

Title of paper: Area-based initiatives as Tools towards Ecological  
Modernisation: a Case Study in Sweden

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# Area-based initiatives as tools towards ecological modernisation: a case study in Sweden

## Abstract

Sweden has long been an acknowledged leader in Europe in terms of its environmental protection policies, and its ecologically-based technological innovation, its social democratisation and its welfare provision. It now faces new challenges, from economic and demographic change, increasing socio-economic diversity, and a loosening relationship between population and State. A key response has been its framework strategy of ecological modernisation, through which it hopes to maintain development which is sustainable. Area-based initiatives are crucial tools in implementation, and a number are in place in every municipality. We examine 6 of these, in Sweden's 3 major cities and the case study towns of Örebro and Falun, in relation to the national framework strategy. While there have been significant advances in environmental management in particular, links between the environmental, and economic and social democratic agendas, previously reliant upon tradition, appeared to us inadequately developed at all levels of governance. Unresolved tensions in policy are apparently being played out at the level of the municipality, where the 'ideological' (socio-cultural and environmental) and the 'real world' (economic) are in increasing competition. Local Agenda 21 has been interpreted as project rather than process, so that the area-based initiatives are unequal to the task of integration and the gap between people and State is widening. We consider how a 'deliberative' model of ecological modernisation may be more effective in achieving its own goals than the 'techno-corporatist' model implicitly favoured by Swedish norms, so that area-based initiatives may fulfil their potential in implementing development which is sustainable.

## Introduction

### The goals of the study

The Swedish government's stated intention is that Sweden (should) 'be a driving force and a model when it comes to efforts to achieve ecological sustainability' (Göran Persson, 1996). However, it is generally acknowledged amongst Swedes that the economic downturn of the 1990s is leading to a loss of momentum in the traditional prioritisation of environmental protection and social democracy which has enabled Sweden to become a world leader in sustainable development. Sweden seems to be at a policy cross-roads, where there is the risk of schism between the 'ideological' (socio-cultural and environmental) and 'real world' (economic). Between 1998 and 1999, the authors were invited by the Swedish Research Foundation MISTRA and the (then) Swedish Councils for Building Research (BFR) and for Planning and Co-ordination of Research (FRN) to investigate progress in Sweden (pop. 8.8 m) towards what might be termed sustainable futures (Fudge & Rowe, 2000). We examined the relevant national

framework and political strategy, and how the strategy is being implemented in practice using as case studies Sweden's 3 major cities Stockholm, Göteborg and Malmö, and the towns of Örebro and Falun. Our fieldwork drew largely on interviews with interested individuals from all sectors in relevant policy communities (Barrett & Fudge, 1981; Ham & Hill, 1986; Rhodes, 1986), and the scrutiny of national and local policy and practice documentation. We reflect elsewhere on the relationships between the national strategy and local governance (Rowe & Fudge, 2001), and whether ecological modernisation as interpreted in Sweden may provide an adequate framework for sustainable development (Fudge & Rowe, 2001). Here, we focus upon the role being played by area-based initiatives, in the context of the way in which ecological modernisation is being interpreted in Sweden as the framework for development which is sustainable.

### **The changing Swedish context**

In Sweden, the decline of manufacturing industry, the globalisation of markets, recent EU membership, a rapid increase in the numbers and diversity of ethnic minority groups (see eg. Cars & Edgren-Schori, 1998), and a loosening relationship between population and State, are making their impacts felt in very rapid economic and social change (see eg. Montin & Elander, 1995; Hadénus, 1997; Elander *et al.*, 1997). The traditional commitment to a high level of public ownership of land and other resources, strong environmental protection measures closely linked to the economy, high social welfare spending, and the role of the State in general are coming under debate. The stresses are being felt differently in the various regions of Sweden, in the context of changing patterns of growth in mainland Europe. As the material expectations of the majority increase, some 1960s urban public housing districts have become ghettoised, and growth in private car use has led to traffic congestion and air quality deterioration (Swedish Government, 1997a, 1998). The major cities, as foci in the new Europe-wide regionalisation (European Institute of Urban Affairs, 1992), are being deeply affected by the opening of the Öresund Link (July 2000), which provides road and rail access between Malmö and Copenhagen and creates a new transnational urban region of 3.5m people. Municipalities in the South centring on Malmö face huge development pressures eg. for road network and retail distribution centres. The ferry industry which is so important to Göteborg's economy may be threatened by the new European road and rail links. The role of Stockholm as economic capital is under pressure as the focus of attention shifts into Europe to the South. Municipalities north of Stockholm fear increased marginalisation, and urban /rural tensions are increasing.

