

1. CONTEXT

Locally grown, organic produce is an aspiration for many different people in the widest possible range of circumstances, in response to a huge range of needs. It represents a component of possible solutions to a multiplicity of identifiable problems from food issues through health and fitness. In addition to meeting personal aspirations, access to organic production could go some way in contributing positively to larger social and environmental issues.

PSYCHOLOGICAL AND SOCIOLOGICAL FACTORS

Diversity is the defining characteristic of the psychological factors involved both in what motivates people to attempt organic production and also in the problems and complexities of managing such projects in the long term.

Although it would be impossible to detail each and every psychological factor involved, it is vital that personal motivations and constraints are taken into account. Modern lifestyles are increasingly at odds with the patterns of activity demanded by organic production techniques. Whereas such activities were integral to the lives of the majority of people as little as two generations ago, and were even included in the educational curriculum until the 1970's, the general population's capacity for organic production and familiarity with such techniques have declined to a great extent in the last few decades. The absence or marginality of such familiarity in the context of a modern post-industrial society means that knowledge which would have traditionally been the birthright of the majority is now scarce if present at all.

Social trends may seem to be reducing the likelihood of mass interest in and enthusiasm for attaining any degree of organic self-sufficiency. Typical lifestyles may seem to be increasingly at odds with the requirements of organic growing. Many more people are forced to move home in search of education and employment. The pace of life is perceived to be increasing, especially in cities, involving increasingly more time-saving devices and patterns of consumption [microwaves, dishwashers etc.]. Dependency upon the centralised, mass-scale economy is greater than ever before and is set to continue along the pattern of suburban dormitories with no access to land for growing, serviced by large shopping centres which can only be reached by road transport.

However, in some senses the current situation is improving. Innovations such as teleworking using digital technology could mean that more people are able to achieve a balance between their contributions to the economy and to ecological sustainability. At the same time, economic production is currently less labour-intensive than ever before, permitting increased time and energy for leisure-based occupations.

DIFFERENCES BETWEEN FOOD-GROWING AND GARDENING

There are as many forms of garden as there are individual gardeners and specific sites. However, there are definite, scientific principles which are necessary for the successful production of organic food. Industry standards in the domestic garden and garden centre market are often incompatible with the requirements of growing

organic food, encouraging the excessive use of transport and instant "solutions" such as chemical and mechanical interventions. Although related, growing organic food is a distinctly different activity from what most of us understand as ornamental or non-food gardening. Projects concerned with the former need to clearly define themselves as distinct from the latter.

Whilst wishing to encourage organic and ecological practice in ornamental gardening, food production should be considered as a priority for the use of organic inputs, which are by their nature often only available in limited amounts.

NUTRITION

Mineral levels in natural foods are declining, partly because soil is losing its mineral content, but also because the minerals returned to the land as fertilisers [principally artificial forms of nitrogen, phosphate and potassium] encourage rapid growth and can, as in the case of phosphates, bond onto trace minerals such as zinc, making them harder for the plant to metabolise. There is no incentive for farmers to add to the soil those minerals so essential for our health which do not immediately improve the quantitative growth of crops. Plants are subjected to a vicious spiral of abuse, beginning with inadequate fertility which then necessitates the use of biocides to protect vulnerable crops. Analyses of soil samples are highlighting mineral -deficient soils which are having a concomitant effect on mineral levels in fresh produce and in our own tissues.

The following list illustrates the mean percentage increases in nutritional factors in organic produce as compared to non-organic equivalents: Dry mass +26% , Potassium +13% , Calcium +56% , Magnesium +49% , Iron +290%, Copper +34%, Manganese +28% , Protein +12% , Essential fats +35%. Also there were found to be 69% less nitrates and 6% less phosphates in the organic produce. [Source: Biological Husbandry: A Scientific Approach to Organic Farming. Editor: B. Stonehouse: Butterworths 1981]

In addition, minerals are often refined out of food. For instance, white flour contains 22% of the zinc, 15% of the magnesium and only 2% of the chromium present in wholemeal flour. Refined cereals and processed foodstuffs may even require extra vitamins and some minerals, such as calcium and iron, to be added just to meet minimum nutritional requirements. However, these additives are rarely in the most absorbable forms and the trace elements which are so vital to bodily functions are almost never included.

Finally, our mineral needs are in fact increasing all the time. Dr S. Davies from London's Biolab Medical Unit has analysed 65,000 samples of blood, hair and sweat over the past 15 years and these show that relative to the ages of patients, levels of toxic minerals such as lead, cadmium, mercury and aluminium are irrefutably increasing, whilst those of beneficial elements such as magnesium, zinc, chromium, manganese and selenium are decreasing. As we age, toxic elements accumulate in our bodies, whilst our needs for nutritionally essential minerals, with which they compete for absorption, also increase.

ECONOMICS

The primary economic characteristic of organic produce is its inelasticity of supply, as compared to products derived from the extraction of inorganic and fossil materials. This is illustrated by the current high prices and scarcity of organic produce. Expansion of supply can only be achieved incrementally, by gradual steps in that direction.

Investment in organic production is, even to a greater degree than conventional, a long-term commitment. This is chiefly due to the delay between investment and return; the producer has to invest in the cultivation of a crop long before any profits are obtained from that investment. These lead-times range from 6 months for quick-growing crops, such as salads, to the average of one year for most vegetable maincrops, all the way up to 5-10 years before such perennial crops as soft and top-fruit, nuts or asparagus return a profit to the grower. Although investment in organic production is a necessarily long-term commitment, the rates of return are compatible to or actually better than mainstream financial investments, over the full lifetime of that investment.

As with any investment, assessment of the suitability, achievability and accurate predictions of the profitability of certain outputs within the given parameters on a specific site are crucial to the long-term success of a certain enterprise. Amongst the many factors which need to be considered to make such assessments are whether the qualities of the specific site, soil and local climate are appropriate for the crops proposed. The next most important considerations would be the accessibility of a market for the produce and the need for processing prior to sale.

This inelasticity of supply is exacerbated by the necessarily long lead-in times required for organic conversion and certification. These currently act as a disincentive to conventional producers to convert as they forego or reduce income for 18 months, although they can still obtain a premium for produce grown whilst in conversion. The typical pattern of conversion has been to convert a fraction of a holding each year over several years, as the grower gains confidence in new techniques and markets and to spread costs and lost income over as long a period as possible. Higher levels of support for producers willing to convert would encourage more to do so at a quicker rate.

