

## **WORKING TOWARDS SUSTAINABLE COMMUNITIES IN CANADA**

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### *Abstract*

Sustainable development has become a core concept in environmental management during the 1990s. However, scientists and policy-makers have encountered many difficulties in giving practical effect to the general ideas and principles underlying sustainability. This paper reviews three important aspects of recent Canadian practice and research which advance our understanding of the nature of municipal sustainability planning. First is the development of models of 'ecological footprints' at the University of British Columbia, which provide a graphic means of demonstrating how communities might 'tread more lightly on the earth'. Second, also at the University of British Columbia, has been the coupling of research expertise to municipal planning in the City of Richmond. In particular, this has generated ideas about the ways in which 'social capital' might be substituted for 'ecological capital'. Third, the municipality of Hamilton-Wentworth has become one of the 'model communities' attempting to develop a sustainable basis for the delivery of its services and policies, under a programme co-ordinated by the Toronto-based International Council for Local Environmental Initiatives. It is argued that these three innovative projects are greatly assisting our knowledge of appropriate city planning and management for the 21st century.

### **Introduction**

This paper provides an overview of some 'sustainable development' initiatives currently being undertaken in Canada. It arises from a research project which is examining the early implementation of Local Agenda 21 in Britain. However, such research benefits from comparison with overseas practice, and, as we were aware of some especially relevant Canadian work, we complemented our UK research with a study visit to British Columbia and Ontario during 1996. This account is, consequently, mainly derivative in terms of research findings, but it presents an opportunity to draw these innovative projects to the attention of a wider audience.

Our own research is focused principally on the extent to which Local Agenda 21 might be catalysing genuinely active 'environmental citizenship'. We are examining this in respect of two cities and two counties -- Leicester and Reading, and Gloucestershire and Lancashire. These are amongst the UK's Local Agenda 21 'front runners', providing interesting innovation and contrasts via which we hope to probe the underlying successes of Local Agenda 21, as distinct from the widespread claims that are made about it.

Whilst Canadian provinces and municipalities have been perhaps uncharacteristically slow to adopt Local Agenda 21 as such, there has been some interesting innovation in what might broadly be described as 'municipal sustainability planning'. We have been particularly keen to establish research links with the School of Community and Regional Planning, University of British Columbia, Vancouver, and two of the projects are linked to this School. Our second main connection is with the International Council for Local Environmental Initiatives, whose world headquarters are, fortuitously, based in Toronto; their Model Communities Program, devised in the wake of Agenda 21, has afforded a much broader backcloth against which to set UK practice. However, more pertinently to the present readership, we took the opportunity to visit the one Canadian city in the Model Communities Program -- Hamilton-Wentworth -- and to study their early progress.

Our three Canadian cases are thus:

1. the development of models of 'ecological footprinting', by Professor William Rees and colleagues at UBC. This aims to provide a graphic means of how communities and individuals might 'tread more lightly on the earth';
2. also at the University of British Columbia, an interdisciplinary research team - The Task Force on Healthy and Sustainable Communities - has recently concluded a four year collaboration with municipal officers, elected members and residents in the nearby City of Richmond;
3. finally the Region of Hamilton-Wentworth, Ontario, is the Canadian representative 'model community' attempting to develop a sustainable basis for the delivery of its municipal services and policies.

### **Methodologies**

Our approach to the British cases is to study the Local Agenda 21s of each of the four local authorities, focusing on:

- policies (i.e. formal, published Local Agenda 21 documents committing the authority and other organisations to purposeful change)
- processes (i.e. the ways in which Local Agenda 21s are being assembled, particularly in terms of building public and inter-organisational awareness and involvement), and

- products (i.e. specific changes, actual or anticipated, which can be attributed to Local Agenda 21)

Material so far has been gathered by a review of published documentation and file material, and by in-depth semi-structured interviewing of about 15 key informants for each case, including council officials, elected members, representatives of voluntary organisations and other active participants or 'community champions'. Interviews have been taped and transcribed in full, though transcriptions have been subsequently summarised in various ways to assist analysis.