### **Defining ecological modernisation**

In response to the impacts of these pressures upon traditional core values and principles (see below), and its need for socio-economic revival, the Swedish government has developed as policy framework the concept of ecological modernisation (Swedish Government, 1996). This was first elaborated in theoretical terms in the early 1980s (Huber, 1985; Jänicke, 1985; Simonis, 1988) and has since been variously used to refer to the major change internationally in policy discourse in relation to the environment whereby its consistent over-exploitation by Western industrial societies is no longer accepted as routine (Cohen, 1998). In a broad-ranging review, Mol and Sonnenfeld (2000) identify 3 stages in the maturation of ecological modernisation theory. The first was characterised by a heavy emphasis on the role of technological innovation, a critical attitude towards the role of the state, and bias towards market solutions (see eg. Huber, 1991). The second, from the late 1980s to mid-'90s, took a more moderate view of the roles of technological innovation, the state and the market, and emphasised institutional and cultural dynamics (see eg. Hajer, 1995). The Brundtland

Report (WCED, 1987) embedded the new thinking in broader principles which recognised that environmental safeguarding in the longer term requires concerted socio-economic and cultural change internationally; and Agenda 21 (UNCED, 1992) codified processes by which the change might be achieved. In the third and current stage (see eg. Lash *et al.*, 1996), the debate has broadened to include the role of consumption and global processes in the international arena. Environmental problems are conceptualised as challenges for (preventative) social, technical and economic reform; market dynamics and economic agents are seen as increasingly important; the nation-state is transformed towards the more decentralised and consensual styles of governance which characterise political modernisation (see eg. Jänicke & Weidner, 1995); social movements modify their roles so that reform ideologies take precedence over confrontation with the state; and intergenerational solidarity towards environmental protection is assumed. We have used this framework in examining the maturation of the ecological modernisation process in Sweden.

### **Key issues in implementation**

The Swedish government's contention is that its policy framework of ecological modernisation will lead to development which is sustainable. In assessing Sweden's progress towards this goal through our case studies, we have taken a normative approach to what comprises sustainable development, as defined by the European Expert Group on the Urban Environment (CEC, 1996a). The Group suggests (*ibid.*) an ecosystems approach to human society and activity, where the 5 key principles are: recognition of environmental limits towards which the precautionary principle is adopted; demand management, which requires the reconciliation of day-to-day service delivery pressures and expectations with local /global capacity for resourcing; environmental efficiency, expressed as a balance in rates of consumption and those of renewal of natural resources; welfare efficiency, where maximum human benefit is derived from each unit of resource used; and equity, since only equitable distribution of wealth may engender sustainable behaviour. Barriers are suggested to include: the social specialisation of individuals; the sectoral specialisation of organisations; the narrow quantification of performance; and the application of market mechanisms to public services and policies (see also eg. Giddens, 1991; Lash *et al.*, 1996). Long-term frameworks for controls, incentives and motivation are suggested, along with quantitative calendar-dated targets to achieve what has been decided. Further, 5 key principles for governance are suggested: integration, both vertical and horizontal, in policies, plans and programmes and in dimensions of time and space, values and behaviour, personal needs and institutional capacity; co-operation, involving recognition of mutual dependence between all agents in the system and equality in access to power and resources; homeostasis, so that the organisational culture may accommodate change; subsidiarity, where rights are matched with responsibilities; and synergy, requiring strategic direction, incremental action, and planning which is cyclical rather than linear. We examined the extent to which these principles are both recognised and addressed, in the national policy framework and strategy and in our case study municipalities and area-based initiatives.

# The Swedish Policy Background

## History and tradition

An understanding of Sweden's history and tradition proved vital in interpreting our case study initiatives in the context of the approach to sustainable development which has developed since the early 1970s. Sweden has long been characterised by its relative isolation, its cultural homogeneity and its deep-rooted traditions of equity and co-operation, which have until very recently engendered a clear and shared sense of 'the public good'. Until the 1940s–50s, it was primarily rural, so that links with land and the environment have remained strong, and urban policy as such is a recent and relatively problematic concept (EURICUR, 1998). The elected Parliament (as most municipal councils) was strongly Social Democrat between the 1950s and mid-1990s, and a lack of political contention has led to a representative rather than participative democracy. The decision-making structure is more highly devolved than elsewhere in Europe (see eg. CEC, 1996a, and below), and especially challenging in a geographically vast and increasingly socio-economically diverse nation. The prevailing social care ethic has been expressed particularly in housing, employment and welfare programmes, often mutually linked. The bed-rock aspiration of socio-environmentally sound housing for all was expressed in the 'Million' (Miljon) housing programme of the 1960s and '70s which characterised rapid urbanisation and led to the districts of publicly-owned apartment blocks (see eg. Elander, 1995) which are now in decline (see above). Meanwhile, the climate of mutual enterprise and drive towards self-sufficiency promoted innovation in all aspects of the economy. While there has been traditionally a vigorous regional small enterprise sector, the economy has been dominated by a few, large Swedish-owned companies (Volvo, Saab, Electrolux etc.). These have co-operated closely with the State in labour policy, research and development in the context of environmental protection (Chadwick *et al.*, 1996; Robert *et al.*, 1997), and wider social support, to mutual advantage in underpinning Sweden's growth into a modern international industrial economy within a cohesive Scandinavian trading bloc (see Cohen, 1998, for a discussion of similar drivers in Norway and Denmark) and, latterly, the developing Baltic arena (Baltic 21, 1996).