At the level of individual and even community scale organic food production, there exists very little threat of direct or adverse competition to established food delivery systems. Even if this sector was fully mobilised to its maximum potential, it would only displace a small fraction of the existing market in a limited range of fresh, seasonal produce. It could even benefit existing distributors such as supermarket chains, by developing new suppliers and superior products. The major chains are presently assessing the viability of sourcing a fraction of their produce from the area local to their outlets, in response to public demand and potentially as a requirement of planning permission.

EMPLOYMENT AND TRAINING.

One of the greatest challenges for developed, technologically adept societies is that of occupation. Primary industries require less workers than ever before, hence the burgeoning service sectors of the past 20 years.

The question of how people should occupy their work and leisure time cannot be answered for every individual by strict adherence to the narrow definition of value existing within market economics. Despite the virtual absence of UK organic produce on a commercial scale, there is undoubtedly a considerable "green economy" below the level of commercial viability, which represents a vital potential of untapped resources.

COST OF JOB CREATION

Compared to other sectors, the cost of creating new employment opportunities within the organic horticulture and even agriculture sectors could be a fraction of the sums invested to subsidise and incentivise capital-intensive industries to create new employment. In addition, although there are no long-term guarantees in any given sector, the prospects for permanent occupation in successful organic enterprises are currently good.

FUNDING.

It is possible to make out a special case for public investment in measures to meet the apparent demand for locally-grown organic food from a number of perspectives. On the broadest scale in the U.K., there is currently an enormous mismatch between subsidies to conventional agriculture [£2,700,000,000 p.a.1996 figures] compared to what is available to support the development of organic capacity [£1,000,000]. The imbalance between demand and supply is met by imports from all around the world where the organic sector constitutes a much greater proportion of many other countries' agricultural outputs.

Taking into account the long delays between investment and returns mentioned above, there is justification for the idea that customers of organic produce might be willing to pay for their produce [or part of it]at the time the producer has to commit funds [for seed and cultivation etc.]. Arrangements that attempt to support the organic sector, such as organic box and bag schemes, would be justified in requesting greater support from their customers by encouraging covenants or payment ahead of purchase.

SOURCES OF FUNDS.

Donors have traditionally been wary of supporting projects with a food-growing component, largely due to the perceived danger of displacing existing trade and markets.

Projects with a specific remit or centre of interest, in areas such as education, health and disabled organic food gardening, should be able to raise funds through the bodies dedicated to managing these sectors; education and health authorities and social services. Grant structures exist in these kinds of sectors suitable for supporting organic projects and the special requirements they each have; for interpretation, therapeutic value and accessibility in the case of the above. Considerable potential exists for co-ordinating approaches between these various sectors to optimise use and minimise duplication of facilities.

One of the most common stipulations on donated funds is often the requirement to publicise the improvements achieved by donations. Donors should be aware that this should be handled sensitively, without jeopardising the project. There is a danger that over-exposure could generate unwelcome interest, either from wanton vandalism or alternatively simply by swamping a small organisation with more participants than it can comfortably manage.

The timescales involved in funding food-growing projects need to be realistically synchronised with their requirements. As has already been pointed out, they are often long-term commitments, which need sustained support over several years. Investments in infrastructure and resources which will enable and facilitate activities in the future are often inadequate or lacking in current project specifications. Sometimes the accountancy-based timescales of fund donors are actually detrimental to the success of projects. For instance, spending at the end of the financial year [March] is too late to start a new project or be useful in ordering and planting fruit and nut trees. Grants distributed by Sheffield's Healthy Gardening Group are specifically timed to coincide with the planning stages of gardening projects; in February and September, to cater for activities in the seasons subsequent to those dates.

PROJECT ASSESSMENT.

Fund donors have a requirement for expertise in assessing the suitability of projects, taking into account their stated aims and objectives. It would be desirable that these judgements are based on the experience of active practitioners in this field or by administrators who have practical organic experience. Sites with multiple and interlinked activities are hard to evaluate and recognise what should be prioritised, especially to the inexperienced eye. Assessors would also be required to establish a strategic overview of the state of organic development in a given area, so that capacity is not duplicated and to help direct development efficiently. Projects themselves should be primarily human-centred and controlled as directly as possible by the individuals involved.

2. RECOMMENDATIONS FOR THE DEVELOPMENT OF LOCALLY-GROWN ORGANIC FOOD CAPACITY

MANAGEMENT OF L.O.F. PROJECTS

Organic food growing operations differ from the norms of employment and productivity in many ways. Any attempts to promote and stimulate increased activity in this sector should take full account of their nature.

Measures to provide training and employment in this sector should take note of the basic conditions in which cultivation takes place. For instance, outdoor work on cultivation is governed by daylength and weather. Hence it would be unrealistic to insist upon a rigid work pattern throughout the year. Whereas a six hour day may be all that is possible in the winter, summer conditions permit anything up to 18 hours per day. Similarly, the types of jobs undertaken should be appropriate to the time of year, and the daily pattern should take account of excessively hot or cold conditions, such as the dangerous heat and sunlight exposure possible in the middle of hot summer days. The domination of work-patterns by daylength and the weather can be obviated if facilities are provided to permit indoor working when necessary, although it must be noted that this requires the provision of suitable facilities, which may incur extra expenditure and could be inappropriate on sites which are unprotected or liable to vandalism.

Projects which are open to public involvement have specific requirements. It is necessary to re-launch and re-advertise such enterprises on an annual basis, taking into account improvements achieved each year. Such projects should aim to provide tasks suitable for all types of individuals and abilities. Where there are identifiable communities associated with projects, the choice of crops and products should be designed to meet their needs as a priority; for instance, food for deprived communities, medicinal herbs for health-related initiatives, demonstration gardens with an emphasis on interpretation in an educational context or ecological practices for environmental organisations.

VIABILITY

The viability of any food-growing project could be judged on two distinctly different levels. Attempts to guarantee supply to the growers themselves should be accepted as the first priority and a precursor to any efforts at commercial production. The majority of new entrants to organic growing have highly restricted access to growing space and are unlikely to be able to produce crops surplus to their own requirements for several years. Acceptance of this pattern of operation helps to guarantee that the motivation of participants is maintained over a long period.

This would also help develop growers who are competent to produce a wide diversity of crops providing a continuity of supply over the year, rather than the typical constraints of commercial production, such as specialisation in a minimum range of crops.

