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## **The HadLOW Carbon Community: behavioural evolution in the face of climate change**

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### **Introduction**

Hadlow village is situated approximately 5km from Tonbridge and 15km from Maidstone in the west of the county of Kent, UK. It is a village of 1,851 houses and is situated in a rural part of the county within a 'green belt'<sup>3</sup> area. Hadlow village has a long history of occupation, being known to have been settled by the Romans and continuously thereafter, chiefly as a centre of hop production for the brewing of beer. Today the village is known for its distinctive 50 metre tall Hadlow Tower, a surviving portion of a demolished late Victorian Gothic structure.

Hadlow College is situated close to the village, covering a total of 286 hectares. The main campus is adjacent to the south-western side of the village, with glasshouse facilities on the eastern edge and a dairy farm to the south east. The College was developed in 1967 as a centre for land based training, primarily in agriculture and horticulture but more recently as an important centre for other subjects such as equine, animal management, fisheries, landscape management, floristry, garden design, and countryside management. Hadlow College currently teaches 1,361 Further Education (aged 16-18) students and 548 Higher Education (degree) students, with short courses and evening classes attended by more than 2,000 adult learners.

This chapter reviews the activities of a Low Carbon Community initiative established in 2007 as a collaborative venture between Hadlow College and the village. Whilst many Low Carbon Community initiatives have been formed in the UK in recent years, none are known to encompass such a link. The mission of the aptly named 'HadLOW CARBON Community' has been to bring village residents and College staff and students together and 'walk the talk' against climate change. This has involved some extraordinary projects, which have tapped into the considerable knowledge, skills and experience of people within both the village and College. Reflection on progress so far has highlighted the need for trust and co-operation for mutual benefit – the classic definition of social capital – which is discussed in this chapter.

The threats from climate change are so serious and pressing that local vision and Low Carbon Community action are needed, to catalyse similar developments elsewhere. Thus, imaginative and successful Low Carbon Community initiatives such as the HadLOW CARBON Community can rapidly inspire wider moves towards climate change mitigation and adaptation. How this developed at HadLOW and the lessons that can be learnt for other projects will be discussed.

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<sup>3</sup> In the UK, green belt areas are designated primarily for agriculture, forestry and rural outdoor leisure and are usually planned to resist encroachment from urban development.

## The HadLOW CARBON Community

The concept of a Low Carbon Community initiative for Hadlow was first mooted at a Parish Council meeting on 25 April 2007 and received instant and widespread support. The first public meeting was organised on the evening of 28 June 2007. College students helped to deliver leaflets in the village and posters were widely displayed. The attendance was modest but there was much enthusiasm to form an active group. A better attended meeting was soon arranged and resulted in the formation of the HadLOW CARBON Community and a Steering Group to drive ahead with useful ideas. This chapter reviews: (i) two visionary and original projects – a Grower Group and an Art Exhibition – initiated by the HadLOW CARBON Community and; (ii) what can be learnt from this for the benefit of Low Carbon Community projects elsewhere.

## The HadLOW ‘Grower Group’

This project began after a series of Steering Group meetings in late 2007 and early 2008 when the concept of local food production was discussed. HadLOW members wanted to undertake something novel that could demonstrate practical action against climate change and move towards sustainable development. In a low carbon future it was accepted that most if not all food would need to be produced locally, to minimize transportation impacts. Furthermore the changing climate was seen as a potential challenge to future food production, due not just to rising temperatures in the summer but increasingly severe Extreme Weather Events throughout the year (Salinger *et al.*, 2000). The Steering Group considered that Low Carbon Communities could take greater responsibility for securing their own food supplies in a more uncertain future and that the HadLOW CARBON Community should explore how this might be achieved.

