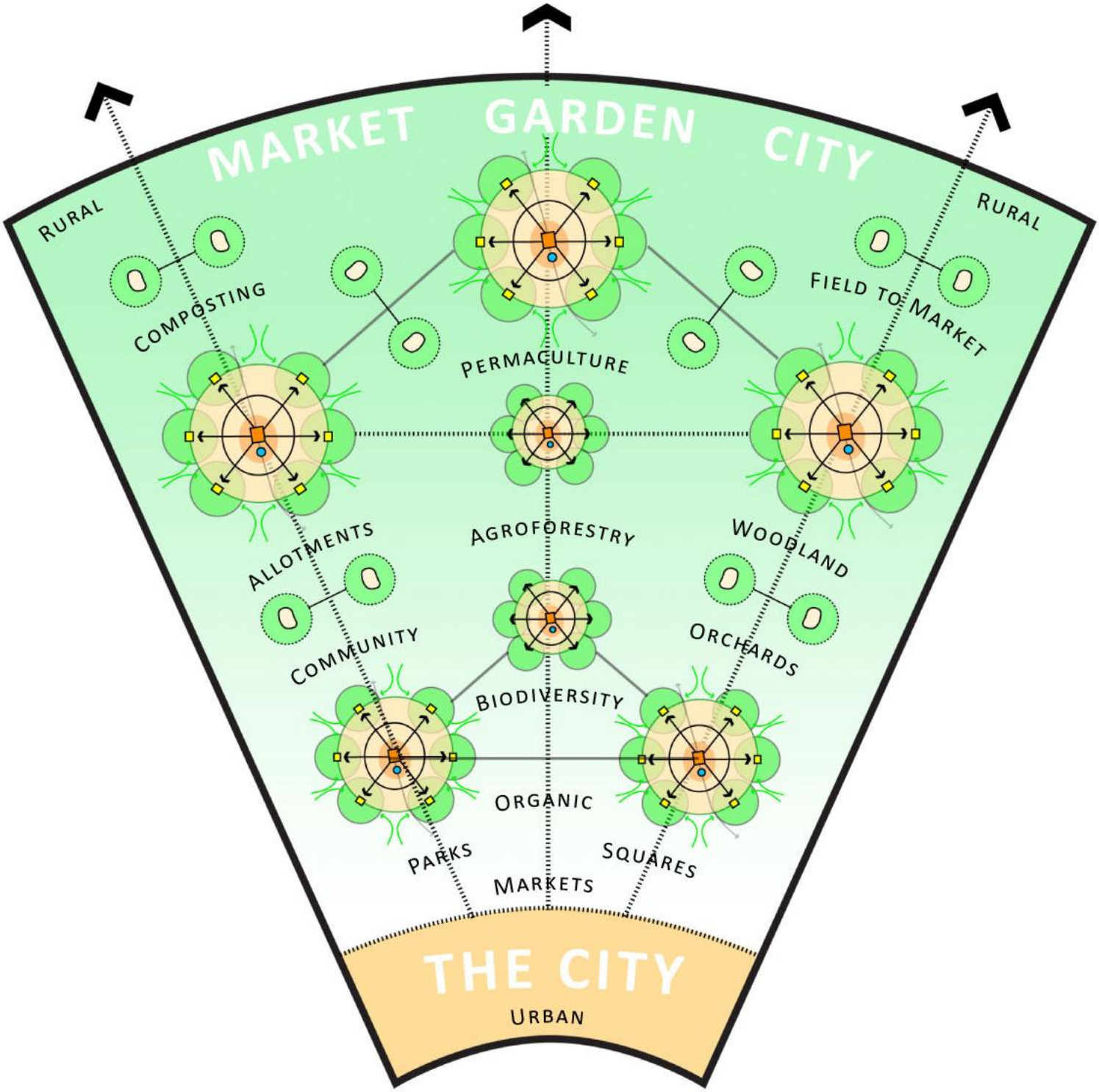
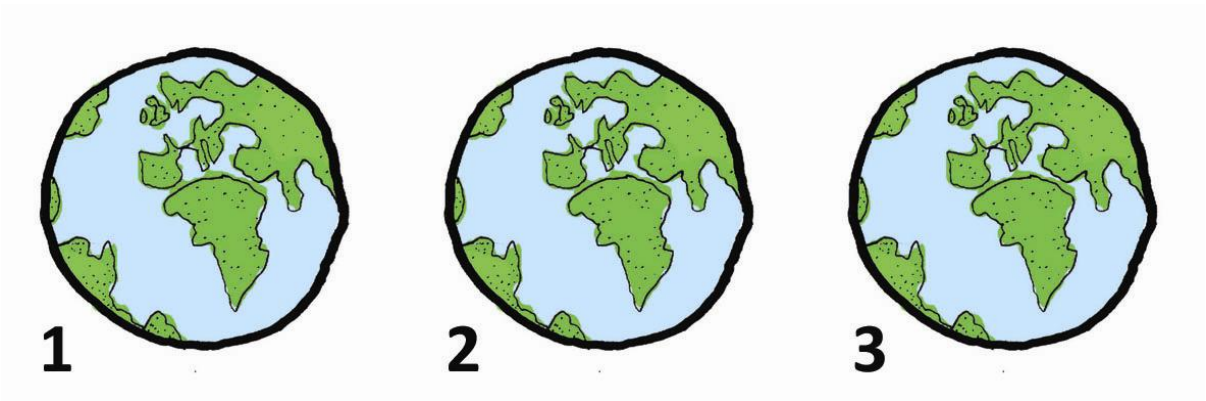

MARKET GARDEN CITY
RURAL
RURAL
COMPOSTING
FIELD TO MARKET
PERMACULTURE
ALLOTMENTS
AGROFORESTRY
WOODLAND
COMMUNITY
ORCHARDS
BIODIVERSITY
ORGANIC
PARKS
SQUARES
MARKETS
THE CITY
URBAN

Concept: The proposed Market Garden City will be a radically new urban framework which would create and support a third green revolution.

