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## Electronic Working Paper No. 47

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The social, health and wellbeing  
benefits of allotments: five societies  
in Newcastle.

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2012



This report is dedicated to the memory of the late Peter Horrocks, president of Little Moor allotments association, member of Newcastle Allotments Working Group and regional representative for the National Society of Allotment Gardeners. Peter's commitment, advice and availability have been a key contribution to this research. Thank you.

## Content

1	Abstract.....	4
2	Structure of the report.....	5
3	Dimensions of allotment gardening.....	5
	3.1 Allotments and health.....	6
	3.2 Allotments and social capital .....	6
	3.3 Meanings and values of allotments .....	7
	3.4 Allotments and social resilience.....	7
	3.5 Allotments and environmental psychology .....	8
4	Site field notes .....	11
	4.1 Little Moor.....	11
	4.2 Moorside .....	11
	4.3 North Highbury.....	13
	4.4 Three Mile .....	13
	4.5 Walkergate Hospital.....	15
5	Methodology.....	17
	5.1 Sample and case study selection.....	17
	5.2 Data collection methods .....	17
	5.3 Limitations of the study .....	18
	5.4 Positive issues.....	18
	5.5 Data analysis of questionnaires .....	18
6	Questionnaire analysis.....	21
	6.1 Tell us about yourself .....	21
	6.2 Tell us about your allotment .....	27
	6.3 Benefits from your allotment (quantitative).....	31
	6.4 Benefits from your allotment (open questions).....	33
	6.5 Your allotment, diet and sustainability .....	39
	6.6 Your allotment and wildlife .....	41
	6.7 Challenges. The future and last thoughts .....	43
7	Preliminary conclusions .....	45
8	Selected literature .....	46

## 1 Abstract

This report is part of a work in progress, long-term research at the School of Architecture, Planning and Landscape Newcastle University that is studying the current and future role of allotments in the UK. In 2009/10, a first stage of research was carried out using empirical evidence and existing literature to outline current benefits and future opportunities of this specific type of urban agriculture. Data was collected at Moorside Allotments consisting of an individual questionnaire and a series of informal interviews. The findings were summarized in the report “Plotting a Better Future: The Current and Future Role of Allotments in the UK” presented by final year Diploma students as part of their degree in May 2010. The paper stated that allotments could play a positive role in leading a healthy lifestyle in urban contexts. However, it also pointed out that potential benefits could be undermined by land pressure for building and lack of plots provision. Drawing from those findings, research was continued and extended in 2011 to the whole area of Newcastle, adding up data from four new sites: Little Moor, North Highbury, Three Mile and Walkergate Hospital

This report presents the results by comparing the data gathered from these five sites. Further interviews will be conducted in order to gain a deeper understanding of the social, health and wellbeing benefits of owning an allotment and the effects of current and future challenges in boosting or hindering these benefits and these will be the subject of future publication.

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November 2012

## 2 Structure of the report

This paper will use a similar structure to the report presented in May 2010. Firstly a brief summary of the state of play of current research is provided. Secondly, data collected from surveys in 2009 and 2011 will be analysed together from the perspective of the 'current and future role of allotments'. Special focus will be placed in differences and similarities amongst the five case studies. Some preliminary conclusions will be presented, these are to be further investigated through further in-depth interviews.

## 3 Dimensions of allotment gardening

There is a great volume of research which explores existing and potential benefits of urban agriculture, covering a wide geographical, methodological and disciplinary scope. In the specific case of English allotments<sup>1</sup>, these overarching potential benefits have been well summarized in the government report "Can You Dig It? Meeting Community Demand for Allotments".

Research suggests that allotments and community gardens can improve people's quality of life, help to curb exclusion, increase physical exercise, encourage a nutritious diet, support mental health, help people relax, teach new life skills, empower people, give individuals self-esteem, reconnect people with the food they eat, educate citizens about healthy food and environmental stability, tackle CO2 emissions, reduce packaging, support more sustainable waste management, conserve biodiversity, facilitate social interaction, build cohesive communities, strengthen social ties and networks, secure our food supplies and even reduce perceptions of crime (Hope and Ellis, 2009:32).

The recent increase in academic and media interest has been largely mirrored by an increase in demand for allotments generally. However, this has not been reflected in provision of plots by Local Authorities. Newcastle's has a higher than average level of allotment provision (national average is 15 plots per 1,000 households and Newcastle has 22.2 plots per 1,000 households), however, even here there is currently a waiting list of approximately 826 on Newcastle's 2,640 allotment plots provision (Armstrong et al., 2010, p. 22).

As stated previously, this section complements the literature reviewed in 2010 summarizing other relevant works on the field of allotments not reviewed then or that have appeared afterwards. Studies included cover allotment gardening, community gardens, green exercise and urban agriculture.

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<sup>1</sup> Similarly to May 2010 report, for this paper purposes an allotment is defined as: portion of land not exceeding 500sqm, with varying rules and regulations but primarily used for the production of vegetables, flowers and fruit largely for home consumption, with small livestock such as pigeons, hens and rabbits being permitted on some sites.

### 3.1 Allotments and health

A number of studies have specifically examined links between improved human health and exposure to 'nature' in urban settings<sup>2</sup>. A study by Barton and Pretty confirmed that green exercise "lead to positive short and long-term health outcomes" (2010: 3947). However the mechanisms are poorly understood. A review of policy and research literature reveals four mediating processes as being considered important, these are:

- Improvement of air quality; e.g. filtering particulate matter
- Inducing feelings of relaxation and reducing stress
- Stimulating physical activity
- Facilitating social contact and social capital

While research remains inconclusive, improving air quality has been largely disproven as being important, however, reducing stress and facilitating social contact appears particularly beneficial (de Vries, 2012). Of significance allotment gardening provides a setting for all of the above benefits.

Generally involvement in community gardens has shown increased consumption of fresh fruit and vegetables (McCormack, 2010). Grow Your Own food (GYO henceforth) in urban settings has also been associated with improved diet and exercise for those involved which more than compensates for higher loads of environmental pollutants in these settings (Leake, 2009).

### 3.2 Allotments and social capital

Gardening is an activity which is associated with increased neighbourhood attachment, it is an activity that is accessible regardless of income, education, ethnic background and (largely) age and supports social interaction with family, friends and neighbours. In an Australian study members of a community garden described it as a 'sanctuary' which allowed social connectedness and allowed members to define a role in their community (Kingsley, 2009). Many authors have highlighted that time for self, others and the development of social relationships are an important aspect of allotment gardening (see for example Swanwick, 2009). Firth *et al* state a renaissance of community gardens (CG) influenced by the desires of people to reconnect with food, nature and community. Although acknowledging the potential benefits of CG, they identify a lack of analytical tools in the existing literature for assessing these benefits (2011). One US study has, however, analysed the social processes involved in community gardening and this study highlighted the following as strengthening sense of community and sense of belonging:

- The opportunity to connect across different cultural backgrounds
- The reciprocity of helping each other (engendering feelings of trust, safety & comfort)
- Collective decision making
- Establishing rules and acceptable patterns of behaviour
- Civic engagement – e.g. donating surplus harvest
- Establishing common goals (Teig, 2009)

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<sup>2</sup> See also Grahn and Stigsdotter 2009

### 3.3 Meanings and values of allotments

According to Crouch, allotmenters have rich and distinctive shared cultural meanings, language and aesthetics - even shared cultural landscapes (1989). Bhatti and Church also state that “Gardens are not marginal spaces; they are commonplace and as such provide social scientists with a rich source of social interactions, encounters, meanings, and cultural exchanges” (2001). Along these lines, several studies look at gardener’s motivations from an ethnographic perspective.

One Australian study outlines that there’s scant research on why people become, and stay, involved in community gardens and their relationships to broader environmental concerns. Turner studies allotment gardening as an embodied experience that promotes sustainable urban living, arguing that the physical engagement that gardening entails can help to reconnect individuals and communities to the socio-cultural importance of food production and to a broader environmental awareness (2011).

In the UK, Schoneboom’s ethnographic research focuses on the sensory and perceptive capacities used in gardening to study allotments as a craft and as a productive activity; opposed to the ‘unsensorial’ practices that many desk jobs entail today. Thus, the author looks at how allotments respond to stressful and sedentary working conditions or economic and ecological insecurity and the relationship between autonomy, cooperation, and control in the allotment (2012).

### 3.4 Allotments and social resilience

The potentially positive properties of gardening have been linked with the emerging notion of resilience in several publications.<sup>3</sup> In the current context of uncertainty, this promising concept seems to have the ability to provide holistic solutions to social, economic and environmental problems. However, as Davoudi (2012) remarks, this term risks of becoming a malleable ‘buzzword’ that can justify divergent measures and thus it is important to clarify its different meanings.

From a socio-ecological perspective, social resilience is the individual and social capacity of human beings to cope with and adapt to rapid socio-economic and environmental changes (Folke, 2006). This raises the question of what ‘coping’ means and how the ‘coping’ mechanisms occur at individual and social level. According to Key *et al* (2006:40), “little is known about the precise processes and mechanisms that contribute to resilience, though there is a large separate literature on coping. [...] A key coping strategy within resilience approaches involves reframing, that is, altering perceptions in a positive direction by seeing adversity as a challenge and opportunity”. In this direction, a significant corpus of emergency planning and policy reports present methods to measure and assess social resilience using a participatory approach. These reports aim at addressing vulnerabilities and fostering adaptive capacities of communities (see for example Maguire and Cartwright, 2008).

<sup>3</sup> See for example Berkes and Folke 1998; Barthela et al, 2010; Deppe, 2010 and Okvat et al, 2011.





Saint Anthony's allotments association, Walker



### 3.5 Socio Ecological Models of Health and Therapeutic Landscapes

Developed from broader theories of human development, over the last 20 years researchers have become increasingly interested in socio ecological models of health. In brief this concept suggests that to understand individuals' health you have to understand everything about the environment in which they live. Furthermore all scales of the environment from the immediate home, up through the neighbourhood level, towns and cities where people live and beyond, all influence people's health and well-being (see Barton *et al*, 2010).