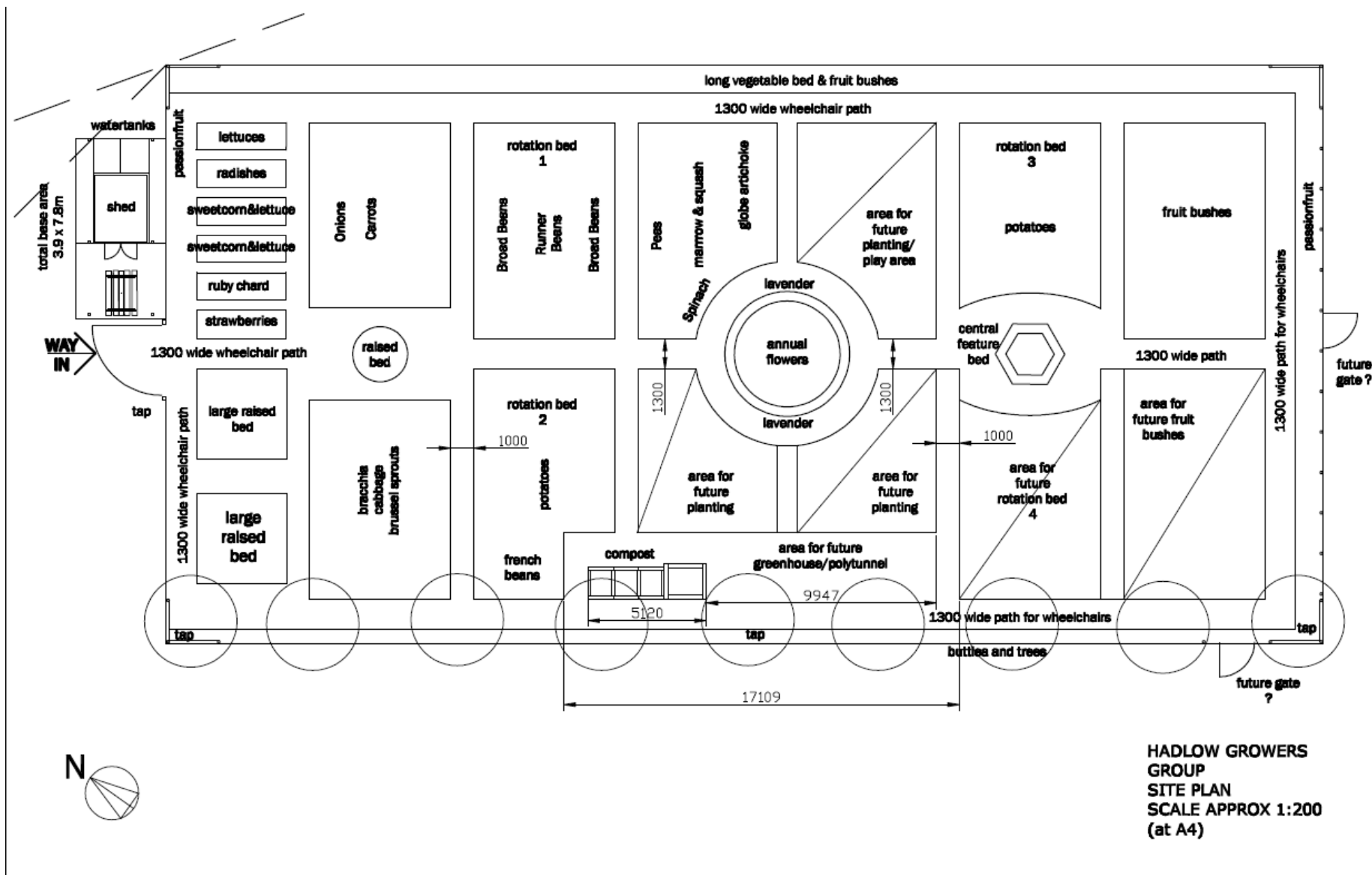
The term ‘Grower Group’ was coined, to denote a group of people who worked together to plan, plant, maintain, harvest and share food produced on one collective plot. Other terms have also been used for similar projects, such as ‘community



Figure 1. Grower Group on-site planning.

supported agriculture’ by organic farmers and ‘community allotments’ by the Transition Towns movement (Howe, *pers. comm*). In 2008 the Hadlow College Senior Management Team agreed that a plot of College land should be made available for Grower Group development. From early 2009, College Countryside Management students began installing rabbit-proof fencing around the plot, measuring 50 by 25 metres, as part of their curriculum training and Grower

Group members started work soon afterwards. There has been an initial commitment from 12 local families in Hadlow for 2009, co-ordinated by HadLOW CARBON Community member Nicola Canham.