The background - green revolutions

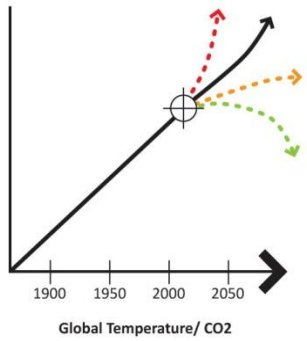
Throughout the first green revolution, over thousands of years, the human species learnt to cultivate food, which enabled the creation of cities and civilisation. The second green revolution in the mid 20th century used industrialisation to increase productivity in agriculture to support the increasing global urban and rural populations.

The world population is still expanding, increasing affluence and mirroring the tastes of the developed world. As a result the current world population consumption requires the land area equivalent to three planet earths. Global population is increasing from one million 10,000 years ago, one billion in 1800, 3 billion in 1950, at present the population is 7 billion and is estimated to reach 9 billion by 2050.

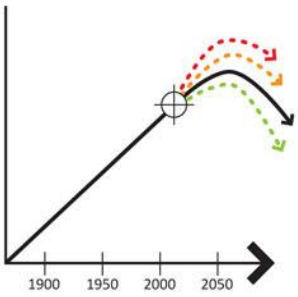


The second green revolution was a runaway success and prevented much anticipated famine Armageddon scenarios; however the emphasis of the second green revolution shifted food production away from a majority of rice and grain crops for human consumption towards increased proportion of land for crops and for meat production.

The following set of diagrams illustrates the relationship of different global trends in climate change, natural resource exploitation, food production, population increase and poverty reduction. The diagrams indicate that the present time is a balance and crucial tipping point for decisions on water security, energy supply and food production for the present and future communities.

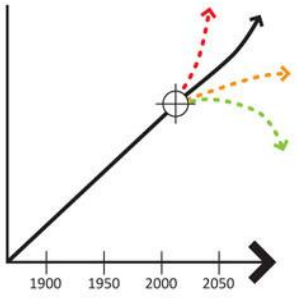


Rising **global C02 emission** are causing global warming and climate change. An increased global temperature follows increased carbon released into the atmosphere as $C0^2$, and unless carbon release is ended soon this century, it will result in several degrees of rise in global temperature. Extreme climate events including famine and flood will most likely occur. The diagram shows possible outcomes depending on reductions achieved in the next decade. Climate change is a critical factor in managing food resource and supply.



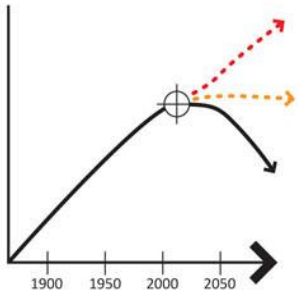
Oil & Gas Exploitation

Global Oil and Gas exploitation has risen steeply over the past century and is largely responsible for carbon release causing global warming. The wealth created by this carbon economy has been used for energy, to combat poverty; creating technologies for health, increased food production and new energy sources. The opportunity to continue to use this form of energy for benefit of civilisation is challenged by the need to help mitigate against climate change. Oil exploitation has also peaked; as sources are becoming increasingly expensive or environmentally damaging to exploit.



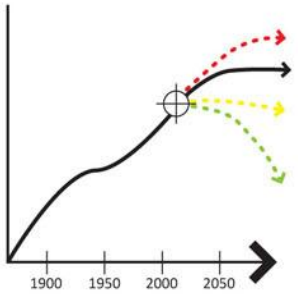
Population

Global population is increasing as wealth is created, disease eradicated, health improved and poverty reduced. The increase in population follows a similar curve to exploitation of natural resources, however will soon outstrip the rate of resource exploitation which the planet could safely accommodate.



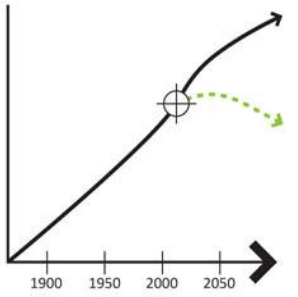
World Poverty

World poverty has been falling in the last decade (ref: Oxford Martin study).The wealth created by the carbon economy has been used to combat poverty spreading urbanisation, technology, health, increased food production and new energy sources. Continued poverty reduction is challenged by the required upward curve in exploitation of natural resources and continued carbon emissions unless alternative non carbon sources are able to be used in next decades.



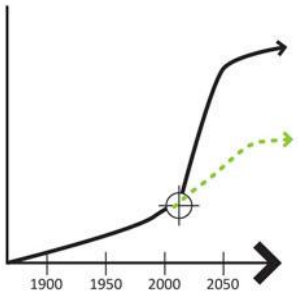
Food Production

Food production has increased during 20th century by fertilisers, pesticides, and selective seeds etc, which are benefits of new technology, communication and distribution; dependent on the carbon economy. In order to maintain food supply for an increased population, further progress will be needed. This will be challenged as it is dependent on the carbon economy. A new green revolution in food production is proposed in order to keep the upward trend.



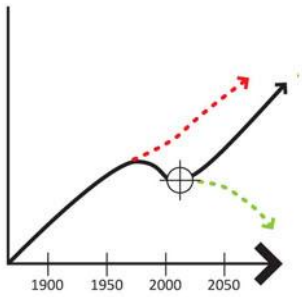
Coal Exploitation

Coal exploitation has increased progressively through the centuries. Coal production slowed in late twentieth century with the exploitation of cleaner oil and gas with higher energy outputs. Coal exploitation is rising as oil supply peaks. The huge amount of remaining coal available to exploit and release potential carbon emissions is becoming the highest threat and risk of causing runaway global warming.



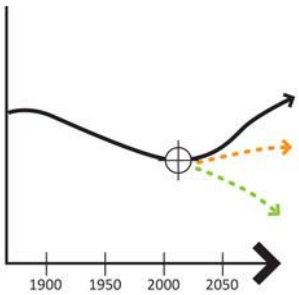
Renewable Energy

Renewable energy from hydro, wind, solar, tide and nuclear has been developed in the twentieth century on a small scale owing to the high cost and lower energy return. Now the source of climate change is clearly carbon release, there is an urgent need to increase energy supply from renewables in the next decade to provide the alternative energy source to progress food supply, health and disease eradication, poverty reduction, water resource protection. All the above are essential to avoid a rapidly developing crisis with the dependence on a carbon economy and start a new century with a green revolution.