Allied to this concept is that of 'therapeutic landscape'. As outlined in section 3.1 research has suggested that physically greener, more natural environments, are beneficial for human health and well-being and though the exact mechanisms are not yet fully understood are, therefore, therapeutic (De Vries, 2012). The implications for allotments and urban health may be significant. While speculative, it suggests that the health and well-being benefits of allotments may accrue to a wider population within neighbourhoods than just those with plots, or other close contact. While this issue is beyond the scope of this report, it will be the subject of future research based at Newcastle University.





## 4 Site field notes

These mainly physical descriptions are based on field work notes and discussions during site visits conducted mainly in springtime 2011. Although they try to capture the specific character of each site, they are not exhaustive or conclusive. These field notes provide a starting point to be developed as the research unfolds.

### 4.1 Little Moor

The site is located 1.5 kilometres north of the City Centre. It has approximately 150 plots divided into two by a wide pedestrian path. There are no fences between plots, but land division is apparent. The site is surrounded by a sturdy wooden fence. Some sections of this boundary are vegetated and there are plans to extend this planting. The appearance of the site is neat, tidy and not excessively built up. Glass houses and sheds are allowed. There is certain flexibility in choosing material, colour and dimension of site constructions. However, all constructions must be all aligned at the same side of the plot; inner paths are grassed. Features such as benches, shed colours, etc. add interest and variety.

Little Moor is managed and organised with entrepreneurial efficiency. New gardeners have a probation period on a small plot to demonstrate their commitment. After probation gardeners can upgrade to a full plot. There is a very proactive committee. In addition to the City Council annual lease, funding is obtained from selling plants as well as Heritage and Wildlife grants. The communal greenhouse produces vegetables and ornamental plants that are sold at the community hut on weekends. Profits are saved by the site association and used for maintenance works, or improvements. There is a fluid dialogue with the surrounding neighbourhood as well as with local and regional authorities. There are several social features on site: volunteering working days, a meadow destined to community events, a shop hut opened on weekends, a community hut, toilets, raised beds for disabled, etc.

The site has, however, experienced severe floods and there is a heightened awareness amongst plot holders of the importance of managing the cycle of water; gardeners themselves have done some draining improvements and implemented a bath tub tank system to carefully distribute supply.

### 4.2 Moorside

Moorside was initiated as part of the 'Dig for Victory' campaign during WW2; being at that time a bigger site of 150 plots. This allotment society is located on Town Moor land, 1k kilometre west of the City Centre. Currently it has around 100 plots. The tree lined front perimeter is delimited by a wooden fence, the East and North sides adjoin the Town Moor and have a wildlife fence planted in collaboration with the Wildlife Trust. The west boundary is adjoins private gardens and is also vegetated. The main gate leads to the trading hut, meeting hut, picnic area and the bee garden build with a Wildlife Trust grant. There are also toilets and a hut for storage.

ESPECIAL FEATURES



WATER MANAGEMENT



The appearance of the site is tidy and green; main paths are gravelled. Sheds and glasshouses are located at the back of the plot therefore not obvious from the access paths. Although plot division is very apparent, they have low/or no fences according to site rules. The presence of protected mature trees within plots enriches the landscape of this site.

This society is proactive and outwardly socially oriented. Apart from the links with the Wildlife trust, some plots are allocated to organisations, such as the Scouts group and the Comfrey project. The Scouts group allows children to approach the gardening experience; the Comfrey project is a double plot where refugees and asylum seekers can cultivate and share experiences. Currently a raised beds area for less able people is being constructed.

### **4.3 North Highbury**

This site is located adjacent to Little Moor, 1km north of the City Centre. It is a garden-like site of about 80 plots. The boundary is completely covered by vegetation. Fences and sheds are not allowed; meaning tools and equipment must be carried to the site; even though some members live at some distance. The paths are grassed; few raised beds are used. Division between plots is barely noticeable due to the lack of fences and homogeneous, garden-like, treatment of the space.

North Highbury is largely regarded by plot-holders a 'Leisure Garden', making a clear distinction with for example WW2 'dig for victory' allotments. The site was created around 1910 as a Leisure Garden that complemented the adjacent residential development. Production and/or efficiency are not priorities. There is a strong sense of being a small community, more like an extended family rather than an association. Associates emphasise socialising and creating a pleasant garden-like landscape space for relaxation as much as anything. Site members communicate by means of email or talking on site. There is no shop, meeting hut, or any other official mean to post or distribute information. The lack of features that are often susceptible to vandalism and theft, allows a reduced need for on-site security.

Despite not having a sheltered meeting space there is an open air social corner (high table) where excess produce is exchanged and socialisation takes place. There is much evidence of a perceived importance of wildlife; the site has a considerably large communal pond area with natural vegetation.

### **4.4 Three Mile**

Three Mile allotments is the remotest site amongst the five case studies. It is located 5km north of the city centre. Its boundary is surrounded by low density residential developments except to the south where the boundary is delineated by the Ouse stream. Access to the site is through a bridge over the stream. The terrain gently slopes towards the Ouse enabling beautiful views from the north end and vice versa.

The general appearance is that of a well-kept garden. The paths are grassed and there are no fences between the 69 plots. Self-expression and personalisation is visible through the diverse layouts of individual plots and landscape treatment of the tenancies.



ALLEYS



Little Moor



Moorside



North Highbury



Three Mile



Walkergate Hospital

PLOT LAYOUT





This is highly organised society and many stunning plot layouts are in evidence, ranging from wildlife oriented to highly manicured. The site wins many prizes every year and the committee is strict about plot maintenance and cultivation standards. Newcomers have a probation period before obtaining the right to stay.

Apart from the community building, there are two social features on site. A bee hive area, that produces honey sold at the shop; and a memorial area where late plot holders are remembered through planted trees and benches.

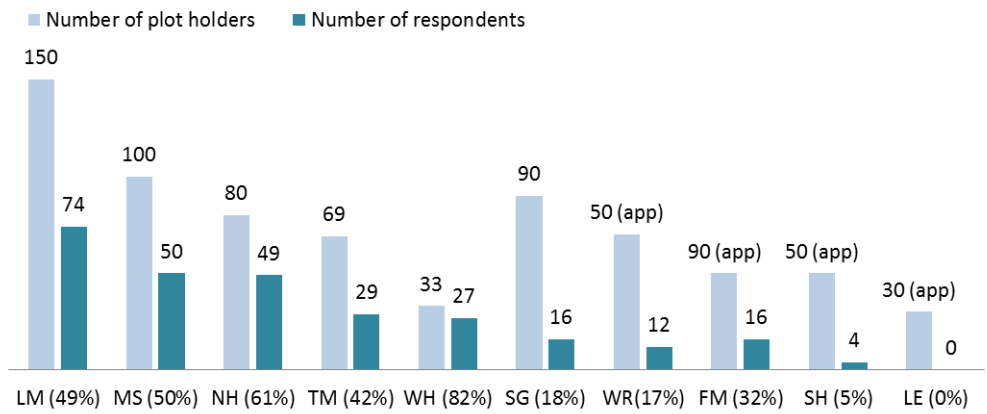
#### **4.5 Walkergate Hospital**

This site is located 2km east of the City Centre. The site is triangular surrounded by a surface section of the metro line, Walkergate Hospital and Benfield Road. The whole perimeter is steel fenced except for the west side which is protected with a brick wall surmounted by barbed-wire protection. Construction rules are quite relaxed, sheds and glass houses are abundant. Consequently the site feels quite built up, but the atmosphere is relaxed and peaceful. Paths are of compacted gravel. Plots are clearly divided from one another and there some creative fencing-building adds interest. The communal area is beautifully maintained, with lots of planted flowers, a wooden shed and a picnic area.

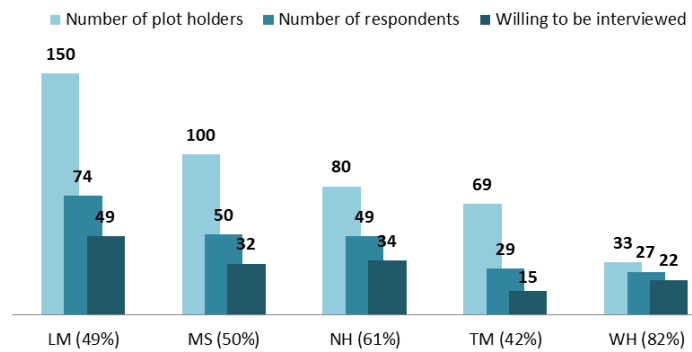
This site has been connected since its origins to wellbeing. The land belonged to the adjacent hospital (Walker hospital). The allotments were originally created in the 20's with the aim of improving the recovery of WW1 soldiers. Nowadays there is still a glass house available to the patients of the hospital. They can take care of a raised bed, normally accompanied by a nurse or a relative, during their recovery. The committee helps out when their work is not enough. This area is contiguous to the communal one and both are carefully maintained.

The president, secretary and the treasurer are a very enthusiastic team, keen on growing unusual varieties of produce. Furthermore they emphasise the psychological benefits of having an allotment.

[ 5.a ] Sample



[ 5.b ] Follow-up interviews amongst respondents



## 5 Methodology

### 5.1 Sample and case study selection

The methodological approach was drawn from the 2010 research; except for the selection of case study. Selection of allotment sites was made according to three main criteria: recommendations from Newcastle Allotments Working Group (NAWG henceforth)<sup>4</sup>; size and location (prioritizing sites with at least 30 plots located in different areas of the city); and willingness to take part by the society (based on committee response). Therefore, informal conversations were conducted with the NAWG in order to identify ten allotment societies these were as diverse as possible within the above criteria.