## Municipal independence

Sweden's traditional cultural regions have recently been formalised through regional administrations set up in 1998 /99 in response to EU funding drivers; and counties with income tax-raising powers, now located within these regions, have existed for some decades. However, more local needs identification has long been a crucial part of the conception of local self-government and subsidiarity, and since the 1970s, the 288+ municipalities have enjoyed considerable autonomy. They are governed by elected councils, which set up executive boards and subordinate, politically-controlled committees to which certain decision-making powers and budgets are delegated. They take responsibility for spatial planning, education, health and social care, and economic and environmental development, supported by income tax-raising powers which meet some 75% of expenditure requirements (see eg. Elander & Montin, 1990). Democratisation experiments abound in which responsibility is further devolved to district, neighbourhood and area committees with specific remits, eg. for schools, day care and support of the elderly. However, by the early 1980s central government was forced to strengthen its grip over local government finance expanding primarily through the cost of welfare provision (Elander & Montin, 1990; Montin & Elander, 1995). Legal and financial sanctions were put in place which began the process of centralising power while decentralising

responsibility, through positive and negative incentives, a more restrictive use of the grants system, and reforms such as deregulation. At the beginning of the 1990s, with the dramatic shift in political composition at all levels of government towards the non-socialist parties, the themes of local autonomy and democracy gave way to a new (neo-liberal) strategy which focused upon adjusting Sweden's taxes to the level recommended for EU member states. The welfare state was to be rolled back in favour of what was termed a welfare society (see eg. Bennet, 1990), in which the role of the individual as consumer was emphasised in relation to other roles as citizen and community member. The adoption of the concept of New Public Management (Bennet, *ibid*; Caiden, 1991) is challenging traditional models of service delivery. Publicly-owned municipal companies responsible for housing, waste management, leisure and tourism etc. are becoming widespread, and some utilities, eg. district heating and water management, are being privatised or sold. All these changes have implications for the democratic process, and for the capacity for integrated management which has hitherto appertained.

### **Co-operative frameworks for sustainable development**

Strong leadership and broad agreement as to priorities have traditionally held together the environmental, economic and social agendas (Rowe & Fudge, 2000), although formal frameworks of control and integration are relatively few, there is no provision for national spatial planning, even at the county level there are only weak spatial planning powers, and comprehensive planning remains fairly rudimentary (CEC, 1996b). A key driver has been the Swedish government's view throughout the post-war period that pro-active environmental management is a positive- rather than zero- or negative-sum policy, ie. its pursuit leads to gains environmentally and socio-economically (see eg. Cohen, 1998). Thus, it has invested heavily in quality environmental research and monitoring linked to indicators; environmental legislation and the creation of frameworks for administration; the inclusion of environmental considerations in physical planning (Elander *et al.*, 1997); the commitment to the Polluter Pays Principle; and the development of supports and fiscal mechanisms for linking environmental policy and practice, becoming the acknowledged leader in Europe in these spheres (OECD, 1996) and thus a leader in the sustainability of development (CEC, 1996a). The Government Commission on Green Taxation of 1994 has led to the application of business and consumer taxes to CO<sub>2</sub>, NO<sub>x</sub> and SO<sub>x</sub> emissions, and to natural gravel extraction, and the introduction in 2000 of a landfill tax. A Tax Switching Committee has been in place since 1996, and 2000 Budget Bill proposals will reduce the use of some fossil fuels and nuclear power and the consumption of electricity, and promote environmentally sound vehicles. The Public Procurement Act of 1992 first linked relevant goods and services with environmental concerns, and in 1998 the government appointed a Committee for Ecologically Sustainable Procurement to promote national action. Its budget (excluding defence) is now SEK 300 bn (c. ECU 150 bn) per year, although EU rules on competitive tendering continue to constrain its scope. Programmes such as eco-labelling are also in place to influence consumers. Industry has duly exploited the commercial advantages and opportunities of adjusting to 'green' production (Mark-Herbert & Nyström, 1995; Chadwick *et al.*, 1996), working with closely with government (see above).

### **Developing tensions**

Sweden's environmental record remains impressive (Swedish Government, 1998), especially in a system which is so highly devolved. Water consumption has declined steeply since the 1960s; energy use has remained more or less

constant since the mid-1970s, although industrial production has increased by more than 30% and heated floor-space by 40%; progress has been maintained in the supply and use of energy with minimal impact on the environment, through renewable sourcing (especially CHP from domestic and forestry waste); waste reduction has reached 50% in some municipalities (see eg. Eckerberg & Forsberg, 1998); and industrial emissions continue to decline. Additionally, 100 public organisations are now involved in EMAS certification. Central government continues to envisage mutual and beneficial interaction between economic, environmental and sociological development (see eg. Swedish Government, 1997b, 1997c), while making clear that neither high environmental protection standards nor excessive social spending should be allowed to prejudice competitiveness and the investment climate. To this end, a sophisticated and holistic approach to the interactions between environment and every sector of the economy, from communications to labour market policy and cultural affairs, was taken in the Government Communication 'Towards an Ecologically Sustainable Society' (1996). However, such holism is as yet little in evidence either across national policy spheres or in practice in the municipalities. As socio-economic diversity increases, the public purse comes under increasing pressure, and municipalities in need of tax revenue increasingly compete with one another, the frailty of the mechanisms for decision-making in the national interest become increasingly significant. Further, devolution of responsibility but, through budget centralisation, decreasing power to and within municipalities increasingly breeds suspicion and resentment in local communities which suspect a hidden agenda of reduction in welfare provision. The long-standing co-operation between public and private sectors is also faltering. Restrictive labour laws and persisting state monopolies in pharmacies, off-licences etc. act as a brake on socio-economic innovation especially amongst immigrant communities. Although government programmes for employment and training continue to offer significant support to an increasingly significant small business sector, such companies may be becoming resistant to bearing the costs of environmental and social practices over and above statutory requirements. Thus, market forces increasingly challenge the traditional collective and consensus-based approaches.