Some element of self-sufficiency should be regarded as a precursor to income-generating activities, which can only be considered where relatively abundant over-

production can be guaranteed. Even where conditions favourable to small-scale producers are present, such as if there are many other growers nearby or if especially favourable markets exist, growers can only be expected to gradually increase their output, dependant on their ability to access the usual means of production; land, capital and expertise.

The productivity of any given grower and site could approximately be doubled if the grower is or can be resident on site, compared to having to travel from home to garden.

There are an enormous variety of occupations which could be derived from increased investment in the organic sector. There is, however, a danger that subsidies to organics could displace existing jobs in the horticultural supply industries, thereby antagonising existing providers. This should be avoided by targeting areas of activity which are not catered for at present.

ALLOTMENTS

Allotments and leisure gardens still provide the most common means for most people to gain access to land on which to grow their own food. As such they represent an asset of immeasurable value in terms of providing a route or conduit by which ordinary people can attain a basic level of competence in food-growing, which would then give them confidence to progress to larger, commercial scales of production..

Allotment provision has been enshrined in law for the past century, guaranteeing everybody the right to a plot on demand [on submission of a petition of 6 or more ratepayers' names]. In practice, this led to an average desirable ratio between the concentration of population in a given area and a suitable area of land devoted to allotments, generally interpreted as 4 acres per 1,000 members of the population, although actual provision is much more varied and unequally distributed than this suggests. The gross number of allotments provided in Britain has remained stable throughout this century, at about 500,000, despite a perceived drop in usage and value in modern times.

If a comparison is made with the numbers of people employed in agriculture [150,000] or the number of smallholdings [100,000], it is obvious that more people have access to food-growing opportunities on allotments than by any other means, even taking into account underuse and the use of allotments for purely ornamental growing [estimated to be 50% of the total]. Of the 16 million domestic gardens in the country, very few provide enough soil of sufficient quality to permit the growing of anything but a token amount of food. It might even be possible that allotments represent the greatest area of land under organic cultivation, since obtaining fresh, locally-grown fruit and vegetables, free from additives or contaminants has been the prevailing motivation of the majority of new tenants for the past twenty years. There currently exists an acceptable balance between organic cultivators and those using chemicals on most allotment sites, whereas in the recent past, the preponderance of chemical use did much to overwhelm, discourage and prevent organic culture.

A national review of allotment provision is long overdue. The last major attempt to reassess their structure and function was 30 years ago [the Thorpe Report]. Very

few of the recommendations of this parliamentary committee were enacted and the last legislation relevant to allotments dates back to 1950. Despite this absolute official neglect, the indigenous, vernacular culture of allotments is as strong now as it has ever been, although this could be interpreted as strength in and because of adversity.

The most important reform that could be easily achieved to improve the function of the allotment system would be measures to ensure continuity of usage, to preempt and avoid the disuse and underuse that is currently widespread. Simple administrative reforms, such as timing of tenancies or acceptance of shared tenancies and subdivided plots, could also do much to ameliorate this situation.

Reform of the anachronistic and frankly incomprehensible standard tenancy agreement between plot-holders and local authorities could contribute to this end amongst others. A draft version of an improved tenancy is included in the second section of this document. Designed to be easily understood, it retains most of the legal tenets stipulated in the original, but includes changes which could improve the situation.

Allotments provide an excellent opportunity for the development of education and training specifically dedicated to the encouragement of organic food growing. Such provision should accept that food-growing is equivalent to a skilled or craft occupation and that growers need to practice for several years to develop a range of abilities. SOFI operates what is in effect a scheme to permit individuals to undertake an apprenticeship in organic growing, learning from more experienced growers, over a period of several years.

It should be noted that the average size of allotments, approximately 300 square meters or one eighth of an acre, is only sufficient to provide a limited amount of produce. When most allotment sites were created, there was considerable demand and this limited area allowed more people to have access. If the grower is trying to maximise one individual's self-sufficiency by cultivating the greatest diversity of crops for as long as possible each year, one half of an acre or 4 plots would provide enough soil to attain this goal.

Although allotments are undoubtedly affordably priced, there are still justifications for subsidised rent, especially for those on low incomes. The price of rented land on an agricultural scale is approximately equivalent to what is paid by plot-holders, at about £200 per acre per year, although allotment soils and sites are rarely of a standard equivalent to agricultural land. Provision should be made both for those unable to maintain a whole allotment and for those who need more space. Facilities provided with allotments are extremely variable and rents reflect this.

RECYCLING

Existing recycling capacity in the U.K. is founded upon the reclamation of resources which are still in a sufficiently prime state to be equivalent to the raw materials they replace, where the cost of reclamation is less than expenditure on extraction of those raw materials. This pattern is illustrated in such sectors as minerals, metals and plastics. Large-scale, centralised and industrialised recovery is inappropriate and less economically viable for many materials, such as bulky organic matter [or putrescible wastes] and many other occasional recyclables,

which could have value in organic growing systems and be effectively dealt with by a proliferation of dispersed networks of users.

Recycling capacity could be greatly expanded by measures to harness these underexploited resources. Any measures should be predicated upon the identification of end-users for suitable recyclables. If a sufficiently broad network of local growers could be encouraged to receive and process such materials, mutual benefits could be achieved both in terms of the avoidance of inefficient current practices, such as landfill and incineration, and in the generation of desired end-products; increased organic food output and related benefits. Suitable measures could help achieve targets for the proportion of the wastestream which is recovered and recycled whilst also tangibly benefiting the areas in which they take place.

Crucial to the development of capacity in this field is the fair and efficient administration of existing statutory incentives, such as the requirement on local authorities to recycle 25% of waste by the year 2000 and the availability of credits to organisations recycling waste material.

Many initiatives are already in place to demonstrate the efficacy of such measures, the best example being in the case of the composting of municipal refuse. However, current capacity is geared to limited objectives, ignoring closely related materials such as the processing of autumn leaves into leafmould, a superior substitute for peat.

Effective commitments to achieve these objectives could include the interception of materials suitable for organic food growing before they are taken to landfill or incineration. Guaranteed prices for quantities of these resources could support increased employment opportunities in the reclamation industry to supply the needs of organic food growers. Lists of such resources are included in section 2.

In the case of many materials, it would be justifiable to accumulate, stockpile and store them indefinitely, awaiting use. Similarly, drop-off sites close to production, such as on derelict allotments accessible by road, could be managed to allow waste processors to divert materials away from other destinations.

