Development (CRED) Programme in significantly increasing processing capacity by as much as 50% in 2006. However, there are questions about the long-term viability of CRED funded initiatives and some structural and regulatory factors were identified which may limit the future development of the sector.

Scenarios to assess and explore the potential of the sector

- A series of scenarios relating to possible future trajectories of the sector were explored. The scenarios were based on trends identified from research findings and interviews with key experts within the sector.
- The pros and cons of the following trends/scenarios were explored:
- a) Support for local sustainability and low carbon initiatives;
- b) Working with businesses to set up on-site food waste composting;
- c) Undertake commercial food waste collections in urban areas;
- d) Community groups as sub-contractors to private waste companies.
- It was concluded that:
 - More research was required to estimate the potential of trend/scenario a;
 - Trend/scenario b was based on facilitating on-site composting and appeared to have good potential for growth. The weight of waste that could be potentially diverted to on-site composting was estimated to range between 6,552 to 32,760 tonnes per year depending on 1% or 5% participation in the scheme;
 - Trend/scenario c involved food waste collection from SMEs to be diverted to commercial treatment and also appeared to have good potential for growth. The weight of waste that could be potentially collected for commercial treatment was estimated to range between 65,520 to 131,040 tonnes per year depending on 10% or 20% participation in the scheme;
 - More research was required to estimate the potential of trend/scenario d.

Summary of key areas for further consideration

National Government level

- The Environmental Permitting (England and Wales) Regulations 2010 should make it easier for groups to set-up and operate very small scale garden waste composting sites which could encourage new entries. However, around 30% of groups are unlikely to meet the EPR exemption criteria. This raises questions about the effect this will have on these groups and

whether there are alternative approaches which are less restrictive in terms of relatively small tonnages.

- In policy terms community composting tends to come under waste management. This research has shown that there are many social orientated benefits for individuals and local communities. How do groups access other government departments and agencies and how can inter-departmental support that cuts across different department boundaries be fostered?
- Ways to encourage greater emphasis on the proximity principle need to be explored to encourage local composting solutions where feasible and appropriate.
- Initiatives are needed to encourage waste recycling and composting from commercial premises and better integrate municipal and commercial waste management.
- Mechanisms need to be explored for placing greater emphasis on the benefits to the individual and the local community as a result of community groups providing local solutions to local problems, in terms of composting, promoting volunteering activities, providing training and therapeutic work environments and wider sustainability issues.
- Project continuity, grant funding and financial self-sufficiency. There is little evidence to suggest that high future growth rates will prevail in the sector without significant additional investment and regulatory adjustments appropriate to small-scale decentralised activities. The EPR Exemptions should make it easier for groups to set-up and operate very small-scale garden waste sites. There is evidence to show that community composting activity increased significantly as a result of funding programmes (e.g. CRED). However, evidence of the transition for individual groups during and after funding is less well documented, although it is known that some groups have folded since their CRED funding ended. Further work is needed to understand how continuity can be improved and if and how groups can achieve greater financial self-sufficiency.
- Enhanced support for community composting innovations. In the past the community waste sector has been instrumental in introducing innovative practices at the margins (such as separate collection of dry recyclables) that then become mainstreamed and widely adopted by the public and private sectors, often squeezing out any role for community based groups that initiated the activity. Further work is needed to explore the scope and feasibility of a more formalised 'innovator' role for the community composting sector in pioneering and piloting activities prior to mainstreaming.
- There needs to be wider recognition, and better use, of the knowledge, experience, skill, commitment, will and enthusiasm that the sector has to offer.

Local Government

- Local authority support is crucial for successful community composting activities therefore ways of enhancing support is vital.
- Support needs to be for groups who have self-organised and are committed; 'top-down' encouragement is unlikely to be successful unless the commitment exists from groups on the ground. 'Ground-up' grass roots development needs to be supported.
- There needs to be a consistent approach across all local authorities in terms of payment of recycling credits for community composting.
- As with the point under National Government above, community composting tends to come under waste management in Local Government. Community composting activities are relevant across a number of areas including social, housing, education and environment. How can inter-departmental support be fostered?
- A 'Third Sector Strategy for Procurement' helps authorities consider the role and added value offered by community sector groups when procuring services. Procurement departments have an important role to play in considering integrating community composting within contracts and harnessing added value.
- Outcomes based commissioning for services can help integrate social, economic and environmental benefits in procurement.

Development of a web-based guide for practitioners

An important output from the project is a web-based toolkit / guide for groups on how to get started with identifying and evaluating the outcomes of their community composting activities. The guide includes first-hand practical illustrations of the tools and techniques used with project case study groups. Links are made to bring to life the benefits of community

composting activity through film footage, photos and words of the stakeholders themselves. The website can be accessed at www.valuingcommunitycomposting.org.

1. Introduction

1.1 Background and context

Over recent years there has been an increasing focus on the role of the Third Sector in developing and delivering public services. This interest is also reflected in the Community Waste Sector (CWS), particularly in re-use, recycling and composting, and the sector is considered to make an important contribution to waste objectives (Williams et al, 2005). The Waste Strategy for England (Defra, 2007b) committed to making greater use of Third Sector expertise and to seeing the sector win a greater share of local authority contracts and Defra's Third Sector Strategy (2008) sets out how Defra will provide opportunities and support for the sector. New policies to build capacity in the sector are being supported through a number of initiatives (e.g. WRAP's Third Sector Programme and the Big Lottery Fund). Alongside this are calls for better understanding of, and evidence for, the effects of the Third Sector in strengthening communities and delivering services.

Community based composting schemes can make valuable contributions to the development of local infrastructure and amenities by improving soils and green spaces in addition to diverting waste from landfill. However, this is often only part of the story. Well managed community activities have potential for providing work and volunteering opportunities, as well as bringing people together and improving skills, knowledge and self-confidence. Considered collectively these factors may contribute to local sustainability more effectively than focusing on meeting particular waste related targets.

Although there is some anecdotal and financial evidence for the growth in, and diversity of, community composting, there is very little comprehensive data that draws together the activity of the sector as a whole. This research set out to understand and assess the current and potential role of the community composting sector in achieving Defra's waste related targets and Government's other wider environmental and social objectives. Thus this research is timely both in terms of establishing what has been achieved in the community composting sector to-date and in terms of possibilities for future achievements. As the focus of this research is community composting it should be noted that the project does not investigate the role of commercial (sometimes known as centralised) composting. Hence any assessment of the relative merits of commercial and community composting is beyond the scope of this project but is an important area for further research.

1.2 Objectives

The project had eight key objectives:

1. Data collection on the type and level of activities in the community composting sector;
2. To analyse data collected in Objective 1 and write a report which will profile and characterise the community composting sector, identify key success factors and barriers and investigate the relationship between different models and collection environments;
3. To develop and test a practical framework to evaluate community composting initiatives;
4. To apply the framework to evaluate community composting initiatives, analyse and report interim findings;
5. To develop a toolkit for practitioners;
6. To develop a set of scenarios to assess the potential role of an expanded community composting sector;
7. To prepare project outputs: Final Report, non-technical summary, toolkit, academic papers;
8. Further dissemination and 'mainstreaming' of results to include briefings, conferences, industry press and relevant websites, journal articles.

1.3 Project team

This was a partnership project led by the Integrated Waste Systems (IWS) research group at The Open University (OU) in collaboration with the New Economics Foundation (**nef**), the Community Composting Network (CCN) and London Community Resource Network (LCRN).

1.4 Report Structure

Section 2 of this report details the approach and methods used in undertaking the research. Section 3 summarises the research results for Objectives 1-4 which are concerned with profiling, characterising and assessing the current state of community composting. Section 4 draws together the main findings from Objectives 1-4 and presents an assessment of the community composting sector's current contribution to Defra's waste related targets (2007) and other environmental and social objectives. Section 5 presents the main findings for Objectives 5 and 6, including how the project team developed a website guide to help individual community composting groups get started with identifying and evaluating the outcomes of their activities. This section also presents a set of emerging trends (scenarios) to assess and explore the potential of the community composting sector. Section 6 discusses policy relevant conclusions and Section 7 considers areas for future work based on the findings.

2. Research approach and methods

The main aim of this research project was to evaluate the extent of the contribution the community composting sector can make towards Defra's waste related targets and to Government's more broadly based environmental and social objectives. The evaluation process was based on both quantitative and qualitative methodologies and was undertaken in four sequential stages:

- Conduct a postal survey to help characterise the community composting sector with emphasis on acquiring quantitative data related to sector profile, activities and capacity as well as sourcing initial qualitative data such as sector success factors and barriers.
- Devise and test an evaluation framework designed to identify broadly-based outcomes mainly associated with environmental and social activities. Apply the framework using an extensive programme of workshops involving community composting organisations (with and without their stakeholders) and also to explore key success factors and barriers in more detail.
- Interview key community composting experts with the aim of identifying emerging trends. Development of a set of scenarios for future growth.
- Undertake an assessment of the current contribution of the community composting sector towards Defra's waste related targets and to more broadly based environmental and social objectives and discuss the potential for sector growth in the context of a set of scenarios based on emerging trends.

The definition of evaluation used in this project is the purposeful gathering, analysis and discussion of evidence from relevant sources about the quality, worth and effect of a provision (Saunders, 2006). Thus in this context, evaluation is about identifying changes brought about by projects' activities. Traditionally, the *methods* used to identify and measure change have tended to be incongruent with the *concept* of change, for example, most focus has been on measuring the efficiency or productivity of a project rather than effectiveness and change (CES, 2008). Moreover this approach has tended to be non-participatory and 'top-down', often conducted by external organisations concerned with providing accountability to funders through focusing on productivity. Whilst efficiency and productivity are important they are not sufficient to identify change. In recent years voluntary and community organisations, funding and public policy bodies are advocating and focusing more on the quality and effectiveness of projects and associated changes as well as productivity (OTS, 2008; CES, 2008; Hart and Houghton, 2007; NCVO, 2004). Assessing change necessitates the inclusion of user-groups and stakeholders in identifying the effects important to them and agreeing issues to be evaluated (Saunders, 2006; nef, 2000). Importantly, it is vital that any evaluation of this type has the capacity to embrace a broad range of outcomes in its scope, including environmental and social outcomes. The project methodology followed this more timely approach and was concerned with collecting data on both the productivity of the community composting sector and on the broad range of outcomes and changes that happen for the groups and their users, stakeholders and local communities. This necessitated a mix of quantitative and qualitative research methods for data collection.

The first stage of the project focused on the need to develop a clear understanding of the characteristics and productivity of the community composting sector, while addressing the contribution of the community composting sector towards Defra's waste related targets. The research approach employed was an extensive postal survey of the sector, which was used to collect mainly quantitative data including the number and types of groups, different composting related activities, tonnages collected and composted, numbers of volunteers and placements, funding and income, and the nature of the collection environments. The survey also sought to identify the range of wider environmental and social objectives prevalent in the sector and, in particular, to scope success factors and barriers for further research during the subsequent programme of workshops.

The second stage addressed the need to evaluate the outcomes brought about by community composting organisations, with particular emphasis placed on understanding and assessing the degree to which community composting organisations have the potential and the capacity to contribute to community wellbeing through satisfying broadly based environmental and social objectives. In this project an appropriate evaluation framework was devised and applied using two rounds of linked workshops. In the Round 1 workshops we developed, tested and revised the evaluation framework. The framework was underpinned by a theory of change (Anderson, 2003), applying and building upon **nef's** outcomes measurement and evaluation work.² Annexes 2 and 3 give further details of the workshop objectives and development of the evaluation framework.

Round 1 consisted of three regional workshops representing different types of collection environments:

- Exeter - largely rural environments
- Sheffield - urban and suburban environments
- London - inner city and rural environments

The Round 1 workshops were primarily aimed at community composting groups per se and were designed to bring together a large number of representative groups. An additional Round 1 workshop was carried out at the 2007 CCN conference. In total Round 1 comprised four workshops, which was one more than originally proposed. These workshops were attended by 55 participants from 46 different groups representing around 40% of the sector currently active in community composting. In addition to testing the evaluation framework, the Round 1 workshops collected the following qualitative data:

- the types of outcomes of community composting activity from the perspective of the groups carrying out the work; and
- more in-depth information on success factors and barriers in different collection environments (supplementing data collected in the survey).

Round 2 workshops comprised five workshops held around the country with individual groups (identified from Round 1) and a representative range of their stakeholders, including workers, volunteers, users, local authorities and support agencies. The five different groups were chosen as examples of groups operating in different challenging collection environments and carrying out different types of community composting and related activities. These workshops applied the evaluation framework developed in Round 1 and collected qualitative data on the social and environmental outcomes of a project's activity from the perspective of the different stakeholders, prioritising outcomes and exploring ways to measure these. Detail of the workshop objectives, methodological approach and processes used can be found in Annex 3.

We then synthesised the survey and workshop results to develop models of different types of community composting which represent the current state of the sector. This also included identifying factors influencing the development of the sector. A series of semi-structured interviews were then carried out with key experts to discuss the models, consider a number of emerging trends and to explore ways in which the sector is likely to develop and challenges now and in the future. By combining interview findings with the models and trends, a set of scenarios were developed to explore possible futures (see Annex 4).

Table 1 summarises the research objectives, methods and deliverables. This report details how objectives 1 to 6 were met. Objectives 7 and 8 are not detailed in this report as they relate to outputs and dissemination, but some publications are included in the reference section.

² See www.proveandimprove.org

Table 1 Research objectives, methods and deliverables

Objective		Method	Deliverables
1	Data collection to profile and characterise the sector	Survey - self-administered questionnaires	Progress report detailing: Compilation of survey population Survey design & questionnaire
2	Analyse study findings and write an interim report which: a) profiles and characterises the sector b) identifies success factors and barriers c) investigate the relationship between different models and collection environments	Analysis of quantitative data using SPSS	Published report: 'Community Composting Activity in the UK - 2006'. Published May 07
3	To develop and test a practical framework to evaluate community composting initiatives	4 participatory workshops (Round 1) Test and revise an evaluation framework developed by nef collecting qualitative data from a range of CC groups working in different collection environments	Draft Evaluation Framework
4	To apply the framework to evaluate community composting initiatives, analyse and report interim findings	5 participatory workshops (Round 2) Apply the evaluation framework collecting qualitative data from 5 individual groups and a range of their stakeholders Thematic analysis of qualitative data collected in Round 1 and Round 2 workshops	Interim report on findings from Round 1 and Round 2 workshops
5	Develop a draft toolkit for practitioners	Using the evaluation framework from the workshops write a draft practitioner guide for consultation	Draft practitioner toolkit
6	Develop a set of scenarios to assess the potential role of an expanded community composting sector	Use previous findings supplemented with interviews with key experts to identify and explore emerging trends and possible futures for the CC sector	Simple spreadsheet model of scenarios
7	Prepare project outputs	Compile outputs for different audiences: - Policymakers - Practitioners - Academic	2 peer reviewed publications Final Report and Executive Summary Toolkit website: www.valuingcommunitycomposting.org
8	Synthesis and dissemination	Presentations, writing papers, industry publications	5 x conference presentations (CCN, CIWM, Waste 2008, ISWA, Leeds University) Industry publications and further peer-reviewed publications in draft

3. Objectives 1- 4 and a summary of results

3.1 Objective 1 – Data collection to profile and characterise the sector

This section details how the team collected data on community composting activity across the UK that was used in profiling and characterising the sector.

A desk based review was undertaken to establish how much was known and published about the activities of the community composting sector. The review found that only a limited amount of information was available; information that was identified included details relating to individual projects in practitioner publications, background information from funders and anecdotal evidence to suggest growth in the sector. There was no comprehensive data set drawing together the activities of the sector as a whole in a systematic and rigorous way which confirmed the timeliness of this research project.

The review also collated information on current composting activities in Europe and conducted semi-structured interviews with European experts³, and found that there is only very limited adoption of decentralised composting systems across Europe as a whole. One notable exception to this is Austria where a study tour found that decentralised small-scale sites are prevalent. There are around 350 decentralised sites collectively processing a total of approx. 270,000 tonnes each year; accounting for around 45% of the collected organic waste for composting (Amlinger, 2002). However, this decentralised model is based around agricultural sites and is largely equivalent to the on-farm sector in the UK (e.g. comparable site size of approx 800-1000tpa per site for both UK and Austria on-farm sites, Slater et al, 2005; Amlinger, 2002) and is not equivalent to the UK community sector which tends to operate smaller-scale sites, contains much more diversity and emphasises meeting social objectives. Outside of Austria, Zurich in Switzerland has an established scheme promoting community composting on communal grounds belonging to multi-dwellings. The scheme deals mainly with food waste and there are around 1,000 plots serving approximately half the households of the city (CRNS, 2007; GRRN, 2001). During the course of this research project a European funded project⁴ was completed that involved the UK Community Composting Network together with other community based organisations in Greece, Belgium, Slovakia and the Czech Republic. The project helped develop a small number of new social economy composting projects in the UK and Eastern Europe and provided an excellent education and training programme for groups wishing to set up similar projects in this embryonic sector in Europe (see www.growingwithcompost.org). The education resources helped inform the data collection activities in this research in terms of the important areas to be explored for different types of composting activity.