## **The urban focus**

Cities may be viewed as the engines of social change (CEC, 1996a), leading by example not only in relation to their internal functioning (design and management for liveability and equality of access and opportunity etc.) but also in relation to activity within their hinterlands. The fact that urban policy at the national level is relatively new in Sweden, as it is in the Nordic countries generally (EURICUR, 1998), may present difficulties in terms both of its conceptualisation and prioritisation. Sweden is accustomed to a policy focus on maintaining long-standing traditions. The professional, institutional and cultural pluralism which is demanded by the new challenges is difficult to achieve in a climate in which, under socio-economic pressure, the government seems most concerned with the pursuit of (a somewhat sentimentalised) 'Swedification' (see also eg. the discussion by Cohen, 1998, of the roots of environmentalism). Since 1996 /97, Research Councils and Foundations have had in place a number of large and sophisticated urban-related research programmes, including Sustainable Cities and Liveable Cities (Byggsfökningsrådet, 1997; see also eg. Petterson and Bro, 1997). However, the ecosystems approach, which has been so significant a driving force behind the Swedish government's initiatives generally, is also evident in a scientific and technological drive in urban policy, which appears insufficient to embrace the sociological dimension.

The Ministry for the Environment has remained responsible for guidance in physical planning, although regeneration is no longer regarded as a matter of up-grading the 'hard' resources of land, buildings and investment. In the sociological arena, combating acute problems such as unemployment, segregation and criminality had been given precedence over the much broader and longer-term national sustainable development agenda. These difficulties are acknowledged in the recent Major Cities Policy, which is supported by a special Minister for Integration, has a Secretariat within the Ministry of Culture, and is co-ordinated and steered by a Major Cities Delegation comprising the Permanent Under-secretaries of 7 Ministries. However, we found little evidence of an integrated or even co-ordinated policy approach in our case study cities and towns which we consider severely limiting in terms of progress towards the over-arching policy goals.

## Other municipal influences

In the context of their high degree of independence (see above), influences upon municipalities other than the state which impact upon the ecological modernisation and sustainability agendas are significant. Local Agenda 21 (UNCED, 1992) has the capability to engender a more holistic approach to sustainable development. It was strongly supported in principle by, and, in the early 1990s, in grant aid to municipalities from, central government. It was taken up primarily at the local level through the strong environmentalists' movement of the 1980s, which to some extent it enfranchised and superseded (Eckerberg & Forsberg, 1998; Rowe & Fudge, 2001). It certainly promoted a more enlightened view of environment and development issues, and more cross-sectoral working and contacts within and between municipalities. However, its contribution to the sustainability of development has remained closely allied with national ideologies, policy frameworks and, more especially, the availability of tools linked with finance within municipalities (Ministry of the Environment, 1996; Bro *et al.*, 1997; Eckerberg & Forsberg, 1998). The emphasis has remained strongly upon environmental projects, at the expense of its wider acceptance and adoption as unifying process; and it remains largely 'top-down' and expert-led rather than embedded in the community. The Eco-Municipalities Network, initiated by a local activist in the late 1980s in remote and struggling northern municipalities as a powerful and integrating self-help tool (Lahti, 1999) has also been influential in its support of economic and social regeneration from environmental activity. However, there has been official mis-trust of its non-State-led origins; and its reliance upon cultural homogeneity and a strong sense of place (which may be seen as aspects of 'Swedification', see above) has limited its transferability to less isolated communities. The late 1980s also saw the rise of The Natural Step (Robert *et al.*, 1997), another independent movement but generated from within the establishment by charismatic leadership. It is a programme of environmental awareness and efficiency based upon the laws of thermodynamics, and aimed primarily at large manufacturing companies. Because of the important role which has been played by such companies socio-economically and culturally (see above), it has influenced the conceptualisation of sustainable development in both national and local government, perhaps to the detriment of a more culturally inclusive interpretation (see eg. Cohen, 1998). It has also provided fertile ground for the technologically-driven concepts of ecological modernisation known as Factor 4 and Factor 10 (von Weizäcker *et al.*, 1997; Bingel, 1998), which encourage greater efficiency in resource use. However, its initial momentum has been somewhat lost with the changing economic structure and industrial base and, significantly, it is shifting its attention increasingly to human and knowledge capital, and to the role of

finance. Meanwhile the 'Living Sweden' network of 2500 rural community groups which is largely community-driven is said by many to be the 'real' Agenda 21 (SNF, 1998); but it remains distant from the professionalised environmental and economic agendas