A picture of village on-site activity is shown in Figure 1. The latest version of the ongoing plan for the Grower Group site can be seen in Figure 2. There is a clear balance between productivity and aesthetic appearance – note the circular, central flower bed. Car tyres and embedded wine and beer bottles are also used elsewhere to create smaller ornamental features (Figure 3).



Figure 3. Use of old car tyres and bottles to create ornamental features, which will be planted with annual flowers.

Vegetable production is currently focused on raised beds and Mypex-mulched beds (Figure 4).



(a)



(b)

Figure 4 Vegetable production in (a) raised beds and (b) Mypex-mulched beds.

Both these production methods have clear advantages: raised beds are an ideal way of concentrating and maximizing organic matter, and helping to retain moisture in droughts whilst also protecting plants from floods; Mypex-mulching also helps retain soil moisture and additionally smothers most weed growth, reducing the need for hand weeding or herbicides. Further details of production techniques are not presented here, since they are well documented elsewhere (e.g. Pears, 2004).

The social organization of the Grower Group has been important for success, but has so far met challenges in terms of the number of active participants. Whilst 18 people originally expressed interest in the project and 15 were initially involved, a core group of 9-10 volunteers has persistently worked on the site. Staff and student involvement has so far been confined to curriculum activities, such as the development of a rabbit-proof fence around the perimeter and construction of raised beds. Discussions with Nicola Canham indicate that the Grower Group needs more members to spread the workload and develop the site effectively. Increasing hardship in the current economic recession suggests that additional people may join as a means of securing cheaper vegetables but further efforts to recruit new members are also underway.

*Positive outcomes of the HadLOW CARBON Community Grower Group project*  
Operation of the project is structured around a series of core principles designed to maximise positive outcomes. These include:

*Commitment* – the need for both College and village stakeholders to commit to a Grower Group project for at least five and preferably ten years or longer. This gives security on both sides and especially means that Grower Group participants can invest time and effort into the site knowing that the College will be supportive, irrespective of staff changes. This commitment on both sides must be transparent and open, and supported by a Joint Management Committee.

*Communication* - should be optimized within-College between all strands of Curriculum and estates/maintenance, but also between College and the Grower Group. Whilst the College is ultimately responsible for all aspects of site management, it should ensure that Grower Group members are fully informed, supported and guided appropriately, using clear, jargon-free language. This support should include first aid cover for Grower Group members when on-site, and access to basic amenities. A College Champion needs to be allocated and an opposite number in the Grower Group, to co-ordinate links *via* the Joint Management Committee.

*Trust* - the least tangible but most important criterion, which can take years to fully develop, and can be fragile and vulnerable to misunderstandings. Trust must be nurtured and patience and tolerance shown on both sides if the project is to succeed.

If a Grower Group organizes a plot of land in collaboration with another organisation such as a farm or a council, then many of the above core principles will still be valid.

## The 'Finite' Art Exhibition

This project was the initiative of local HadLOW CARBON Community artist member Julie Taylor. Julie had been seeking a new way to express her concerns about climate change through her art. This approach has been more recently considered by Daniels & Enfield (2008) who review cultural responses to climate change,



including an exhibition which resulted from journeys by artists to the Arctic (pp 7-8). Earlier work by Gablik (1997) was particularly inspirational, regarding the effects of climate change on western society artists and what responses they might take. For example, one suggestion by Gablik is to disregard the western ego of the solitary artist and move towards more ancient ways of expression:

“...art became very much ego-centred...whereas in India, art comes from the community.” (Gablik, 1997 – transcript of interview of Satish Kumar, p. 144)

In essence, therefore, the artist can surrender the ego of art ownership in order to engage in a deeper dialogue with the community, becoming the initiator of a project collectively produced and owned by community participants.