Originally it was proposed that survey data for the UK community composting sector be collected via telephone interviews with a representative sample of groups. However, as a result of the review it was decided that a postal survey would provide a more comprehensive and robust 'snapshot' of the breadth of activity within the sector compared to the smaller sample telephone survey originally proposed. This breadth of activity could then be supplemented with more in-depth data collected in the subsequent workshops.

The survey was based on a questionnaire designed by The Open University and the Community Composting Network (CCN) and piloted with practitioners before distribution. The survey was designed to collect predominantly quantitative data on groups' activities including: types of groups; types of composting and related activities; quantity and type of material collected and composted; composting processes; volunteers and employment opportunities and relationship with local authorities. In addition, some 'open' questions were included to scope success factors and barriers which were developed in the subsequent workshops (for questionnaire see Annex 1).

³ Including members of the European Compost Network

⁴ Funded under the Socrates Education and Culture Programme

A database for distribution of the survey was compiled using membership details from the relevant network organisations; primarily CCN, LCRN and DCCN, but also members of CRN with an interest in community composting (including the Compost Doctors Programme) who were not members of the other networks. In addition, the team trawled other sources and contacted organisations that support community composting in order to identify groups that may not be members of the networks but whose activity we wanted to capture. This included CRED funded projects, HDRA Garden Organic, Groundwork Trust, British Trust for Conservation Volunteers and gardening and allotment holder networks. The final database comprised 243 organisations that were sent a questionnaire. Overall the survey achieved a response rate of 61%. A more detailed explanation of the survey method is in the survey report (Annex 1).

3.2 Objective 2 – Profile and characterise the community composting sector

Findings from the national survey give a ‘snapshot’ of the state of community composting and have been published in the report Community Composting Activity in the UK 2006 (see Annex 1). This section draws on these findings and is divided into the following parts:

- 3.3.1 A profile of the community composting sector as a whole;
- 3.3.2 Common characteristics between scheme design and different collection environments; and
- 3.3.3 Success factors and barriers.

3.2.1 A profile of the community composting sector as a whole

Community composting and related activities

Activities that fall under the umbrella of community composting include community groups that:

- collect/receive and process material;
- run education campaigns;
- promote home composting;
- facilitate others to develop/promote community composting.

The survey reported 109 groups active in community composting and carrying out at least one of these activities, many are involved in more than one. Overall, 84 groups (around 80%) are involved in collecting and composting material and 25 groups (around 20%) are involved in forms of community composting activity other than collecting and composting. In addition, many groups are also involved in other waste and/or non-waste activities.

Composting may be carried out alongside other recycling activities or more commonly, alongside non-waste activities such as running community gardens, city farms, local food production, day and residential services for adults with special needs, training and work integration schemes. Figure 1 shows the proportion of organisations that are involved in community composting only, and the proportion that are involved in composting as well as the recycling of other materials and/or non-waste related activities. This shows that there is no single combination of activities that dominates the sector; rather the activities in which organisations are involved are spread across the mix of options.

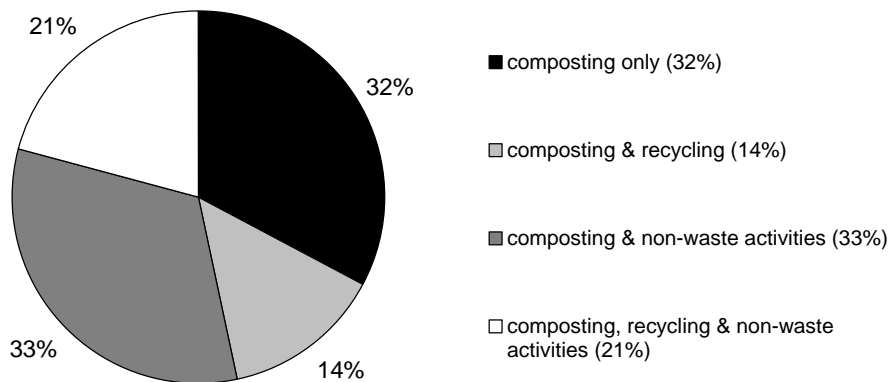


Figure 1 Percentage of organisations involved in composting only, composting and recycling and/or non-waste activities

The largest community composting sites are more likely to be run by organisations dedicated to composting, whereas the smaller sites are more likely to be run by organisations involved in a range of activities. For 40% of organisations, undertaking composting is their main objective and activity. For the majority (60%), composting is an activity which complements other social and environmental activities and objectives.

Most community composting organisations have a mixture of social and environmental aims. Over 80% of respondents said that 'bringing together the local community', 'promoting waste minimisation' and 'diverting waste from landfill' are important aims.

Number of sites and material composted

Findings show that 84 organisations are involved in collecting/receiving and composting material at 121 sites. When extrapolated to account for non-respondents this increases to an estimated 170 sites. The proximity principle is an important element of sustainability and underpins the ethos of community composting. This is reflected in the profile of the sector with features such as decentralisation and small-scale activities showing up strongly; around half of sites process ≤ 10 tonnes per annum (tpa) and two-thirds process ≤ 30 tpa. Twenty eight sites process ≥ 100 tpa (including three that process ≥ 1000 tpa) which collectively accounted for 93% of all material composted by the sector. Most respondents run one site, with 12 organisations running multiple sites.

Responses suggest that a total of approximately 20,500 tonnes of material was composted at community run sites in 2006. When extrapolated to account for non-respondents this total increases to an estimated 21,500 tonnes. It is important to note that this figure relates specifically to composting carried out at community sites. The sector also contributes to organic material diverted from landfill through educational and promotional activity, e.g. master composters schemes that promote home composting. In addition, the sector also contributes to landfill diversion by collecting organic material and transporting it to commercial sites - estimates for the quantities collected have not been included in the survey data as the composting is carried out at commercial rather than community run sites.

To-date the development of the sector has relied predominantly on composting garden waste. Around 80% of sites compost garden waste exclusively - mainly from households but also from local authorities' parks and gardens and allotments and community gardens. Most sites (89%) use an open composting process (windrows, bays or boxes). Around 13% of sites accept garden and food waste (mostly meat excluded). In the past a small number of schemes composted some kitchen waste with garden waste but ceased this practice with the introduction of the Animal By-Products Regulations (ABPR). More recently a number of funded inner city and urban based schemes have introduced ABPR compliant kitchen waste collection and composting schemes. Food waste composting is likely to be a developing area for the sector and is expected to increase over the next few years (see Section 5.2 and Annex 4), and

several organisations said they were in the process of planning or implementing food waste schemes.

Most sites (70%) offer a 'bring site' facility (where householders or local authorities bring their garden waste to the site) - around half of these rely exclusively on this method and half combine it with a collection method, either collecting from the kerbside or from household waste recycling centres. Around 30% of sites rely exclusively on kerbside or door-to-door collections from households and this collection method accounts for 25% of all material composted by community groups.

Regional distribution

Most community composting organisations are based in England (88%) where the most active regions in terms of quantities composted are the South West (20%) and the North (North West - 20%, North East - 14%, Yorkshire and Humberside - 22%) with relatively little activity reported for the Midlands, East of England and the South East. London has the highest density of organisations but accounts for only 1% of material composted. This is due to the small scale of urban sites (city farms, allotments, community gardens) and that one-third of respondents in London are involved in education and promotion of composting rather than collecting and processing material.

People involved in community composting - volunteers, trainees and staff

Questions were designed to give an overview of: numbers of people involved; their type of involvement, e.g. staff, volunteers, trainees / placements; and full or part-time status. Detailed analyses is beyond the scope of this project and greater in-depth data collection would be required to explore the level of involvement e.g. full time equivalent (FTE) estimates for volunteers and the proportion of time allocated to composting when groups carry out multiple activities.

The sector offers significant opportunities for volunteering. Over 1,000 volunteers were involved with the sector in 2006. In addition the sector also offered trainee opportunities or placements for over 200 workers and employed 178 core, paid staff.

The sector relies heavily on part-time volunteers, around three-quarters of all workers recorded are volunteers and over 95% work on a part-time or occasional basis.

Over 80% of groups have volunteers working with them. Of these approximately one-third are entirely dependent on volunteers and have no paid staff. Two-thirds have a mixture of paid staff and volunteers, and for around half of these the paid staff are employed on a part-time basis. One-quarter of groups offer trainee and work placements.

Virtually all groups based in rural areas work with volunteers which contrasts with some urban groups (those running collection rather than bring schemes) where projects are entirely staff based.

The number of volunteers involved with each group does not necessarily reflect the amount of material composted per group, for example some groups may use a large number of occasional volunteers whereas other groups may use a smaller number of more regular volunteers. Groups primarily involved in promoting rather than carrying out composting e.g. through the master home composting programme, are likely to work with a relatively high number of volunteers even though the group may not compost material themselves. For groups that carry out composting, information is not available on the proportion of volunteers' time spent on composting compared to other activities and FTE estimates for volunteers are not available. Therefore, a comparative analysis of the scale of groups in terms of volunteers and material composted is not appropriate.

Over half of groups work with ten volunteers or fewer, 40% of groups work with between ten and 30 volunteers, and five groups reported working with more than 30 volunteers.

As would be expected, the number of full time staff employed by groups does increase with the quantity of material composted. Of the ten groups that composted more than 100tpa and

provided data relating to full time staff, nine groups employed full time staff, with an average of six full-time staff per group. In contrast, two-thirds of groups that compost less than 100tpa per group have no full time staff.

Grant funding and earned income

The survey asked about income relating to community composting activity including grant funding and earned income from contracts, sales and recycling credits. Bearing in mind financial sensitivity, this section in the survey aimed to minimise the number of questions and their scope and detail in order to increase response rates but still this section received the poorest return with 49 respondents providing useable financial data. Because of this the data on grant funding and earned income should be treated with caution. More in-depth data collection is required for more detailed analysis.

Five respondents who completed this section were active in promoting home composting in their community but were not active in collecting and composting material. Two of these groups received no or very little income and three received income in excess of £10,000 predominantly from grant funding.

Of the 44 groups that were active in collecting and composting material and provided useable financial data, the majority (61%) received no or very little income (\leq £5,000) in 2006; of these half operated on an annual income of around £500 or less.

Groups with an annual income of £500 or less tend to be community gardens, allotment groups or small community groups that run very-small scale sites. Over half of these groups process <10tpa per site and four-fifths process <30tpa per site. Groups with an annual income of £5,000 also run small scale sites, however over half process between 30-100tpa per site, therefore operating slightly larger sites than groups in the \leq £500 annual income category. The majority of these groups focus exclusively on community composting activity and the small but essential annual income they generate comes mainly from compost clubs or from recycling credits paid by the local authority. Only 4 groups (out of a total of 27 in \leq £500 and \leq £5,000 categories) received grant funding with the amount ranging from £500 to £5,000 per group.

Seventeen groups had an annual income from community composting in excess of £10,000 per group. Unlike groups with an income of \leq £5,000 or less, the majority (11 out of 17) of groups in the \geq £10,000 category received most of their income from grant funding. For these groups funding ranged from £10,000 to £80,000 per group with the amount of material composted ranging from 10 to 50tpa per site. It should be noted that funding is likely to cover an array of activities and include capital as well as operational costs and further investigation is required for a more detailed understanding. For 6 of the 17 groups in this category income from recycling credits and service contracts with their local authorities (see below) is the main source of income. For these groups income ranged from £25,000 to >£150,000 per annum per group with the amount of material composted ranging from 100 to >2,000tpa per site. Most of the respondents in this category are involved to a large extent in a wide range of waste and non-waste activities in addition to community composting. On average, income from community composting contributes around one-fifth of these groups' total income.

Work with Local Authorities

The majority of respondents (82%) said they have some involvement with their local authority. Most commonly this is an informal dialogue which is an important early stage for the development of organisations to help build understanding and awareness between the organisation and the authority and reflects the relatively young nature of the sector in terms of working with authorities and developing service provision. A number of comments reflected the lengthy and time consuming process of building a relationship with an authority, in one example it took three years of the community group demonstrating capability and potential for the authority to agree to pay recycling credits.

Around one-third of organisations receive some form of grant funding from local authorities, and in some cases this may be underpinned by a Service Level Agreement (SLA). Around 20% of organisations have a SLA - a specific agreement between the organisation and

authority that stimulates agreed performance outcomes. Only 7% of respondents have full service contracts with their authority.

Evaluation

The importance placed on evaluating scheme performance varies across the community composting sector. Just under half of respondents (48%) said evaluation is very important, just over one-third (36%) said it is quite important and 16% said it is not important. Around two-thirds of groups currently carry out some measurement of their performance against one or more environmental, social or educational objectives. The survey asked groups what they measure and all of the responses cited relatively easy to quantify outputs, the most common being 'tonnes collected / composted', 'number of school visits' and 'number of volunteers / trainees'. More difficult to measure factors associated with wider social and environmental benefits such as improved self-esteem/sense of wellbeing from involvement with projects, improvement in local green spaces and developing more cohesion in the community, were recognised as important by respondents but not captured in their evaluations. Section 3.3 and 3.4 of this report details how the project team worked with a sample of community groups and their stakeholders to develop and apply an evaluation framework to capture these wider social and environmental factors.

Age of the sector and future plans

The survey asked respondents when they commenced their involvement with composting. Results show an even split with half of organisations being involved with community composting for 5 years or less and half for more than 5 years. This profile was observed regardless of quantities composted. The most long-standing schemes are based in rural areas; 25% of rural schemes have been running for more than 10 years compared to 13% of urban schemes.

Just over three-quarters of groups (77%) expressed a desire to develop or expand their activities. Most of these want to expand their composting activity in terms of quantity of material collected and processed, number of sites, quality and quantity of compost produced. Fifteen respondents said they want to develop to collect and compost food waste, some mentioned both householders and commercial premises, and several want to include high-rise estates. A small number of respondents want to work with more schools, help other groups set up their activity, and expand into wider sustainability areas such as local food production and distribution.

3.2.2 Relationship between scheme design and different collection environments

From information generated during this research project it is clear that there is considerable diversity prevailing within the community composting sector (Slater et al, 2008). This is particularly notable in terms of the characteristics that define individual projects or schemes, with many community composting organisations apparently adopting unique scheme designs to suit local circumstances and locations. However, there are also distinct patterns of development within the sector and models representing different types of community composting activity have been outlined as part of this research.

In order to identify those key characteristics which underpin successful schemes and to understand the degree to which these scheme characteristics reflect the types of location in which schemes are based, an analysis was undertaken as described below. The analysis used the term "collection environments" to represent location (e.g. urban or rural) given that demographic factors associated with location, such as population density, are known to be related to waste arisings and collection methods. Equally, it is likely that the nature of individual collection environments will strongly influence the features of community composting initiatives arising from those environments.

Hence, the relationship between collection environment and the key characteristics of particular schemes is an important concept and this will be explored in this section. It is envisaged that an understanding of the nature of this relationship will provide valuable insights into replicating successful schemes in appropriate locations.

To understand and assess the nature and strengths of relationship between scheme design and different collection environments, groups active in collection and composting were categorised depending on whether they operate in rural or urban/inner city areas. As this section is concerned with scheme design it excludes groups that are involved in promoting composting and do not actually compost material themselves. It also focuses specifically on groups involved in composting 'household waste'. It excludes groups involved in composting waste produced on-site only, such as allotments and city farms (n.b. sites that compost waste produced on-site *and* also accept/collect household waste for composting have been included).

Rural and urban based schemes

This section draws out those characteristics of urban and rural based schemes which are common to both and highlights similarities and differences. It should be borne in mind that the typology in Table 2 represents simplified models of schemes operating in the two environments and there are many exceptions to these 'typical' groups.

Rural based schemes make up 57% of the sector active in collecting and composting and urban based groups make up 43%. The South West of England has by far the greatest concentration of rural schemes whereas London has the largest proportion of urban based schemes. Not surprisingly, a greater proportion of rural schemes are more longstanding than urban ones (25% of rural schemes and 13% of urban schemes have been running for more than ten years). However, there are a similar proportion of 'younger' schemes in both rural and urban areas suggesting that the pace of take-up of new schemes is occurring at similar rates in both demographics.

Table 2 summarises the main characteristics and elements of scheme design for groups operating in rural and urban environments. Table 2 shows that for rural schemes composting tends to be the main activity whereas for most urban schemes composting is a complementary activity to help achieve other objectives. Mostly these other objectives are non-waste related, such as activities based around local food production, community gardens and city farms.