This pattern could be expanded to include regional databases and directories, performing the role of clearing houses for matching supply and demand of available resources. The improved environmental impacts of operating such schemes would justify public investment to subsidise them at least initially, stimulating cultivation in the areas where this happens. Private industry is already being motivated to develop in this direction by pressures such as increases in the landfill tax.

URBAN CONTEXT

Although towns and cities are obviously handicapped by their limitations on access to abundant growing space, they do have certain distinct advantages in relation to the production of organic food, especially for the limited needs of simple self-sufficiency rather than over-production for commercial ends.

As well as being in close proximity to large markets for organic produce, the large populations which inhabit conurbations are capable of delivering the huge amounts of human time and attention required by organic production. As has already been established, there is chronic underexploitation of the huge amounts of resources

generated as waste by urban populations. To this can be added the waste-products of other activities and even the byproducts of processing industries. For instance, the number of horses currently kept purely for leisure exceeds the equine population a century ago when horses provided the main means of transport, and many stables have no provision for disposal of the copious quantities of manure produced.

The fringes of urban areas were historically used to produce food. This pattern of use, which is still maintained in the case of the siting of remaining allotments, could be revived and extended to generate multiple related benefits. Active use of the zone around the edges of towns and cities would help to maintain and re-inforce existing green-belt policy, whilst meeting people's aspirations for a more rural lifestyle. An inverse pattern of commuting can be imagined whereby people travel from their homes in urban areas out to work on organic holdings on the more rural fringes of urban areas.

In the case of large cities, close examination reveals that there are in fact a surprisingly diverse range of small-scale opportunities for appropriate organic cultivation, which if developed could immeasurably improve the quality of life for inhabitants. Often sites within conurbations present definite advantages such as warm microclimates produced by buildings and the waste heat they generate. A detailed case study on the availability of urban sites for cultivation is included in section 3 of this document [the *Environmental Assessment of Sheffield's North-west Inner city Area*]. Threats to health, such as air pollution and ground contamination, should be conscientiously considered when suggesting productive uses for urban sites, but it is to be hoped that these threats will continue to diminish as they have done over the last 30 years.

Soil quality and contamination are issues especially relevant in urban contexts. Town and city soils demonstrate the full spectrum of forms of abuse [as categorised in section 2]. Their limitations and, in extreme cases, actual dangers dictate what uses are appropriate for them. However, it would be wrong to dogmatically assume that they are all unsuitable for food use. Many forms of contamination are only mechanical and involve inert materials which will not interrupt or endanger the health of plants and humans, especially when low-maintenance fruiting perennials are planted.

Organic techniques are essential in efforts to ameliorate or mediate toxic, chemical forms of contamination. These include measures to raise the pH of soils containing heavy metals to reduce their availability and the inclusion of abundant, mature organic matter to compensate for deficiencies. Recent improvements in the sensitivity of measuring equipment mean that detailed soil tests are cheaper and more accurate than ever. Measures to improve access to soil-testing for food growers could include an obligation on landlords to fully inform their tenants of the up-to-date results of such tests.

LOCAL BIODIVERSITY: AN ORGANIC PERSPECTIVE

Local Biodiversity Action Plans are currently being compiled for all regions of the U.K. as a result of recommendations made by Agenda 21, which outlined principles and suggestions for local sustainability arising out of the Rio de Janeiro Earth

Summit 1991. This process involves identifying the wildlife and flora of each region so that judgements can be made relating to the conservation of existing genetic biodiversity and ensuring that current populations can be preserved and enhanced across the full range of species extant. Whilst fully supporting the aims of this exercise, no-one doubts that the practical implementation of these findings will be immensely complicated and potentially contentious.

Concern has also been expressed that these surveys will concentrate upon the broad natural environment to the exclusion of smaller scale aspects of biodiversity under the control of individuals. In comparison with natural or wild ecosystems, cultivated spaces often contain a wider spectrum of genetic diversity, in terms of flora, fauna and also micro-flora and fauna. Private gardens and public plantings are often characterised by exotic and imported species, which are not representative of the region's naturally occurring biodiversity. However, a proportion of domestic horticulture can be considered as legitimate for these studies, such as the preservation of locally-adapted genelines and landraces. Inadequate consideration of this category of eco-systems would produce an incomplete assessment of local biodiversity. Biodiversity surveys which do account for this human-influenced gardening dimension will be more likely to provide a comprehensive picture which addresses the urban and suburban contexts, which may be seen as less of a priority, but possibly contain the widest diversity and the greatest potential to either enhance or disrupt broadscale ecosystems. In addition, inclusion of this category of space would involve the majority of the population, both in the survey of existing species and future management for maximising biodiversity.

Organic horticulture and agriculture is founded upon the balances and synergies achievable between wildlife and human activities, for mutual benefit. Compared to the mechanised, industrial pattern which has dominated British agricultural production to a much greater extent than in most other countries, organiculture minimises the negative impact of intensive production on surrounding ecosystems and has an important role in healing and repairing land and ecosystems damaged by the excessively destructive techniques of standard agricultural practice.

The aim of this local biodiversity initiative could be defined as the attempt to maximise the range and quality of ecosystems within the parameters dictated by the ecological niches available in a given area. From the perspective of organic food growing, this definition could be extended to include maximising the number of species and varieties, and ensuring continuity of cropping over the maximum season possible at a specific latitude and in a given situation. The organic grower requires to produce a sufficient quantity of high quality crops for his or her own consumption and secondly for market.

In the context of organic cultivation, it is possible to engineer and maintain a massive range of specific micro-ecosystems, such as the manipulation of soil conditions to prepare for the requirements of all the crops feasible. The organic cultivator attempts to design systems which contain as many multiple function elements, performing several different tasks at the same time, such as the inclusion of bulky organic matter in the soil, to provide structural, biological and chemical improvements. In addition, organic methods promote symbioses which

balance and integrate different stages of the food-chains and nutrient cycles involved in soil, plant and animal ecology, for instance the mycorrhizal associations between fungal hyphae and plant roots which are critical to plant metabolism, or the successive progressions of different micro-organisms within processes such as composting. Organic systems could also be categorised as quasi-natural, since they are to a greater degree self-sustaining, requiring minimal intervention on the part of the grower; such as harnessing the potential of a fertile, healthy soil and ecosystem to prevent pests and diseases instead of constantly intervening to suppress the symptoms of underlying inadequacies in the growing system, obviating the need to use [or abuse] herbicides, fungicides and pesticides which can cause far-reaching ecological disruption.