These ten societies were approached via email with the permission of NAWG. Site visits and informal conversations with representatives were conducted, seeking for permission and committee engagement in distributing a questionnaire. In contrast to the 2010 research, questionnaires were not sent directly to each plot holder by post, but distributed across sites by representatives. Four out of ten sites were chosen under criteria of sample representativity (graph 5.a); Little Moor, North Highbury, Three Mile and Walkergate hospital (LM, NH, TM, WH henceforth). In particular these had a higher ratio of respondents than the other sites approached, reaching a sample of approximately 50%<sup>5</sup>. These four societies jointly with Moorside (MS henceforth) constituted the five case study used in this research. Furthermore, the data collected through the questionnaires across these five sites will inform the selection of interviewees. In relation to this latter point, respondents were asked in the questionnaire whether they would be willing to be contacted for a follow-up interview. The number of respondents willing to be interviewed is showed in graph 5.b.

### 5.2 Data collection methods

The May 2010 report recommended changing the questionnaire should further research be conducted. These recommendation were considered, in the end basically the same questionnaire was used with minor modifications in order to allow comparison with the original case study<sup>6</sup>. Data coherence was, therefore somewhat prioritized over the recommendation for specificity made in the 2010 report. However, some rectifications were made. A new question was added after question 16 in order to see if climate change awareness correlates with organic cultivation practices (use of pesticides). Question 14 was slightly reformulated during the process, clarifying that 'all' reasons for having an allotment should be ranked.

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<sup>4</sup> In 1999 Newcastle City Council disbanded the Allotments Sub-Committee and handed the day-to-day running of its 65 sites to a newly elected Allotments Working Group with the support and advice of the authority's allotments officer. All eight members of the working group are active plot-holders who serve in a voluntary unpaid capacity.

<sup>5</sup> It is difficult to account the exact sample ratio due the fact that some plots are given to associations, halved or used for communal activities.

<sup>6</sup> For a wide description of the questionnaire structure please see section 3.2 of May 2010 report, which is added as Annex 2. The current Questionnaire is also attached as Annex 1.

The May 2010 paper also recommended changing the distribution technique of questionnaires. In this vein, site representatives were consulted about how to distribute the survey more effectively and their advice was followed. Consequently the majority of questionnaires were distributed on site with help of site representatives. Primary data gathering was completed and eventually follow up interviews will be carried out.

### **5.3 Limitations of the study**

The selection of the four out of ten sites entailed discarding data from societies where the sample of respondents was not sufficient to achieve representativity (i.e. the remaining 6 societies). However, non-structured questions, thoughts and observations from off-case study respondents were taken into consideration in the qualitative analysis, where deemed appropriate.

Despite the amendments, question 14 was still confusing and was interpreted differently by participants. The sample of respondents to this question only reached an average of 30%. However, results are still relevant if contrasted with complementary questions such as 13 and 22-29.

Some respondents did not answer full sections of the questionnaire or specifically the non-structured questions. However, this was not a major constraint as amounted for 1- 5% of the sample and can be considered an acceptable figure of unusable questions. However, the ratio of unusable answers was superior to a 5% in some questions. As explained in the next section, in these cases the results have still been considered relevant but not representative.

There was a time gap of two years between MS data collection and LM, NH, TM, WH data collection. This was not considered relevant when merging or comparing data.

### **5.4 Positive issues**

67% of respondents on average were willing to be contacted for a follow-up interview. This outlines the commitment of allotmenters to collaborate and maintain their sites running and opens up possibilities for further research.

The questionnaire was comprehensive and covered many key aspects of the experience of allotment gardening. This overarching data set can provide an opportunity to study allotments under different perspectives and it is adequate to the unfolding nature of this research project.

### **5.5 Data analysis of questionnaires**

The questionnaire distributed in 2011 had a new question added after question 16. This posed problems of numbering coherence. The current 2012 report used the numbering of the 2011 amended questionnaire. Comparing 2010 and 2011 surveys, the numbering is the same in both versions until question 16. From question 16 on, numbering 'x' of 2010 questionnaire corresponds to numbering 'x+1' of 2011 questionnaire. It would have been clearer to add the new question as 16.2 and not shifting the numbering.

The data analysis had few limitations and constraints. However, there were some issues when responding numerical questions. The criteria used when a participant filled in a numerical range was to make an average (e.g., 8-12 hours would be counted as 10). In case of answers such as '60+', 'more than 5' or 'many people' data was discarded.

Question 4 presented problems in understanding if the respondent was retired or still working. Retirement data have been discarded.

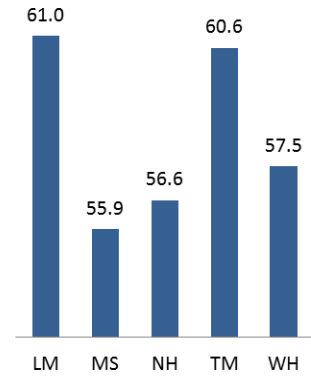
In question 3 respondents stated their ethnicity as British or English. Although this category corresponds to nationality, we maintained it separated from White British or White English. British-English can include a higher cultural diversity than White British or White English (e.g., British born person with an Asian background, etc.). Furthermore, many did not answer. This question formulation should be reviewed for the future.

In question 21 many respondents ticked more than one means of transport. One point per respondent was assigned and divided by as many means of transport indicated. This would weight equally all the options ticked per respondent. For similar reasons, the same criteria were applied in question 13.

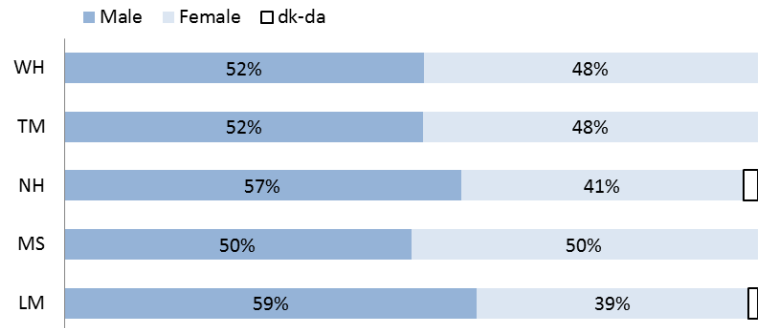
In question 18, participants were asked how many hours per week per month they dedicated to the allotment. As already noticed in 2010 research, this formulation generated confusion and some respondents probably filled in hours per month instead of hours per week. All answers with values superior to 20 hours per week have been discarded. Data left after this discard represented a sample of 43% amongst respondents. However, some of the data filtered out could be recovered by contacting respondents and confirming the validity of answers; it could be possible that some of these answers are correct and respondents have taken the allotment as full time job after retirement, working more than 20 hours per week. Nevertheless, if this research is continued and more questionnaires are distributed the formulation of this question should be clarified.

Regarding open questions, the criteria used for transcribing respondents was the following: emphasis in capitals, spelling mistakes corrected, abbreviations or colloquial expressions maintained.

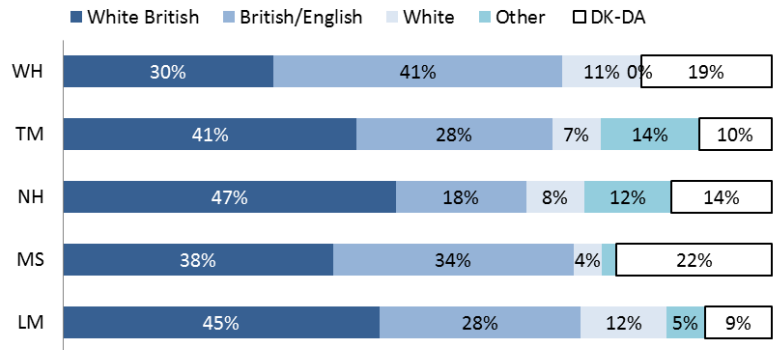
[ 61.a ] Age average



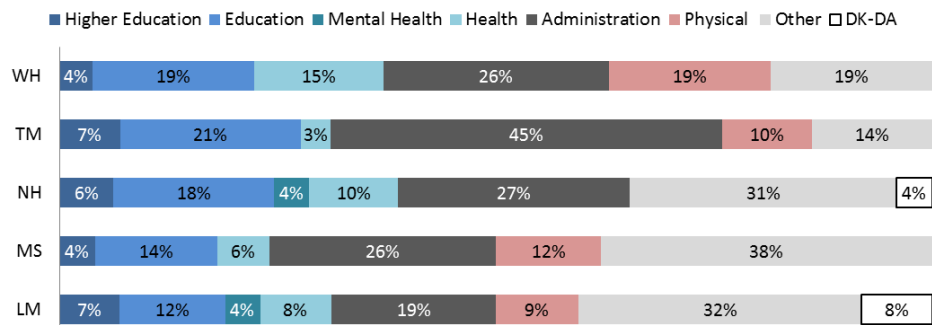
[ 61.b ] Gender



[ 61.c ] Ethnicity



[ 61.d ] Occupation





## 6 Questionnaire analysis

This section analyses the questionnaire results of 229 respondents belonging to the five sites. The survey consisted of 26 closed questions and 10 open questions. Closed, quantitative questions will be reviewed by means of graphs mainly with relative values whereas qualitative answers will be summarized and grouped using some quotes to exemplify it.

Analysis is mainly organized following the survey structure and the following sections: 'tell us about yourself', 'tell us about your allotment', 'health benefits from your allotment', 'your allotment and diet and sustainability', 'your allotment and wildlife'. Graphs are labelled accordingly to question and coloured accordingly to section. Graphs are numbered by section and subsection followed by a letter in alphabetical order.

The majority of graphs compare data by sites with the aim of highlighting specificities of and generalities between the five societies. However, aiming at simplifying variables, correlations will be made managing the whole data set of 229 respondents altogether.