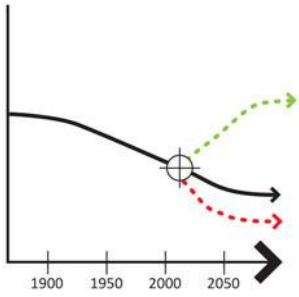
Management & Conservation of Water Resource

Management of water resources is under increased stress as climate change increases areas of drought or flood. Existing industrial process and agriculture requires large amounts of water and as populations increase and land is developed, the security of water will be at an increased risk and become a main factor in global relations and cost of supporting the economy.



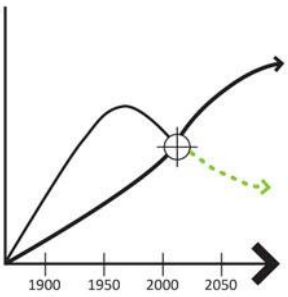
De/ Reforestation

Forests are being destroyed at increased rate in order to supply resources for development and to provide land for agriculture, mostly the inefficient use of land for cattle. The world forests absorb $C0^2$s and need to be conserved and replenished. The new green revolution will demand allowing the world forests to recover and contribute to carbon sequestration and cooling, conserving biodiversity species.



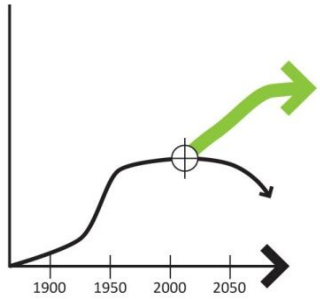
Fish Stock: Conservation of Species

Fish stocks are being destroyed at increased rate and being exploited beyond the quantities that can recover. The green revolution will increase yields of organic farmed fish, using appropriate species in natural environments and reduce the scale of wild fish exploitation to allow conservation of fish stocks and the natural habitats.



Extreme food drought event

Extreme flood and drought events will increase as a cause of climate change. The management and conservation of water and soil resources will be an essential part of the green revolution to mitigate the affect of extreme events. Security of food production will require careful use of the appropriate land for food production. Uplands will be planted with trees and plants to reinforce porous soils and assist water retention and management of runoff to lower floodplains.



Green Revolution Food Production

The **green revolution in food production** will be achieved with localised food production to increase potential of plant energy as a direct food and energy source, reducing the exploitation of agriculture for inefficient yields in meat production. Worldwide there are 30,000 edible plants; and current agriculture exploits 8 plants needing industrial scale intervention of fertiliser, pesticide and water resources. The green revolution will use appropriate technology to increase yields, use plants selected to maximise carbon capture, mix plants types to reinstate soli quality and increase ground water retention to avoid excessive runoff.

The challenge – create a new garden city concept to arrest runaway consumption

A new garden city concept has to start from the assumption that consumption and pattern of living will change to avoid destruction of the planet. The proposal is to provide a **market garden city**; and an urban framework which integrates the essential activities of food production and consumption at a local level, providing security for individuals and local communities to make further choices on how the remaining consumption activities can be reduced. This will vary from individual to individual, county to county and will be subject to global stresses, of which food production is an essential part which cannot be subject to risk.

Therefore, the proposed **market garden city** concept provides the urban framework for a third green revolution which will be needed both to support the food requirements of increasing urban population and to contribute to strategies to counter runaway climate change. The concept requires every aspect of life to be green; where there is no distinction between values to the environment between urban and non urban, **a green ecumenopolis – *a new market garden city without limits.***

Why is a third green revolution required?
The 20th century second green revolution increased agricultural productivity to allow a global population surge to be supported, but eventually failed during the early 21st century. Current food productivity demands more industrialisation and globalisation of food supply, reduced land use and diversity, increased use of pesticide and fertiliser with consequent carbon emissions and habitat destruction, causing irreversible global warming. Destruction of biodiversity and climate extremes, have resulted in the current crisis to the environment and have exacerbated overpopulation, famine, drought, soil erosion and flood.

A third green revolution will be needed: based on the concept that a new urbanism must provide food security; with each dweller providing a proportion of their own food and having a community responsibility, which together provides the remaining food as part of a reciprocal investment of human capital as a community value.

The **market garden city** concept which supports the third green revolution must accept that since the start of the 21st century more people live in cities than rural areas. The **market garden city** and third green revolution cannot therefore be a return to low density disaggregated rural settlement. Instead it must promote a dense urbanism built around public transport and integrated into the urban model, a local framework; for supporting urban food production and culture.

The challenge is to integrate space for food growing into, and close enough to, dense urban centres to allow communities to have individual and collective ownership of food. Conventional thinking makes this impossible to resolve as there are contradictions between individual and community values and a lack of clarity of the long term impacts of conventional consumption patterns.

Food growing has consistently throughout history, been pushed to be further distant from the population. Therefore our food travels miles- which increases our carbon footprints. The scale of the operation makes it a global industry subject to global stresses. The collapse of successive civilisations such as the Mayan and the Roman were presaged, if not caused by, a collapse in their food supply by overextension and political intervention. The lessons of history need to be studied and learned to make the **market garden city** concept a resilient new urban model.

Amount of land for food supply

The **market garden city** concept will establish the right to live with an adequate subsistence food supply as the prime factor, as an idealistic vision, as a way to change consumption patterns to protect the planet.

The objective of market garden city living will be to maximise benefits for food production and create a cultural urban identity where self sufficiency in food is achievable and is an attractive proposition at whatever scale and within measurable criteria. The concept requires a clear definition of the values which will be attributed to creating and distributing food as a resource, as an equal component of property, community and commercial values which underpin the urban framework.