Table 2 Characteristics and design of 'typical' schemes operating in rural and urban environments

Scheme design / characteristic	Rural environment	Urban environment
Is composting the main activity	yes	no
Site size (tonnes per annum)	30-100	<10
Waste type	garden (from householders)	garden (from householders) kitchen (mainly from on-site catering)
Method of obtaining material	bring	bring & collect
Are sites staffed or unstaffed	unstaffed	staffed
Use volunteers	yes	yes
Average number of volunteers	13	10
Therapeutic work placements	no	yes
Main objectives	divert waste landfill bring community together	divert waste from landfill improve local environment opportunities for vulnerable groups
Is evaluating performance important?	no	yes

Typically rural schemes run larger composting sites than urban schemes and these sites tend to be unstaffed whereas urban sites tend to be staffed. Most rural and urban schemes rely on bring systems where householders bring their garden waste to the site for composting. Virtually all rural based schemes compost garden waste only. A small number used to also compost kitchen waste but have ceased with the introduction of the ABPR. Typically urban schemes also compost predominately garden waste and a significant proportion also compost their own kitchen waste, mainly from on-site catering operations. Around one-quarter of urban

groups compost household waste only. A small-number of these are inner-city London based schemes that focus on door-to-door collection of kitchen waste from high and low rise dwellings and estate based composting.

Around two-thirds of rural sites are unstaffed and run entirely by volunteers. Community composting respondents reported that unstaffed sites left open to the public had the potential to attract unwanted rubbish and general miss-use of the site. This can be alleviated by having restricted and set opening times which are staffed by volunteers. However, such restrictions may limit the use of the site by the local community, and may also limit opportunities for the group to expand their remit and develop links within their community. Staffed sites are more desirable for site management, quality control of composting feedstock and allow for more frequent opening times. In contrast to rural sites, over three-quarters of urban sites are run by paid staff which most likely reflects their involvement with a range of activities including composting. Most urban sites also rely on volunteers to help carry out their activities. The main exception to this is schemes operating collection rather than bring systems and they highlighted the importance of paid staff to ensure continuity and run reliable and effective collections.

Most rural groups do not offer training or therapeutic work placements for vulnerable or marginalised individuals. This contrasts with urban based groups where over half of groups are involved in such activities. However, there are a small number of rural based organisations primarily involved in providing services for adults with learning difficulties that carry out community based composting as one of their many therapeutic activities.

A greater proportion of urban schemes consider evaluation of scheme performance to be very important (57%) compared to rural groups (39%). This could reflect the fact that a number of rural schemes operate at very low-costs, are self-financing through fund raising and compost clubs and rely entirely on volunteers. Hence the importance to them of evaluation as a means of business planning, improving performance or reporting to funders is less of a priority compared to groups looking to expand their remit and seeking service contracts or other externally sourced funds.

3.2.3 Scoping success factors and barriers

The questionnaire asked community composting groups to give their opinions on factors that contribute to groups' successes and on factors that pose barriers or challenges. The questions were designed to scope important perceptions of groups and are summarised in bullet-point below. The questionnaire based approach was designed to identify key factors only and the perceptions outlined below were supplemented with more sophisticated qualitative data on perceived success factors and barriers collected during the Round 1 workshops and discussed in Section 3.3.2 below.

Success factors

One of the main perceived success factors for groups surveyed was support from their local authority. Most (79%) of the groups who work with their authority reported a positive relationship although building this relationship had been a difficult path with 60% reporting problems. The main success factors perceived by groups and highlighted in the survey are listed below:

- Support from local authorities;
 - Clear communications and on-going dialogue
 - Good relationships between key individuals
 - Positive view of the community sector and social enterprises
 - Grants and support in kind
- Support from residents and local community;
- Project leadership;
- Securing funding and income;
- Continuity of the project in terms of the above (funding, support, knowledge) and continuity of staff and volunteers.

Barriers and problems

Three-quarters of community composting groups said they had experienced problems in setting up and/or undertaking composting activities. The problems cited most frequently in the survey related to legislation and bureaucracy, in particular the perception that planning, licensing and ABPR compliance are not geared or appropriate to the nature of the sector which is mainly focused on very small-scale activities. The main barriers perceived by groups and highlighted in the survey are listed below. This was supplemented with qualitative information from the workshops and is discussed in detail in Section 3.3.2.

- Legislation perceived by community composters as inappropriate for the scale of their activities, in particular:
 - Animal By-Products Regulations (ABPR) (2005) – comments related to the cost of enclosed systems
 - Waste Management Licensing and Exemptions⁵ – comments related to the costs of compliance and import/export restrictions
 - Planning Regulations - comments related to time and difficulties in securing planning
- Lack of funding and funding insecurity;
- Lack of space / suitable site;
- Lack of volunteers / time commitment too high;
- Lack of cooperation / support from local council;
- Lack of commitment within the local community;
 - Reluctance to separate / store food waste
- Impossible to compete with large waste companies.

⁵ The Waste Management Licensing Regulations 1994 which were in force prior to and during the research programme described in this report and have been superseded by the Environmental Permitting (England and Wales) Regulations 2010.

3.3 Objective 3 – Round 1 workshops to develop, test and revise an evaluation framework and to expand on success factors and barriers

This section is in two parts. The first part (3.3.1) gives details of how the framework was developed and tested. The second section (3.3.2) presents findings from the Round 1 workshops with community groups to develop understanding of the key success factors and barriers.

3.3.1 Evaluation framework

Approaches to evaluating social and environmental outcomes

Up to this section the research project has largely focused on developing a profile for the community composting sector with particular emphasis on outputs and performance. This and the following section address the wider set of objectives and benefits that are associated with the community composting sector. The approach taken is to identify those aspects of composting which are related to stimulating longer-term change, with individuals and the wider community, thereby contributing to Government's wider social and environmental objectives. These longer-term effects that projects can induce are known as outcomes. This stage of the research project focused on the social and environmental outcomes from community composting activity from the perspective of the community groups and a range of their stakeholders.

For individual groups, understanding and demonstrating the outcomes their activities can bring about is important for business planning, reflection and evaluation. It can also help demonstrate the importance of activities to stakeholders including clients, funders and investors. Demonstrating outcomes is important to help secure income and funding and therefore important for the development of the sector.

There are a number of concepts and tools for thinking about and measuring outcomes. Many of these concepts have evolved and developed in the commercial and public sectors (Elkington, 1997) and include corporate social responsibility (CSR), environmental impact assessment (EIA), social impact assessment (SIA) and triple bottom line (TBL) (Vanclay, 2004). Translating these concepts into tools for measuring outcomes relies on methods of identifying, selecting and measuring indicators of the outcome. Whilst this can be relatively straightforward for economic and some environmental indicators, it is far more difficult for social indicators. Indeed, it has been argued that the concept of social change should be maintained at the level of a philosophy to help organisations think about the outcomes of their activities and not developed into indicators for a decision algorithm that is likely to ignore many of the truly social issues (Vanclay, 2004). Whilst it is possible to develop appropriate indicators for some social outcomes and in certain cases proxy values can be used to monetise these (e.g. costs of benefits avoided through secure employment), decision making processes should recognise that such proxy values have limitations and will only tell part of the story as other social outcomes, such as confidence and wellbeing, cannot be reasonably captured and measured in this way.

In the UK two of the main tools for measuring social outcomes that are gaining credence are Social Return on Investment (SROI) (nef, 2007) and Social Accounting and Audits (SAA) (Pearce and Kay, 2005). Both SROI and SAA are concerned with understanding, measuring and reporting on the social, environmental and economic value generated by an organisation's activities and both are predicated on a stakeholder engagement approach. These and other commonalities and differences between the two approaches are reviewed in Pearce and Kay (2008). The main difference between the two approaches is that SROI is built around the concept of monetising indicators or proxy indicators whereas SAA is not. Whilst SAA and SROI both advocate the importance of an organisation's 'story' including the perceptions of workers, users, beneficiaries and other stakeholders, proponents of SAA argue that monetising indicators will attract attention to the monetary 'number' and away from the social values that are captured in the story but not amenable to monetisation.

The Office of the Third Sector has launched a programme to “bring together public sector, independent investors and social enterprises to agree a standard methodology for SROI that places a financial value on social benefit” (OTS, 2008). Advocates of SROI and SAA highlight complementarities between the two approaches and recommend convergence where appropriate (Pearce and Kay, 2008) whilst recognising that there will be some situations where it is feasible to monetise indicators and other situations where it is not and value needs to be demonstrated through the richness of the organisation’s narrative produced with stakeholders.

This point is supported in a parallel Defra funded project (WR0506, Resources) that conducted a SROI with five community waste organisations including one composting project and results suggest that whilst it is possible to monetise some benefits, the value of non-monetised benefits could be significant (Resources for Change, 2009; Anderson et al, 2008). Although other research evaluating social change and the community waste sector is limited, another Defra funded project (WR0502) highlights the importance of social inclusion for many social enterprises providing waste services and stresses the need for more effective data collection across the community waste sector (Hines et al, Cardiff University, 2008) this latter point being important for any evaluation.

On a practitioner level, SAA is starting to emerge in the community waste sector, particularly in the area of re-use, but it has not yet been adopted by the community composting sector. Results from the national survey show that many groups recognise the importance of evaluating and demonstrating outputs and outcomes but meaningful evaluation is resource intensive and most community composting groups have limited resources. Full processes to identify and measure outcomes are currently beyond the capacity of many groups. The framework developed for this project is an evaluation tool that helps groups embark on the first steps towards demonstrating the outcomes their activities bring about in a way that is simple, manageable and useful. It provides project officers with a process that can be used to involve a range of their stakeholders to identify and measure the most important effects resulting from their activities. The framework was also an integral part of this research project and was used to identify the key social and environmental outcomes that the community composting sector considers it is making. The framework has been published as a web-based toolkit for practitioners (www.valuingcommunitycomposting.org.uk).

Develop, test and revise evaluation framework

The start point for developing the framework drew on a theory of change model (Anderson, 2003) and an outcomes mapping tool developed by **nef** using a series of logical steps to work through cause-and-effect links between contexts and inputs, activities, outputs, outcomes:

- **Context and inputs** - the context refers to ‘why’ groups started their composting activity. The inputs refer to are all the resources invested in a project’s activity to achieve the outputs. Inputs are measured as a cost and include time, money and premises.
- **Activities** - what the groups actually do to carry out and promote community composting and related activities.
- **Outputs** - are the direct, tangible and often easily quantifiable products from the activity, e.g. tonnes of waste collected, participation rates, number of training courses delivered.
- **Outcomes** - are the medium to longer-term changes that happen as a result of a project’s activities. In this research project outcomes relate to wider social and environmental benefits that are less easy to quantify compared to outputs. For example, an *output* relates to the number of people trained and the *outcome* relates to the change that training has brought about for the individual e.g. in terms of building skills, ability, confidence and employment prospects. Outcomes can be at the level of individuals or organisations, and the changes may be different for different stakeholders.

It should be borne in mind that general descriptions of evaluation sometimes use the terms outcomes and impacts interchangeably, which can be confusing and misleading. In this research project the terms have different meanings. Following the **nef** model, impacts relate to the very long-term effect, often at a higher level than the original target of the project, to which the project together with other initiatives, has contributed. This research project focused on the outcomes from the community composting sector and did not consider other parallel initiatives.

The broader and longer-term study required to assess parallel initiatives was beyond the scope of this research project.

A full explanation of how the evaluation framework was developed is detailed in Annex 2. A summary of the steps worked through with practitioners is given below:

- Step 1** - Storytelling - focusing on success factors and barriers;
- Step 2** - Build a storyboard - to develop a narrative for how the project brings about change;
- Step 3** - Ways of knowing - identify the most important outcomes and explore ways of identifying these outcomes are happening.

An example of the Storyboard template illustrating the logical steps from inputs to outcomes is illustrated in Figure 2.

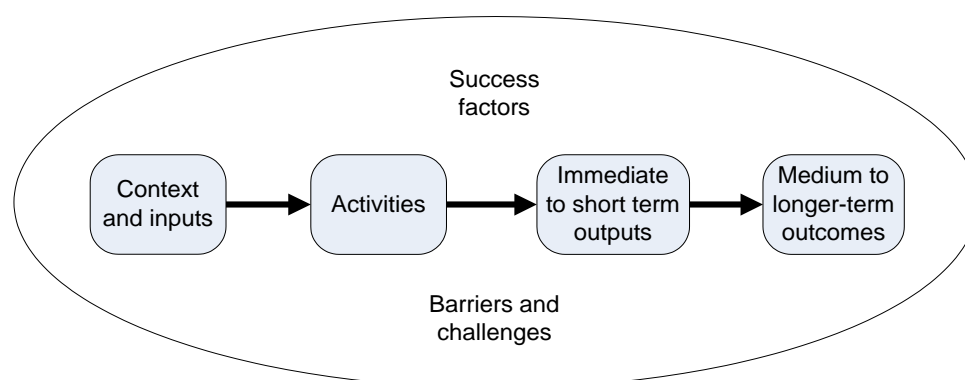


Figure 2 The logical steps in the Storyboard process, from inputs to outcomes

3.3.2 Key success factors and barriers revisited

Success can be defined as the ‘accomplishment of an aim or purpose’. Whilst it is easy to have an intuitive sense of the meaning of success it is a relative term influenced by the external perspective of those viewing/assessing it. The definition also implies intention and excludes unintended outcomes which may be beneficial and retrospectively viewed as illustrative of success. Many community based groups including those involved in composting have multiple objectives, often a combination of environmental, social and educational. In addition, within each of these headings there will be sub-objectives that differ in importance between groups. For example, findings from the national survey show that the ‘diversion from landfill’ is very important for over 80% of community composters and for over 50% of these ‘improving local soils’ and ‘improving the local environment’ are also important environmental objectives. ‘Bringing together the local community’ is also an important social objective for over 80% of groups, with ‘job opportunities’ and/or ‘training opportunities’ for vulnerable groups being important for around half of these.

In contrast, different Government departments encouraging the development of the community sector for service delivery are likely to view success in terms of their departmental objectives. For example the provision of training opportunities and placements and involvement with excluded groups may be relevant to a number of different government departments, such as the Department for Children, Schools and Families, Department of Communities and Local Government and Department of Health. For the Department of the Environment, Farming and Rural Affairs the community composting sector is considered more in terms of the role it can play in contributing to sustainable waste management objectives including diversion of waste from landfill⁶.

⁶ These were the departments which were current when the research programme was carried out.

Data on key factors for helping make a community composting project a success together with major challenges faced by groups was collected in the national survey and then explored in more detail with practitioners during the Round 1 workshops. For the most part, success factors and challenges were similar across groups operating in rural, suburban and urban collection environments. These are summarised below and are highlighted where they differed between geographical areas.

Generally speaking, many of the success factors and challenges are the opposing sides of the same coin. What helps to contribute to a scheme's success will most likely prove a challenge if absent. Many of the success factors drawn out by groups related to internal capacity and project continuity with external factors relating to local support. Most of the challenges related to external factors. In addition to the internal and external factors important to the success of a developing project, groups also stressed that the impetus for a project needs to be driven by the community groups themselves with support from the local community and local authority. Without the impetus from the groups themselves any 'top-down' influence from authorities is likely to have limited success.

Key success factors, internal capacity and project continuity

The phrase 'internal capacity and project continuity' aggregates a number of factors considered key to running any successful project, community group, social enterprise or small business. The most common of these factors raised in the workshops are listed below:

- Clarity about what want to be and do. What is your unique selling point?
- Leadership - composting 'champion';
- Know how to produce good compost;
- Workers - staff and volunteers;
- Securing income and moving towards self-financing social enterprise;
- Mechanisation; and
- Professionalization and reliability;
- Personal touch and community trust.

Clarity and the unique selling point

Clarity about what the project wants to be or do is about having a clear vision. A vision is about knowing where you want a project to be in a given time-frame and is the start point for then working out the steps needed to achieve that. Findings from the national survey show that for the majority of groups (60%) community composting is not their main activity but rather a complementary activity carried out alongside other recycling, or more commonly, non-waste activities (see Annex 1). Having multiple objectives may be internally driven as they are seen as complementary or composting may be seen as a 'vehicle' to achieve other ends - such as training and development opportunities or therapeutic work environments for vulnerable groups. Multiple objectives may also be externally driven in response to changing policy goals and funding opportunities.

Having multiple objectives is not always consistent with maintaining a clear focus. Work carried out by Brook Lyndhurst (2007) on success in social enterprises in the waste sector also found that enterprises tend to undertake several activities, and that this combined with lack of internal management processes can lead to a lack of focus. Brook Lyndhurst suggests that by focusing efforts on core activities social enterprises may be more likely to achieve growth (2007, p30).

Leadership - composting 'champion'

Strong leadership is important to the success of projects. Established projects were often initiated and driven by a passionate individual with commitment and energy to realise the project's vision. However, there may be issues around capacity or appropriate leadership skills - groups often want to focus on the practical aspects of the composting and may not have the capacity and skills to develop the leadership, management and administrative processes. Several participants commented that the extent of the administrative requirements from external funders and local authorities caused them problems and distracted attention from the more important (as they see it) day-to-day operations. Capacity is also a problem for some groups with multiple objectives as this requires networking and possibly collaborative working

arrangements with multiple agencies of local authority departments. This is a lengthy, staff intensive and time consuming process and also requires networking skills that individuals working in groups may not have or indeed see as a priority.