Figure 5. Finite Exhibition poster

Julie discussed a range of ideas with six other artists and they became the core group that organised the Finite Exhibition. The poster design for this is shown in Figure 5. It was planned to develop the theme of climate change by means of tapestries, sculptures, paintings, etchings, moving-image sequences and weavings. Hadlow College Senior Management Team offered the HadLOW CARBON Community the Garden Design Centre on campus as a venue and Kent County Council also agreed to offer financial support. This eventually enabled a total of 37 artists to become involved, 14 relevant local organisations, including seven from Hadlow village, and two community artworks programmes.



Two very different approaches proved successful for the exhibition:

(i) art works controlled by the artists, such as the 'Sock Weave,' designed by Elizabeth Cousins to demonstrate the power of reusing fabrics in conceptual weaves. For this exhibit, socks had been collected *via* the local school and church. At the exhibition visitors were able to participate in the weave, though it was ultimately a pre-determined, artist-controlled design. A picture can be seen in Figure 6.



Figure 6. The Sock Weave on display

(ii) art works with audience participation, such as a blue coloured 'River Knit', constructed of knitted rectangles, of varying lengths, to represent flooding due to climate change. This project was the idea of Stephanie Ingham, a local architect and current Chairperson of the HadLOW CARBON Community. Stephanie had been



inspired by seeing an artist producing a blue (squares) knitted 'river' at The Eden Project (2009) and wanted to develop this theme at the Finite Exhibition. The process of active participation enabled by 'River Knit' has clear resonances with Gablik's discourse on engagement in artwork where egos are subsumed,

Figure 7. The River Knit in its early stages, with some contributors.

allowing the project to evolve into something less planned but equally valid and worthwhile (Gablik, 1997). As Stephanie facilitated the communal evolution of the project, this concept allowed new ideas to be introduced by varying sections of the community in an unplanned manner but which led ultimately to a constructive outcome. Villagers, Hadlow College students, people from the wider area and visitors to the show all contributed, and the 'river' quickly changed out of all

recognition, with additional colours added to symbolise other climate change conditions such as drought. A picture is shown in Figure 7.

The Finite Exhibition was held in early April 2008 and was very much a leap of faith by both the College and village art community. Both sides were slightly nervous about the final appearance of the Exhibition and its likely reception by local people and the media. The final outcome was hailed by all as a major achievement and a great success. Local TV and newspaper coverage was extensive and feedback was enormously positive: the use of art to spread the climate change message had clearly been highly effective. The HadLOW CARBON Community, within which the Exhibition had been organised, showed real collaborative effort: Julie worked virtually full time as the co-ordinator in the three months leading up to the opening and was supported by artists who donated and set up their work, and many volunteers who staffed and supervised the exhibits. The College was also involved, with estates staff supporting the development of the venue and other personnel assisting in the overall planning and organisation, such as invitations and publicity. Nearly 200 people attended the celebratory opening night, including College staff, students, governors and local councillors and artists.

Overall, the Finite Exhibition involved a high level of collaboration between the College, HadLOW CARBON Community and Kent County Council. On reflection this was felt to have contributed to a more positive message, *i.e.* that community action on climate change gave hope for the future. This more upbeat message led to additional benefits, including fresh interest and enquiries about the Grower Group.

### **Discussion - what can be learnt, for the benefit of Low CARBON Community projects elsewhere.**

The above two projects illustrate a profound shift in cognitive response by Hadlow stakeholders to climate change. Previously there had been comments from College staff, students and village residents about feelings of helplessness engendered in the face of this issue. Subsequently, the formation of the HadLOW CARBON Community has empowered members to embrace positive action: there is now a collective feeling that useful change is both possible and meaningful. This development will now be discussed.