In Canada our approach was slightly different, due both to the constraints of time and to the nature of material available. In gathering this information our approach was fourfold, namely:

1. to review scholarly papers and research work relating to local sustainability;
2. to interview some key stakeholders from academia and practice;
3. to interpret research returns, which ICLEI receives from the Model Communities Program; and
4. to conduct seminars with key personnel, supported by formal seminar papers. This approach has enabled us to review in particular the successes and failures of sustainability projects aimed at linking research and practice. The work which we focused on at UBC and ICLEI, both, in different ways, represent attempts at creating new links between academics and practitioners.

### **The Projects**

Both the development and refinement of the Ecological Footprint tool, and later attempts to apply it within a municipal setting, represent stages of work undertaken by an interdisciplinary research team called the Task Force on Planning Healthy and Sustainable Communities.

The Task Force was set up in 1992 as an interdisciplinary research response to the need to integrate planning, health and social work, engineering, community and government to address the pursuit of sustainability. More particularly, it represented the coming together of a group of academics keen to explore ways to "reconnect action and consequence in the consciousness of the individual and the community". The group felt that, whilst there was no shortage of theoretical analysis pointing to the unsustainability of urban communities, there had been scant investigation of the reasons why this evidence was not precipitating

significant changes in practice. In their attempts to respond to this challenge and address the gap between theory and practice, the Task Force was to receive two batches of core funding between 1992 and 1996 from the British Columbia Science Council (Sustainable Communities Initiative) and the Federal Tri-Council Eco Research Program.

### **Project 1: The Appropriated Carrying Capacity tool - or 'the Ecological Footprint'**

A crucial first stage of the work of the Task Force was to refine, and subsequently apply, the concept of Appropriated Carrying Capacity (ACC), which has been most graphically represented as an 'Ecological Footprint' (EF). This was developed over a period of years by Professor William Rees and Mathis Wackernagel, School of Community and Regional Planning. Briefly, in the Task Force's own words:

'the ecological footprint is a measure of the biophysical requirements of an economy. It reflects the land area (in various categories) necessary to sustain current consumption and waste discharge by people in this economy. This ecological footprint represents the appropriated carrying capacity of that economy' (Wackernagel *et al*, 1993).

ACC/EF analysis is able to break down consumption patterns into a matrix of consumption categories and land uses, and this can then be used to calculate the land appropriated by individuals, cities, regions or nations.

The matrix was designed to keep quantification of ACC/EF manageable and relatively simple, and from the outset it was clearly acknowledged that the calculations neglected certain land uses - not least that used for, or damaged by the absorption of waste other than CO<sub>2</sub>. The proponents felt that such omissions did not render the tool useless for two reasons. First, despite the omissions, the tool still provides a valid comparison between nature's productivity and human consumption - the comparison is just more conservative than it might otherwise be. Second, and more important, the tool was never intended to provide more than rough estimates of ACC/EF. Its primary purpose is as a graphic and visually dramatic means of representing the consequences of current lifestyles. For example, Rees and Wackernagel's calculations suggest that if everyone on Earth lived like the average Canadian we would need at least three Earths to provide the material and energy essentials.

In summary then, the proponents of the ACC/EF tool isolate a number of its advantages:

- it makes us aware of our obligate dependency on nature

- it can be used to compare consumption patterns both spatially and temporally
- it offers the potential for assessing policy options and impacts of possible projects or technologies, and it allows us to understand our political control over the bioproductivity on which we depend
- it helps us to think about global crises without being lost in and discouraged by their complexity
- it makes us aware of the multiplier effect of local action on global sustainability
- it demonstrates that working towards global sustainability is not just a supranational task, but also a task of municipalities and cities
- it reveals that individual action does matter.