Making food supply a component of an urban framework requires a legal and ownership system which places food supply in common ownership. The creation of a community trust and a clear governance structure is therefore an essential part of the legal and property framework.

Alternative Economic model

The market led food business has an economic model which allows food production to deplete natural resources without constraining the shareholder or consumer with the real cost or the environmental cost. Global political impacts on food production are absorbed by consumers working longer hours and travelling more miles to earn sufficient funds to provide the means to support their consumption. Worse still, this economic model does not return value to the producer; causing starvation, recompensed by insufficient aid which is inhuman, immoral and economically inefficient.

The **market garden city** solution is simple. Reverse the value of production of food by placing appropriate values on the human time spent producing your own food, higher values on food produced with less impact on natural resources. For example value should be emphasised on food which is locally produced for market and is seasonal.

When the true values of food production are factored into an economic model and are projected across 50 or 100 years, this creates an urban framework which places the true cost of food production into the **market garden city**.

The creation of a new currency for exchange of value for time spent on food production within a garden city, similar to the bitcoin, would allow a new form of economic activity with environmental and community value and start to replace conventionally valued labour.

Impact on urban planning

The alternative economic model would enable the creation of a successful **market garden city**, both as a retrofit of existing urban areas and as a new urban plan. All residents would be participating in contributing to their own food needs and contributing time to producing locally sourced food on community owned land.

Residents' time spent assisting their own produce and the community food production, would create a community value which would be factored into the support the residents received from the community over the long term. In physical planning the effect of the community participation in locally produced food would reduce and contain travel needs for essential subsistence. This would result in reduced need for roads for commuter travel and deliveries freeing up space for food production.

Creating community values through food exchange and communal gardens

The reduction in vehicular traffic would not only improve the neighbourhood air quality, but in spatial terms, replacing hard standing with green, would assist in the mitigation of flooding, more space for plants, crops and trees would increase oxygen levels. Reduction of roads and private vehicles would encourage shared and more sustainable modes of transportation, increasing the community spirit and creating a more idyllic green place in which to grow and thrive.

The **market garden city** concept applied to existing cities, where roads and vehicular spaces already take over 50% of land use, can provide this area of land to be converted to local food production. Improved air quality will allow existing roof tops to be used for food production. The increased in green space will have a beneficial effect on cooling the microclimate and allow increased use of natural ventilation (in temperate urban areas such as UK) to replace needs for air conditioning, freeing up more roof space for food production.

Scalability and amount

The market garden city concept should be integral to any scale of dwelling and habitation. A set of criteria need to be established which provides the proscribed amount of space for growing food for individuals within or adjacent to dwellings; communal food growing areas are required within proscribed walking distances from dwelling say 10mins or 150m.
Larger food growing areas will be required within 20 minutes delivery by electric vehicles.
Local markets will be provided within 10 minutes or 400m walking distance from any dwelling, with regional distances to larger markets within 30 minutes or 1200m walking distance, or less using public transport.

Space required

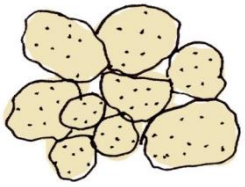
The food growing space per individual will be based on a required intake of 2500-3000 calories in order to maintain an active healthy lifestyle.

Gerbens-Leenes et al. examined the land use requirements for all the food eaten in the Netherlands. They discovered that beef required the most land for cultivation per kilogram and vegetables required the least. The figures they obtained can be easily converted to the amount of land required for one person's energy needs for a year by multiplying say 3000 kcal (1 days energy) by 365 days to obtain the annual calorific needs (1,095,000 kcal) and dividing this by the calories per kilogram.

Food	Land per kg (m^2)	Calories per kg	Land per person per year (m^2)
Beef	20.9	2800	8173
Pork	8.9	3760	2592
Eggs	3.5	1600	2395
Milk	1.2	640	2053
Fruit	0.5	400	1369
Vegetables	0.3	250	1314
Potatoes	0.2	800	274

The figures obtained are summarised in table 1: P. W. Gerbens-Leenes et al. 'A method to determine land requirements relating to food consumption patterns,' Agriculture, Ecosystems and Environment, 2002; 90:47-58

On the basis of these figures, a vegan diet can meet calorie and protein needs from just 300m^2 if consuming mainly potatoes. A more varied diet with plenty of fruit and vegetables, grains and legumes would require about 700m^2. Replacing a third of the calories in this diet with calories from milk and eggs would double the land requirements. A typical European omnivorous diet would require five times the amount of land required for a varied vegan diet at almost 1500m^2.
The objective of **market garden city** living is to provide each person with the space sufficient for their own food production. This can be categorised into 3 groups, dependant on lifestyle and space available;



Minimum = 365m^2 per person
(equal to 1m^2 per day of each year). This would consist of a diet providing maximum food energy from potatoes with little variation.

Standard = 730m^2 per person
(equal to 2m^2 per day of each year). This would consist of a diet on mainly potatoes with some vegetable and fruit variation.

Preferred = 1095m^2 per person
(equal to 3m^2 per day of each year). With a diet consisting of potatoes with some vegetables, fruit, dairy and eggs.

In the **market garden city** these objective space requirements would then be provided to suit the urban density, scale and locations. All urban homes, including flats, have some potential for private space for growing food (up to 10-15m^2). Homes on the edge of urban areas with gardens have more potential (100-200m^2). These private areas alone would not provide the minimum area for sufficient food production, therefore in urban areas part of the public realm would be converted to food production for community use.

Variety in market gardens can include the provision of growing space on buildings – rooftop gardens, vertical growing on facade mounted screens, and basement cultivation of non light dependant cultivars such as mushrooms. Roads and parking spaces can give way to small allotment areas and orchards, whilst the conversion of residential gardens allows for larger areas of vegetable production and fruit trees. Larger spaces such as existing farms and parks can support the growth of traditional crops and grains, with margins and hedgerows providing fruit, herbage, nuts and seeds.