Know how to produce good compost

Knowledge on how to produce good quality compost was also considered key - participants observed that this was both an 'art and a science', often developed through years of practical experience - this raises the issue of succession planning and the problems of the loss of knowledge and momentum when an experienced leader moves on. Having an outlet for the composted material was also considered an important success factor.

Workers - staff and volunteers

As a whole the community composting sector relies heavily on part-time volunteers (see Annex 1 for volunteers and worker profile). However, the extent to which individual groups rely on volunteers, and the type of volunteers they rely on, varies between the different types of composting groups. This ranges from entirely volunteer run (which tend to be small rural groups composting their own garden waste) to entirely run by paid staff (which tend to be kitchen waste collection and processing - a handful of these projects are operating in urban and inner city estates, most notably London). For some of the latter projects seeking to develop from grant funding to direct contracts with local authorities, providing a professional, reliable and convenient service, and hence building trust with residents and the local authority, was seen as incompatible with reliance on volunteer staff for service delivery.

For other groups that rely heavily on a relatively large number of volunteers, such as the master composter type model, having a paid worker to co-ordinate volunteers' activities and provide continuity for the project was considered crucial.

Over one third of community composting groups are entirely dependent upon volunteers and for these and other groups heavily reliant on volunteers, volunteer commitment and goodwill is a key success factor. The groups' ability to tap into this goodwill and recruit and retain volunteers was also an important issue. Maintaining initial enthusiasm and recruiting 'new volunteers' is often problematic.

Securing income and moving towards self-financing social-enterprise

Securing income and self financing was seen by many groups as an important factor to sustain their activity in the longer-term. Results of the national survey show that around half of community composting groups are self-financing or survive without income (see Annex 1, p22). These are the smaller community groups typically composting <5tpa, the self-financing element comes mainly from the receipt of recycling credits and/or from membership from local residents to join the 'compost clubs' run by groups. Payment of recycling credits to community composting groups varies depending on arrangements with local authorities. Most of the participants in the Exeter workshop receive credits, but this was patchier for groups in the Sheffield and London workshops. Results from the survey also show that groups involved in a range of activities in addition to community composting received more income from grant funding for their composting activity compared to those that focus exclusively on community composting.

Mechanisation (Exeter workshop)

Access to machinery was raised as a success factor by groups in the rural composting workshop but not specifically raised by groups in the urban and suburban workshops. Most of the rural groups in the Exeter workshop had been operating with little or no mechanisation. To support the composting groups' activities the Local Authority in Devon had purchased a chipping and shredding machine that is now shared between groups. It can be speculated that mechanisation is seen as important for these groups as many started as self-organised groups without funding using very low technology operations. This example of local authority support ties in with the external success factor of local authority support discussed below.

Professionalism and reliability of service (Sheffield and London workshops)

For groups running collection schemes, which are predominantly in urban and inner-city areas, professionalism and reliability of service were considered key success factors. As well as

providing a quality service, these factors were also seen as important for building trust, both with local residents and with the local authority. Although important for any collection scheme, service reliability factors were particularly stressed by inner-city groups running food waste collection schemes.

Personal touch and community trust

In addition to a reliable and professional service, the personal approach of the groups in terms of engaging with residents using their services and the wider community was seen to build community trust. For example, groups and residents in inner-city areas considered the role of the collection crew to go beyond that of collections, providing a friendly service and a role more akin to a 'community warden' or helper on the estates.

External factors - support from the Local Community

Workshop participants stressed the importance of local actors to the success of community composting - these actors can come from a variety of sources and those considered most important were:

- Links with and support from the local authority (county, district and parish councils);
- Local residents as participants in the scheme (habitual participation);
- Groups active in their local community (allotment society, gardening clubs, schools);
- Other third sector organisations in the local community; and
- External profile of the project and relationship with the local media, which take time to build and maintain (e.g. TV, press, radio).

Whilst exploring the success factors in the workshops a quick ranking exercise was undertaken to show which success factors were considered the most important. Links with and support from the local authority was considered crucial by most participants across all three workshops. This support can take a variety of forms, and the ones cited most frequently in the workshops were:

- Start-up or other small grants;
- Payment of recycling credits;
- Renting or donation of equipment;
- Staff time and resources; and
- Service level agreements (SLA).

At the Exeter workshop, most participants were involved in running rural based composting sites in Devon. Devon has a strong history in community composting with support from local authorities; the county is unusual in having a dedicated support network - Devon Community Composting Network (DCCN). The co-ordinator for the network is financed by a collaborative initiative between all the councils in Devon. The councils actively encourage partnerships with the community sector and have produced 'Sustainable Procurement Guidelines' with the aim of helping local authorities achieve added value from the provision of services by the community sector and to improve the opportunities available to the community sector to provide services.

The workshops showed how most community composters have been pro-active in developing links with their local authority. However, this can work vice versa with a pro-active authority seeking to establish community composting schemes. East Riding of Yorkshire Council (Sheffield workshop) provided start-up grants to develop community composting and pays 'community composting credits'. The council has been instrumental in helping groups set up, especially in securing planning permission. Progress has been slower than hoped - partly due to less and slower take-up by the community sector than expected and partly due to delays in getting started, especially in securing planning. At the time of the workshop 4 groups were in the process of setting up - the Council hopes to establish 8 groups.

Support from the local community is also important in securing and retaining householder participation in composting schemes. Some groups felt that residents are more inclined to support a community based scheme because of its locally based social/environmental objectives. There was a strong sense that community based groups have a more 'personal touch' compared to public/private service providers. Face-to-face communication with

residents and high and regular visibility within their community was felt to be important in regularly getting the message across and getting residents involved. Making the scheme easy and convenient to participate, appropriate infrastructure and continuous dialogue with residents including feedback on scheme performance were all considered important factors to develop and maintain participation in schemes across all the workshops. Participation factors around communication and scheme design are similar whoever is delivering the service, however, participants felt that community groups were often better placed to access and communicate with their local communities compared to public/private providers and this was echoed by local authority participants in the Round 2 workshops (see Annex 3).

Major challenges faced by groups

Most of the challenges many groups faced were similar regardless of whether they were based in inner city, urban or rural locations. Many of the challenges raised related to external issues and can be grouped under the following headings:

- Policy, legislation and standards;
- Local support;
- Maintaining volunteer support;
- Funding and income opportunities; and
- Perception of the sector and of the 'waste problem'.

Policy, legislation and standards

Community composting groups' perceptions of the challenges they face in relation to policy, legislation and standards stem mainly from the time and costs involved with compliance in relation to the often very-small scale of their activities. The lengthy and intensive planning process, cost of licensing/exemptions and import/export restrictions⁷ (which were in place during this research programme), and ABPR compliance were raised as particular problems for rural and urban/suburban groups.

Exemptions from environmental permitting

Exemptions from the need for an environmental permit and the import/export restrictions on feedstock and composted material at exempt sites were two concerns raised in the workshops by practitioners. The exemptions were subject to a Defra/WAG/Environment Agency joint review which culminated in revised Regulations being laid before Parliament in December 2009 (after the data collection phase of this research was completed), and which came into force in April 2010. The Environmental Permitting (England and Wales) Regulations 2010 (Schedules 2 & 3) set out the revised rules for a composting operation to be exempt from the need for an environmental permit (hereafter referred to in this report as the EPR Exemptions).

The specific rules for the aerobic composting exemption (T23) have been split into quantity limits, both of which refer to total material on the site:

- 80 tonnes on site at any one time where the composting operation is carried on at the place of production and the treated waste is being or is to be used at that place; or
- 60 tonnes at any one time where the waste is produced at a place other than where the operation is carried on (import) or, the treated waste is not to be used at the place where the operation is carried on (export).

There are also restrictions within both of these limits of no more than 10t of paper/cardboard, 20t of manure, 10t of biodegradable kitchen and canteen waste or 10t of biodegradable waste from markets only.

The exemption criteria reflect concerns about the operation of large-scale commercial composting under the previous exemption and the need for greater assessment and inspection by the regulator (Defra, 2009a). The tonnage thresholds are derived from work carried out by the Composting Task Force (of Government and industry and other interested parties including

⁷ The term 'import' used here refers to waste produced at a place other than where the composting is carried out, and 'export' refers to the composted waste being used at a place other than where it was composted.

the Community Composting Network) set up in 2005 specifically to look at this issue and two consultations on the review of exemptions in 2007 and 2008.

From the Government's perspective "the exemption has been developed for small scale composting that could be carried out at any site without the need for a risk assessment or a high specification of infrastructure" (Defra, 2009a, p21-22). Composting of waste material above the limits specified in the EPR would require a permit and additional controls to ensure that human health and the environment are adequately protected. It should also be noted that the Environment Agency requires applicants for permits to provide a site-specific bio-aerosol risk assessment when the proposed composting facility is within 250m from a dwelling or workplace and where the quantity of waste handled will exceed 500 tonnes.

The lifting of the import/export restriction under the exemption addresses a community composting barrier frequently cited by practitioners in workshops organised as part of this research project and is welcomed by the sector. This should make it easier for groups to set-up and operate small-scale garden waste only sites. There is also understanding in the sector of the need to reduce the threshold (quantity) of material that can be composted under an exemption given the concerns about larger-scale commercial sites being exempt. However, there is concern from the Community Composting Network (CCN) that reducing the threshold limits presents an operational risk for some of its members.

The former exemption threshold was 1,000m³ of waste material onsite at any one time, which is approximately equivalent to 600-700t depending on the type of waste. The revised threshold, 80t or 60t (including storage and maturation) at any one time is a significant reduction. However, the sector acknowledges and welcomes the small increase to the quantity limits compared to those originally proposed (previously proposed 40t and 25t respectively) in the consultation on the proposed regulations.

Data from the national survey carried out as part of this research suggests that around 30% of community groups are unlikely to meet the revised general rules of the exemption and they will need to apply for a Standard Rules Environmental Permit; most of these groups were exempt under the previous Regulations. The proposed fee for a Standard Permit (for sites composting <500t at any one time) of £1,590 and annual renewal fee of £760 may be prohibitive for many of these financially fragile groups. An alternative would be for groups to reduce their operations to meet the new quantity limits and remain exempt. The registration of exempt operations is free.

The revised exemption quantity limits include material in storage, in the active composting phase and material being matured. There was concern amongst the community sector that the significantly reduced threshold may serve to encourage poor composting practice if groups feel they have to process material more quickly and remove it from site before a satisfactory maturation period is completed in order to comply with the exemption requirements. Typically, the composting process at community sites is much longer than that at commercial plants due to the low-technology and often manual processes employed by community sites.

Another main concern for CCN and some of its members was the limit of 10t for biodegradable kitchen and canteen waste for sites which are regulated under ABPR (10t within the 60t limit where waste arises off site). This relates to a total of 10t on site at any one time and includes storage, process and maturation. This limit would affect the 4 community organisations that compost food waste at 8 sites which are regulated under ABPR. Following a consultation process with its members CCN sought an increase to a 50t limit for kitchen and canteen waste. A 50t limit was considered more appropriate for community composters for 5 main reasons:

- A 50t limit will accommodate current practices of small scale community food waste composters whilst addressing concerns about large-scale commercial composting qualifying for an environmental permit exemption;
- The proposed 10t limit relates to process, maturation and post-process storage. However, CCN contend that once kitchen and canteen waste has been biologically stabilised, the resulting compost is likely to pose a much reduced environmental impact compared with untreated waste and this should be taken into consideration when setting limits;

- Maturation and full stabilisation can take longer at low-technology sites, especially in colder months when biological processes are slowed by lower temperatures;
- Seasonal variation in demand for compost can lead to a build up of composted material stored on-site;
- Composting of kitchen and canteen waste is already regulated under the Animal By-Products Regulations (ABPR) (2005) (see below) which may mitigate environmental impacts at compliant sites through undercover storage, processing and in-vessel composting of feedstock.

The Government's position on setting limits for food-related waste is that the presence of this type of waste on-site above the 10t limit, will result in a risk to loss of amenity (for example through odour emission). As a result, the 10t limit for the treatment and storage of kitchen and canteen waste has been proposed at "the level above which a risk assessment would need to be submitted to the Environment Agency for assessment before registration of the exemption" (Defra, 2009a, p21). Government also makes the case that while compliance with the Animal By-Products Regulations (ABPR) (2005) may have the effect of mitigating some environmental impacts arising from composting facilities, approval under ABPR does not imply that all environmental considerations have been met.

The Animal By-Products Regulations (ABPR) (2005)

It is believed that the 2001 foot-and-mouth outbreak, and the classical swine fever outbreak in 2000 were caused by livestock gaining access to untreated catering waste (Defra, 2009b). Therefore, from a disease control perspective it is very important that livestock are not able to gain access to food waste. The Animal By-Products Regulations (2005), addresses animal health risks from the treatment of catering waste and permits the treatment of catering wastes in composting plants approved by Animal Health, which is part of Defra. Approval requires composting within contained systems that meet EU or UK national composting standards including time, temperature, particle size and pathogen testing. There are also requirements for two composting stages, or composting and storage, depending on whether the waste includes or excludes meat. Waste management operations composting catering waste must be able to demonstrate they are achieving the required treatment standards at all times, and have adequate premises hygiene standards and cleansing and disinfection facilities (Defra, 2009b). According to the Approved Plants Report (Defra, 2009c) there are 71 approved plants in England and Wales, eight of which are operated by four different community groups.

In developing ABPR, Defra conducted a risk assessment for alternative treatment methods for composters treating only catering waste to allow for flexibility in the systems that could be used whilst ensuring that the treated waste is safe and does not pose a risk to animal health. It was Defra's stated intention not to burden small-scale operators with prohibitive testing fees and for the regulations to be flexible and non prohibitive for small-scale operators.

It is clear that despite this, ABPR was frequently cited as a barrier and considered prohibitive by participants in our workshops. This was not because community groups did not understand the regulations or the reasons behind their implementation, but because most of them found the resources required for compliance to be beyond their means. Before the implementation of ABPR some groups were collecting and composting small amounts of food waste (mainly fruit and vegetable) along with garden waste, which they ceased when ABPR was introduced. These groups and others said that they would like to expand their future activities to include food waste composting but that this was unlikely to happen as groups tend not to have the financial resources to purchase small-scale enclosed composting systems for ABPR compliance.

A small number of community composting groups operate ABPR compliant sites following on from the pioneering example of the Hackney based East London Community Resource Partnership (ELCRP) who were the first community group to achieve ABPR compliance using the in-vessel 'Rocket' system. Two of the groups we worked with in the second round of workshops (see Section 3.4), Rotters Liverpool and Pepys Community Recycling, were in the process of ABPR compliance at the time of the workshops. Both projects had set up their schemes with external funding. Rotters Liverpool is now fully ABPR compliant and has secured additional funding to maintain its services. In contrast, Pepys Community Recycling

has ceased operations after 3 years of estates based food waste collections and composting due to lack of funds.

Any ABPR compliant community group composting kitchen and canteen waste such as ELCRP and Rotters Liverpool are likely to be affected by the exemptions to the Environmental Permitting Regulations outlined above. Any ABPR compliant group *treating and storing (post treatment)* more than 10t of kitchen and canteen waste will need to apply for an Environmental Permit.

British Standards Institution's (BSI) PAS 100 and the Quality Protocol for Compost

The British Standards Institution's 'Publicly Available Specification for Composted Materials' (known as PAS 100) is a voluntary specification and sets out a minimum compost quality baseline and requires a compost producer to establish a quality policy and management system to ensure that compost is fit for purpose. Over 150 compost producers are currently PAS100 certified or in the application process, only three of these are community composting groups (AfOR, 2009). A small number of groups in the workshops raised the issue that PAS100 is not appropriate for very small scale composting activities; the resources required for compliance means that from community composters' perspectives it is aimed at sites operating at a larger scale than most small community sites. For most community groups, confidence in the quality of the composted material came from their direct experience of using it.

A series of Quality Protocols for different waste streams is under development by the Waste Resources Action Programme (WRAP) and the Environment Agency. The first of these, the Quality Protocol for Compost was funded by Defra and launched in 2007. The Protocol has three main purposes (WRAP and Environment Agency, 2007):

- to clarify the point at which waste management controls are no longer required
- to provide users with confidence that the compost they use conforms with an approved standard
- to protect the environment and human health by describing acceptable good practice for the use of quality compost on land for agriculture or soil-grown horticulture

PAS 100 is linked to the Compost Quality Protocol as it qualifies as an approved standard. Workshop practitioners did not raise the issue of the Quality Protocol directly.

Other policy issues raised in the workshops

Participants felt that policy focuses on tonnes of organic material diverted from landfill rather than a wider reaching focus on, and understanding of, the value of local solutions and associated benefits. There was also a sense that the recycling/composting targets (combined with a lack of home composting targets) had focused attention on recycling/composting and had not focused attention on what groups' perceived to be the more sustainable option of home composting.