The abbreviations used to label the five case studies are the following

LM	Little Moor
MS	Moorside
NH	North Highbury
TM	Three Mile,
WH	Walkergate Hospital
DA	Did not Answer/Do not Know

### 6.1 Tell us about yourself

#### 6.1.1 Comparison between sites

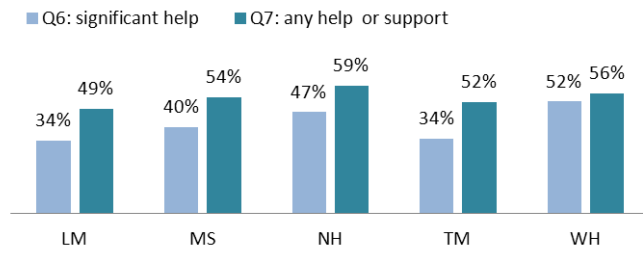
The following graphs compare personal data grouped by site. Age average amongst all respondents is 58.4 years. In terms of age profile by site, the site with the 'oldest' profile is Little Moor and the 'youngest site' is Moorside, with an average difference between them of 5 years (graph 61.a).

Regarding gender balance in graph 61.b, Little Moor has the highest male percentage and Moorside the lowest male percentage. This suggests a potential correlation between age and gender balance that will be explored in the next subsection.

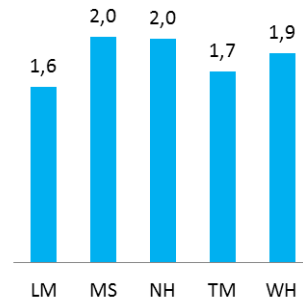
Regarding ethnicity in graph 61.c, Three Mile is the most diverse society with a 14% of other ethnicities whereas Walkergate Hospital is the most ethnical homogenous. However, as explained previously, British or English categories are ambiguous and can contain more cultural diversity than stated. According to data from the Office for National statistics<sup>7</sup>, the percentage of other ethnicities for the whole area of Newcastle in 2009 was 12%. Contrasting this percentage with our data, it can be argued that TM and NH are as diverse as the urban

<sup>7</sup> Resident population estimates by Ethnic Group (Percentages), Jun09. Other ethnicities total, 12%

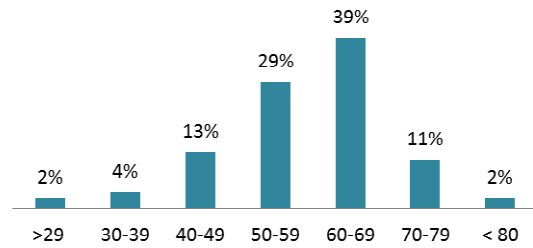
[ 61.e ] Help Question 6 / 7



[ 61.f ] Q7: HELP average including plot-holder



[ 61.g ] Age groups in percentage



[ 61.i ]

AGE group	FEMALE	MALE
0-39	4%	2%
40-59	20%	21%
60-79	17%	33%
80+	1%	1%

[ 61.k ]

AGE group	ETHNICITY				
	WB	BE	W	O	DA
0-39	4%	1%	0%	0%	0%
40-59	15%	15%	3%	2%	7%
60-79	23%	12%	5%	3%	7%
80 <	0%	1%	0%	1%	0%

context in which they are embedded; the other sites appears less diverse than their surroundings. However, the high ratio of participants that did not respond may hide a greater ethnical diversity pooled into the DA group – meaning that this result must be treated with caution.

As it can be seen in the ‘occupation’ graph 61.d, there are notable differences. LM presents the highest diversity and TM the lowest, with 45% percentage of gardeners having an office-related job. The proportion of jobs in the field of education and health is significant in all five sites, representing about one third. It is also worth to notice that WH has the highest proportion of physical jobs, corresponding to a more traditional site profile.

There are two help-related questions in the survey aiming to outline who else is engaged with the allotment apart from the plot holder. Question 6 asks growers if they work the plot on his/her own (representing significant help managing the plot), whereas question 7 asks for help in general (including more ample kinds of help and support). On question 7, respondents that mainly work the plot on their own according to question 6 include their young children or older parents on question 7. This differences are outlined in graph 61.e.

Graph 61.f represents help average per site amongst respondents including plot holder. On average a plot engages 2 people including the plot holder. MS and NH are the sites with a lower age average and are also the sites that receive more help. On the next section further correlations on help are explored.

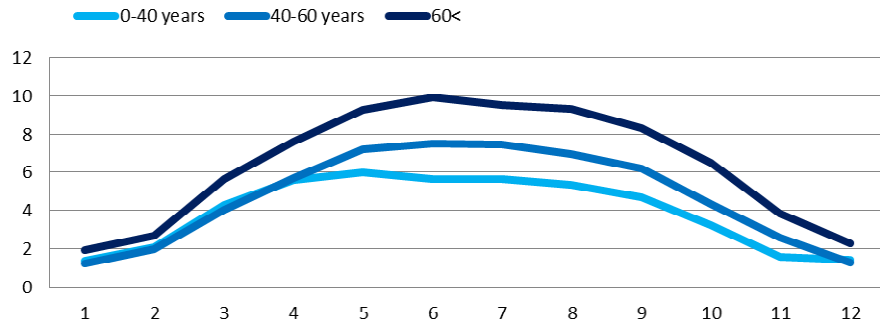
### 6.1.2 Correlations

Concerning age, it is clear that the majority of gardeners are in the age range 60-69 years old coinciding with retirement period. 50-59 is the next most significant age group, possibly representing a population with more time available for allotment gardening (e.g. grown up children) seeking a hobby that can be continued when getting older (graph 61.g). This will be further explored in next correlations. The age skew may also reflect that younger persons are finding it difficult to get plots due to the shortage of plots available and the fact that older generations are living longer, healthier lives.

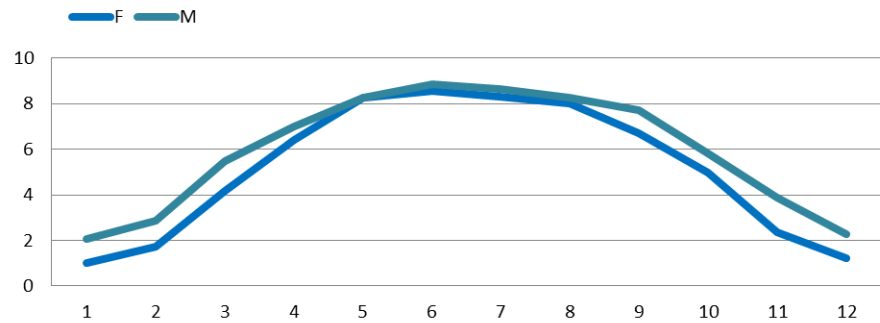
There is an interesting correlation between age and gender. The younger the age group, the higher it is the proportion of female gardeners. In fact, in the youngest age group the ratio of female plot holders is superior to male (61.i)

As stated in graph 61.k, no trend was found linking age groups and ethnicity.

[ 61.l ] Dedication in hours per week by age group



[ 61.m ] Dedication in hours per week by gender by month



[ 61.n ]

PLOT SIZE	HELP
Quarter Plot	1,0
Half Plot	0,8
Full Plot	0,8
More than one	0,8

[ 61.o ]

Years of EXPERIENCE	HELP
0-9	0,8
10-19	0,9
20-29	0,5
30-39	0,9
40+	0,5

[ 61.p ]

GENDER	GENDER count	HELP average
Female	44%	1,0
Male	56%	0,6

[ 61.q ]

AGE group	HELP
0-39	1,8
40-59	0,9
60-79	0,6
80+	0,4

[ 61.r ]

Importance of INTERACTION*	SOCIAL	Average of AGE
5		53
4		57
3		58
2		58
1		63

\* 1 very important / 5 not at all important

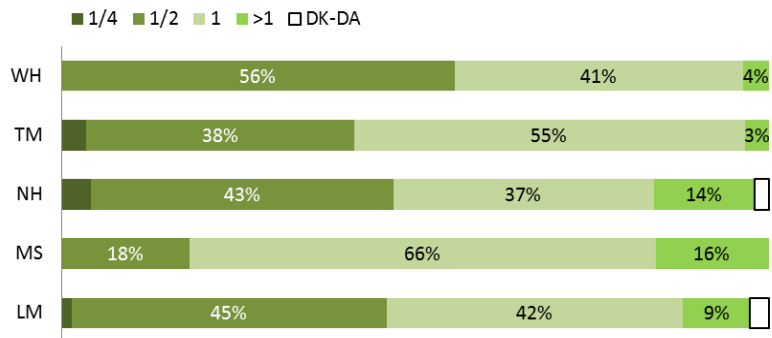
Age and hours of dedication seem to correlate according to line graph 61.l. Older gardeners spend more time gardening. Three possible explanations are proposed: more time available; more time needed to do the same task; and finally less help from family and friends (see below correlations between help and age). Gender and dedication correlate weakly (graph 61.m). Men spend slightly more time at the plot than women, especially in the colder months. These correlations will be explored in future interviews.

No significant trend has been found linking dedication and experience. The average results on dedication and preferred growing technique (traditional, raised bed, mixture) were extremely even. Then it can be argued that raised beds are easier/ more pleasant to cultivate but they do not save time.

Furthermore, no correlation was found between plot size and help (61.n) or between experience and help (61.o). On the other hand, older people do tend to have less help (61.g). Moreover female allotmenters clearly engage more people with their allotment (61.p). In simple terms, having help at the plot does not appear to be related to practical questions such as lack of experience; or lack of fitness. Furthermore it suggests that receiving help is more connected to social reasons rather than functional ones, specifically involving family and friends. Women receive more help than men, often involving partners and children; suggesting a more family-oriented approach to allotments.

The last table of this series (61.r) links the importance of socializing according to question 28 with age average. As can be observed, older age groups value socializing more and at the same time have less help in keeping the plot; suggesting those more involved with their plot as a social activity are the older age groups.