Outside of urban areas, the use of farming land will be for food production for the local community. The larger towns and metropolitan areas will require a larger hinterland for food production. The figures for size of food production in urban areas are explained as follows;

At the urban scale any existing **market garden city** dwelling should have an area of 7-14m^2 for food production. This could be a terrace, balcony, flat roof, or by using previous underused landscape. 14m^2 is equivalent to a single car parking space which would become redundant with alternative transport. 14m^2 will provide minimum food energy for a person for two weeks or more varied food energy for one week per year. In existing suburban homes the gardens of average size 56 m^2 used for food production will provide minimum food energy for a family of four for two weeks or more varied food energy for one week per year.

Intensification and diversification of land use

With land being given up en masse to food production, there is the risk of monotony and the creation of monocultures, which endanger the enjoyment of the landscape, the existing habitats and biodiversity and the imbalance of natural eco systems.

To intensify land use and to cultivate areas where existing land is not vacant for example, areas of existing woodland – too much of a commodity in terms of landscape character, biodiversity and natural resources to be destroyed but by retaining it and making woodland a source of food, areas for production can be increased using the system of agroforestry.

A typical woodland ecosystem, comprises of seven layers of vegetation which can be exploited to increase land usage – root layer, ground cover, the herb layer, mid level fruiting shrubs, small trees- such as fruit trees, the canopy layer and the high canopy layer featuring the tallest trees.

All of these complex layers can be exploited in order to grow food sources and at the same time, animals such as chicken can be reared within the woodland- working with nature rather than against it. By creating glades and areas of open canopy, sun loving plants and fruits can be cultivated, whilst cut logs can also be used to grow mushrooms. Woodland can also be used for coppicing – providing food for animals, building materials and as a renewable fuel source.

Applying the Market Garden City concept spatially

The masterplan is 100km^2 with a 100,000 population.

Two towns have approx a 30,000 population each and 4 villages approximately 5000 people. The remaining 20,000 population are spread out in clustered rural homes. The estimates of land area for food energy per person in table 1 are used to estimate the spatial areas required for each settlement.

A large city the size of London with a population of 10,000,000 people needs a minimum radius of 70km and possibly of 100km- if only 35 % land is usable for food production (UK national average) This area for food production extends through the metropolitan area of outlying suburbs and the surrounding commuter towns and villages.

A more distant outlying rural farmed area will therefore be needed to serve the city's food supply. This approach will work because the outlying areas are rail served to the central city for commuter travel which can be used off peak for moving food produce from up to 100 km away.

The **market garden city** approach will be used in the city's metropolitan area which will provide 2,000,000 people with a local catchment for food production around the towns and villages within the metropolitan area of the city. This **market garden city** will provide people with community cohesion and the potential for working from home as an alternative to commuting.

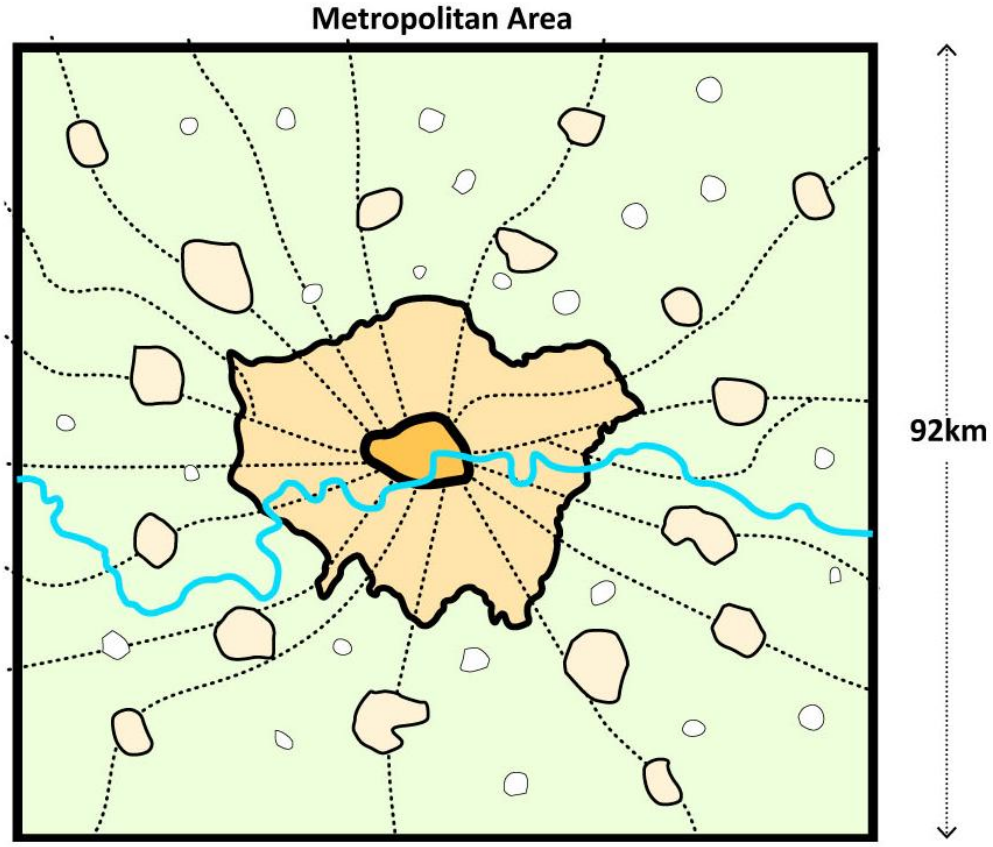
A **market garden city** of 30,000 population town will have a central market hub near the railway and then wider spaced small market hubs within the town. A 30,000 population town would be approximately 1500m in radius. With 6-8 new hubs built on the periphery at 1500m centres; they would all be within an 800m walk of residents.

Each **market garden city** town should be able to expand by 10-15 % to allow for a new population growth and accompanying infrastructure. The market hubs built on the periphery of existing towns, would be located in the centre of new small residential clusters.