### **Project 2: Coupling the work of the Task Force to Municipal Planning in Richmond**

The conceptualisation of the ACC/EF can be regarded as a starting point to the wider work of the Task Force which in 1992 began work with the City of Richmond, an Island Community of 130,000 in the Fraser River Delta, lying to the south of downtown Vancouver. Reflecting the Task Force's belief that understanding the concept of sustainability resides 'in the detail of its application', a first step for the continuation of the ACC/EF work was, naturally enough, to apply it. Richmond was selected for this task on the basis of various criteria, including size, geographical area, intersectoral urban management, evidence of leadership and willingness to participate. Above all, the Task Force wanted to work with a municipality because 'this is the place where much of the disjunction between lofty national and supranational statements about sustainability and the way citizens live their lives takes place.'

Despite the advantages of the ACC/EF tool outlined in the preceding section, it was clear to Task Force members that its application could, as was also stated earlier, only be treated 'as a rough guide'. They also recognised that use of the ACC/EF tool alone would be likely to yield a 'free-rider' effect, and that individuals may be deterred personally from adopting more 'sustainable' lifestyles. This recognition coincided with a period of considerable theoretical reflection. Briefly, the Task Force had defined sustainability in terms of a balance between economic, environmental and social health, and, whilst this was a useful aid to comprehension, it did not assist the development of policy alternatives. Thus, although it helped citizens, municipal employees and elected members (the target groups for the collaborative work with Richmond)

appreciate the complexity of the problems, it neither rendered the implicit trade-offs explicit, nor gave opportunity for choice. The Task Force thus sought to redefine the relationship between individual health, community health and ecosystem health and it was to this end that a further concept was developed to complement the ACC/EF. This was termed Social Caring Capacity (SCC).

The Task Force sought to identify those criteria which help to increase quality of life in a community without increasing impact on the environment which, collectively, they referred to as its Social Caring Capacity. In other words it was an attempt on the one hand to measure the capacity of the social networks in a community to offset the ecological demands of that community and, on the other, to seek to ensure that legislative or technical measures to reduce the ACC/EF did not adversely affect a community's SCC. Together, the members of the Task Force and Richmond's Planning and Health Department selected indices of Social Caring Capacity as being:

- social equity: as indicated by the amount of disposable income above daily needs available to various sectors of the community
- diversity: as indicated by various demographic data (such as age, family size, income groups)
- interconnection: as indicated for example by the number of neighbourhood stores in the area
- safety/security: as indicated by the crime rate
- access to recreational and open space: as indicated by the size of recreational space per capita
- minimisation of household/familial stressors: as indicated by the % of households in which the cost of housing exceeds 25% of the family's income
- inclusion in the decision making processes: as indicated by the citizen participation rate in volunteer activities etc. (Aronson and Charles, 1993).

A high level of any or all of these factors in a community is indicative of a high level of social capital and the Task Force, drawing on the research of various masters and doctoral students (e.g. Carr, 1996), proposed that such high levels of social capital might offset some of the demands which that community was placing on the ecosystem. In this respect, the Task Force produced some very interesting evidence and speculation that a high SCC might lead to a reduced ACC, so that communities with strong social capital may be inherently more environmentally sustainable. These concepts helped the Task Force at least

to illustrate the interconnectedness of individual, community and ecosystem health.

Following conceptual development, the Task Force sought to test and refine these 'tools' in a real context. The work with the City of Richmond thus commenced with a phase of theoretical reflection, facilitated by regular meetings between the academics and Richmond staff, periodic reports and review, joint presentation and papers, and joint organising and planning. It then hoped to move into a phase of more tangible promotion of sustainability. Despite some success, this phase of the Task Force's work also, unfortunately, illustrated some of the obstacles impeding effective collaboration between academics and practitioners.

This more applied and focused phase began about two years into the town-gown relationship, with a joint symposium on the theme 'Sustainability in Action: how do we make it happen'. Over 90 registrants, spanning elected members, officers, community activists, architects, planners and academics, attended workshops and talks focused on the synergistic relationship between ACC and SCC, and how these tools could be integrated into existing policy frameworks. Shortly after this symposium the City held municipal elections which resulted in changes to council leadership, policies and organisational restructuring. A new planning manager also came into post. These changes affected the hitherto quite general nature of the collaborative efforts and instead forced the research endeavours to be translated into a very specific project with practical day-to-day application. This came in the form of a 'sustainability checklist' to be applied voluntarily to development permit applications and facilitated by regular small working group meetings.