There was also a wish to see more guidance for groups in setting up and developing sites and 'Growing with Compost', a web based resource, goes some way to address this. Growing with Compost was a European funded consortium project led by CCN. The website www.growingwithcompost.org provides free resources and advice for setting up and developing community composting projects.

Participants also felt that local authorities could benefit from guidance on developing working relationships with community sector groups.

Local support - including support from local authorities and support from local householders

Local authority support for community composting varies considerably between authorities. As many groups cited support from their local authority as a crucial success factor, others, where support was lacking, cited this as a barrier to their operations and development. A number of reasons were raised by community composting practitioners regarding their perceptions of why support from their local authority may not be forthcoming. In some areas local authority waste policy is seen by practitioners as inconsistent with small-scale composting, especially in areas with large integrated and long-term waste service contracts with private sector contractors.

Contracts may be integrated to incorporate a number of different services and/or to cover neighbouring areas. Where integrated contracts are already in place this may constrain entry for smaller more specialist organisations including those in the community sector. Previous research suggests that efficiency gains is one of the main drivers for Local Authorities in commissioning long-term and integrated contracts (Slater et al, 2007b).

A number of groups had experienced competition with their local council with respect to garden waste collections, often with the council introducing a scheme after the community group had set up their activity. In contrast, in a number of cases the respective council had worked with the community group to facilitate complementarities between schemes, examples include: 1) bring community composting sites operating in rural areas where council kerbside collection is not viable; 2) the council not introducing kerbside collection in the areas where the community group already provides a reliable and established collection service; 3) community based schemes set up as pilots funded by the council with a view to council adoption if successful.

Lack of support from householders was also considered problematic, especially in inner-city and urban areas with transient communities. This applies to any waste service, not just those operated by community groups, and presents difficulties in communicating with and securing participation of residents where resident turnover is high. One community composting group at the workshops is addressing this problem by working with housing associations and providing details of their services in a 'welcome pack' for new residents. This provides a further example of the personal touch offered by these groups and discussed earlier.

Maintaining volunteer support

For groups reliant on volunteers (mainly those running bring sites, education schemes and master composting programmes) volunteer 'burn-out' was raised as a key challenge. There was a general feeling that generating initial enthusiasm was not too difficult but maintaining that enthusiasm and retaining volunteers can be problematic and that incentives need to be built into the project to address this.

Funding and income opportunities

As mentioned above, payment of recycling credits for community composting activities is at the discretion of local authorities and hence is inconsistent across different areas. On the whole most community composting groups do not receive recycling credits for their composting activity. For groups that do receive credits the payments are a crucial source of income.

For groups reliant on grant funding, both funding opportunities and time involved in securing funding are key challenges. There was some feeling that in the past funders have been keen to support new pilot projects but not existing projects that have been shown to work. An analysis of funding allocated under the Community Recycling and Economic Development (CRED) Programme showed that over 70% of grant funding for community composting groups (Slater, 2007a, p23) was sourced from CRED. Composting initiatives set up under CRED will need to secure alternative sources of income to remain viable, and several workshop participants were struggling with this issue. The issue of funding and income also links to other challenges raised about organisational capacity, cash-flow issues and capital for investment.

Perception of the sector and of the 'waste problem'

A number of groups raised the issue that the community sector is not considered a serious option by local authorities, and that the sector is perceived as 'alternative' or 'fringe'. For these groups there was a wish to see community composting as a more mainstream activity and professional sector.

The more general issue of public perception of waste was also raised as a problem, especially in terms of lack of individual ownership with some householders seeing waste as the councils' problem rather than their problem. This also relates to issues raised about the lack of understanding between individual behaviour and wider environmental issues.

3.4 Objective 4 – Round 2 workshops to apply the framework to evaluate community composting initiatives, analyse and report interim findings

Results from the national survey summarised in Section 3.1 give a ‘snapshot’ of the productivity (*outputs*) of the community composting as a whole. This section focuses on the changes (*outcomes*) identified for individual projects in the Round 2 workshops.

By synthesising the data collected in the survey and information on the types of groups that participated in the Round 1 workshops it became clear that certain characteristics could be used to classify different types of community composting activity. We developed five models that characterise most community composting activities and used this as the basis for selecting groups to participate in the Round 2 workshops.

Each of the models and associated characteristics are explained in more detail in Annex 3 and summarised below. Figure 3 illustrates the five models followed by the groups that were chosen as examples of these models.

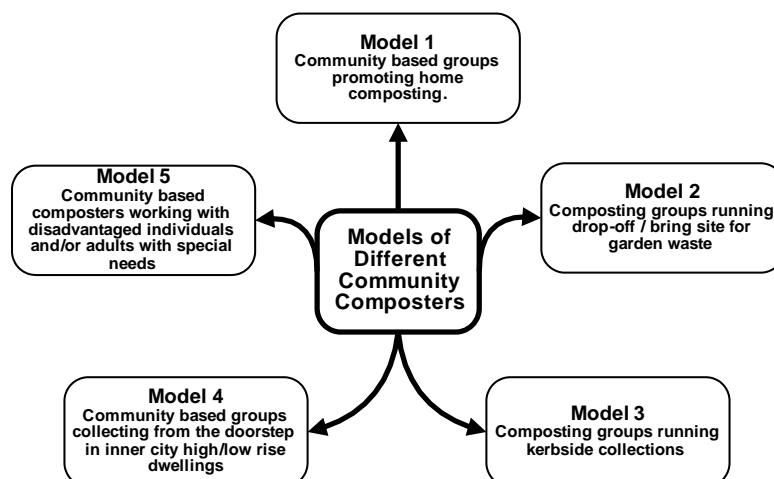


Figure 3 Five models illustrating most types of community composting used as the basis for selecting groups to participate in Round 2 workshops

The following groups were selected to participate in Round 2 as an example of each of the models and to represent different collection environments. It was a requisite that they had also participated in Round 1.

Model 1 - York Rotters - promoting home composting through a Master Composter Programme operating in urban, suburban and rural areas

Model 2 - Proper Job - running a bring site for garden waste (and other re-use and local community activities) operating in a rural area

Model 3 - Rotters Liverpool - running kerbside collections for garden and food waste (and related activities) operating in urban areas

Model 4 - Pepys Community Recycling⁸ - collecting food waste door-to-door on high rise estates and estate based composting

Model 5 - Compo⁹ - working with adults with learning difficulties, kerbside collection of garden waste (and glass) in rural and urban areas

⁸ Since participating in this research Pepys Community Recycling has ceased operations due to lack of funding.

⁹ Since participating in this research Compo has ceased operations due to lack of funding.

3.4.1 Results from applying the evaluation framework

Figure 4 gives a summary of the findings in relation to activities, outputs and outcomes for each of the groups that participated in the Round 2 workshops.

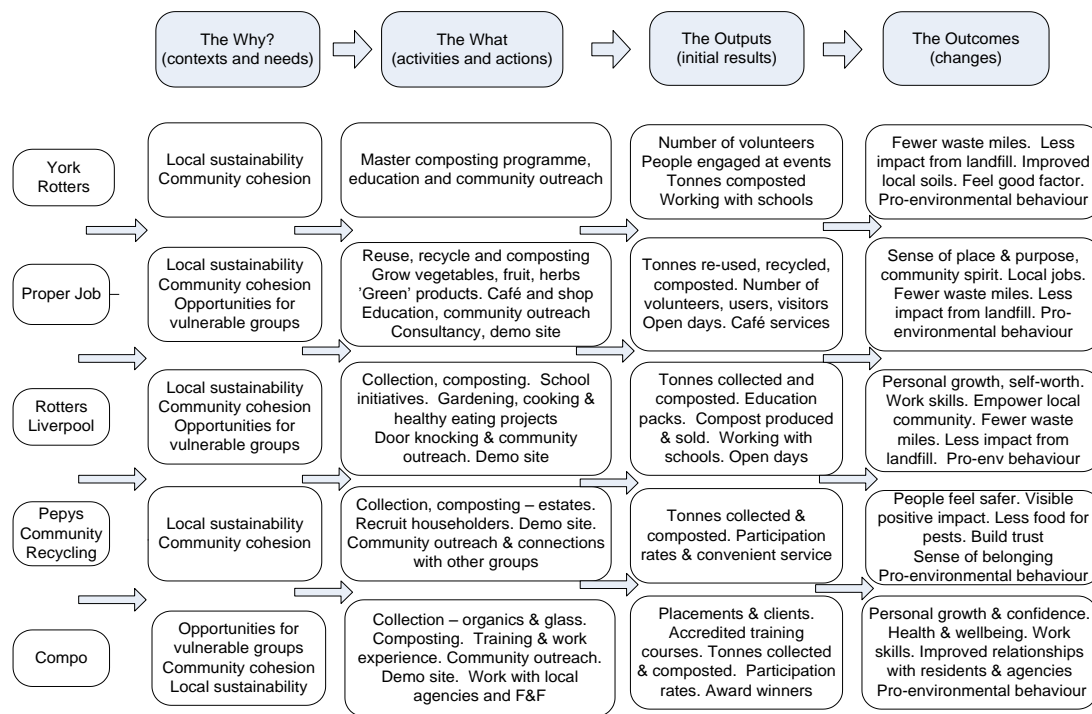


Figure 4 Summary of the Storyboards from the Round 2 workshops

Findings from the workshops supported the findings from the national survey in highlighting a number of different reasons 'why' groups start their community composting activity. Although these reasons often overlap, they can be loosely categorised under 'local sustainability', 'community cohesion' and 'opportunities for vulnerable groups'. Local sustainability includes environmental factors such as providing local solutions and reducing 'waste miles', using local resources and reducing the amount of resources sent to landfill, and it also includes local economic factors such as employment opportunities. Community cohesion includes opportunities to bring people together, providing a focal point for the community, community empowerment and raising awareness and developing understanding of environmental and (in some cases) social issues. The category 'opportunities for vulnerable groups' could fall under the community cohesion category but it is kept separate here as it is a specific objective for some groups. Figure 4 shows the categories important to groups for starting their activity. The order they are listed reflects the emphasis placed on each category during the stakeholder workshops. This reinforces the characteristic of multiple social and environmental objectives that is common to many groups in the community composting sector; aiming to bring about change at an individual or community level is often considered to be as important (and in some cases more important) as collection and composting of waste.

The outcomes identified by the range of stakeholders represented in the Round 2 workshops can be grouped under the headings of individual change and community change. This change at the individual or community level comes from a number of benefits that stakeholders considered their projects deliver. These benefits together with brief explanations are listed in Table 3.

Table 3 Benefits related to individual and community change

	Benefit	What it means
Individual change	Improving health and well-being	People are physically and mentally healthier People feel better about themselves
	Feelings of safety and belonging	People feel safer have a sense of belonging, and crime is reduced
	Engaging in meaningful activity	People take part in meaningful activity through involvement with the project and may move towards other meaningful activity (e.g. employment, or volunteering, independent living)
	Engaging in pro-social / pro-environmental behaviour	People practice positive environmental and pro-social behaviour
Community change	Social benefits for the community	Community cohesion, communities are more active and engaged
	Environmental benefits for the community	The quality of the environment is improved (air quality, tidy streets, green space, reduced transport, CO ₂ and CH ₄ emissions)
	Economic benefits for the community	People are better off financially. There are more opportunities to spend and keep money within the local economy.

A summary of the outcomes for each group in the Round 2 workshops are mapped using these benefits and illustrated in Table 4 which shows that many of the outcomes are shared across groups.

Table 4 Summary of individual and community benefits identified by groups in the Round 2 workshops

Organisation	Outcomes						
	Individual change				Community change		
	Health and wellbeing	Safety and belonging	Meaningful use of time and new skills	Pro-social / environmental behaviour	Social	Environmental	Economic
York Rotters	Inspired and empowered. Confidence and self-esteem. Feel good factor. Improved diet and health.	Sense of belonging.	Home composting and gardening skills. Learn from different perspectives. Every contact learns something new.	Waste ownership. Respect for others. Knowledge of natural cycles.	Regular social events. Opportunities to have more contact with neighbours and make new friends.	Improved soil quality and structure. Positive impact re climate change, reduced CO ₂ and CH ₄ . Lower carbon footprint. Composting on the school curriculum.	Small number of paid full/part time staff.
Proper Job	Inspired and empowered. Confidence and self-esteem. Feel good factor. Improved diet and health.	Sense of belonging and community spirit.	Take on work responsibilities. Site maintenance including composting.	Respect and regard for others. Demonstrate sustainable living (eg off-grid energy). Raises awareness. Encourages more recycling / home composting. Pride in the area / own home.	Builds community spirit (contributing to community cohesion). A 'social hub' for the village.	Local air quality. Less fly-tipping. Availability of green products. Improved soil quality and structure.	Food grown sold in café. Availability of local, organic, fair-trade food. Sales on re-use site. Compost club. Small number paid part-time staff.
Rotters Liverpool	Empowered. Confidence and self-esteem. Feel good factor. Personal growth. Change children's eating habits.	Sense of belonging.	Gardening skills. Cooking skills. Work responsibilities. Basic employment skills.	Waste ownership - personal responsibility. Knowledge of natural cycles. Raises awareness. Pride in the area / own home.	Build a sense of belonging. Community empowerment - involved in decision making.	Lower carbon footprint. Improved soil quality and structure.	Small number of paid full/part time staff.
Pepys Community Recycling	Feel good factor.	Collectors become community 'wardens' and 'helpers'. Extra 'eyes and ears' on the estate. People feel safer.		Waste ownership - personal responsibility. Raises awareness. Pride in the area / own home.	Build a sense of belonging. Build trust between residents and PCR. Feel safer.	Fewer vermin/pests on estates. Estates look cleaner.	Small number of paid full/part time staff.
Compo	Confidence and self-esteem. Outdoor working environment and exercise. Improved health.		Employment skills - team working, handling/lifting, health & safety, reliability, timekeeping. Composting skills. Moving towards independent living. Entry route into micro-enterprises.	Respect and regard for others. Raises awareness about composting and resource issues.	Understanding and communication between residents and special needs adults.	Lower carbon footprint. Local air quality. Improved soil quality and structure. Less peat.	Small number of paid full time staff. Compost club.

During the workshops participants explored which outcomes and benefits were most important to which groups of internal and external stakeholders. The findings are discussed below.

Individual benefits

Broadly speaking for community composting projects, the importance of change at an individual level, particularly for meaningful activity, wellbeing and belonging, reflects the extent to which groups involve placements, trainees and volunteers.

Health and wellbeing benefits together with benefits from meaningful activity and learning new skills were particularly emphasised for projects working with vulnerable groups or volunteers. Health and wellbeing issues around personal development and growth, confidence and self-esteem came out the strongest for projects working with vulnerable groups and were also important for groups with a high reliance on volunteers. Similarly, learning new skills relevant to work environments were important for groups working with vulnerable groups and new skills related to composting and wider areas of sustainability were important to volunteers. There was also considered to be some wellbeing for householders participating in schemes, especially for isolated individuals, albeit to a lesser degree than for those working directly with the project.

All groups identified an increased sense of belonging as an important benefit – for workers in all projects and for householders in most of the projects. Stakeholders also felt that an increased sense of belonging can also lead to people feeling safer within their communities. However, stakeholders for one group working in a deprived inner-city area identified a ‘feeling of safety’ for residents as an important outcome resulting from the regular presence of collection operatives.

Engaging in meaningful work activity was important to all stakeholders directly involved in projects – particularly for clients and placements (e.g. vulnerable groups) but also for volunteers looking to get involved with their communities and develop social interaction and for directors, trustees and staff in terms of their belief, enthusiasm and commitment to a role that serves and benefits the community.

Workshop participants considered householders who use a scheme’s services and volunteers who work on schemes to be the two groups most likely to engage in more pro-social and environmental behaviour as a direct result of this involvement. According to householders at the workshops there can be a direct effect of increasing recycling behaviour through participation in community composting schemes and also an indirect effect where residents who are more aware, understand and participate in one area of environmental and social sustainability this will have a ripple effect and encourage participation in other areas.

It is important to note that these benefits for the individual will interlink and influence each other. So for example, individuals engaged in meaningful activity and developing new skills are also likely to develop a sense of belonging which will positively affect their feelings of wellbeing. It is also important to recognise that these outcomes are likely to have longer-term effect over and above involvement with, and possibly duration of, the project.

Community benefits

Bringing about positive community change was important for all five workshop groups; however the balance between importance of individual change and community change appeared layered and varied between groups. For groups that target vulnerable groups and/or rely on volunteer support, benefits for individuals directly involved in the project was a core focus, with benefits for participating householders and the wider community being an important second layer. In contrast, for groups where projects have developed out of local community action and evolved to provide several services for the local community, individual and community benefits were of more equal importance.

The social change identified by stakeholders at the community level came through a number of routes, including; sense of belonging, opportunities for socialising and providing a ‘social hub’, developing trust and understanding - both of services and different groups. Empowerment was

also considered important - either for individuals working in the project or in the sense of helping householders to 'do their bit'. Extending this to the wider community, stakeholders in two workshops spoke of the importance of having residents and users of the project as part of the decision making process. Social change benefits are fostered through a combination of the ripple effect of individual change and the wider role the groups play in their communities.