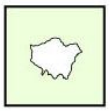
This concept is spatially summarised by the following set of diagrams which illustrate the following;

1. **Metropolitan area has 75% non urban green area**
2. **Non central area can be food self sufficient within metropolitan area**
3. **Peripheral areas are needed to feed both central and non central areas**
4. **Optimum size and spacing of settlements to be food self sufficient in 100km^2 non central metropolitan area**
5. **Area required for settlements to be food self sufficient: example of a 100km district non central metropolitan area**
6. **Strategic locations of Market Hubs - with access to central railway station and legible routes from field to market**
7. **Detail of Urban market framework and town organisation**
8. **The Market Garden City Concept**

1 Metropolitan area has **75% non urban green area**



1  Central Urban Area = 1,800 km² or 180,000 ha

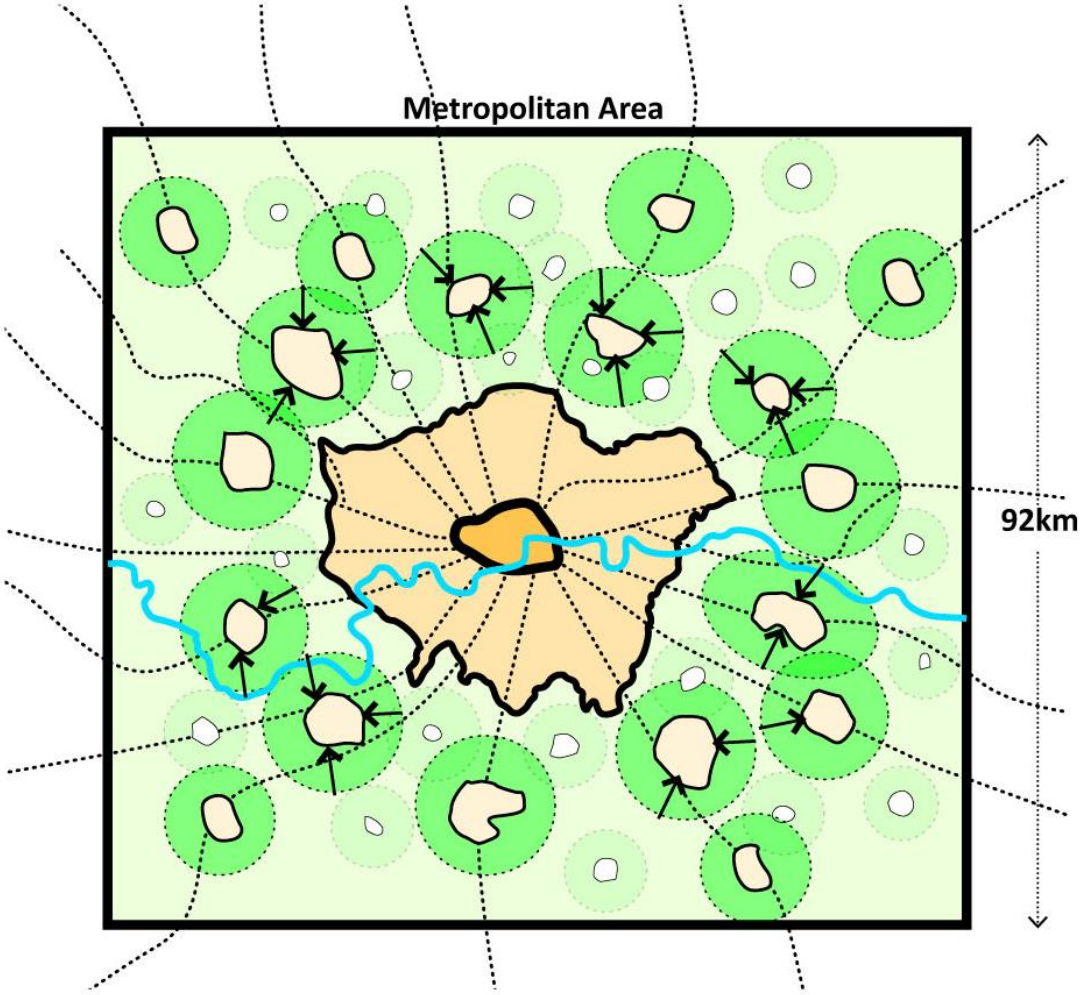
2  Non Central Area = 6,600km² or 660,000 ha