The checklist was an attempt to:

- raise consciousness about the relationship of developments to impacts in the community
- provide a tool for developers to present information and planners to assess developments on a standardised basis
- provide a yardstick to measure if and how developers were making projects more sustainable.

Having effectively been necessitated by political changes in the City to put 'all their eggs in one basket' and focus exclusively on this simplified, product-oriented approach, the Task Force efforts were further disappointed when the checklist was rejected by Council on a narrow vote. The rejection apparently reflected concerns such as cost, demands on stafftime, and a general lack of commitment to sustainability. Our work with

members of the Task Force and some of the City planners this summer revealed some other more interesting reasons for the rejection:

- the difficulty of translating academic models into a usable language
- the parochial nature of municipal politics
- a crucial lack of staff and elected member buy-in reflecting both unavoidable changes in personnel but also a failure to appreciate the importance of securing as wide a level of buy-in as possible from the very beginnings of the collaboration, particularly amongst the elected members.

### **Reflections on the Work of the Task Force**

We can draw some tentative parallels between the experience of the Task Force and our initial findings in the UK case study areas. First, Task Force's work on the potential for social capital to become a substitute for natural capital resonates with the way Local Agenda 21 exercises are extending the traditional 'green agenda' into areas such as community development and health care, and the effect of this in broadening its relevance to a wider constituency. This is creating opportunities for multi-partite initiatives which have the potential, we suggest, to extend or create new stocks of social capital. This is something that we will be specifically attempting to measure in Reading where Local Agenda 21 groups have been established on a neighbourhood scale, and it has parallels with work being undertaken at the Centre for the Study of Environmental Change at Lancaster University. Briefly, CSEC indicate that there is very little personal agency with broad global environmental change issues, but there is latent association with sustainability issues: this perhaps implies that there is potential to build on 'nodes' of agency in sectors of the population. Sensitivity to local networks and cultural dynamics may create a basis for collaborative work between planners and academics in the future that can also build on the lessons learnt by the Task Force and the City of Richmond.

There is room for caution, however, in devoting too much attention to the importance of community oriented approaches to Local Agenda 21 at the expense of more centralised policy formulation and control. Two members of the Task Force looked specifically at the balance between top down and bottom up approaches to sustainability initiatives and observed that community oriented approaches can sometimes 'produce perfunctory participation, overworked volunteers upholding the appearance of participation, and staff devoting so much time to the care and feeding of coalitions that they have little left for the program implementation' (Green

and Shoveller, 1996). We can certainly draw parallels with this observation, though, encouragingly, we are finding that in some more mature Local Agenda 21 initiatives there is infrastructure in place to maintain momentum and share resources between top and bottom.

### **Project 3: Hamilton-Wentworth, Ontario - 'a model community'?**

The Region of Hamilton-Wentworth, Ontario is one of fourteen selected municipalities world-wide within the Model Communities Program, which is an action and research collaboration between these municipalities and the International Council for Local Environmental Initiatives.

The overall purpose of the Model Communities Program is to test and develop a Strategic Services Planning approach to integrate the concept of sustainability into local planning practices and decision making processes. This program was of particular interest to us as it enabled us to contrast practice in developed countries with experience in developing countries where environmental planning methods were often being implemented *de novo* via ICLEI. However, in Hamilton-Wentworth, a well established municipal management system was seeking to become more sustainable and was able to establish a more flexible research relationship with ICLEI.

ICLEI's recent *Local Agenda 21 Planning Guide: An Introduction to Sustainable Development Planning* (1996) (partly an outcome of the MCP to date and launched at Habitat II), profiles Hamilton - Wentworth as a commendable case for its record on 'sustainable development reporting'. This is a response to its Sustainability Indicators and Annual Report Card project which forms the most recent stage of the Sustainable Community Initiative launched in 1989. It is acknowledged locally that this initiative was triggered by 'a mixture of personalities and timing': the fortunate combination of a chief executive trying to break down inter-departmental barriers, a Regional Chairman (leader of the council) running on an environmental platform, and a far-sighted chair of the Economic and Planning Committee aware that the time was ripe to sell sustainable development as a new economic strategy to a receptive council. These circumstances meant that, from the outset, there was a high level of buy-in at the strategic level to the integration of sustainable development into key policy documents and processes.