## **Implementation in area-based initiatives**

### **Stockholm: tackling urban congestion and air pollution**

Stockholm (pop. 750000) won the European Sustainable City Award in 1997, and as European Capital of Culture in 1998 was able to demonstrate the links between culture, environment and economy. The 1952 General Plan for the city could be said to have invented sustainable urban development planning: landscape, nature, urban development and public transport are mutually integrated. Its challenge as capital lies in remaining a national leader in sustainable development in the face of rising consumer expectations in a globalising society; ghettoisation and developing private car-based suburbs and 'edge cities'; and the ever-increasing costs of implementing sustainability principles as the public ownership of land, housing and other resources diminishes. Many of the difficulties it faces are reflected in the increasing inner city traffic congestion and air quality deterioration which characterise all Sweden's major conurbations. A 'flagship' project has been developed in the inner city through the part-EU funded programmes Zero Emissions in Urban Societies, and more recently Electric Vehicle City Distribution Systems. Traffic movement has been improved through the use of diode control systems. 1500 petroleum and diesel vehicles in the municipal fleet are being replaced, or converted, to use methane from waste and sewage digestion, ethanol, rapeseed oil or electricity. Hybrid buses and heavy duty vehicles for waste management and food and goods distribution are also being introduced. Car pools are being set up for mostly municipal, but also private, use whereby electric vehicles may be used for shorter trips. Petroleum companies have co-operated in new fuelling infrastructure. Evaluation of performance, the effectiveness of incentives, and transferability are built into the programmes, and many achievements have been noted. One of these is the ongoing co-operation and mutual entrepreneurship which has been achieved between public and private sectors. The project focus, led by deputy mayors, has also meant that various players within municipal governance, across sectors and levels, have worked together. However, this mutual working has yet to be translated into significant institutional change. The approach remains heavily 'expert', and the community at large has been little involved. Road traffic continues to increase, and the costliness of the programmes limits their expansion and transferability. More ambitious development of new transport nodes and routes, including light rail, seems unlikely as public spending declines and public ownership of land and resources diminishes.

### **Stockholm: sustainable neighbourhoods**

The project focus has also characterised neighbourhood regeneration projects in Stockholm. The adaptation of two 1960s suburbs to 'eco-cycles principles' was the subject of an open 'ideas' competition within the neighbourhoods themselves, amongst the professions, and in senior school classes throughout Sweden, with the aims of inclusion and awareness-raising. In what is intended to be an international prototype for inner city regeneration, an 'ecological neighbourhood', Hammarby Sjöstad, is also being constructed, on contaminated industrial land in south central Stockholm. Aims include a halving of the usual environmental impacts of new-build housing. The neighbourhood will house 15,000 people in 8000

apartments within a mixed development of shops, offices, small businesses, schools, social and leisure facilities (Stockholm City Council, undated). Environmental and design objectives were agreed at the outset by a cross-sectoral partnership: to close resource loops at as local a level as possible; minimise consumption of natural resources; meet energy needs from renewable sources; promote solutions that meet residents' and employers' needs; and enhance social co-operation and ecological responsibility. Technological solutions are already advanced. Thus, there will district heating from heat recovery from local liquid biofuel-fired boilers, supplemented by solar panels and heat pumps as necessary; electricity supply in accordance with the Swedish Natural Environment Protection Agency's criteria for Good Environmental Choice; waste water separation and re-use, and district cooling through heat-exchange with purified waste water; provision for community waste sorting at source and vacuum collection of 60% of the total, along with resource recovery for local use as appropriate; transport initiatives as above, etc. However, the commercial viability of the scheme is already under pressure. Its social inclusiveness, its feasibility in relation to the right to personal choice of its inhabitants, and its transferability are also under challenge. In this regard, an earlier experimental ecological neighbourhood, that of Ladugårdsängen in Örebro (Guinchard, 1997), designed in 1989/90 for 3200 people and 500 businesses in public/private sector partnership, has to date largely survived commercial and ideological pressures and continues to deliver successfully on waste reduction, low energy use and some transport parameters. It was nonetheless suggested to us that environmental, social and economic innovation tends to be constrained in such a highly-planned environment, limiting its future viability.

## **Göteborg: holding together public and private sector agendas**

Göteborg (pop. 450000) has an industrial past associated with the ferry industry and vehicle manufacturers. Its re-invention of itself as a 'city of ideas' relies to a large extent on maintaining the close relationship between municipality, technological development and diversifying industry. Its early lead in Sweden in comprehensive planning (Berggrund, 1994) aimed to reconcile what are seen as the contradictory drivers of ecocycles-based sustainability (see eg. CEC, 1996b), competitiveness and citizen empowerment. The city council's Green Procurement policy is a key tool, in the (pre-regionalisation) context of 60000 employees, a procurement budget of SEK 7 bn (c. ECU 3.5 bn), and the potential to influence a wide constituency in the private and community sectors (Göteborg Stad, undated). The Procurement Department, a municipal company wholly financed through commissions on contracts which works closely with the Environment Department, develops and administers lists of environmental life-cycle efficiency criteria and approved companies within 250 'fields'. Companies must commit to ongoing improvement through annual reporting, which tends to impact positively on all their business practice. Although initial investment by both the city and private business was high, contract suppliers (often small companies, where growth is needed) have won significant market advantage. Systematic auditing shows unambiguous reductions in the city's environmental impacts, through lower resource use in products and packaging, delivery planning and high volume supplies. However, the procurement model depends on political commitment and leadership, established methodology and a comprehensive strategy of ongoing cross-sectoral research, development and information dissemination, all of which are costly. In a changing political climate, and in the face of anti-competitiveness legislation from the EU and the dilution of local mutual

responsibility (through regionalisation as well as the globalisation of markets), questions arise as to whether its devices and instruments will be strong enough to maintain it. In addition, the population's longer working hours allow less time for the political, environmental and community activity which has in the past assisted in holding together such policies. Priorities in a developing 'two-thirds' (enfranchised) society are also changing as some districts become impoverished.