Organic growers have three important roles to play in maintaining and increasing the bank of genetic diversity available both regionally and nationally. As seed collectors, organic cultivators are competent to preserve the legacy of historic, heritage and heirloom varieties which have been developed over generations to suit the various requirements of and conditions available to gardeners and market gardeners. It is generally accepted that organically grown seed has superior long-term viability compared to strains fed by chemicals. Secondly, varieties which have been reproduced for more than two generations in a specific area will have been incrementally adapted genetically to suit local and regional conditions. When this has happened over a historical timescale, the resultant breed can establish itself as a distinct variety or land-race, which needs to be pollinated in isolation from its close relatives and ancestors to preserve its characteristics. This process of natural selection can be enhanced and improved by careful selection to obtain varieties with particular properties such as bulk of crop or early maturation. A third category of genetic diversity can also be achieved by local growers, referring to the breeding and crossing of distinct, new varieties of plants, either by open or by protected cross-pollination.

Taking all these reasons for the value of small-scale local biodiversity into account, Sheffield Organic Food Initiative has proposed that any measures for the protection and promotion of genetic diversity should include a collection of local seedstock, which could act as a seedbank or library available to growers in the area, preserving varieties which might otherwise become extinct. This proposal could involve a public appeal for regionally distinct and heirloom varieties which may have been grown locally by private growers for decades. Facilities and funds would be required to grow out, test, identify, compare, multiply and re-distribute stocks.

ORGANIC FOOD INITIATIVES AND ENVIRONMENTAL CONSERVATION.

For many years, there has been increasing support for environmental conservation. This has come from every strata of society; from the individual to the government level. Indeed, there currently exists any number of active local groups allied to Wildlife Trusts, as well as organisations that offer training and qualifications in all aspects of conservation. Many more commercial companies are

now equipped with teams occupied solely with the environmental implications of their industries as well as independent professional consultancies.

Most of this investment in conservation has contributed, sometimes vitally, to maintaining and restoring various habitats and species. Other aspects of conservation have included measures concerned with sustainability and the prevention of further environmental degradation generally, such as the recycling of discarded materials, the reduced use of toxic chemicals and innovations in energy efficiency and materials design, all informed and inspired by the environmental imperative.

One step forwards, two steps back often seems to be the case, but this only highlights the need for the establishment of clearer aims and renewed determination to achieve them.

An issue which has caused major scares over many years concerns food production and its implications for human health and our environment; the build up of agrochemicals in the food chain and water cycles, fungicide and pesticide residues in fruits and vegetables, outbreaks of B.S.E. in cattle, e-coli, salmonella. As a result, many people no longer trust the food on their plates and are concerned by the damage done to the environment in getting it there.

Concurrent with this has been a heightening in profile of organic methods of farming and a sharply increased demand for organically grown foods. Indeed, governments and supermarket chains have recently tried to catch up with consumer demand by endorsing and encouraging organic practices. The Soil Association's organic standard is widely trusted as a guarantee of authenticity, quality and food safety

The conventional, chemically-dependant farm, orchard or market garden usually supports a disappointingly small number of wildlife species, whereas an organically managed site depends on its success partly on the dynamic interactions of the multiplicity of lifeforms abolished or seen as a threat in conventional systems. Well-managed organic sites and sensitively managed farms with strategies to restrict the use of chemicals and features such as hedges, ponds, wildflower breaks and uncultivated headlands play host to many beleaguered wild species which can be helpful; weeds which can accumulate nutrients, beneficial insects and predators, such as birds or amphibians, can control pests and help to establish complete ecological cycles including micro-organisms.

It is now recognised that urban and suburban areas, with their back gardens, parks, disused industrial sites, rivers, streams and pockets of woodland are absolutely crucial for the survival of many wild species, some of which were once thought to exclusively inhabit the countryside. The ease with which one can sight foxes, hedgehogs, magpies, bats, butterflies and many migrant birds around urban areas is ample evidence of this fact.

Taking all of these elements into account, it is possible to build an argument in support of local organic food initiatives not just from the viewpoint of human health and well-being, but also from the perspective of conserving the environment and moving towards greater sustainability, which through local Agenda 21 is now an official obligation for our towns and cities. Organic cultivation methods are positively complimentary to the requirements of conservation and the environment.

Practically, this means that existing conservation groups and environmental interests should, if they wish, be involved in food growing projects, but more importantly, that such initiatives should be able to attract funding and grant-aid equivalent to that which supports existing conservation projects. Steps in this direction have already occurred. Landfill tax money is now available for funding recycling schemes that could facilitate community gardening projects. Precedents exist in the commercial sector; Shell's "Better Britain" campaign already supports a community gardening project in Birmingham and is endorsing the Community Gardens Conference in Bristol.

Although land is at a premium in urban areas, it is often the case that such open spaces are underused and undervalued. Converting carefully chosen and appropriate sites over to various forms of organic food growing, whether as gardens or orchards, provides opportunities for people to understand the realities of their natural environment, actively and intimately becoming better informed about the relevant issues as a result. In contrast to conservation, cultivation requires more frequent ongoing involvement, which can generate a sense of attachment and provide a focus for local communities. This can restore the value of previously neglected sites, increasing the personal and recreational space available to city-bound individuals and families.

On the larger scale, a network of local organic gardeners, including both commercial and community-based market gardens would help supply the huge demand for organically-grown food. Widespread adoption of organic techniques could contribute significantly to attaining environmental and social sustainability targets; from simply reducing traffic, congestion, emissions and fuel consumption to the recycling of putrescible organic wastes into compost or turning autumn leaves into leafmould to replace peat.

Another issue of great importance to both the organic grower and the conservationist that would be consolidated by such initiatives is that of maintaining genetic diversity. Wild species are under threat as their habitats are eroded and agribusiness coerces farmers to switch to the latest genetically-engineered seeds. In fact, it is essential to maintain older seed varieties as active members of the gene-pool for their vigour, nutritive content, hardiness and their adaptive and disease-resisting capabilities.

It would be possible, by concentrating the expertise of both the conservationist and the gardener, to analyse and assess urban open spaces so as to categorise their potentialities. A site contaminated with toxic wastes would not be suitable for food growing, but could be allowed to regenerate through natural or assisted successions of wild plants. Uninteresting areas in or around local parks may make fine sites for community orchards.