The outcomes identified that relate to environmental change (i.e. changes in the physical environment) were similar across all workshops. Most of these relate to the perceived benefits of providing a local service and were generally viewed by stakeholders in terms of reducing the local carbon footprint - less waste to landfill, reducing transport movements and 'waste' miles, utilising the composted material locally with a view to improving soil structure and quality. Other outcomes included cleanliness and visible improvements to the local area. For stakeholders from the inner-city based workshop this related to cleaner areas on the estates and fewer problems from vermin as a result of removing food waste from the general waste stream and collecting it door-to-door. For stakeholders in the suburban and rural based workshops this related to fewer incidents of fly-tipping and fewer bonfires in gardens / allotments. The wider conservation initiatives many of the groups engage in also contribute to environmental change.

Generally speaking, fewer economic outcomes were identified across the five workshops compared to the other areas of community change. However, one workshop stood out in terms of activity in the local economy. This group provides 14 jobs and is one of the larger local employers, it makes available low-cost resources through re-use and recycling activities, it sells 'green products' and generates economic activity from the sale of local and organic produce in their café (providing a distribution outlet for local producers and retail outlet for local consumers). The four other groups all employed a small number of paid-staff, providing limited local employment opportunities.

4. Assessment of the community composting sector

This section draws together the findings summarised in Section 3 to assess the role of the community composting sector in contributing to Defra's waste related targets and other environmental and social objectives and addresses scheme transferability and potential for sector growth.

4.1 Contribution to Waste Strategy objectives

The Waste Strategy for England (Defra, 2007) set out a vision, objectives and key targets for reducing waste and managing the waste we produce more sustainably. As part of the Strategy the Government wanted to see Third Sector¹⁰ organisations win a bigger share of the waste management market and advocated the following guidance for local authorities to help achieve this:

- Authorities to award smaller contracts, where practicable, to encourage competition from Third Sector providers;
- Authorities to take into account procuring work with multiple benefits.

Recycling and composting targets

To operationalise the Waste Strategy's 2007 vision a series of targets were set out which included:

- Targets for the recycling and composting of household waste - 40% by 2010; 45% by 2015 and 50% by 2020

This equates to around a 10 Mt combined recycling and composting target per year in 2010 rising to 13 Mt per year in 2020¹¹. Assuming the contribution to the combined recycling and composting target from composting remains relatively static at around one-third, the target represented around 3.3 Mt per year of composting in 2010 rising to 4.3 Mt per year in 2020.

To contextualise the targets in terms of the scale of the community composting sector, this research reports 21,500t composted by the community sector in 2006 (which approximates 1,850t of CO₂ equivalent emissions saved compared to landfill¹²). Just over 20% of sites are responsible for composting over 90% of material composted by the sector as a whole. When considering tonnages it should be borne in mind that quantities reported in this research relate to material collected *and* composted by community groups and does not include quantities of material collected by community groups and then composted at commercial sources, or quantities diverted from landfill as a result of community groups promoting home composting or working with businesses to facilitate on-site composting.

The quantity of material composted per annum by the community composting sector as a whole is on a par with two average sized commercial composting plants (Slater et al, 2005). In 2005/06 around 2.9Mt of source segregated municipal waste was composted by the whole commercial composting sector (Nikitas et al, 2008). Therefore, in 2006 the community sector composted less than 1% of that composted by the commercial sector.

Comparison with previous community sector data collected as part of a wider composting industry survey (Slater et al, 2001) indicates that quantities composted by the community sector have increased around fourteen fold from 1,500t in 1999 to 21,500t in 2006. The commercial composting sector has also grown significantly, from 618,000t in 1999 to 2.9Mt in 2005/06. Clearly, both the commercial and community sectors have increased rapidly, in line

¹⁰ Third Sector organisations pursue social and environmental objectives. They do not distribute any surpluses to shareholders but invest them in the pursuit of their objectives. The Third Sector encompasses a wide range of organisations including community groups, voluntary organisations, charities, co-operatives, mutuals, social enterprises and community interest companies. Third Sector organisations are independent from Government.

¹¹ Using Defra (2008a) waste statistics and assuming annual arisings remain relatively constant.

¹² Using Defra (2007 Annex A) emission factors for waste processes and assuming 95% of material composted by the community sector is garden waste and 5% is kitchen waste.

with Government encouragement to compost and divert waste from landfill. Interestingly, throughout this period of growth the quantity of material composted by the community sector remained less than 1% of that composted by the commercial sector. This figure suggests that even with continued growth in the community sector at the rapid rate of that observed over the last ten years the contribution the sector as a whole could make towards national waste related targets (Waste Strategy 2007) in terms of tonnes composted is likely to be relatively small. Nonetheless, within the sector there are sites that provide a significant local service.

However, the Waste Strategy did set out a range of issues over and above specific targets to which the community sector is well positioned to contribute and these are summarised below.

Other Waste Strategy and wider environmental objectives

Other issues in the Government's waste objectives, specifically aimed at Third Sector organisations or more generic areas that the community sector is well positioned to respond to include:

- Promote good practice in waste prevention by the Third Sector;
- More use of the Third Sector's strengths in waste prevention, re-use, separate kerbside collection for recyclables and composting;
- Increasing amounts of waste separated by householders;
- Better integration of treatment for municipal and non-municipal waste, including a greater focus on recycling and composting of commercial waste; and
- Greater use of anaerobic digestion both by businesses, including the food and drink sector, and local authorities.

The 'proximity principle' is a guiding principle for good practice in waste management and is one important cornerstone upon which the EU approach to waste management is based. It means that waste should be treated or disposed of as closely as possible to where it is produced. Thus if following the proximity principle, home composting can be considered the most desirable route for processing household garden and kitchen waste, followed by locally based sites - two key activities promoted or undertaken by community based groups. Processing organic waste close to the source of production has important environmental benefits in terms of fewer 'road miles' and associated resource use and emissions compared with transporting material to more centralised sites.

The Waste Strategy expected waste prevention at the local level to become increasingly important. This research shows community composting groups are 'bottom-up' grass root initiatives developed within local communities that can be better placed than local authorities to undertake effective engagement with communities at the local level. This can be the case for both waste prevention initiatives and to encourage involvement in local re-use, recycling and composting schemes.

The Waste Strategy called for more recycling of commercial waste and engagement with local businesses. Small and medium sized enterprises (SMEs) are least understood in terms of wastes produced and potential for minimisation, greater recovery and recycling. SMEs represent a significant opportunity for development of the community sector, with SMEs accounting for nearly 70% of commercial waste arisings (Thomas et al, 2006). A recently completed pilot project, the Compost Doctors, developed small-scale on-site composting systems for commercial premises with catering / food waste and this is an area of considerable potential (CRN, 2008). Another potential area for community composting expansion is collections of commercial food waste. Section 5.2 below considers these in more detail.

Many community composting groups are involved in complementary environmental based activities and their work involves communicating a wider message to local communities about local sustainability initiatives. Householders in the Round 2 workshops reported how this wider message has helped them develop more pro-environmental behaviours in areas additional to composting. Such benefits may be derived regardless of whether the communicator is a public, private or community based organisation. However, given the views of local authorities that community organisations can be better placed to engage suggests that community groups can be more effective at bringing about these changes.

4.2 Contribution to Government's wider social objectives

As identified at the time of the research programme, the Government had a number of broad social visions and objectives derived from various departments. Examples include:

- The Local Government Act (2000) which requires each local authority to produce a Community Strategy outlining how it will promote economic, social and environmental wellbeing. A good community strategy should “allow local communities to voice their needs and wants” and “co-ordinate action of local agents, including voluntary and community groups, to meet these needs” (Improvement and Development Agency, 2008);
- Defra's Third Sector Strategy (2008b) sets out a five year vision of working with the Third Sector, including mobilising individuals and communities in adopting greener lifestyles, helping communities become more resilient in adapting to climate change, and joining-up environmental outcomes with social and economic ones;
- Communities and Local Government's (CLG) Third Sector Strategy (2007) sets out how the Third Sector can contribute to CLG's objectives including: the delivery of community based solutions, empowering local communities to make a difference and bringing a user perspective and involvement of local people in the services they receive;
- Communities and Local Government's Cohesion Delivery Framework (2008) - which advocates, amongst other things, a shared vision and sense of belonging within communities and the importance of links between cohesion and community empowerment and volunteering;
- Defra's Securing the Future (2005) The UK's Sustainable Development Strategy has led to reviews on the concept of wellbeing and its relation to sustainability;
- The Government's Office for Science Foresight's report Mental Capital and Wellbeing (2008) outlines five steps to wellbeing including connections and relationships with people in your local communities and 'giving' activities such as volunteering.

The language used to set out the visions within all these strategies and reports and can be generally defined under the headings of improving local communities and promoting wellbeing.

Findings from this research project (see Section 3.4.1) have shown that involvement in community composting can provide a range of important social benefits for individuals involved in delivering or using a scheme's services and to the local community as a whole. Benefits to individuals may be categorised under the following headings:

- Improving health and wellbeing;
- Feelings of safety and belonging;
- Engaging in meaningful activity; and
- Engaging in pro-social / pro-environmental behaviour.

Social benefits as a means of improving local communities are fostered through a combination of the ripple effect of individual benefits and the wider role the groups play in their communities. Social benefits identified at the community level include:

- Sense of belonging;
- 'Social hub' for the community;
- Developing trust and understanding - both of services and different groups in the community;
- Community empowerment.

In terms of this assessment, it is clear that all the individual and community level benefits identified in this research contribute to the visions and wider social objectives of the Government outlined above. However, the research also found that determining the extent of

this contribution is a complex and difficult process. With the exception of one group that monitored improvements in individual wellbeing of placements through regular self-administered surveys, none of the groups and stakeholders in the workshops collected evidence of delivering the above benefits - either at an individual or community level. This finding was supported by the national survey results earlier in the project that showed that whilst social benefits are considered important they are not captured in the formal evaluation activities that groups undertake.

During the workshops the project team explored ways that groups could go about collating information and building an evidence base of the benefits their activities deliver. This included 'graffiti boards' to record comments from users, including questions in local authority surveys (where the groups worked in close partnership with their authority), user groups and volunteer surveys, talk with and record changes in individuals' feelings and behaviour, personal skills and training records and keeping informed of what volunteers and placements move onto after their involvement in the project. A number of groups had started to collect information on these benefits. Such information collected over a period of time can help groups provide evidence for demonstrating the social benefits of their activities.

Despite the lack of information collected by groups, some assessment of the contribution of community composting activities to wider social objectives can be inferred from groups' involvement with volunteers. All volunteers and placements in all the workshops reported improvements in wellbeing, sense of belonging and meaningful activity - including developing new skills and experiences. The national survey results show that the sector offers significant opportunities - over 1,000 volunteers reported as active with groups and over 200 trainees and placements. The groups we worked with in the workshops were selected as examples of different models of community composting, they were not intended as a sample of representative volunteers. Hence, extrapolation of the social benefits for volunteers and placements across the whole community composting sector would need further survey research that specifically targets volunteers involved in projects.

As explained in Section 3.3.1, there is growing interest in SROI and SAA within the Third Sector generally and whilst the application of these tools is starting to emerge in the wider community waste sector, application has not yet developed in the community composting sector. As demonstrated by the national survey results, the vast majority of community groups do not collect data on the social outcomes of their activities. This is a process that requires resources over and above operational activities and needs to be an ongoing activity to be most effective and become embedded into groups' activities. This research also developed a tool for practitioners to help them embark on a process of identifying and capturing the social outcomes as a result of their work. This tool has been developed as a website (see www.valuingcommunitycomposting.org.uk) and is explained in Section 5.

4.3 Transferability and scope for growth

To assess transferability of schemes it is important to understand success factors and challenges that groups face. This research project explored key success factors with groups operating in rural and urban/inner city collection environments and the extent to which specific success factors are linked to the different collection environments - a key factor when considering transferability.

Table 2 in Section 3.2 gives characteristics of typical schemes operating in rural and urban areas. The findings suggest that whilst most schemes are not unique to the different collection environments, there are some general operational characteristics that are more common in either rural or urban areas. For example, as would be expected, a greater proportion of schemes in rural areas operate bring site facilities as appropriate for dispersed dwellings where costs of mainstream collections would be prohibitive. In contrast, schemes that necessitate collections from households, such as separated food waste, are emerging in urban areas with high density housing. According to Defra figures (2009b) there are eight ABPR approved plants operated by four different community groups in England and Wales, five plants are based in London, two in Liverpool and one in Newtown.

The research findings show that on the whole, the success factors reported by groups relate to factors internal to the groups, such as leadership and knowledge, and external support particularly from local authorities. They do not relate to technical factors such as scheme design. Success factors were similar across all groups regardless of the type of composting activity undertaken and regardless of whether the activity is undertaken in a rural or urban environment. Therefore the success factors can be considered generic and hence important to enable transferability of schemes. These success factors considered important by practitioners at the workshops are discussed in Section 3.3 above and summarised below:

Success factors - internal capacity and project continuity

Impetus for start-up needs to come from the community group

Leadership - 'composting champion'

Clarity about what you want to be and do

Clear unique selling point

Know how to produce good compost

Workers - staff and volunteers

Securing income and moving towards self-financing

Professionalization and reliability

Success factors - external support from local community

Links with and support from the local authority

Local residents participation in schemes

Other groups active in the local community

Other third sector organisations

External profile of the project and relationship with the local media

Results from the national survey show that the community composting sector is diverse and there is not a 'one size fits all' solution. The specifics of schemes will depend on local circumstances; what is successful in terms of scheme design in one area may not be transferable to another. However, the factors listed above concerned with internal capacity, project continuity and local support, particularly local authority support, do appear to be generic success factors for initiating and developing schemes regardless of the type of collection environment and hence necessary factors for growth through transferability, new entrants and the introduction of new schemes. Without these factors and appropriate scheme design projects are unlikely to be successful in the longer-term.

Initiating a scheme needs to be driven by the community group themselves, this may be a key individual or a small number of people with a shared vision to provide a local solution. Where schemes have been successful, particularly in the South West of England, there has been a strong and established culture of pro-environmental community based activities and local solutions. Such a culture will provide a virtuous circle in encouraging more individuals and local groups to get involved. Once enthusiasm and impetus for start up is established, early support from the local authority is key to help facilitate start-up and development.

Clearly, given the rapid growth observed over the last decade, there has been considerable scope for transferability and up-scaling within the sector. However, there are barriers and challenges that may limit the potential for growth both in terms of the rate of growth and the characteristics of growth observed to-date. Some parts of the sector are exploring ways of expanding (or changing) their activities, partly driven by these barriers and partly driven by market opportunities. These 'new' activities are explored under the emergent trends in Section 5.2. The main challenges and barriers considered important by practitioners at the workshops are discussed in Section 3.3.2 and summarised under factors limiting growth below:

Factors limiting growth

- Complex mix of success factors required
- Limited funding opportunities
- Inconsistencies across areas in securing recycling credits
- Difficulties for small organisations in securing contracts, income and support from local authorities
- Limit on the quantity of material allowed on site at any one time under the Environmental Permitting Regulations exemption criteria (2010)

- Lengthy planning process
- Maintaining volunteer support

The factors limiting growth leads us to question whether there is significant potential of transferability of schemes to other areas assuming that the current mix of activities remains unchanged in the future. Although the development of the community composting sector has been relatively rapid over recent years, a significant proportion of the recent increases in composting activity appears to have been the result of grant funding.

In recent years (2003 to 2008) the sector has directly benefited from investment via The Big Lottery's Community Recycling and Economic Development (CRED) Programme. CRED provided matched funding of approximately £3 million to 18 schemes directly involved with community composting of garden and food wastes (CAG Consultants, 2008). CAG Consultants in their Appraisal Report of the CRED Programme observed that only 22% of the £34 million allocated to community based projects was spent on capital funding compared with revenue funding and questioned whether projects had invested enough capital to allow on-going viability. For example, from a sample of 19 CRED funded recycling, reuse and composting schemes during the final evaluation, only three projects were able to categorically confirm that they would be continuing.

The investment from CRED provided a basis for growth in community composting activities as well as stimulating important innovations. In terms of tonnes of waste composted, CAG Consultants reported an average 800 tonnes of waste composted in total for each of the 18 schemes receiving CRED funding, for the period up to March 2008. Findings from this Open University research project, found that the community composting sector in 2006 directly composted 21,500t of household waste. The 2006 tonnage would have contained an additional 7,200t from the CRED funded projects (assuming that an average of 400t per scheme is composted per year, starting in 2006, as suggested in the CAG Consultants Appraisal Report). This indicates that the sector would have composted approximately 14,300t of waste in 2006 without CRED investment, and highlights that one of the main effects of the CRED investment was to increase the amount of waste composted by 50% compared with no investment.