## **Malmö: educating for sustainable futures**

Malmö (pop. 250000) is at the forefront of the changes sweeping through Sweden. Its most pressing problem is unemployment, reaching >85% in one inner city neighbourhood amongst immigrant communities. It is the national pathfinder in integrating cultural and socio-economic change with traditional values, and innovative thinking is reflected in the development of the new University College (Malmö Högskola, 1998). A key objective of the College is that it should make a significant contribution to the life of the city, and that its tuition and research should play a crucial part in the transition from a depleted industrial to a modern knowledge-based economy incorporating the highest environmental competencies. Development is publicly funded on publicly-owned land on a complex disused shipyard/industrial site in the centre of Malmö, supported in part by parallel commercial development. Eco-cycles thinking is being employed in both built form and curriculum development. The State Programme for Architecture and Form underpins good functional and aesthetic design as well as sound, safe, manageable and ecologically durable technology, at investment and operating costs appropriate to users' ability to pay. The College is expected to be self-sufficient in heating, with minimal electrical and cooling demands, and to incorporate systems to separate grey and foul water and waste close to source. These in themselves will provide learning tools. The curriculum is characterised by multi- and inter-disciplinary activity. Departments and faculties are replaced by 'fields of training', all at basic, higher and research levels, eg. Technology and Economics, Art and Communication, Health and Community. Integral to all is a knowledge of Europe, and of issues of equality, gender, ethnicity, environment and the international context. Comprehensive use of information technology is intended to support rather than replace personal contact. Enabling factors have included strong local political leadership, and good relations between the city council and higher education policy communities. However, planning and implementation have been very rapid, and thus strongly professional and 'top-down'. The city's industrial, commercial and local communities generally have been little engaged. This is problematic both because the city is deeply divided socio-economically and politically, and because business remains strongly conservative and tends to demand certain (sectoral) competencies in its potential employees. The extent to which the University College's ambitions can influence significantly the thinking and behaviour of the wider community remains in question.

## **Örebro: engaging the community**

Örebro (pop. 132000) is a well-to-do market town 200 km to the South West of Stockholm with high citizen expectations and levels of personal taxation increasingly unacceptable locally and to central government. The long-standing Social Democrat leadership considers that, as in many other municipalities in Sweden, municipal control needs to be loosened, and citizens empowered towards greater self-sufficiency, while retaining

traditional values. It responded early to the national movement towards improved links between the community, elected representatives and local government officials. In the early 1980s, neighbourhood committees were set up within the growing municipality which: followed statistical wards and service areas; included not more than 12000 inhabitants; respected cultural and natural boundaries; and created programmes which looked 10 years forward so that immediate political expediency was avoided. They were given responsibility in the 'soft' fields of schools, leisure, cultural and social affairs management. Further democratisation experiments have been embedded within them. Agenda 21 was taken up enthusiastically in 1992, and local democracy and good resource housekeeping were seen as twin goals under the umbrella of Green Democracy. However, conceptual and practical bridging in policies and programmes was difficult to achieve, and less controversial environmental matters dominated the democratisation agenda. Moreover, a philosophy was seen to be developing through the 1990s that economic growth is prerequisite to (expensive) environmental quality. The 'Citizens' Örebro' programme was launched in 1997 (Örebro Stadsrådsstyrelsen, 1997) to link democratic renewal with economic expediency. The council was to re-align itself as facilitator rather than provider, a shift which it was recognised would require considerable internal and external capacity-building. However, re-education proved slow, and citizens more interested in specific than strategic issues. The programme has since tended towards enfranchising and fostering popular movements of various kinds. While User Boards were set up to facilitate dialogue, the focus remained narrowly utilitarian and links, especially with the health agenda, were few. A re-invigorated programme now links democracy and public health (Andersson, 1998; Örebro Stadsrådsstyrelsen, 1998), and back-casting techniques from desired futures are being used (see eg. Holmberg, 1999). Welfare accounting is being developed, the aim being integration with environmental and democracy accounting. Problems remain in a lack of private sector involvement; in the continuing reluctance of politicians and officials to re-think strategies and policies; in building the capacity within the community to participate fully; and in resourcing.

## **Falun: integrating the agendas**

Falun (pop. 55000), 225 km North West of Stockholm, is the capital of the region of Dalarna where the strong cultural traditions are seen as classically Swedish. It is at risk of socio-economic drift southwards, expressing its goal cryptically as 'staying on the map'. This goal underlies the unusual degree of integration in planning which has been achieved with its newer, more technologically-based neighbour Borlänge, 20 km to the South West. The 2 municipalities share the environmental problems of poor air quality and congestion from road traffic, and socio-economic problems of access to employment. Concerted effort has produced a view that the socio-political, -economic and skills differences between the two municipalities are complementary. A Technical High School is divided between campuses with a cultural orientation in Falun and technical subjects in Borlänge. Agenda 21 made a strong impact on the thinking of council officers, and joint studies towards a Co-ordinated Comprehensive Plan began in 1995 (Regionkommittén Falun / Borlänge, 1995, 1997) in which an enlightened distinction was made between development as qualitative, and growth as quantitative, concepts. Operational goals take an eco-cycles approach. Green purchasing is shared (indeed throughout Dalarna) resulting in significant economies of scale and influence over suppliers. There has been mutual investment in public transport links (women tend to commute to Falun to work in clerical and catering jobs, while men commute to Borlänge for

business and industry) and in an educational environmental resources centre located between the municipalities. Co-operation in a domestic waste strategy has led to very successful home-based optical sorting, and needs-based collections. A jointly-owned plant for digesting compostibles to biogas, which is used for municipal vehicles, has been established. All combustible waste is used by Borlänge, which has the appropriate district heating plant, while Falun relies upon regional wood chip waste. Research and development in turning summer waste materials into pellets which can be stored for winter use is proceeding. The use of grey water in biomass production is under investigation. The longer-term survival of the creative co-operative approach depends upon the ability to rise above party-political differences between the municipalities. While Borlänge remains staunchly social democrat, in Falun small parties are in coalition, single-interest groups are proliferating and leadership suffers. There is also increased reliance on EU funding, which may skew local agendas and engender a competitive rather than co-operative climate. Moreover, although Falun sees inclusion and empowerment of the young as a priority in its future viability, there has been little public engagement in decision-making, which is seen as time-consuming and costly by a municipality under resource pressures.