[ 62.a ] Plot size

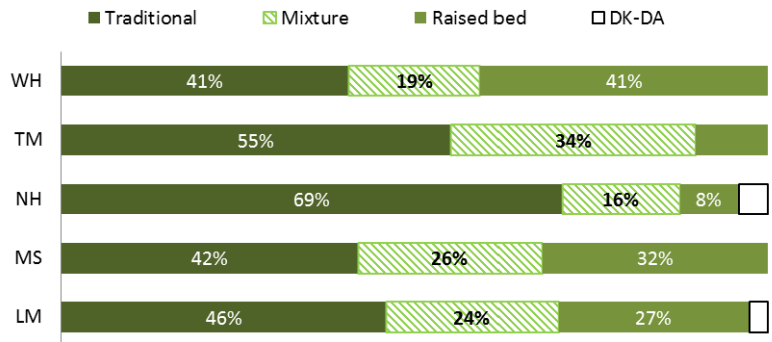


[ 62.b ]

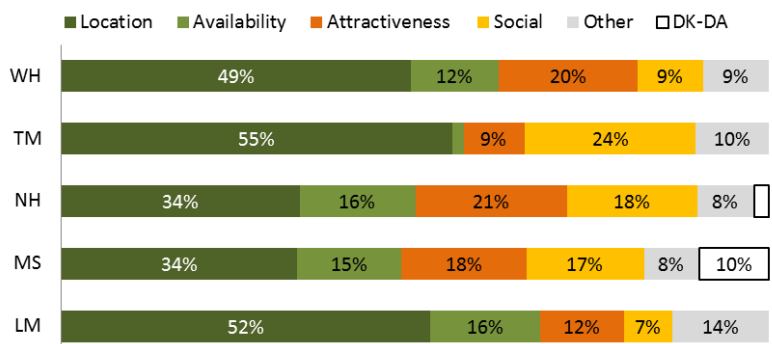
Plot SIZE	EXPERIENCE*	AGE*
Quarter	1.9	60.0
Half	7.2	55.7
Full	11.3	59.9
More than one	18.0	61.8

\*Average in years

[ 62.c ] Growing system



[ 62.d ] Main reason for having this allotment





## 6.2 Tell us about your allotment

Graph 62.a shows plot size percentages by site. According to this, four societies have similar configurations of land division; mainly distributed in full and half plots. Moorside has a higher proportion of full plots compared to the other four sites. It is also noticeable that three of the five sites have fewer quarter plots usually allocated to beginners, or people with health issues that cannot manage a larger plot.

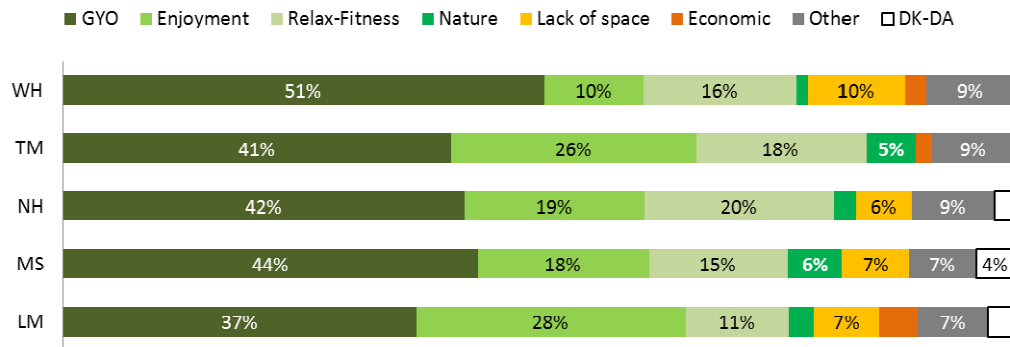
There is a clear correlation between experience, and plot size, the more experienced plot holder naturally have larger plots (62.b). Quarter plots do not follow this progression. This exception can be explained by the different criteria to allocate them, which are probation time or inability to manage bigger ones due to health reasons. However, this requires further investigation.

Regarding the preferred method for growing (62.c), there are substantial differences within the five sites. TM and NH have a higher percentage of plots cultivated traditionally. There is no correlation between age and use of raised beds. However raised beds are not a popular choice in TM and NH can be related to both sites favouring a landscaped, garden-like site. This is noticeable in the physical environment; NH and TM have a greener appearance although very different landscaping styles, as can be observed in the field work photos. Some respondents also mention flood issues as a reason for cultivating in raised beds.

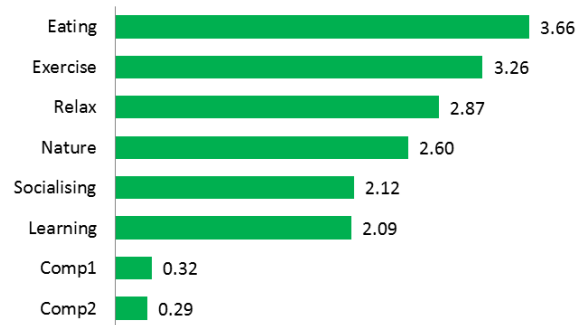
The main reason for choosing an allotment society is location (62.d). If there are several options near home, availability becomes the next main driver in the decision making process. However, a significant proportion of respondents mentioned also attractiveness (meaning both a pleasant layout and good management) and social links (relatives or friends already on site).

It is worth noticing that WH and NH were both highly favoured by their attractiveness while having very different physical appearances - as it can be seen in field work photos on pages 11-13-15. Aspects of how 'attractiveness' is perceived by allotmentees and related to the physical qualities of allotment sites will be further explored through the interviews.

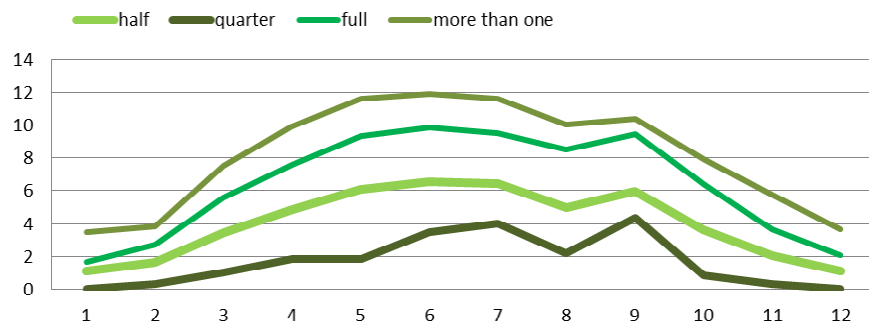
[ 62.e ] Q13 Main reason for having an allotment



[ 62.f ] Reasons ranked (average sample 34%)



[ 63.a ] Dedication in hours per week by plot size and month



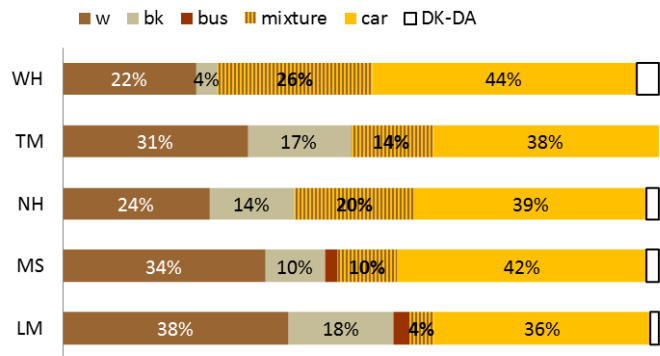
There are two questions in the survey about motivations for having an allotment. Question 13 is open and asks for the MAIN reason to have an allotment whereas question 14 asks respondents to rank a series of listed reasons.

As outlined in graph 62.e, the three main reasons given in question 13 for having an allotment are; firstly being able to grow one's food (GYO); secondly the enjoyment and pleasure obtained by the activity itself (enjoyment); and finally dedicating time to relaxation and exercise (relax-fitness). Contact with nature was mentioned as a bonus by the majority of respondents but not considered a main reason for having a plot. A low percentage of participants rank economy as a main drive for growing. Some respondents mention that GYO enables access to healthier and tastier produce even though cannot compete with market prices.

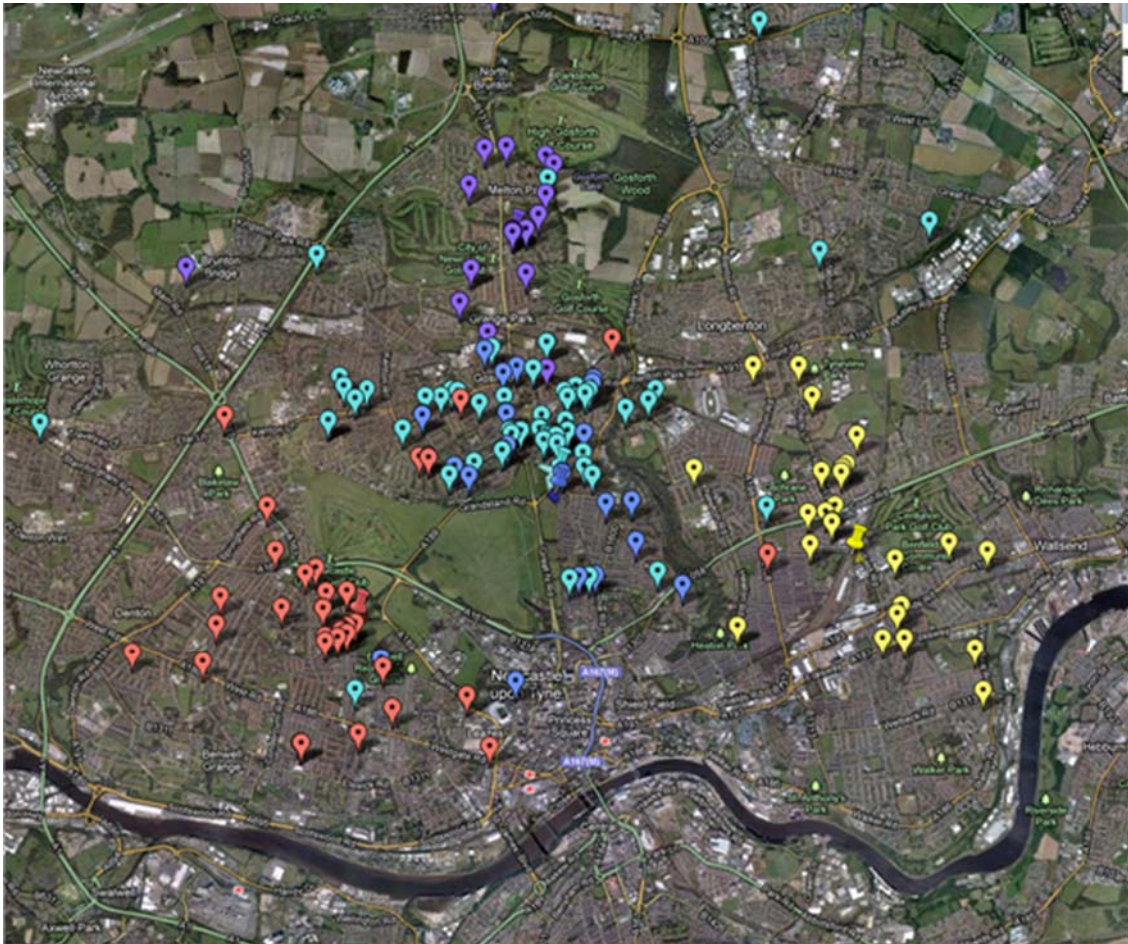
It is also worth highlighting that respondents from four of the sites include lack of space at home as a reason for having an allotment. TM is the only site where this reason is not mentioned. TM site is surrounded by low-density residential developments where the majority of homes have a garden.