3  Metropolitan Area = 8,400km² or 840,000 ha

4  Population = 12,000,000 people

2

Non central area can be **food self sufficient** within metropolitan area



1  Non central urban area within metropolitan area = 300 km²

2  Non central green area within metropolitan area = 6,600 km²

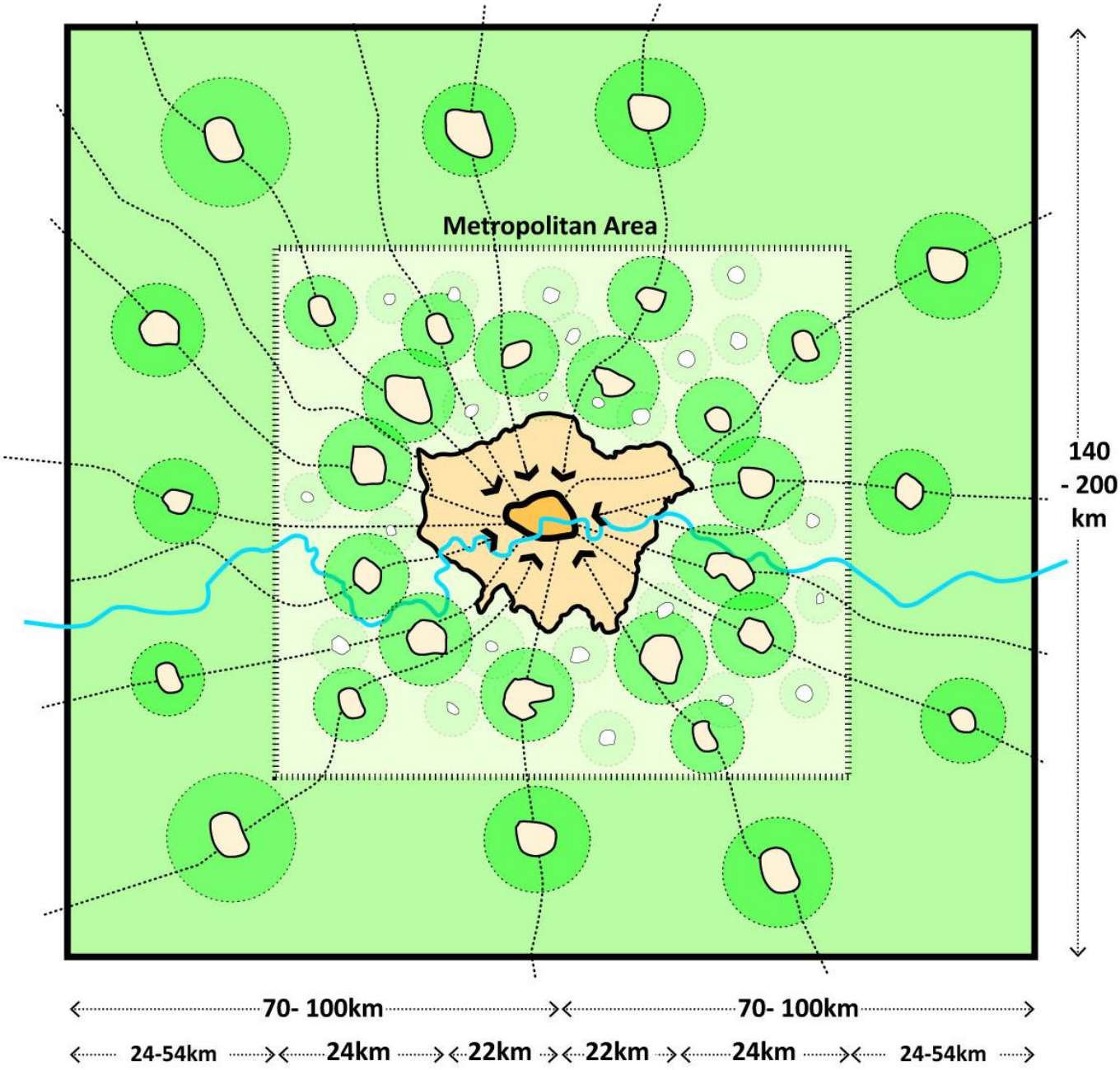
3  Population = 2,000,000 people

4 Green area available per person = 3,300 m²

5 Green area required to feed non central urban area population:
365m² pp =700 km²
700m² pp =1,400 km²
1100m² pp =2,200 km²

3

Peripheral areas are needed to feed **both central and non central areas**



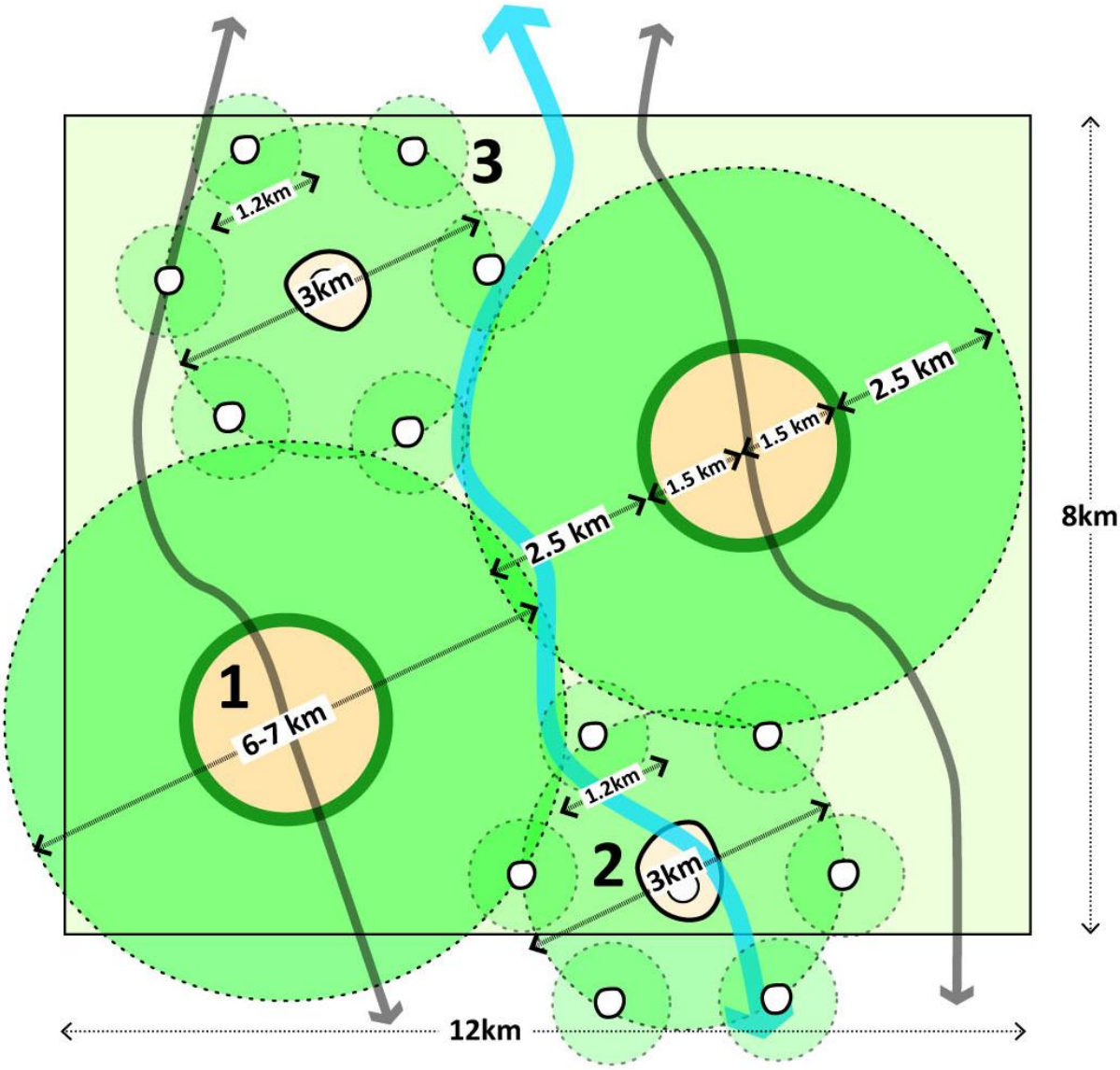
1  Central Urban Area = 1,800 km² or 180,000 ha