#### *The paradigm shift at HadLOW*

In 2007 there had been informal discussions and seminar workshops with most staff, students and local villagers who attended the open HadLOW CARBON Community meetings and the first few Steering Group sessions. All College and local people were well aware of the concept of climate change but many argued that they felt powerless in the face of such an enormous global challenge. Existing community projects running elsewhere were seen as potentially helpful, such as home energy/carbon audits to encourage reduced CO<sub>2</sub> emissions through shifts in behaviour and the uptake of energy efficiency measures including improved insulation. The HadLOW CARBON Community became increasingly involved in such assessments. However, a frequent comment was: "What good can come out of our efforts when the world is so threatened?" This uncertainty about action to cope with climate change has been studied elsewhere (Grothmann & Patt, 2005, p. 209), who note that: "...perceived adaptive capacity has largely been neglected in the previous



literature on adaptation to climate change". These authors add that socio-cognitive factors appear to be more important than objective socio-economic issues for their case studies, *i.e.* the ability of people to think and re-orientate their views is important.

More recent research on community-based adaptation to climate change (Kristie & Semenza, 2008) discusses the relevance of social capital (already studied extensively in the context of sustainable communities, e.g. Rudd, 2000). Kristie & Semenza further divide social capital into *Bonding*, *Linking* and *Bridging*. *Bonding* social capital is considered to be the 'social glue' which holds together homogeneous groupings, such as religious, cultural, professional, racial, or ethnic groups. As Kristie & Semenza state: "...bonding social capital is necessary but not sufficient to address the threats from climate change." (p. 502). *Linking* social capital is thought to be more important because it: "...connects people at different levels of power, such as community members and government officials." (p. 503). Linking social capital has certainly been important for the HadLOW CARBON Community in securing financial support from local councils, e.g. from Kent County Council for the Finite Exhibition. Thus, as the HadLOW CARBON Community enjoys more project success, the value of income *via* Linking social capital increases due to better development of trust with local government and the associated likelihood of support. Kristie & Semanza's third category, *Bridging* social capital: "...arises from connecting socially heterogeneous groups and can provide a host of benefits to community groups. Different societal groups vary in skills and talents and can generate new strategies for addressing risks." (pp. 502-3).

It is argued that the HadLOW CARBON Community has benefitted most from Bridging social capital – the power of cross linkages between the College and village, as illustrated in the above two projects. The success of the Grower Group has so far depended upon novel linkages between people with vastly different reasons for being in Hadlow: College teachers and students are there to teach and learn, respectively and whilst some village residents also work locally, including the College itself, most want to simply live in Hadlow and enjoy leisure and a good quality of life. The most powerful link between these groups has been horticulture and countryside skills – College stakeholders with a professional commitment and village residents with a private interest. Thus, a joint focus on the growing of vegetables for food has formed the bridge, with countryside skills such as fencing acting in support. This project continues though the pace of development varies, for example with availability of students limited over each summer. Currently a recruitment drive is underway to widen village participation.

For the Finite Art Exhibition, art as a medium for expression has also proved to be a powerful bridge between villagers and the College. The College Garden Design Centre which hosted the exhibition is devoted to the use of art as media in the visualisation of options for garden development. Similarly, the Finite Art Exhibition sought to utilise art media in helping the public visualise and understand climate change. Thus, the use of art as media for expression has proved to be an effective bridge. Such collaboration is planned to continue: other versions of the Finite Exhibition have recently been shown at venues in the county and the College and HadLOW CARBON Community are discussing how art can be better developed as media for sustainability education.