Without the CRED investment the community composting sector achieved an estimated annual growth of 33% (Compound Annual Growth Rate; CAGR) from 1999 to 2006. For comparison, the larger commercial composting sector grew from 618,000 tonnes composted to 2.9Mt during the same period, which represents a growth rate of 20% (CAGR). As the baseline of *actual quantity* of material composted increases a fall in the *rate of growth* would be expected.

When considering scope for growth from baseline community composting activities, the amounts of waste composted in 2010, which is the first LATS target year, may be estimated by assuming Compound Annual Growth Rates (CAGR) of either 33% or 20%. Using 33% for illustrative purposes assumes the community sector growth profile is maintained, using 20% assumes a reduced rate of growth (as would be expected as the baseline of quantity of material increases) to one in line with that in the commercial sector. Using these two growth rates gives a projected estimate of between 67,200t (33% annual growth) and 44,500t (20% annual growth) composted by the community sector in 2010 (and potential contribution to LATS).

At present there is not sufficient evidence to make a robust determination of whether the sector continues to grow at a rate similar to that estimated from 1999 to 2006. What evidence there is suggests that there is growth in terms of new groups entering the sector and a decline in terms of the quantity of garden waste composted across the sector as a whole. CCN's member's survey (internal report 2009) shows 25 of 79 respondents as starting community composting in 2006 or later, most of these will be new entrants since the OU survey. CCN's member's survey covers the UK and reports 14,500t of garden waste composted in 2008, a fall from approximately 20,500t in 2006 (Slater, 2007). Anecdotal evidence suggests food waste composted by the community sector has increased with some ABPR compliant groups diversifying into commercial waste collections and composting. However, at present this remains anecdotal as a comprehensive food waste up-date for the community sector in the UK has not been undertaken. Other research covering England reports 14,300t of

garden/food/compostable cardboard waste handled by the community composting sector in 2008 around 5% of which was food waste (WRAP and REalliance, 2009), and this is similar to the proportion reported in 2006 (Slater, 2007). It should be noted that the data quoted from the CCN's members survey and WRAP and REalliance (2009) survey is data reported by respondents and both surveys received fewer responses compared to the OU survey (Slater, 2007).

The research undertaken in this project has identified a number of factors which may not be conducive to community sector expansion and has raised concerns over the long-term viability of CRED funded projects. Since completion of this research a number of CRED funded projects are known to have ceased operations and this is most likely reflected in the fall in garden waste composted since 2006. However there are new entries in the sector and the EPR Exemptions should make it easier to set up very-small scale sites in the future.

Many groups that rely on grant funding are financially fragile. Since completing this research, two groups from the Round 2 workshops (Pepys Community Recycling and Compo) have ceased operations because of lack of funds. Some individual projects are pursuing complementary or alternative activities in response to the challenges they face and to enhance their potential for financial continuity. These changes are giving rise to a number of emergent trends within the sector which were explored through follow-ups with the groups participating in the workshops and interviews with experts in the sector. These emergent trends are discussed in the following section.

5. Objectives 5 and 6 and a summary of results

5.1 Objective 5 - A toolkit for practitioners

The Storyboard process used in the workshops formed a basis for developing a toolkit / guide for practitioners on how to get started with identifying and evaluating the outcomes of their activities. A draft framework for the guide was sent out for consultation with practitioners. Based on this consultation it was decided to design the toolkit as a start point for community composters for engaging with their stakeholders to identify and evaluate benefits, and also to sign post practitioners to other relevant material, tools and techniques. The guide includes first-hand practical illustrations of the tools and techniques used with project case study organisations and links are made to bring to life the internal and external benefits of evaluating community composting activity through film footage, photos and words of the stakeholders themselves and their involvement with community composting. The web-based guide includes an 'examples bank' and a 'help & advice bank'.

Based on the consultation responses and iterative processes throughout the research, the project team decided that the best way to deliver the guide was to develop a web-based toolkit (using additional funding made available by the OU). There were two main reasons for this:

- To make the toolkit more accessible for practitioners
- To enable the toolkit to link up with other web based resources including the 'Growing with Compost' website which recommends different collection and processing systems for different waste types and collection environments¹³.

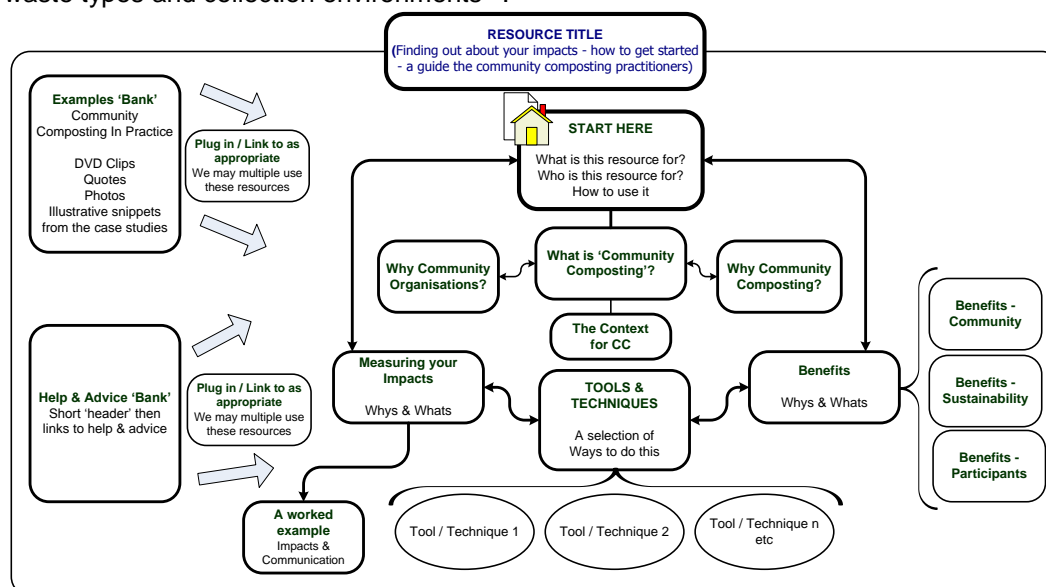


Figure 5 Outline of the structure of the toolkit for practitioners - 'finding out about your impacts, how to get started'

A draft version of the website was piloted with practitioners. Figure 5 gives a schematic outline of the final version of the website which can be accessed at www.valuingcommunitycomposting.org.uk.

¹³ 'Growing with Compost' is project funded under the European Socrates Education & Culture Programme. CCN led the project with a number of partners to develop community composting projects across Europe. The website www.growingwithcompost.org provides free resources and advice for setting-up and developing sites.

5.2 Objective 6 - Scenarios to assess and explore the potential of the sector

One of the key research areas throughout this project has been to develop an understanding of how community composters perceive and are responding to the different challenges they face. A number of common themes relating to new avenues of work emerged during the stakeholder workshops that were then explored in a series of telephone interviews with key experts. In response to their own views of the challenges they face individual groups are starting to pursue a diverse range of alternative income generating activities. As a result, there are a number of trends starting to emerge within the sector, some of which are distinct from how the sector has evolved to-date, which suggests that should these trends continue to develop the sector may look considerably different in the future. Annex 4 discusses a series of scenarios for possible future trajectories of the sector based on the research findings. This section draws on these scenarios to explore the potential of the sector.

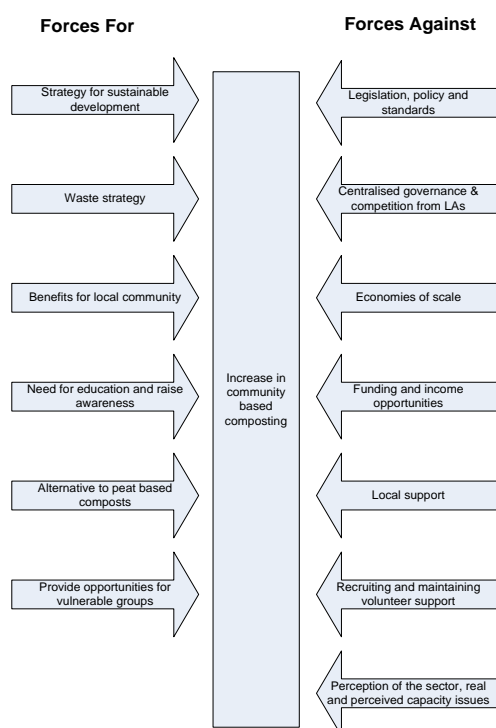


Figure 6 Force field diagram summarising community composting practitioners' perceptions of the 'forces for' and 'forces against' community based composting

5.2.1 Emerging trends in community composting activity

The forces for (drivers) and against (challenges) community based composting drawn from the perceptions of community composting groups explored throughout this project are summarised in Figure 6. Expansion of the sector along the trajectory of that observed to-date may be constrained by the 'forces against'. The 'bottom-up' response from some groups to the perception of the drivers and challenges they face is giving rise to a number of emerging trends, including:

1. Local sustainability and low carbon initiatives
2. Working with businesses to set up on-site food waste composting
3. Commercial food waste collections in urban areas
4. Community groups as sub-contractors to private waste companies
5. A mix of 1-4 above

A brief outline of these trends and the associated pros and cons of each is given below.

Trend 1 - Local sustainability and low-carbon initiatives

Networks involved in providing information and advice about community composting are seeing a greater proportion of enquiries from groups interested in the wider issues of local sustainability, where community composting is an important but constituent part, compared to groups with a single focus on community composting. The networks see this as a reflection of the growing interest in the Transitions Towns initiative aimed at engaging people and communities to take local action and build resilience in their communities to mitigate the effects of peak oil (the end of cheap and plentiful oil) and climate change (Hopkins, 2008).

Pros

- More holistic approach to local sustainability.
- Opportunities for synergies between initiatives.
- Raises awareness of the 'bigger picture' and a variety of interrelated actions.
- Scope for inclusive approach for local communities and businesses.
- Develop activities and actions appropriate to local needs and situation.

Cons

- Gaining local authority support for holistic approach may be problematic. Where support is currently available it tends to be from specific departments for particular initiatives e.g. waste. Similar 'silo' issues apply at a regional and national level.
- May need to be volunteer led until funding available / secured.
- Building momentum and support takes time.
- Need to develop knowledge or access expertise across a range of issues.

Potential

Research is required to estimate the potential of this trend since no data is available.

Trend 2 - working with businesses to set up on-site food waste composting

Although a sizeable proportion of community composters would like to develop their activities to include food waste composting, many do not have the financial resources for ABPR compliant enclosed systems. As a result, some key players are seeking ways of developing food waste composting that is not subject to or is exempt from ABPR. One such way is facilitating SME's with catering facilities to develop on-site composting. Findings from this research show that community composting groups often do not engage with local businesses and this may be a possible area for future development. There is a general need to promote more pro-environmental business behaviour amongst SMEs and to address commercial waste generally, priorities highlighted in the National Waste Strategy (Defra, 2007). A pilot project led by the community composting sector called Compost Doctors (funded by Defra's BREW Programme) trialled a number of on-site in-vessel systems with businesses. With follow-on funding from WRAP¹⁴, the Compost Doctors¹⁵ project (jointly managed by the Community Composting network and the Community Recycling Network) provides a training and subsidised consultancy service for on-site composting.

Pros

- Large market and considerable consultancy opportunities for community groups.
- Following the pilot Compost Doctors there is expertise for on-site food waste in the community composting sector.
- In the medium to long-term could lead to reduced costs for the commercial establishment - although current charges by private contractors are per lift/volume rather than weight - see 'cons' below.
- 'Greening of Business'. Experience from Compost Doctors shows that organisations taking part increased their environmental awareness and increased participation in other recycling activities (similar results from our workshops reported by householders/volunteers involved in community composting). Contributes to eco-standards and green credentials.

¹⁴ Third Sector Capacity Building Programme

¹⁵ <http://www.crn.org.uk/compostdoctors/index.htm>

- Scope for working in partnership with business support agencies to offer specialised advice.
- Proximity principle.

Cons

- Because of animal health risks and under ABPR regulations composting is not permitted on sites where livestock is kept.
- Very limited opportunities for volunteers (compared to alternative community composting systems).
- Charges for residual waste collection are per lift/volume rather than weight - if food waste diverted from residual waste is not of significant volume to reduce bin lifts then there are no cost savings for the business, whilst lighter residual waste delivers savings in lift/transport/disposal costs for the waste company (CRN, 2008).
- Needs initial cost outlay for the composting systems and ongoing commitment and management from the businesses involved, which may wane over time, especially if early 'returns / benefits' are not seen.
- No direct community benefit.

Potential

This emerging trend is based on an extension of the Compost Doctors programme. The Compost Doctors programme facilitated the development of on-site composting of food related waste derived from "hospitality" companies such as restaurants and sports clubs. Community composting personnel provided expert consultancy advice and hands-on experience to support the Compost Doctors trial. Waste arising and composting data was collected from July 2006 until March 2008 from eleven companies. The mean tonnage collected and composted from each venue was equivalent to approximately 7 tonnes per year (CRN, 2008).

It is likely that the target market for on-site composting would be hospitality companies in England with appropriate facilities/land and interest in managing their waste more sustainably than at present. In order to estimate the total number of hospitality outlets in England which produce a significant amount of food waste, a report on food waste arisings in Hampshire from SME hospitality outlets was consulted (Thomas et al, 2007). The authors estimated that there were approximately 3,120 hospitality outlets in Hampshire. If Hampshire is assumed to be typical for Councils in England then on the basis of relative populations, it is estimated that the total number of hospitality SMEs in England would be approximately $3,120 \times 30 = 93,600$. The estimate of the number of hotels and restaurants in the UK given by National Statistics Online (<http://www.statistics.gov.uk>) was 137,275 for 2004. The estimate of 93,600 hospitality SMEs in England would appear to be an acceptable approximation.

Assuming that a maximum of 5% and a minimum of 1% of these outlets would be capable of supporting an on-site composting programme, then this equates to around 4,680 (5%) and 936 (1%) outlets in England. It is worth noting that the on-site model is constrained by the need for grounds or gardens in which to use the compost and the maximum and minimum uptake examples of 5% and 1% are deliberately conservative to reflect this. Assuming that each outlet will produce around 7 tonnes of food related waste per year, then food waste directed to on-site composting from these outlets would be:

1% supporting on-site composting

$936 \times 7 = 6,552$ tonnes per year

5% supporting on-site composting

$4,680 \times 7 = 32,760$ tonnes per year

Trend 3 - Commercial food waste collections in urban areas

Although some established rural schemes rely on little or no external funding as they operate compost clubs and are run by volunteers, some other schemes, especially those operating regular kerbside collections, have relied on external funding. For some groups, as their funding draws to an end and they are not financially self-sufficient they are seeking alternative funding opportunities and/or changing their services to allow them to be more financially viable with limited incomes.

A small number of urban based groups have, or are in the process of, full ABPR approval. Generally speaking, schemes run by these groups were set up with external funding over a fixed term, typically 2-3 years. Mostly, these schemes piloted collecting food waste from high density housing for on-site or near-site composting. These pilots have enabled groups to develop technically viable systems. However, developing financial viability has proved difficult with groups unable to access either additional funding and/or income through local authority contracts. Findings from this research show that building relationships and securing income from local authorities is a lengthy and difficult process. The majority of groups are in some dialogue with their local authority but more formalised working arrangements are less frequent; around 20% of groups have a Service Level Agreement and around 5% have full Service Contracts.

One strategy that is gaining momentum for some groups is commercial food waste collection and composting, where income from commercial services may subsidise household services or groups may cease collecting from households in favour of commercial collections.

Pros

- Commercial food waste collection is a large and virtually untapped market.
- Possibilities of income from commercial collection subsidising other activities.
- Increasing commercial activity could lead to a healthier portfolio of activities for groups and a more sustainable source of income.
- Can be good for business in that it contributes to green credentials and eco-standards criteria.
- Composted material can be used for community benefit.

Cons

- Need regular staff to provide a reliable collection service which limits opportunities for volunteers.
- May prove to be an additional cost for businesses if cost of food waste collections is not offset with reduction in residual waste collection costs. For some commercial premises their food waste is high density but low volume, and residual waste charges are usually by volume rather than weight (see 'cons' in section above).
- Some organisations may generate relatively homogenous food waste which may raise issues about obtaining / mixing an effective feedstock.
- Increasing commercial activity may not align with a community group's original core values or community objectives.

Potential

This trend is similar to the on-site food waste composting but it may be expected that more SMEs with significant food waste arisings (eg hospitality outlets) would participate since only collection of waste is required, rather than on-site composting. Hence, it is assumed here that a maximum of 20% and a minimum of 10% of these outlets would support separate collection of food waste by a community based organisation. Using SME estimates for England (93,600) and food arising rate (7 tonnes per year) from above, it may be calculated that food arisings from these sources might be:

10% hospitality SMEs participating
9360 x 7 tonnes = 65,520 tonnes per year

20% hospitality SMEs participating
18,720 x 7 tonnes = 131,040 tonnes per year

Trend 4 - Community groups as sub-contractors to private waste companies

Many community composting groups are not in a position to bid for and secure local authority contracts. The Third Sector Capacity Building Programme (a partnership between REalliance and WRAP) are exploring possible consortiums between community resource groups to facilitate the size and breadth of expertise and service with a view to securing future contracts.