Recognising the positive effects that local organic food initiatives can have on our environment could engage and extend the interest and resources of people currently involved in conservation. In many ways, this is a greater challenge than restricting the approach exclusively to wildlife or conservation issues, but it could help to form a coalition amongst several interest groups. It could also improve the prospects of employment for graduates of current environmental training and education programmes, many of whom find it difficult to find suitable jobs, despite

their expertise and enthusiasm. Competence in organic cultivation could become a skill required by more employers. It could also benefit trainees personally in the long-run if they cultivated their own food.

INSTITUTIONAL ORGANISATION

In the same way that gardening and food production are all-encompassing in the type of people who practice them, institutions of every kind, public and private, could benefit from participating in and supporting efforts to develop local organic food growing projects. Rather than further marginalising the organic food lobby by creating separate departments devoted to these ends, it would be more desirable for mainstream organisations to put an organic perspective and practice at the core of their operations.

Many professions and occupations are currently concerned with powers to help or hinder the organic food sector. Elements of an overall strategy for improving the prospects for this sector would be best managed by the delegation of suitable tasks to those who have existing relevant responsibilities and expertise.

Direct and ongoing practical experience of working on organic food projects would inform bureaucrats and decision makers who are in a position to help develop the organic sector. Training, arranged by and paid for by employers for those without their own facilities, would help by providing more concrete concepts of what is involved and could also function as a means of enhancing the common-sense capacities of their employees in much the same way as team-building activities do at present.

Current reform of organisations such as local councils is aimed at achieving a more co-operative ethos both between departments and in their dealings with local communities. There is increasing understanding of the savings achievable by consideration of long-term strategies, which encompass the whole lifetime of undertakings, rather than the limiting economic myopia based on the accounting year. This is especially so in the case of food growing projects, which are indefinite commitments only justifying the investment required over a period of several years.

Without the support of agencies and infrastructure to provide authoritative support to local organic food growers, there will continue to be vast underachievement, disappointment and wasted effort, compared to what the time and energy current practitioners dedicate could produce.

LEGISLATIVE SUPPORT

Reform of planning regulations should acknowledge the desirability of organic production, due to its benign or positive effects on the environment around them. Present restrictions concerning permanent dwelling on agricultural land could be relaxed to permit the expansion of smallholder-scale operations, given reassurances that organic cultivation will benefit the environment and local communities. Precedents already exist where planning authorities have granted special dispensation to new housing developments which include elements of sustainability and self-sufficiency over those which do not.

In addition to measures to directly improve the legislative framework for organic food growers, certain other reforms could vastly improve the situation. The most

obvious example of such measures would be the legalisation of the cultivation of hemp and marijuana. In the case of hemp, cultivation under home office license is already widespread. The acceptance of its use as a green manure and companion crop would be highly beneficial for small scale cultivators in improving the quality of soils. These crops would be dug into the soil at an early stage in their growth, presenting no danger of drug production whatsoever.

On the more contentious question of legalisation of herbal drug cultivation, the present situation presents several anomalies and contradictions. There are no sanctions against the cultivation of other drug crops that are arguably more dangerous than cannabis; opium poppy seeds are offered for sale in most seed catalogues and the species often occurs as a weed in the wild. As regards the cultivation of cannabis, the British Medical Association declared itself in favour of its medicinal use in 1997. Currently, the police are unlikely to prosecute cases where less than a dozen plants are grown, since this is arbitrarily judged to be the level for personal consumption rather than as a commercial activity. Legalisation of the cultivation of cannabis for its medicinal and therapeutic properties could simply be seen as an admission of current legal practice and would remove the criminalisation of citizens who are otherwise completely law-abiding.

This admission could also encourage the productive use of underused resources such as allotments. Surveys suggest that several hundred thousand people, including many sufferers of such complaints as glaucoma, arthritis, multiple sclerosis and chemotherapy, are currently engaged in illicit cultivation of the crop indoors, often to avoid resorting to the vagaries of the black market. Legalisation of cultivation, even at a restricted level, could encourage these "closet" growers to come out into the open with concomitant improvements in the uptake of presently underused facilities such as allotments. This might also encourage these growers to expand the range of plants they grow to include more food crops.

PROFILE

Public perception of the organic sector is currently paradoxically ambivalent. On the one hand, organic products are understood to be more expensive, luxury or value-added items. On the other, organic methods of production are thought to be remedial, unsophisticated or even anachronistic. Both of these attitudes could be explained as being partly due to the chronic underinvestment in this sector, as can be illustrated by comparisons with the situation in other countries which have committed themselves to a much greater degree to funding the organic sector.

It is vital that measures to stimulate organic production are accompanied by establishing a new positive impression in the public consciousness. This partly involves confronting misrepresentations and undervaluations of organics, but would also mean asserting the positive benefits of organics more strongly in relation to all the issues it touches upon; lifestyle, social, environmental and economic. Without positive practical working examples of all the potential applications of organic growing, others will not be convinced that they are achievable.

Efforts to promote organic food growing through the mass media should be positive and encouraging, but most of all it is crucial that they are comprehensive and realistic, so that they do not raise expectations which cannot be achieved by

individuals who could then end up demoralised, disillusioned and wary of attempting to grow their own food again. Hence broadcast material should be well-founded in organic practice to begin with and should ideally be followed up by more detailed information or preferably by ongoing supportive contact. This is currently delivered in a formal context through the ever-popular means of question-times on national and local radio, which could make more of an effort to provide specifically organic information, and also to a degree by helplines available to members of organic gardening organisations. In both of these cases, there is a dearth of practical information derived from actual experience of productive organics, since many current proponents either have academic and specialised experience often outside the sphere of organics, or repeat the secondhand prescriptions they have read in textbooks without verifying them against their actual performance in reality.

3. WHAT IS A LOCAL ORGANIC FOOD INITIATIVE?

Drawing upon 10 years of practical experience in developing organic food projects, the participants in SOFI have compiled a theoretical outline of the functions that a dedicated project could perform to promote locally-grown organic food. SOFI can presently fulfill only some of these functions on a small scale for a limited number of people, but our experience suggests that many benefits are achievable even within limited means.