Data from question 14 (graph 62.f) cannot be analysed due to a high proportion of unusable replies – however, contact with nature and socializing are important to plot holders as additional benefits of allotment gardening and will be further explored in the interviews.

[ 63.a ] Mean of transport



[ 63.b ]



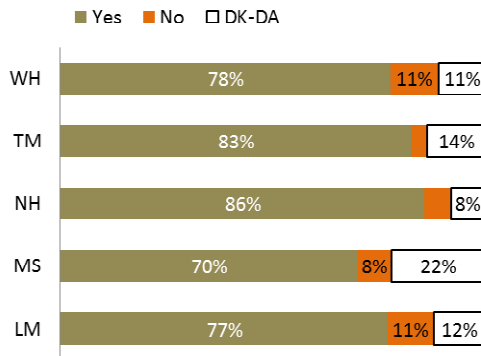
LOCATION OF RESPONDENTS. LITTLE MOOR: CYAN.; MOORSIDE: RED; NORTH HIGHBURY: BLUE; THREE MILE: PURPLE, WALKERGATE HOSPITAL: YELLOW

### 6.3 Benefits from your allotment (quantitative)

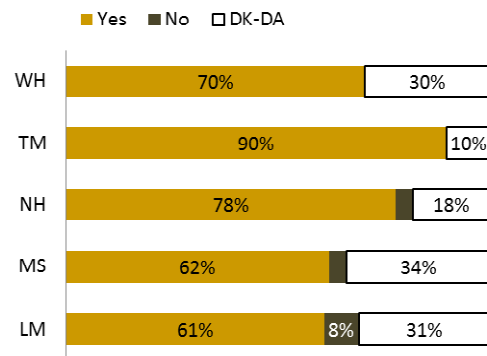
63.a line graph on the previous page clearly indicates correlation between hours of dedication and plot size. As stated on section 6.1.2, hours of dedication throughout the year seem to slightly correspond with age and weakly with gender. Then plot size and age should explain differences on dedication per site.

Regarding mobility, around one third of allotmentees walk to and from the site. The reasons argued for that choice are mostly efficiency and proximity rather than health or sustainable lifestyle. In contrast, people that bike to and from the plot stated sustainability or fitness as the reason. Very few gardeners use public transport and it is only chosen if there is no other alternative. Car is favoured due to convenience, enabling allotmentees to carry tools and produce and commuting from work. A significant percentage of respondents combine car with walking or biking depending on weather or need to carry food and produce.

[ 64.a ] Psychological or spiritual benefits



[ 64.b ] Physical benefits



LM “I relax and have really good thinking time” “it allows time for reflection”, “it is a great way to unwind and put problems into perspective”, “never worry while there (except about weeds!!)”, “helps to keep a sense of balance”, “absorbing but stress free”, “I lose track of time”, “a peaceful place to be”, “the different pace of things on an allotment as opposed to outside life”, “feeling the sun and wind on your body is calming”

MS “able to switch off”, “gives me the space to think”, “I meditate daily often do this in the allotment hut”, “a source of creativity, play, excitement and distraction from life concerns”, “hands in soil and growing plants is as necessary as eating and breathing”, “back to basics”, “keeps me grounded”

NH “the feeling of escape and calmness”, “is where I can unwind and clear my head”, “getting rid of a lot of angst”, “to idle away a day watching the world go by”

TM “time to seat and contemplate life”, “the allotment is my church!”, “all bad feelings-stress dissipate”, “feel tired but in a good mood”

WH “sometimes things seem to plant themselves, as my mind is putting the world right”, “to get away from the rat race and the speed of life”

LM “it's hard work, it can be stressful when your shed blows down and you can't spot your seedlings from your weeds”



## 6.4 Benefits from your allotment (open questions)

As showed in graphs 64.a and 64.b, 79% of participants state they obtain psychological or spiritual benefits from having an allotment and 72% state they gain physical benefits. Generally, psychological benefits are more acknowledged in the comments than physical benefits. NH is the site with a major awareness of the psychological benefits of having an allotment whereas TM is the site with a greater awareness on physical benefits. This will be explored in future work.

The following subsections summarize the findings related to benefits of allotments ownership from 19, 20 and 27 open questions of the survey. Quotes are mainly grouped by site, and generally more numerous from sites with more respondents. 19, 20 and 27 answers portray common thoughts, interests and concerns amongst gardeners as well as individualities.

### 6.4.1 Psychological and spiritual benefits

Allotments are unanimously perceived amongst the five sites as a 'haven' a place to shelter from daily pressures and problems. According to respondents, having a plot is having a 'physical safe space' that generates a 'mind safe space' for thinking and reflection. Common words that respondents use are "peace and quiet, relaxing, pleasure, uplifting, stress relief, feel good factor". Some respondents link allotments 'relaxing properties' with feeling the pace of time and seasons both by spending time outdoors as well as eating seasonal food. Other participants highlight the grounding experience of being outdoors in proactive contact with nature forces and the soil. Finally, many participants express a sense of pride and engagement using the adjective possessive "my", as in "my allotment, my plot, my space, etc."

However, some gardeners also highlight that keeping up with the plot can sometimes be a source of stress in difficult or busy moments.

LM “the challenge of coping with what I find physically difficult is beneficial and helped rapid recovery from hip replacement and cancer”, “you just can't get healthier”

MS “helps to keep arthritic joints mobile control weight gain”, “chemotherapy made my joints ache and burnt out my veins. This exercise (in moderation) is good for me”, “eating fresh vegetable”

NH “lowers my blood pressure”, “I lose a bit of weight which is a good thing”, “keeps my joints moving”, “essential vitamins and nutrients from organic produce”, “the opportunity to eat fresh food which is uncontaminated”, “we are eating more fresh veg and fruit”

WH “I'm asthmatic and arthritis sufferer. My symptoms are a lot better outdoors in fresh air”, “gets the body tuned up after long winters”.

MS “I know exactly what goes into the soil. No pesticides used at all. Much of the produce is eaten totally fresh, and it's tastier than shop bought produce. I can grow varieties not available in shops.”

LM “it is great to be able to create conditions for [...] plant growth”, “satisfaction when things grow well”, “I have a sense of pleasure and achievement”, “seeing the rewards of effort”, “very satisfying- even if plants don't make it”, “I have transformed my plot from derelict to tidy and well cultivated”

MS “sense of accomplishment at growing veg ourselves”, “I feel good about achieving something and go home healthily tired”, “the satisfaction of hard manual work”, “a tangible reward”, “always planning for the future. A sense of renewal and potential”, “gives you a feeling of independence”

NH “goal setting and physical work such as digging or turning over compost gives a feeling of achievement on completion”

TM “an opportunity to do things, create things, organise and plan things”, “turning a vision into reality!”, “the pleasure is in the rewards for effort”

### **6.4.2 Physical benefits**

Health benefits are specially acknowledged by older allotmenters and people who have or have had health issues; the first state that allotment work keep them fitter for longer; the later explain that allotmenting ease their chronic diseases or helps/has helped to recover from a specific condition.

Generally, benefits of eating organic, uncontaminated food and the influence in leading a healthy diet are acknowledged by a high proportion of plot holders that link this answer with their main reason for having an allotment; growing their own food.

### **6.4.3 Coping with change, sense of control and achievement**

Participants state that allotment gardening is very rewarding even though it is hard work and it is not always successful. Another shared thought is the idea of looking forward the future and a sense of control, independence despite uncertainties.

Precisely, some respondents point out that some new gardeners are not conscious of the amount of time that a plot demands in order to get its rewards. This was both a friendly critique on some overenthusiastic newcomers as well as pride on their own constancy and resilience when gardening.

LM “all allotment holders are respected for what they grow rather than their status”, “pick up more knowledge from fellow allotmenters”, “a chance to share other people's problems and perspectives of life. Fellow allotmenters come from a wide social spectrum than my immediate friends”, “feeling part of a community”, “to cultivate and nurture life and to have an outlet for this and to feel part of a large community project. It is easy to feel marginalised without children”

MS “work or social issues are never brought down to the ‘lotty’. It's a hands on 'grass roots' thing”, “I enjoy my own company and as my allotment is quite hedged I can be alone all day”, “a place to unwind and do something as a family”, “interaction with like-minded people”, “I have met lots of very interesting people from various parts of the world and walks of life, who I would otherwise not have had the opportunity to meet”

NH “Learning from experience and from others”, “being in touch with others give a sense of wellbeing”, “The pleasure/ self-esteem of giving to others [...] Helping newcomers to allotmenting with advice and plants”, “It also connects me [...] with friends and relatives whose memory is important to me: I grow vines (cuttings from a friend), marigolds (sister-in-law), tay- and logan- berries (mother), London pride (great-grandmother”

TM “Pleasure helping others”, “there is always company there and people who will share their knowledge and interest in each other's wellbeing”, “conviviality”

WH “It is a good thing to mix with other allotment holders”

LM “I'm always amazed how things grow and heal and the power of nature to regenerate”, “Being in tune with nature and the seasons”, “Connects us to the cycle of nature”

MS “It's magic putting tiny seeds in and watching them grow”, “in touch with the seasons”, “The excitement of sowing seeds, watching them grow (fighting the boys)”

NH “It is a very basic kind of instinct that is answered by having one's hands in the soil!”