On an individual level, some groups are taking up (or considering) roles as a sub-contractor to larger waste management companies. This could be for household or commercial waste services. A role as a sub-contractor may be particularly relevant where the community group has developed a composting facility, service or has access to a section of the community that is not offered or easily accessed by the main contractor. A sub-contracting role could include carrying out one or more of the following: composting, collection, education and engagement. Limiting factors such as integrated service contracts and competition from local authorities are encouraging some groups to seek sub-contracting options.

Pros

- Potentially a significant opportunity for regular activity and income.
- Greater financial stability should allow scope for developing the capacity and activity of the community organisation.

Cons

- There may be issues raised by divergent values between the main business contractor and the community sector organisation.
- Usually the sub-contractor's lines of communication and responsibility are to the main contractor and not the main contractor's customer. Other research suggests that this can stifle possibilities of service improvement and innovation (Slater et al, 2007).
- The above point means that the community group may have little contact with the waste producer which in turn may have a negative impact on quality control of feedstock, essential for producing quality compost.
- 'Niche' services offered by the community sector organisations could be viewed as potential area for development by the main contractor who may move towards providing the service themselves and 'squeezing out' the community organisation. Similar situations have occurred in some areas where councils have introduced garden waste collection schemes in areas serviced by community groups.
- There could be a risk of goal displacement, i.e. the community organisation becoming more distant from their original objectives and from the communities they serve.

Potential

Research is required to estimate the potential of this trend since no data is available.

Trend 5 - Mix of trends 1-4

Many of the activities identified in the emerging trends appear to relate to urban-based community composting schemes, although promoting more sustainable waste management practices within a low carbon framework and some on-site composting initiatives can equally apply to rural environments. Through Compost Doctors the sector is starting to develop a track record of supporting SMEs to establish on-site composting and a small network of community composters offer training and consultancy services. This type of work appears to have excellent potential and the skills required to support on-site composting map very closely to the community composting sector.

Helping facilitate on-site composting is one potential area of expansion, closer working with SMEs and developing commercial food waste collection and composting could also be an option with considerable potential, providing there are resources available for ABPR compliance. However, this potential may be tempered by the 10t limit (on site at any one time) of food waste allowed under the EPR Exemptions. Commercial food waste collections could be combined with supporting on-site composting, in partnership with appropriate SMEs. However, the scope for this will be limited by suitable premises (e.g. have gardens/grounds to use the composted material), which are less common in urban areas.

In general, the trends “Local sustainability and low-carbon initiatives” and “Community groups as sub-contractors to private waste companies” are currently the least defined and probably most complex and variable of the emerging trends and as such they require significant research to assess their potential.

Other future trends

In addition to the trends outlined above, there are a number of areas that are being developed since this research was undertaken.

Many community composting projects are driven by local sustainability initiatives, often connected to local food production. The Local Food fund, part of the Big Lottery’s Changing Spaces Programme, has funded a number of community composting groups projects often combining food growing, composting and healthy eating initiatives. These types of projects have the potential to contribute to a number of Government objectives, including sustainable local food production, healthy eating and affordable fresh food as well as environmental sustainability e.g. through the reduction of food miles.

Other developments include CCN and a number of its members exploring the feasibility of decentralised anaerobic digestion projects.

Also, it may be expected that in light of the EPR Exemptions and the lifting of the import/export restriction groups will be able to offer composting to local SMEs producing garden waste, such as local landscapers, within the quantity limits of the exemptions.

In addition, CCN and LCRN suggest there is ambition from a minority of members to pursue a high growth strategy based on larger scale activities and not to settle for growth in line with general industry growth.

6. Policy relevant conclusions

6.1 Understanding diversity in the community composting sector

This report has highlighted the diversity of the community composting sector. Within the sector some groups operate on an informal basis and at a very small-scale and are happy to continue with little aspiration for expansion, whilst others seek to develop and provide a range of locally based solutions and services to their local communities, including householders and more recently local businesses. Some groups deal in community composting exclusively, others participate in community composting as a complementary activity to other resource, sustainability or social service led activities, and most groups have a mix of social and environmental objectives. It is important for policymakers to understand this diversity in order to understand what the sector can offer.

At one end of the spectrum, especially in rural areas, are very small schemes operating at low-cost and self-financing through recycling credits and compost clubs. At the other end of the spectrum are larger organisations with multiple social and environmental objectives that undertake composting as one of many activities they are involved in, and see composting as one way to help them achieve other complementary objectives. Typically these are groups that have social priorities, such as services for excluded groups and adults with learning difficulties, or groups with wider environmental objectives.

6.2 Securing funding and income

One of the ongoing and major problems facing the sector is securing income and long-term investment. Our results show that groups involved in a range of activities have received more income from grant funding for their composting activity compared to those that focus exclusively on community composting. This raises a question about why groups involved in multiple activities have been better placed to receive grant funding. It is not uncommon for grant programmes to create new activities that struggle to remain financially sustainable beyond the lifespan of the funded programme, and this is the situation with the end of the CRED Programme. Appraisal of CRED found that the Programme had helped projects increase the percentage of earned income. However, this has not been sufficient to ensure continuity, with only 3 out of a sample of 19 recycling, reuse and composting schemes able to categorically confirm they would be continuing their activities.

With the cessation of CRED and in light of important barriers and challenges identified by practitioners in this research, larger-scale groups have had to adapt and are starting to explore alternative routes to develop their activities and maintain financial viability. Some individual groups are pursuing collection and composting of commercial food wastes and a small number are looking to facilitate on-site composting at catering establishments. The former has been made possible by the 'pump priming' afforded by CRED with groups obtaining equipment that enables them to expand into collection and composting of commercial wastes. At the other end of the spectrum, very-small groups that rely predominantly on volunteer activity are likely to persist as they are run on minimal cost. It is the medium-scale community group at the middle of the spectrum that are likely to be the most vulnerable. These include groups whose household garden waste collections have been superseded by local authority collections and groups that are unable to sustain household waste collection of either garden or food waste beyond the duration of grant funding.

The development of the community composting sector has been relatively rapid between 1999 and 2006. This research project confirmed the importance of investment from the Community Recycling and Economic Development (CRED) Programme in significantly increasing processing capacity by as much as 50% in 2006. However, there are questions about the long-term viability of CRED funded initiatives and some structural and regulatory factors were identified which may limit the future development of the sector. Since this research was completed a number of CRED funded projects are known to have ceased operations. Also since this research was undertaken subsequent work suggests that there is growth in terms of

new groups entering the sector but that the quantity of garden waste composted across UK has declined (CCN, 2009); from around 20,500t in 2006 (Slater, 2007) to 14,500t in 2008 (CCN, 2008) (around 14,300t in England, WRAP and REalliance, 2009)¹⁶.

There are a number of funding opportunities emerging at the national level that are likely to provide continued support for some groups in the community composting sector, including the Local Food Fund and WRAP's Third Sector Capacity Building Programme. However, it is not clear whether the most vulnerable medium-scale groups will benefit from this funding, as for example, measures of success under the WRAP Programme include tonnes of waste diverted from landfill, tonnes of carbon saved and sector turnover and employment. Thus these measures favour larger-scale community groups.

6.3 Regulations

The regulatory system, and in particular some elements of the EPR Exemptions from Environmental Permitting, ABPR and the Planning System, were considered barriers by community composting practitioners. This was not because of a lack of understanding of the purpose and requirements of the regulations but rather questions raised by practitioners regarding the appropriateness of the regulations for the small-scale of community composting activities. Equally, most community composting organisations reported the resources required for compliance to be beyond their means, given their very low levels of composting activity. There are also elements of the EPR Exemptions that are welcomed by the sector and should ease previous barriers.

Exemptions from environmental permitting

The Environmental Permitting (England and Wales) Regulations 2010 (Schedules 2 & 3) set out the revised rules for a composting operation to be exempt from the need for an environmental permit. The Regulations reduce the amount of material that can be composted under an exemption following concerns of the operation of large-scale commercial composting under the previous exemption (Defra, 2009a).

The risk based approach and removal of the restriction to import material onto a site and export it off site under the revised rules of the exemption are welcomed by the community composting sector. This should make it easier in the future to set-up and operate small-scale community run garden waste sites.

However, there are concerns over the significant reduction in threshold limits for waste material allowed on site at any one time under an exemption. There are fears that the thresholds will 'squeeze out' and restrict community composting activity. Results from the national survey in this research suggest that around 30% of groups are unlikely to meet the new exemption and will either need to reduce their activity in order to remain exempt or apply for a Standard Rules Permit. In 2010 the cost for a 500 tonne standard permit was £1,590 with an annual subsistence charge of £760 (Environment Agency, 2010).

Included in the threshold limit is a 10t limit of kitchen and catering waste on site at any one time, this 10t covers the three stages of processing, maturation and storage. Groups that exceed 10t on site at any one time will not be exempt and will need an Environmental Permit. Additionally, the Environment Agency already requires many of those applying for a permit to provide a site-specific bio-aerosol risk assessment when the proposed composting facility is within 250m from a dwelling or workplace and where more than 500 tonnes of waste is to be handled. Only a small number of community composting groups are approved to compost kitchen and catering waste under ABPR; according to Defra figures (2009a) there are four groups all based in inner-city/urban areas. As the limit relates not only to untreated kitchen and catering waste arising but includes maturation and storage of stabilised material, it is possible that the capacity of these operations may exceed the 10t limit. CCN has called for the limit for kitchen and catering waste to be set at 50t on site at any one time (for sites that compost waste where the waste arises off site) to adequately cover current activities and allow for some growth in the activities of its members. However, the Government's concern is that

¹⁶ Note that CCN (2009) and WRAP and REalliance (2009) surveys received fewer respondents compared with the OU survey (Slater, 2007).

the presence of this type of waste on-site above the 10t limit, will result in a risk that may give rise to pollution or a loss of amenity (for example through odour emission). Nonetheless, if the limit remains at 10t, the cost of obtaining a Standard Rules Permit may be prohibitive for some community groups composting kitchen and canteen waste. An alternative would be for these four groups to reduce the amount of food waste they process to meet the limits of an exemption.

Animal By-Products Regulations (ABPR)

Household and commercial food waste is a priority waste stream for diversion from disposal and could provide significant opportunities for some of the larger groups in the community composting sector.

It is believed that UK outbreaks of foot-and-mouth and swine fever were caused by livestock gaining access to untreated catering waste (Defra, 2009b). The Animal By-Product Regulations were introduced to address animal health risks from the treatment of kitchen and catering waste.

Some groups that previously composted small amounts of food waste alongside garden waste ceased this activity with the introduction of the ABPR. Working in conjunction with manufacturers the community composting sector has led the way in the development of ABPR compliant small-scale in-vessel systems. According to Defra's Animal Health Agency there are now eight ABPR compliant plants operated by four different community groups in England and Wales (Defra, 2009b) all of which were assisted through grant funding. The cost of machinery and the resources required to collect the food waste and operate the process implies that only larger-scale groups who can access funding or already have the equipment in place are likely to capitalise on opportunities afforded by food waste collection and composting. ABPR compliance, particularly the costs of small-scale in-vessel systems, was considered a barrier by community composting practitioners interested in composting food waste. As discussed previously, facilitating ABPR exempt on-site food waste composting for commercial premises may be a niche for expansion by the sector.

6.4 Individual and community change

The research findings presented in this report have shown that community composting groups deliver a range of benefits over and above tonnes diverted from landfill that help promote individual well-being and improve local communities. The principle beneficiaries are individuals directly working, volunteering or receiving training and therapeutic work as part of the project, with other users, including householders, and wider stakeholder also deriving benefits. Results from this research show that over 80% of community groups consider evaluation of their activities to be important and most focus on the relatively easy to count outputs such as tonnages, number of volunteers, trainees and educational visits etc. Virtually no groups collect information on the wider social outcomes connected to individual wellbeing and improving local communities. There are a number of possible reasons for this disparity:

- Resources in community composting groups are often limited and appropriately focused on composting operations, relatively speaking evaluation of outcomes is often down the list of priorities;
- Funders requirements for evaluation are often focused on tonnes diverted from disposal and other quantitative outputs such as number of people engaged rather than the wider social outcomes; and
- Capturing qualitative outcomes needs different approaches to standard ways of measuring more easily quantifiable outputs. It needs a longitudinal approach that engages with stakeholders over a period of time to collect information on the changes the project has brought about for them in order build a body of evidence that demonstrates outcomes.

On this latter point, methods to capture the individual and community change need to be low cost use minimal resources, simple to apply and user friendly. This research has developed a simple and user-friendly process for groups to engage with their stakeholder to identify and measure important changes which has been built into a web-based guide for practitioners available at www.valuingcommunitycomposting.org.uk. This can be a stand-alone process or

represent the first steps towards a more comprehensive Social Return on Investment (SROI) or Social Accounting and Auditing (SAA). There have been a number of calls for more standardised and mainstreamed methods for demonstrating social change and the Office of the Third Sector's programme to standardise SROI is to be welcomed. However, promoting SROI does raise the caveat that factors not amenable to monetisation still need to be captured and given prominence in any evaluation and in addressing this there is scope for more convergence between SROI and SAA (Pearce and Kay, 2008).

6.5 Summary of key areas for further consideration

National Government

- The Environmental Permitting (England and Wales) Regulations 2010 should make it easier for groups to set-up and operate very small scale garden waste composting sites which could encourage new entries. However, around 30% of groups are unlikely to meet the EPR exemption criteria. This raises questions about the effect this will have on these groups and whether there are alternative approaches which are less restrictive in terms of relatively small tonnages.
- In policy terms community composting tends to come under waste management. This research has shown that there are many social orientated benefits for individuals and local communities. How do groups access other government departments and agencies and how can inter-departmental support that cuts across different department boundaries be fostered?
- Ways to encourage greater emphasis on the proximity principle need to be explored to encourage local composting solutions where feasible.
- Initiatives are needed to encourage waste recycling and composting from commercial premises and better integrate municipal and commercial waste management.
- Mechanisms need to be explored for placing greater emphasis on the benefits to the individual and the local community as a result of community groups providing local solutions to local problems, in terms of composting, promoting volunteering activities, providing training and therapeutic work environments and wider sustainability issues.
- Project continuity, grant funding and financial self-sufficiency. There is little evidence to suggest that high future growth rates will prevail in the sector without significant additional investment and regulatory adjustments appropriate to small-scale decentralised activities. The EPR Exemptions should make it easier for groups to set-up and operate very small-scale garden waste sites. There is evidence to show that community composting activity increased significantly as a result of funding programmes (e.g. CRED). However, evidence of the transition for individual groups during and after funding is less well documented, although it is known that some groups have folded since their CRED funding ended. Further work is needed to understand how continuity can be improved and if and how groups can achieve greater financial self-sufficiency.
- Enhanced support for community composting innovations. In the past the community waste sector has been instrumental in introducing innovative practices at the margins (such as separate collection of dry recyclables) that then become mainstreamed and widely adopted by the public and private sectors, often squeezing out any role for community based groups that initiated the activity. Further work is needed to explore the scope and feasibility of a more formalised 'innovator' role for the community composting sector in pioneering and piloting activities prior to mainstreaming.
- There needs to be wider recognition, and better use, of the knowledge, experience, skill, commitment, will and enthusiasm that the sector has to offer.

Local Government

- Local authority support is crucial for successful community composting activities therefore ways of enhancing support is vital.
- Support needs to be for groups who have self-organised and are committed; 'top-down' encouragement is unlikely to be successful unless the commitment exists from groups on the ground. 'Ground-up' grass roots development needs to be supported.
- There needs to be a consistent approach across all local authorities in terms of payment of recycling credits for community composting.
- As with the point under National Government above, community composting tends to come under waste management in Local Government. Community composting activities are

relevant across a number areas including social, housing, education and environment. How can inter-departmental support be fostered?

- A 'Third Sector Strategy for Procurement' helps authorities consider the role and added value offered by community sector groups when procuring services. Procurement departments have an important role to play in considering integrating community composting within contracts and harnessing added value.
- Outcomes based commissioning for services may help integrate social, economic and environmental benefits in procurement.

7. Future work

Further work is needed to explore the nature of income in the community sector and in particular the balance between grant aid and expanding the capacity of the sector through a greater emphasis on commercial activity and local authority service provision. Little is known about what happens to projects after a period of funding. There is some evidence in this research to suggest that groups are changing their activities and a number of emerging trends have been identified. Further research is required to explore the potential of these activities.

Further longitudinal work is needed to help groups capture information on social benefits. This research provided a valuable first step in capturing stakeholders' perspectives of the social and environmental benefits the community composting activity brings to them and explored ways of measuring these benefits. This work can now be developed to include more comprehensive survey work using these measures.

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List of Annexes that accompany this report

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