The developments of the HadLOW CARBON Community can thus be described as a paradigm shift – *i.e.* a transformation that is driven by agents of change (climate change in this case). The development of Bridging social capital by the HadLOW CARBON Community initiatives described for Hadlow is seen as an ongoing process, reaching out to all sectors of the community irrespective of gender, age, ability, culture and socio-economic background. Other Low Carbon Community initiatives without access to a nearby College can develop similar links with local companies, schools, councils, farms and other private land owners. The latter are now being linked to Grower Groups seeking suitable space to grow food, *via* the new 'Landshare' programme (Landshare, 2009).

#### *The outcomes of the HadLOW CARBON Community*

So far, the two projects described in this chapter are unique to the HadLOW CARBON Community but, in common with other Low Carbon Community initiatives, additional HadLOW initiatives are underway such as carbon audits and reduced residential emissions, film shows, car sharing and the development of new cycle tracks. Collectively, what tangible outcomes can be charted?

#### Mitigation v. Adaptation

Several recent research studies have attempted to shed light on the interplay between climate change mitigation and adaptation in sustainable communities (Callaway, 2004; Dessai *et al.*, 2005; Grothmann & Patt, 2005; Ebi & Semenza, 2008). Callaway (2004) for example emphasises the need to: "...debate the idea that the global marginal benefits of mitigation cannot be compared with the local marginal benefits of adaptation. In fact we can do this, by using information about the degree of "substitutability" between emissions reductions and adaptation in reducing local damages to translate local marginal adaptation benefits into their local emissions reduction benefit equivalent." (p. 273).

The HadLOW CARBON Community Grower Group plot will allow local people to adapt to climate change by means of techniques to improve the resilience of vegetable production in the face of Extreme Weather Events, for example by using enhanced organic matter (Cook *et al.*, 2006) and raised beds (Wright, 2008) to improve drought tolerance. In so doing, Grower Group members are substituting local vegetable production for imported equivalents and associated emissions.

#### Green exercise and community identity

There has been much recent investigation of green exercise in local communities, especially in rural areas like Hadlow (see a review by Pretty *et al.*, 2007). Such research identifies the additional benefits of regular exercise in a natural setting, both in terms of physical and mental well being. A study of visitors to parks and forests in Switzerland indicated that 98.4% had subjectively enjoyed benefits in terms of reduced stress levels and the incidence of headaches (Hansmann *et al.*, 2007). Likewise, Pretty *et al.*, (2005, 2007) undertook case studies, which showed a significant improvement in self-esteem and mood as a result of activities such as boating, walking, conservation, horse riding, and fishing. It is suggested here that Grower Group activities are also likely to have similar benefits and are worthy of study.

There is also potential for investigation of the psychological benefits of being part of a Low Carbon Community initiative such as HadLOW. Rudd (2000) indicates clear mental advantages to membership of such a community: *i.e.* enhanced self esteem and general feelings of well being. Anecdotally, discussions with HadLOW Grower Group members have highlighted the personal benefits of involvement, though this has not been formally studied.

## **Conclusions**

There is argued here to be a large potential for positive benefits from Low Carbon Community initiatives such as HadLOW. These include enhanced adaptation to and mitigation against climate change but also significant improvements in the physical and mental well being of participants. Thus Low Carbon Community initiatives are proposed as powerful structures that operate most effectively in terms of the development of 'Bridging Social Capital,' which is suggested as the vision for the future of adaptation to and mitigation against climate change at the local level. The HadLOW CARBON Community is argued to be a working example of Bridging Social Capital, where Hadlow village has 'bridged' across differences to collaborate with Hadlow College. This is illustrated by the collaboration required for the Grower Group, and also that for joint art projects such as the River Knit display at the Finite Exhibition.

These collaborative and dynamic relationships for the development of Bridging Social Capital are needed elsewhere, perhaps linking to other stakeholders such as SMEs, local councils and NGOs. Low Carbon Community initiatives also need to network and exchange best practice. Thus it is concluded that Low Carbon Community initiatives which outreach to and collaborate with other stakeholders can be a powerful force against climate change and a positive option for a healthier and more sustainable future for us all.

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