TM “feeling connected and being part of the universe”, “Growing and nurturing plants and eating fresh produce makes for a better understanding of our land, climate and sustainability”, “joy of seeing

#### **6.4.4 Social inclusiveness and equality**

Generally allotments are seen as an opportunity to learn from more experienced gardeners as well as to share knowledge with newcomers.

According to some respondents, allotment sites have a social levelling character where individuals are valued independently of their socio-economic status; highly regarded gardeners are those skilled in growing as well as keen to share knowledge.

Being a plot-holder also provides a sense of being part of a community.

Being a plot holder allows both individual retreat and social interaction depending on the individual gardener, their needs/desires and the occasion

#### **6.4.5 Nature and next generations**

Several observations from allotmenters indicated awareness of nature as a process that can be felt by noticing the growth of plants, the wildlife and the pace of time and seasons. The gardeners' bodily connections with nature were portrayed by observations on the sensorial experience of touching the soil, feeling the weather and the time.

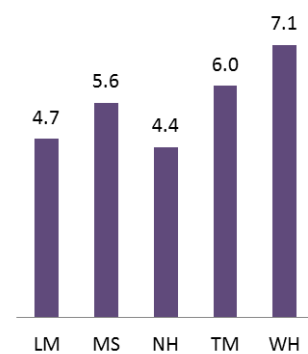
Having a plot was also especially valued as education for children, particularly the idea of 'passing it on' nature awareness. These participants reflections could be related to a broader concern of disconnection with our physical environment, although it has to be further investigated by in-depth interviews.

[ 65.a ] Your allotment and diet and sustainability \*

	Q22	Q23	Q24	Q25	Q28	Q29
	Fresh Fruit	Save Money	Carbon Footprint	Grow Organic	Social Interaction	Allotments history
LM	1,5	3,0	2,4	2,3	2,4	2,5
MS	1,3	3,3	2,2	1,8	2,4	2,1
NH	1,6	3,2	2,5	1,9	2,4	2,7
TM	1,2	2,8	2,5	2,8	2,4	2,7
WH	1,4	2,6	1,8	2,2	2,3	1,7

\* 1 de most important, 5 the less important

[ 65.b ] Who else benefits  
(average per site)



[ 65.c ]

Plot SIZE	Who else BENEFITS
Quarter Plot	3,3
Half Plot	4,7
Full Plot	5,5
More than one	6,6

## 6.5 Your allotment, diet and sustainability

This section presents of results questions 22-29, where participants were asked about the importance of several aspects of sustainability scored 1-5; 1 being the most important and 5 the least important. Table 65.a shows the average score on these questions per site. As it can be seen, none of these aspects were ranked unimportant by the respondents.

The possibility to eat fresh fruit from the allotment is the most valued question, scoring 1.4 average of importance. This corresponds with open question 13 (main reason for having an allotment) were Growing Your Own is the most given reason.

Looking at question 22 by site, TM is the society that most value fresh produce – though differences overall are very slight.

Differences per site are more significant on question 25 (the importance of growing organic) which scores 1.8 (important) in MS and 2.8 (neither important nor unimportant) in TM. Carbon footprint is significantly considered more important in WH, scoring a 1.8 (important) than other societies.

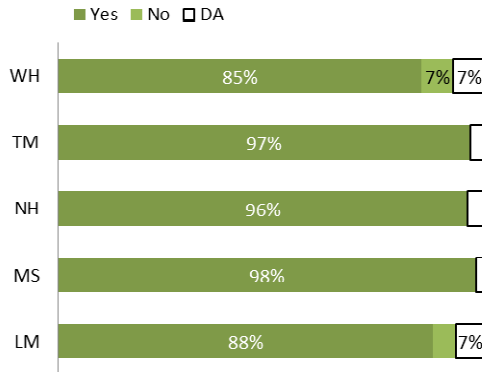
Social interaction is the factor more evenly valued amongst sites, scoring a 2.4 on average. This result reflects question 14, where social interaction is highly valued by plot holders but not considered a main reason for allotment gardening. The importance of the historic background of allotments receives uneven interest amongst societies, scoring 1.7 (important) in WH and 2.7 (neither important nor unimportant) in NH and TM.

Economic reasons score on average 3.0 (neither important nor unimportant). Some respondents even point out that managing a plot does not save money unless valuing the quality of the produce and the personal satisfaction that entails.

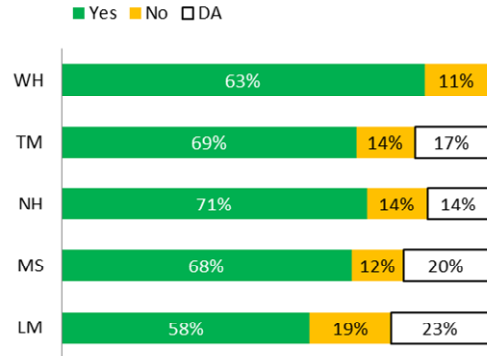
Question 24 explores the importance of reducing the carbon footprint. Respondents from TM and NH, appear less interested in carbon footprint; whereas WH considers carbon footprint and organic produce highly important. On the other hand, the following section include questions on the use of pesticides; this suggests carbon footprint awareness does not necessarily correspond with lower use of pesticides since as WH plot holders have a slightly higher use of pesticides.

Question 26 asked about how many people benefit from the allotment produce and the results are reflected in graph 65.b. Looking at produce given away per site individually on table 65.c, there is a consistent correspondence between plot size and produce sharing; the bigger the plot the more people benefit from its produce. However, average of produce given away by site has to be further studied jointly with other parameters such as organic growing and age.

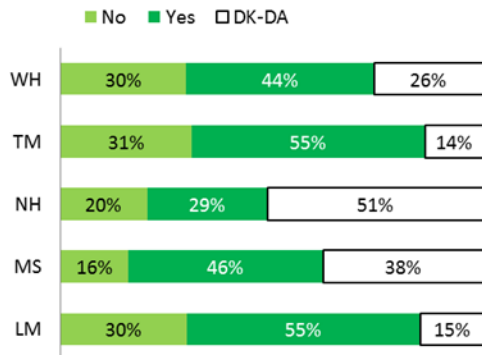
[ 66.a ] Wildlife support



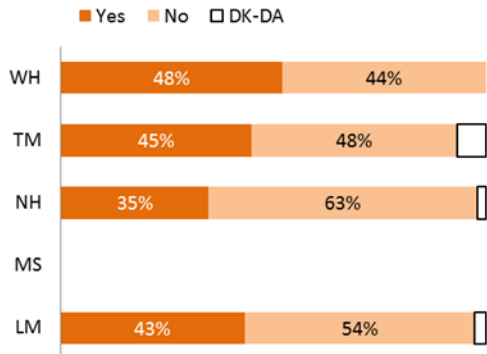
[ 66.b ] Wildlife features



[ 66.c ] Changes in the growing season



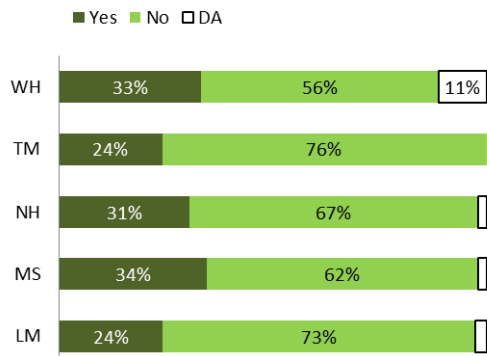
[ 66.d ] Use of pesticides



[ 66.e ] Changes in the growing season by experience

Experience	Yes	No	DK-DA
0-9 years	38%	30%	32%
10-19 years	64%	18%	18%
20< years	62%	15%	23%

[ 66.f ] Heritage seeds





## 6.6 Your allotment and wildlife

The observations gathered in this section highly correspond with the results of 2010 report; all five societies support wildlife unanimously and enthusiastically (graph 66.a and 66.b).

Allotmenters are mainly aware of site biodiversity and know how to provide habitats to wildlife that are compatible with GYO. A high proportion of respondents have wildlife friendly features on their plots, although some confused plot features with site features; and features to attract wildlife with wildlife itself. In this regard, many respondents mentioned the difficulty of encouraging certain species that are endangered, or beneficial, without also encouraging pests.

Regarding climate change awareness, a significant group of respondents noticed erratic weather patterns in all sites (66.c). Looking at changes in weather patterns by experience (66.e), less experienced growers have more differing opinions about changes in weather patterns. However, the more experienced the growers are the more coincide in observing extreme weather patterns. As charts 66.c and 66.d show, there is a slight correspondence between weather patterns and use of pesticides. Although gardeners try to reduce the use of pesticides, organic slug pellets and herbicides for the grassed paths are commonly used. Many respondents mentioned that they had strongly diminished the use of pesticides.

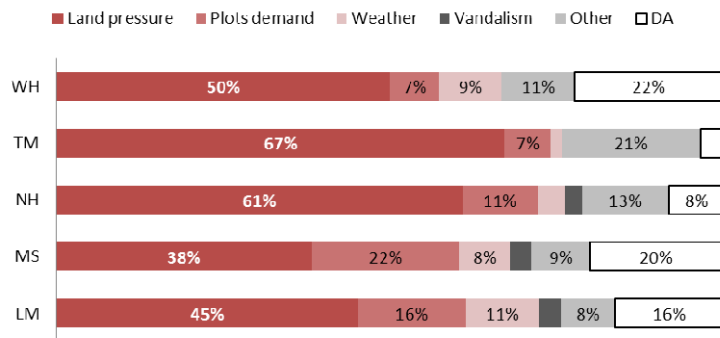
Finally, graph 66.f shows the percentage of respondents that plant heritage seeds by site. As it can be seen by the figures it approximately represents one third of the respondents. Some participants mentioned 'off-survey' that they were not planting heritage seeds at the moment but they were planning to start seed swapping soon. It might be worth to explore if the interest on heritage seeds is connected with environmental awareness and organic cultivation.