Local Organic Food Initiatives could provide an infrastructure dedicated to the support, backup and encouragement of projects specifically dedicated to growing organic food locally. The scale of operations of such initiatives would of course vary according to the amount of relevant activity in a given area, but many of these functions should be seen as necessary precursors to activity, especially in disadvantaged areas.

Projects delivering provision can seem marginal if they are assessed simply upon single criteria, such as net output or short-term profit, but can be justified and recognised as valuable in many different ways if the full scope of outputs generated is acknowledged.

WHY LOCAL?

Current food delivery mechanisms are increasingly dependant upon high levels of transport, both on the part of the retailer and the customer. Considerable savings in transport bills could be made if a proportion of food could be supplied locally. This would have the side-effect of improving transport mobility and related problems such as pollution, congestion and accidents. In addition, it could service those consumers who do not have ready access to private or even public means of transport.

Only a limited range of products can be grown in any given locality and output is to a large degree seasonal. However, the current delivery system imports staple and seasonally-available supplies, which could be provided more efficiently from local sources. In addition, competent cultivation and more sophisticated techniques can vastly extend the range of products available and extend the continuity of outputs though the year .

One of the defining characteristics of gardening is that it is immobile geographically, although the gardeners themselves may be peripatetic; having to travel from their homes to one or more growing sites. In the case of specifically organic projects, this is more so since the techniques involved are often long-term, such as radical soil improvement and achieving balance in the productive system. As such, organic gardening projects require several years to achieve their full potential. Many communities of people could benefit from the long-term or even permanent nature of the commitment involved, generating a sense of social confidence and continuity.

Several benefits could be generated in terms of the local economy. The recycling of organic matter would contribute to solving existing problems associated with current waste disposal practices such as landfill, dumping and incineration. A thriving and productive organic sector would help to retain and cycle wealth within a

local community, as demonstrated by the pattern of Local Economic Trading Schemes, instead of the current structure in which most expenditure on consumable items disappears from the local economy.

Locally based projects are well-placed to develop direct links between growers and customers, based on personal contacts and trust.

WHY ORGANIC?

There is currently a huge imbalance between the demand for and supplies of organic food. Supply is inadequate and this scarcity means that staple organic produce is perceived as an expensive luxury. Unless substantial incentives are provided to conventional producers, this will continue to be the case. Paradoxically, the image of organics is equally perceived as involving low cost strategies such as recycling and independence from costly inputs. Hence it is possible that good organic practice can actually supply expensive, scarce produce at an affordable cost to anyone who has the time, energy, knowledge and patience to develop such a system.

The overwhelming majority of new productive gardeners are motivated by the desire to obtain a reliable supply of organic food. Detailed guidelines for achieving organic standards are available from the HDRA, for domestic production, and from the Soil Association, covering all aspects of commercial production. Whilst these guidelines are an invaluable aid, they are complicated and could be described as intimidating especially for novice horticulturalists. It is vital that the fundamental principles are understood and that organics is perceived as a relative standard, rather than in absolute terms. There is no guarantee that even the most scrupulous organic systems can avoid every influence which would undermine its organic status. For instance, the individual grower has no control over spraydrift in rural areas or airborne pollution in urban and industrialised areas. Hence, a pragmatic approach of minimising non-organic contamination should be accepted as best practice, taking into account factors outside the control of the grower.

However, having established that the organic standard is necessarily relative, rather than absolute, it is vital that it is adhered to as strictly as possible. Many existing garden-related projects are compromised by the inclusion of non-organic elements, such as proprietary chemical fertilisers. This may be excusable if only ornamental, non-food use is made of the produce, but should be rejected by projects whose main aim is the production of food. Organic inputs are by definition more scarce than inorganic fossil-fuel-derived additives and there is a convincing argument that they should be reserved for food-production.

Compared to conventional production involving chemical enhancement, organically-produced food has been shown to have a much more benign effect on human health. It avoids the dangers of residues found in conventional produce introduced both during the growth of the produce and in treatments to improve appearance and extend shelf-life. Evidence also exists that organic produce is nutritionally superior to conventional, containing greater concentrations of vitamins which are more easily assimilable by the human body. This is supported by the phenomenon of appetite being sufficed by smaller amounts of organic produce and

accounts for its recommendation as a component of disease therapy such as in cancer treatment.

In addition to its unarguable superiority in nutritional value, the production of organic food is also much less dangerous for the producer. The use of chemicals can cause potentially lethal results for the users especially if they are unqualified or inexperienced and even if they observe all safety recommendations. Hence, any project involving members of the public or occurring in proximity to dwellings has an obligation to minimise potential dangers, which can be achieved by maintaining organic standards.

WHY FOOD?

Food is a necessity, which people are highly motivated in securing. After World War 2, the maintenance of local food-growing capacity was seen officially as a matter of civil defence, since it augmented national security and self-sufficiency in times of conflict. Although the danger of interruptions to international trade have decreased, dependence on food imports is greater than ever.

Compared to the provision of other necessities [clothing, shelter] and even more in the case of imported and processed manufactured items [such as cars or computers], food is different in that it can be produced by local individuals and communities independently of complex, centralised, technologically-advanced, capital-intensive systems. The patterns of mechanical mass-production and economies of scale that function perfectly well for inanimate products are not necessarily appropriate when applied to living systems.

Organic food could be described as having been grown for taste, flavour and nutritional value instead of simply for cosmetic appearance or gross bulk.

CONVERSION OF CONVENTIONAL OUTPUT TO ORGANIC.

The most readily available means of generating increased supplies of organic food might appear to be the conversion of existing conventional, chemically-enhanced capacity to more organic output. Existing growers are often aware of and actually employing elements of organics in their systems for pragmatic reasons. However, in the context of several centuries of agricultural depression and depopulation, and taking into account the discrepancies between existing subsidies to different sectors, there are significant disincentives to this conversion. Conventional growers are reticent in abandoning practices that have been successful for them in the past or are required by their corporate customers, and can often be unwilling or unable to change their practices to suit organic techniques.

Despite the huge current demand for organic produce, British growers have not so far responded to meet this demand, except in low volumes of luxury outputs. There are less than 1,000 farms registered as organic in the UK. If any major conversion to organics were to be undertaken, there would need to be many more people employed in the agricultural and horticultural sectors, which could bring with it a concomitant repopulation of rural areas by people competent to produce organically. A national network of initiatives to encourage new growers into the market would help to provide this groundswell of new producers.