# From area-based initiatives to sustainable development

## Ecological modernisation and national identity

That substantive progress has been made towards development which is sustainable which has resulted from the initiatives we describe is without question. Waste has been substantially reduced through separation at source, composting and changing patterns of consumption. Considerable resource 'eco-cycles' adaptation has taken place in industry, along with the recycling of most building material and reduced hazardous waste. The demand for environmentally accredited products has increased substantially, both in municipal purchasing and among inhabitants, especially in chemicals and food. Local improvements in water and sewerage management, and in the protection of landscape and biological diversity, have been substantial. Although some of the most pressing environmental issues, the control of traffic congestion and energy use, are felt to be outside the scope of local intervention, local efforts are still being made in these spheres, eg. through improving public transport and vehicle sharing, extending pedestrianisation and cycle networks, in developing alternative energy sources and in district heating developments. However, ecological modernisation as conceived in Sweden has a much more far-reaching purpose than this. It amounts to an experiment in carrying out a task much needed in many modern societies, that of new identity construction through the transformation of historical ideologies (see eg. Lash *et al.*, 1996). Agenda 21 itself suggests that environment, in the era of post-environmentalism (Young, 1996), may act as master frame for development of the public realm through advances in cognitive, moral and aesthetic rationality (Eder, 1996). However, even though the 3 stages in ecological modernisation identified by Mol and Sonnenfeld (2000) may be recognised in Sweden, we consider that neither nationally, at the level of strategy and policy formulation, nor at the level of implementation within the municipalities, do they occur sequentially in such a way as to indicate lasting change in the desired direction. Rather, they seem to comprise a mosaic of poles around which discussion circulates and between which emphasis shifts. First stage thinking is attractive to economists both in central government and the municipalities, on the one hand because the very strong technological/ environmental drive of the expansionary 1980s – early 1990s proved so socio-economically fruitful, and on the other because the increasingly heavy burden of costs of the welfare state seems soluble only through market solutions (see eg. Christoff, 1996). Embedding Agenda 21 would have been a means to achieving the second stage, through the re-negotiation of cultural and institutional *mores* and frameworks. However, this has proved very difficult in the deeply conservative, expert-led 'silo' culture still evident throughout governmental departments, agencies and municipalities (see eg. Bryant & Wilson, 1998). Thus, more sophisticated third stage thinking, which can be clearly identified in both the aims and policies expressed by central government and the national Research Council agendas, has difficulty working through into practice. The outputs and outcomes of our case study initiatives seem unable to catalyse the conceptual shift which is required to bring about lasting organisational and institutional change.

## Policy integration

The national policy framework which we describe above accords well with the principles sustainable development as defined by the EU Expert Group (CEC, 1996a). In terms of the conservation and protection of environmental resources, many constraints are worked through into demand-management policy; environmental efficiency is a clear goal in the public sphere, and influences at least the larger companies; and there are in place initiatives tied to strong incentives for resource conservation and cycling. However, parallel social development, which would allow a balance to be maintained with the welfare efficiency and equity agendas, is apparently being outstripped by the rapid rates of cultural and socio-economic change. We consider that the deep levels of integration and co-operation which were formerly achievable through tradition and strong leadership may have been too little underpinned in an organisational structure which is proving inadequately flexible and responsive to change. Moreover, the many worthwhile experiments in subsidiarity and local action, which include our case studies, are under challenge in the face of the new socio-economic realities. The 3 framework objectives spelled out by the Commission on Ecologically Sustainable Development in the late 1990s, namely protection of the environment, effective utilisation of the earth's resources, and sustainable supplies (Swedish Government, 1998), seem inadequate to the task of bringing about the necessary shifts in the socio-economic and cultural spheres, and their institutionalisation (Cohen, 1998). It is also quite clear that Agenda 21, as currently conceived and implemented in Sweden, is unequal to this task. Moreover, EU project funding mechanisms may perpetuate these difficulties; as municipalities become harder pressed financially and the search for funding non-mainstream activities intensifies, programmes such as URBAN may increasingly dictate how projects are developed and their dislocation from local community process. We perceived various needs both at national level and in our case study area-based initiatives. These include: re-building power and trust in a new pluralist frame which can encompass the whole of the sustainable development agenda, rather than taking refuge in (less politically weighted and more expert-led) scientific norms; a clarification of what may have become equivocal perceptions; strong and long-term leadership which may survive the exigencies of party politics; clear methodologies, programmes and tools for vertical and horizontal integration in what remains a fragmented 'silo' culture; and a re-negotiation of shifting public, private and community boundaries, so that expertise and experience at all levels in all sectors may be both garnered and built upon (Fudge & Rowe, 2000).