This strategic commitment was endorsed in 1990 when the Regional Council formally launched the Sustainable Community Initiative by creating a Citizens' Task Force on Sustainable Development. This Task Force was made up of a multi-sectoral group of selected 'community champions'. It was mandated to explore, in co-operation with its fellow

citizens, the concept of sustainable development as a basis for the review of all regional policy initiatives. This was assisted by a range of consultation methods including town hall meetings, community forums, workshops, focus groups, a youth round table, special events, displays in shopping centres, media coverage, and newsletters to all households. The programme lasted over two years and the outcome was *Vision 2020: The Sustainable Region* -- a community vision which in over 400 proposals describes the type of community that Hamilton-Wentworth could be in the year 2020. These proposals, which represent sustainable development as a three-legged stool (balancing economy, environment and health/society) fall into eleven key areas for policy change:

- natural areas and corridors
- improving the quality of water resources
- improving air quality
- reducing waste
- consuming less energy land use in the urban area changing our mode of transportation
- personal health and well being
- community empowerment
- the local economy
- agriculture and the rural economy

Reflecting the high level of buy-in to the project at the outset, the Regional Council adopted *Vision 2020* as a guide to all future decision making and, in June 1994, adopted a new Official Plan for Land Use called *Towards a Sustainable Region*. A long term economic development plan, transportation review and a pollution prevention and management plan have also been developed to reflect *Vision 2020* goals. Implementation of the vision is predicated on five key elements (ICLEI, 1996):

1. the definition of concrete performance targets based on the 11 policy shift areas
2. the creation of an internal decision making process to assure that all departmental proposals to Council are reviewed according to their contribution (or contradiction) to *Vision 2020*.
3. the creation of a set of performance indicators (again based on the 11 key policy shift areas) to monitor progress towards implementation of *Vision 2020*. This project is called 'Signposts on the trail to *Vision 2020*.'
4. the convening of an annual 'Sustainable Community Day'
5. a municipal staff review of the *Vision 2020* process itself

As stated earlier, it is the *indicators project* that seems to have generated the most recent interest in Vision 2020. The CSD has described the Signposts project as 'a singularly innovative approach to monitoring'. The project goals are to:

- develop a system of indicators and targets that will assist and improve the way in which decisions are made, particularly in relation to Vision 2020.
- increase awareness and understanding of Vision 2020 and Sustainable Development; and
- increase the accountability between citizens, decision makers and their expressed desires for the future.

Examples of the indicators under two of the eleven areas (natural areas and corridors, and personal health and well being) are summarised below:

- total kilometres of linked public walking/biking trails
- participation in environmental education programs
- number of visitors to conservation areas in the Region
- percentage of adult population living above the poverty line
- availability of affordable housing
- indicator of voluntarism, such as rates of participation, hours contributed, etc

The input of the community has been a crucial element in the development of the indicators reflecting the municipal commitment to make them understandable, realistic, motivational and credible. It is felt that community discussion is a means to motivate personal action, and so focus groups have been used to test whether indicator results will create changes in lifestyle choices. It is in this context that a Report Card of progress on the indicators will be prepared annually and presented at the Sustainable Community Day allowing citizens to take stock of their progress towards the goals of Vision 2020.

### **Reflections on Hamilton-Wentworth**

In a Case Study of the Hamilton-Wentworth project written for the Commission on Sustainable Development seven areas of 'lessons learned' are identified, highlighting the importance of: commitment; clear purpose; empowerment; patience; flexibility; consensus; and monitoring and

reporting. We have reflected upon these, particularly in the light of our recent discussions with some of the key players in the Vision 2020 process.