4. FUNCTIONS OF A LOCAL ORGANIC FOOD INITIATIVE

TRANSITION

It is reasonable to expect the existence of amateur, smallscale, part-time, hobby gardeners already practising organic food growing in all parts of the country, including even in less suitable areas such as inner cities. This is confirmed by the contacts members of SOFI have made over the past decade and by the fact that more than 500,000 allotments are still cultivated in this country. How can these limited activities be developed to become occupations?

The major challenge facing any kind of Local Organic Food Initiative would be how to encourage these small-scale, amateur growers and individually based projects to expand both in terms of area cultivated and their capacity to introduce more gardeners to organic production techniques. Hence it is possible to project a network of existing projects with the potential to offer these skills, which could theoretically have complete geographical coverage. Ideally, a LOFI could act as a co-ordinating body putting people in contact with growers able to help them in their own local area. This could be complimented and supplemented by more advanced courses offered by regional colleges and universities.

It is undoubtedly the case at present that such an initiative would initially have to be concentrated on remedial education to introduce inexperienced new beginners to the fundamental principles of organic production.

Once a degree of competence has been achieved, the next step would be to help complete the transition from growing to a standard acceptable to the grower him or herself, to a quality which would be acceptable to the buying market. For this purpose, less experienced growers could be put in contact with those with more experience. At this point, the LOFI could begin to act as a market maker, co-ordinating supply with existing demand, and attempting to avoid under- or over-supply of certain products in each season. If this stage with many competent producers can be reached, it becomes possible for certain growers to specialise either in specific products or in the over-production of materials such as compost or seeds which could then be re-distributed to the rest of the network.

Assisting many smallscale growers to make a living out of organics could deliver local supplies especially where little large-scale production capacity exists. Also, once a multitude of qualified growers has developed, they could then help with the conversion of industrial-scale, mechanised agriculture to a more humane and human-scale means of production.

LOCAL CERTIFICATION

LOFI's could fulfill the vital function of guaranteeing and confirming that produce claiming to conform to organic standards is just that. Without some form of certification of local sites, the effort of establishing organic production and marketing could be undermined and devalued by conventional produce falsely claiming organic status.

National and international certification bodies exist to ensure that commercial production and marketing conform to organic standards [including biodynamic,

biological or ecological equivalents in other countries]. However, the current administration costs and logistics of certification are prohibitive for small-scale and occasional production. LOFI's could fulfill this vital function by organising systems for local certification, which could be much cheaper than the existing scheme geared to medium to large-scale producers. Sites could be visited by a local officer trained to identify genuinely organic practices, in the same way as the national body currently operates. The national body could then monitor local schemes and ensure that standards are being maintained, by visiting as at present and by conducting spot-checks on some of the small sites. This could alternatively be achieved by extending the bond of trust between the certifying body and existing certified suppliers in a given area, to include dispersed networks of minor producers. For instance, when an existing outlet registered to sell organic food exists, such as a shop or retailer, small-scale producers could be encouraged to start supplying whatever produce they have available. This pattern could also act as an incentive to encourage smallscale producers to group together and expand their activities.

The proliferation of information-processing technology has increased the quantity and quality of source-labelling of individual products. As well as providing information about the ingredients of processed goods, this capacity could be used to communicate accurate details about how a certain item was produced, where it came from and even who produced it. This kind of innovation would enhance the trust between suppliers and customers, and would mean that specialist requirements such as biodynamically or veganically-produced food could be made more available.

AREA CO-ORDINATION AND LOCAL NETWORKING

Many functions essential to the successful development of organic food-growing capacity could be undertaken by a dedicated agency working in a similar pattern to existing services such as the Agricultural Development and Advisory Service [ADAS] or support organisations such as Smallholder and Tenant Farmers Associations and unions. A separate body could be justified to provide specifically organic advice and support or alternatively, existing organisations could be reformed to deliver help to the organic sector.

It is vital to understand that the nature of a network of organic producers would be disparate and scattered. Organic operations are often isolated from other organic producers and motivated more by individual commitment to the ideals of organic growing than by simple economic ambitions. Producers have historically been marginalised and may have a beleaguered or embattled attitude compared to their conventional counterparts. Hence initiatives to develop this sector must attempt to be structured in ways which take into account the devolved or subsidiarised nature of the network they serve and the psychology of the individuals involved.

Ideally, support staff for organic networks would be drawn from the ranks of existing producers or at least by people experienced in and sympathetic to the ethics of organic production. In the initial phase of development, employment in organic support networks could provide supplementary income for producers who

have not yet completed the transition to being self-supporting solely from their own produce.

The functions of Local Organic Food Initiatives could include the co-ordination of fundraising and/or raising investment for organic enterprises. Bulk-buying of externally-sourced inputs and arranging secure markets for produce could also benefit producers participating in such a scheme.

One of the key functions would be to help promote the public profile of organics locally and to undertake more complex campaigning roles which the individual grower is unable to achieve. LOFI's could act as the local link for larger, national organisations and agencies, delivering support direct to local growers on a more personal and ongoing basis than those large organisations can achieve. There is a need to promote recommendations for organic practices and explain the many mutual benefits that could be generated not just amongst the general public but also specifically directed to organisations such as local councils, health authorities and education departments. There is great potential in lobbying such authorities to convince them to permit, encourage and even favour organic food growing capacity.

LOFI's could also function as providers of information to growers, not just on remedial principles and techniques, but also to provide specialised information and research which individuals may find difficult to access. Hence a LOFI could acquire libraries of relevant information for distribution around its area and form links with larger organisations that have the facilities to deliver complex and specialised data.

There are many other functions which an organised network would be better placed to provide than isolated individuals. Complex and costly services such as soil testing or designing packaging could be obtained much more easily, as occurs in existing organisations such as the Soil Association's Organic Marketing Company.

LAND ACCESS

Pressures on land use are continually increasing from domestic, industrial and transport requirements. In spite of this, there is still more than enough land suitable for cultivation even in urban and suburban areas. LOFI's could develop registers of land available for organic growing and mediate between landowners and prospective tenants, performing the function of estate agents for owners and tenants who wish to manage land organically.

A similar function could be evolved to act as a contact point [or dating agency], putting prospective organic customers in touch with producers. Likewise, people seeking training and employment within the organic sector could be assisted. Ideally, this function would help to bring together groups who could benefit each other to their mutual benefit, such as those who own land or can fund organic projects, with those who have the time and energy to actually develop them.