## Building capacity for change

It was clear in our research that new discourses are constantly being shaped in Sweden by the opportunity structures presented in various institutional contexts (see eg. Hajer, 1996). The project model of delivery towards the goals of sustainability, of which our case study area-based initiatives provide examples, supplies much useful knowledge and experience, even though it may be increasingly finance- rather than ideology-driven, and genuine public/community participation seems always to lag behind. In this regard, current central government programmes to promote sustainable development, worth SEK 30 bn (c. ECU 15 bn) over 3 years, have been specifically designed to bring local actors together, promoting not only investment in renewable materials sourcing and effective use of resources and waste minimisation, but also in the conservation of the rural (natural and cultural) heritage. But the emphasis remains upon infrastructure

development rather than the 'softer' goals of capacity building (Lash *et al.*, 1996; Cohen, 1998; etc.). Moreover, the (largest) Local Investment Programme, which focuses upon local regeneration projects with jobs creation as a key goal, raises special questions. It is implemented by competitive bidding by municipalities, a new phenomenon in Sweden which has replaced proportional allocation of resources (Regeringskansliet, 1998, 1999), so that municipalities complain that more resources will go to communities with greater existing capacity; measures of cost-effectiveness are very narrow; and prescribed milestones ignore the slow pace of real community development. Some successfully making links with other national programmes, for education, training and job creation, sport and cultural activities for the young etc., and distressed urban areas in 7 municipalities are receiving special help. National government intends that programme successes will be monitored and disseminated to reinforce institutional learning as well as the orientation of further budgetary allocation. However, it will be important that outcomes as well as outputs are assessed in the broad context of taking forward sustainable development; and this will require considerable effort and investment.

## **From rhetoric to action**

It appeared to us in our case studies that the contradictions between stated government policy towards sustainable development and activity on the ground, indicative of the inclusion and participation of local communities, are increasingly irreconcilable. They are apparently being engendered by a more mobile and individualised population, the IT revolution and longer working hours (Giddens, 1991); increasing consumer demands; and increasing ethnic diversity. Problems presented as environmental seem to be, at least in part, social constructs disguising non-sustainable social relations (Beck, 1996). Rather than providing a bridging concept which both admits and works towards resolving these, 'ecological modernisation' may be being used as a rhetorical ploy which disguises the fact that the advantages to be gained are increasingly vested in the knowledge classes. This is emphasising societal divides, and leading to a new technocracy rather than a democracy which has as core precept the sustainability of its own development. Swedish norms implicitly favour a 'techno-corporatist' model, which may be less effective in achieving its own goals than 'deliberative' ecological modernisation. Swedish Research Council programmes recognise these conundra, although, in seeking to be adequately 'applied', they may find themselves capturing experience rather than exploring at a deeper level how matters of science and absolutes may be married to social and temporal values (see eg. Bro *et al.*, 1997). That the value of science has always been recognised by political audiences in Sweden is a great strength; but we consider it must be democratised if true public participation and ownership of the agenda is to be achieved (see eg. Giddens, 1991). The tensions we perceived in our case studies between expert 'top-down' decision-making, and the attempts to validate the 'bottom-up', need resolving. While getting 'citizenship' right, currently a pre-occupation in some municipalities, does not guarantee that choices are made which are conducive to sustainable futures (see eg. Bryant & Wilson, 1998), nonetheless the homogenising concept of 'the public' may also disguise the fact that they remain largely unacknowledged in the current decision-making process. New intermediary interpretative work may be needed to contextualise expert knowledge as an intrinsic part of socio-economic and cultural development in a reconciling framework.

## Marrying area-based and thematic initiatives

Sweden's socio-political strengths have traditionally lain in compromise and pragmatism. Support transcending party ideologies and political time-scales of the kind which allowed the nation to pursue with such vigour a national housing policy during its rapid urbanisation in the 1950s – 60s (see eg. Elander, 1995), is likely to be required at the national and local levels if sustainable development through ecological modernisation is to be achieved. A strong and constantly evolving national framework, in terms of strategy, policy and implementation tools, will continue to be needed; and local projects may demonstrate how these are to be applied in an integrated structure which informs institutional change. We consider that Sweden has much to teach the rest of Europe in demonstrating how a sceptical and reflexive stance in relation to scientific knowledge may be reconciled both with authoritative recommendations for social and economic policy and strongly devolved power (see eg. Irwin, 1995). However, where it may have much to learn is in the accommodation of (diversifying) individual choice within the concept of social and cultural capital. A dominant (technologically-driven) form of rationality may stifle the creative ways of thinking and living which the future will demand (Beck, 1996; Lash *et al.*, 1996). Even the way in which the State has formulated the concept of ecological modernisation may impose new limits on environmental and sociological dissent and activism. While the role of public participation in environmental planning *per se* may be debated (Rydin and Pennington, 2000), the public are certainly worthy and capable of supporting an opening out of the relationship between science, technology and citizen concerns (see eg. McKechnie, 1996). An implicit or even explicit infrastructure of 'real' (professional) decisions, set against a superstructure of 'surface' (public) discourses within which there may be only the illusion of decision-making, must be avoided if Sweden is to maintain its progress in sustainable development. The 'Swedish model' of competence, resources and dialogue, which may have become unduly expert and professionalised, may need re-visiting at every level of governance in the context of the new realities.

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