### ***1. Commitment***

Sustainable Development was cleverly sold as a new economic strategy, capitalising on the mood of the day and ensuring a high level of buy-in from key politicians and staff from the outset. Having written commitment to sustainable development within key policy documents has ensured the long term survival of the project even when political commitment to sustainability wanes (as it inevitably does and has). This commitment is strengthened by the acknowledgement that Vision 2020 does not stand alone, it shares process, methods and goals with several other initiatives, including the Harbor Remedial Action Plan and the Constituent Assembly project.

### ***2. Clear purpose***

Having formal policies as an outcome of the Vision 2020 process indicates that the long termism of sustainable development is acknowledged. There have been some observed shifts in the style of discussion and debate within council, from the mundane to the more anticipatory.

### ***3. Empowerment***

Having Vision 2020 recommendations in the Official Plan has brought a new accountability to the policy of the Region giving citizens and community groups a formal channel through which to protest. In contrast, however, there are concerns that the municipality has too great a degree of ownership of the process and that somehow a balance between municipal and community ownership must be sought. Looking at the wider picture there is acknowledgement of 'the universal lack of interest in municipal politics, especially when councillors remain in office for too long.' There are attempts to address such issues in the 'empowerment' category of the indicators project.

### ***4. Patience***

Despite the well documented successes of the project there is, nevertheless, acknowledgement that most participants are not fully satisfied with the initiative and wish to see more immediate products. On the ground change is incremental and hard to track and monitor. There are inevitable

peaks and troughs of enthusiasm, an identified gap between the 'doers' and the 'thinkers'. Those most closely involved with the project regard the Vision as an untouchable which must not be lost sight of, whilst the 'trench work' is conducted.

### **5. Flexibility**

The initiative has revealed that some areas of the community are easier to break into than others making flexibility in approach an imperative. Having a champion to identify very local, personal and real issues can help. Whilst being a part of the *Model Communities Program*, great stress has been laid on the fact that the Sustainable Communities Initiative is a very 'made in Hamilton' approach.

### **6. Consensus**

Every effort has been taken to include as many sectors of the community as possible on all Task Forces, groups etc., and all decisions have been made using a consensus approach. Building consensus and hopefully partnerships between different sectors has become central to all Vision 2020 projects; this has developed a strong sense of ownership of the process for those involved. The consensus approach has been especially successful in involving business. The project was seen as an 'easy sell' to big business, in particular, who have regarded Vision 2020 as a 'community relations' exercise. A further marked achievement of the initiative has been the improvements that it has brought to corporate working within the municipal government.

## ***7. Monitoring and Reporting***

There is concern that despite the novel approach taken by the indicators project, overall evaluation has remained simplistic and above all reactionary, reflecting mainly a lack of time on the part of municipal staff. The success of the project is very much dependent on informal networking and this is very hard to track, and products and progress will be incremental. There are further concerns that formal monitoring and report production may dissipate community enthusiasm: some advocate a 'story telling approach' to reporting, to counter a concern that indicators are too embedded in the industrial era.

## **Conclusion**

This paper has described three projects, two which are concerned with the translation of academic theory into practice, and the third representing a very practical and pragmatic attempt to implement sustainable development on the ground. Despite these contrasts, it is hoped that this account has highlighted some of the prerequisites to successful municipal sustainability planning. From our own point of view, the following factors are starting to emerge from both the Canadian and UK studies:

- a need to ensure high levels of buy-in from key municipal staff and politicians
- careful timing
- a need for flexibility - but also for a product oriented approach to maintain enthusiasm and momentum
- a need to focus on the locality, and to build on informal contacts via local champions
- a need to extend the traditional 'green' agenda into a wider set of issues which underpin the sustainability of human ecosystems.

In general, it appears that moves towards sustainability require a comprehensive blend of statutory powers, improved planning and management and changes in individual behaviour. Only a limited amount of this can be effected rapidly or by top down centralised solutions, and successful programmes are likely to include comprehensible communication devices and opportunities for genuine community involvement. The experiences of the Task Force and Hamilton-Wentworth shed some light on how such projects might best be accomplished, and we hope that we will continue our research collaboration with these pioneering exemplars.

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