[ 67.b ] Challenges

[ 67.a ]

AGE group	STARTING age*
0-39	28.3
40-59	44.6
60-79	53.8
80+	45.2

\*Average in years by age group



LM “pressure for redevelopment, the present government who want to disregard the green belt- and allotments are far more vulnerable”, “water drainage; some plots flood; extremes of weather; people who think they can do it with little effort but don't put any in”, “younger people seem to be more and more detached from nature”

MS “I was moved from Hunters Moor Side when they claimed back the herbage [Freemen right]. The Northumbrian water engineering had to take place on the allotment site- not at the Town Moor over the road”, “availability. Also, local residents still often view them (literally!) as a blot in the landscape”, “the council placing more and more restrictions on plot holders; e.g. bonfire ban, saying allotments are scruffy. Hypocritical- should tie in with council policy on healthy eating and exercise. Also closure allotment sites when demand is increasing, they should be providing more!” “pollution- In 1995 and for a couple of years the council gave us waste from Byker incinerator to spread on paths. I spent time doing this at week-ends only to find it was toxic waste”

NH “battle against developers though we are lucky as we appear to have a very prominent committee to safeguard the plot”, “surviving predation of councils, freemen and developers”, “although there is a lot of interest and enthusiasm for allotments, I think many people underestimate the amount of time and commitment needed for them - so perhaps smaller plots may be necessary in future”

TM “mainly from land grabbing. Once gone they're gone for good”, “getting the young interested and getting them involved. Keeping the society going”

WH “developers seem to want to take every inch of land and build on it or convert it into some artificial feature. People are natural cultivators and should be allowed to carry on”, “youngsters are better employed growing food that sitting at a PC or vandalising”

## 6.7 Challenges. The future and last thoughts

The greatest challenge mentioned by many respondents is land pressure, as graph 67.b shows. Participants are aware of precarious status of sites and are concerned about their continuity; particularly due to the current economic context.

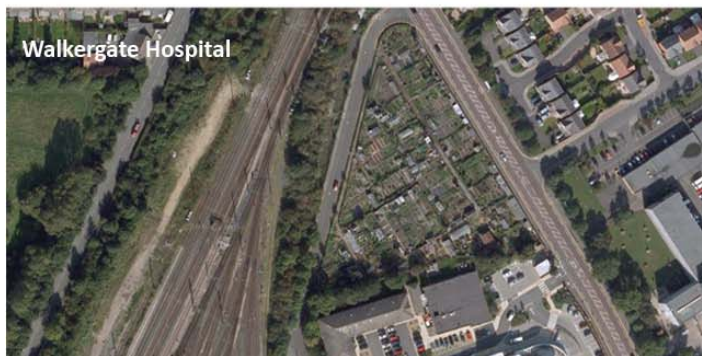
Opinions about the role of site landlords are divided. For example the Freeman are seen as either better, or worse landlords than the City Council dependant on the individual respondent. Respondents are also very sensitive that allotments are seen as 'blots' or 'scruffy' by some citizens.

Plots shortage is the second most raised issue. Some participants feel that it is highly regrettable that since there is a renewed interest in allotments, they are not accessible to everybody that wants them. This also places some current plot holders under increased feeling of pressure. However, they also point out that cultivating a plot involves harder than expected work; and some would-be plot holders may have unrealistic expectations.

Concerns related to climate change such as water management (floods and draughts) are the next most mentioned challenges. Vandalism concerns are also present in all sites. It is interesting to notice that vandalism is more mentioned in LM than NH. Both sites are located in the same urban environment. LM is a gated site whereas NH gates are open to occasional visitors.

There are two further recurrent comments related to younger people that will be explored in future work. Firstly, there is a perception that the next generation is less interested in nature and growing things. However, according to graph 67.a, next generations are actually starting to have a plot at a younger age. This can be observed looking at graph XX, showing average starting age by age group. Secondly, another idea emerged from the survey is the connection between youth and vandalism, and the fact that engaging them into allotments could keep them 'out of trouble' and teach them values.

Finally, in terms of challenged a special mention has to be made of the 'Byker ash' pollution accident that happened in 1995. Some participants still mention how this issue affected their wellbeing and trust in the local authorities.



## 7 Preliminary conclusions

For many allotmenters, the spiritual benefits of allotment ownership derive from the feeling that the site is a haven an escape from the concerns of day to day life. It is, however, a long term project that demands commitment and coping with disappointment as well as success, yet gives great rewards in return.

There is a feeling of a 'long run', a need for continuity. The possibility of being removed or relocated is constantly in the minds of some allotmenters.

The increasing demand and the lack of plots create a feeling of unease amongst allotmenters who would like everyone to have the opportunity to experience to the benefits of allotment gardening.

Allotment societies build throughout years a social fabric that crosscuts and overlaps with off-site socio-economic status of gardeners. Benefits of allotments go far beyond the boundary limits of allotment societies.

The different character of the five sites outline the interest of studying generalities and specificities amongst them. Is there a 'site profile', or a 'gardeners profile'? How do site sphere and individual spheres relate?

Individual profile of allotmenters seems to be shifting in terms of age and gender profile. Interest in gardening starts at a younger age and the proportion of female gardeners is increasing.

There are dichotomies and trade-offs that can be explored to describe the different site characters: leisure oriented or produce oriented, garden layout (no constructions, no fences) or traditional allotments layout (sheds, glass houses, polytunnels), strict or lax management; each site has its own unique 'character' this diversity is to be cherished and celebrated.

## 8 Selected literature

- Armstrong, M.; Raper, H. and Whewell, P. (2010) *The Newcastle Allotments Strategy*. Newcastle: Newcastle Allotments Working Group.
- Barthela, S.; Folke, C. and Colding, J. (2010) 'Social–ecological memory in urban garden - Retaining the capacity for management of ecosystem services', *Global Environmental Change*, 20:2, 255-265.
- Barton, H., Grant, M. and Guise, R. (2010) *Shaping Neighbourhoods for Local Health and Global Sustainability*, Routledge: Abingdon.
- Barton, J. and Pretty, J. (2010) 'What is the Best Dose of Nature and Green Exercise for Improving Mental Health? A Multi-Study Analysis', *Environmental Science Technology*, 44 (10): 3947-3953.
- Berkes, F. and Folke, C. (1998) *Linking social and Ecological Systems: Management Practices and Social Mechanisms for Building Resilience*. Cambridge University Press: Cambridge.
- Bhatti, M. and A. Church (2001) 'Cultivating natures: homes and gardens in late modernity', *Sociology*, 35, 365-83.
- Crouch, D. (1989) 'The Allotment, Landscape and Locality: Ways of Seeing Landscape and Culture', *Area*, 21:3, 261-267.
- De Vries, S. (2012) 'Nearby nature and human health: looking for mechanisms and their implications', in Ward, C.; Aspinall, P. and Bell, S. (ed.) *Innovative Approaches to Researching Landscape and Health*, Routledge, London.
- Degnen, C. (2009) 'On vegetable love: gardening, plants, and people in the north of England', *Journal of the Royal Anthropological Institute*, 15, 151-167.
- Deppe, C. (2010) *The Resilient Gardener: Food Production and Self-Reliance in Uncertain Times*. Chelsea Green Publishing: London.
- Firth, C.; Maye, D. and Pearson, D. (2011) 'Developing "community" in community gardens', *Local Environment*, 16, (6), pp. 555-568.
- Folke, C. (2006) 'Resilience: The emergence of a perspective for social–ecological systems analyses', *Global Environmental Change*, 16 (2006) 253–267.
- Grahn, P. and Stigsdotter, U. (2003) 'Landscape planning and stress', *Urban Forestry & Urban Green*, 2: 001-018.
- Hope, N. & Ellis, V. (2009) *Can You Dig It? Meeting Community Demand for Allotments*. NLGN: London.



Kingsley, J.; Townsend, M. and Henderson, C. (2009) 'Cultivating health and wellbeing: members' perceptions of the health benefits of a Port Melbourne community garden', *Leisure Studies*, 28(2): 207-219.

Leake, J.; Adam-Bradford, A. and Rigby, J. (2009) 'Health benefits of 'grow your own' food in urban areas: implications for contaminated land risk assessment and risk management?', *Environmental Health*, 8: 6.

McCormack, L.A.; Laska, M.N.; Larson, N.I. and Story, M. (2010) 'Review of the Nutritional Implications of Farmers' Markets and Community Gardens: A Call for Evaluation and Research Efforts', *Journal of the American Dietetic Association*, 110(3), pp. 399-408.

Newcastle University (2010) *Plotting a Better Future: The Current and Future Role of Allotments in the UK* [Online] Available at: <http://www.moorsideallotments.co.uk/> (Accessed: 20 November 2012)

Okvat, H. and Zautra, A. (2011), 'Community Gardening: A Parsimonious Path to Individual, Community, and Environmental Resilience', *American Journal of Community Psychology*, 47: 3-4, 374-387.

Schoneboom, A. (2010) 'Growing your own: Designing an ethnographic approach to study the form, function and fell on allotment work'. *Current Developments in Ethnographic Research in the Social and Management Sciences*. Queen Mary, University of London, UK, September 2.

Swanwick, C. (2009) 'Society's attitudes to and preferences for land and landscape', *Land Use Policy*, 26 (Supplement 1): S62-S75.

Teig, E.; Amulya, J.; Bardwell, L.; Buchenau, M.; Marshall, J.A. and Litt, J.S. (2009) 'Collective efficacy in Denver, Colorado: Strengthening neighborhoods and health through community gardens', *Health & Place*, 15(4), pp. 1115-1122.

Turner, B. (2011) 'Embodied connections: sustainability, food systems and community gardens', *Local Environment*, 16:6, 509-522.