2  Non Central Area = 8,400 km² or 840,000 km²

3  Metropolitan Area = 6,600 km² or 660,000 ha

4  **To feed central area = 6,600 km²**
Peripheral area needed to feed central area = 10,000 - 30,000 km²

4 Optimum size and spacing of settlements to be food self sufficient in 100km² non central metropolitan area



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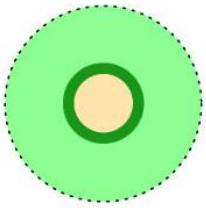
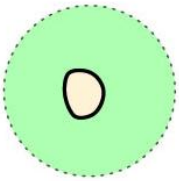


Town = 6 - 7 km²
30,000 population
12,000 homes

Area of green = 30 - 40km²
Area needed to grow
sufficient produce = 12 - 30km²

2



Large Village = 0.5 km²
5,000 population
2,000 homes

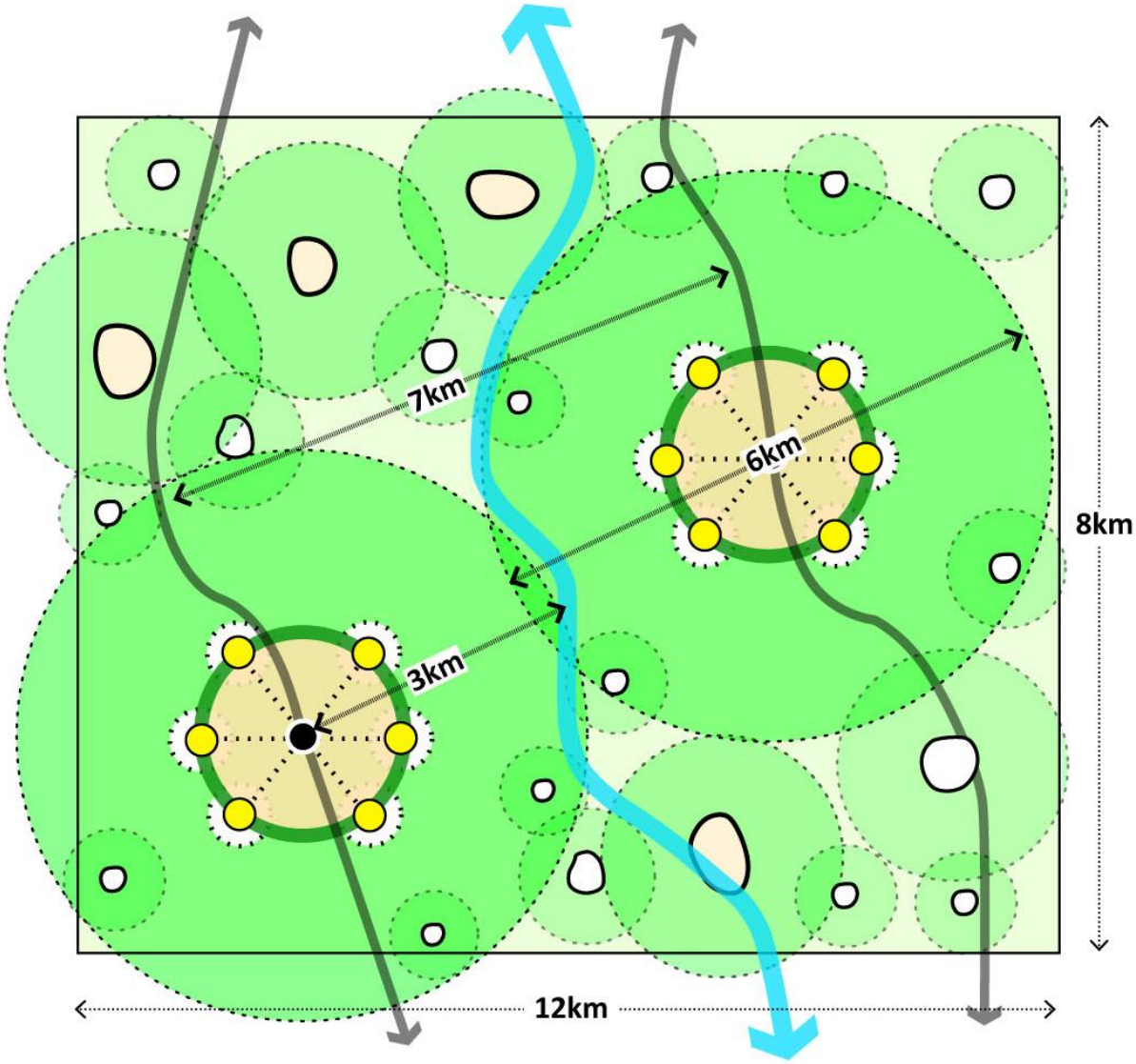
Area of green = 7 km²
Area needed to grow
sufficient produce = 2 - 5km²

3

Small Village = 0.05 km²
500 population
200 homes

Area of green = 0.7 km²
Area needed to grow
sufficient produce = 0.2 - 0.5 km²

5 Area required for settlements to be **food self sufficient:** example of a 100km district, non central metropolitan area

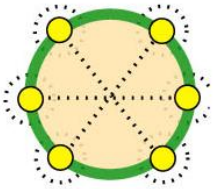


100 km district **100,000 population**
18 km² Urban **82 km² Rural**

60,000 population would require	= 2 x 6 - 7 km² towns of 30,000
20,000 population would require	= 4 x 0.5 km² villages of 5,000
20,000 population would require	= 40 x 0.05 km² settlements of 500

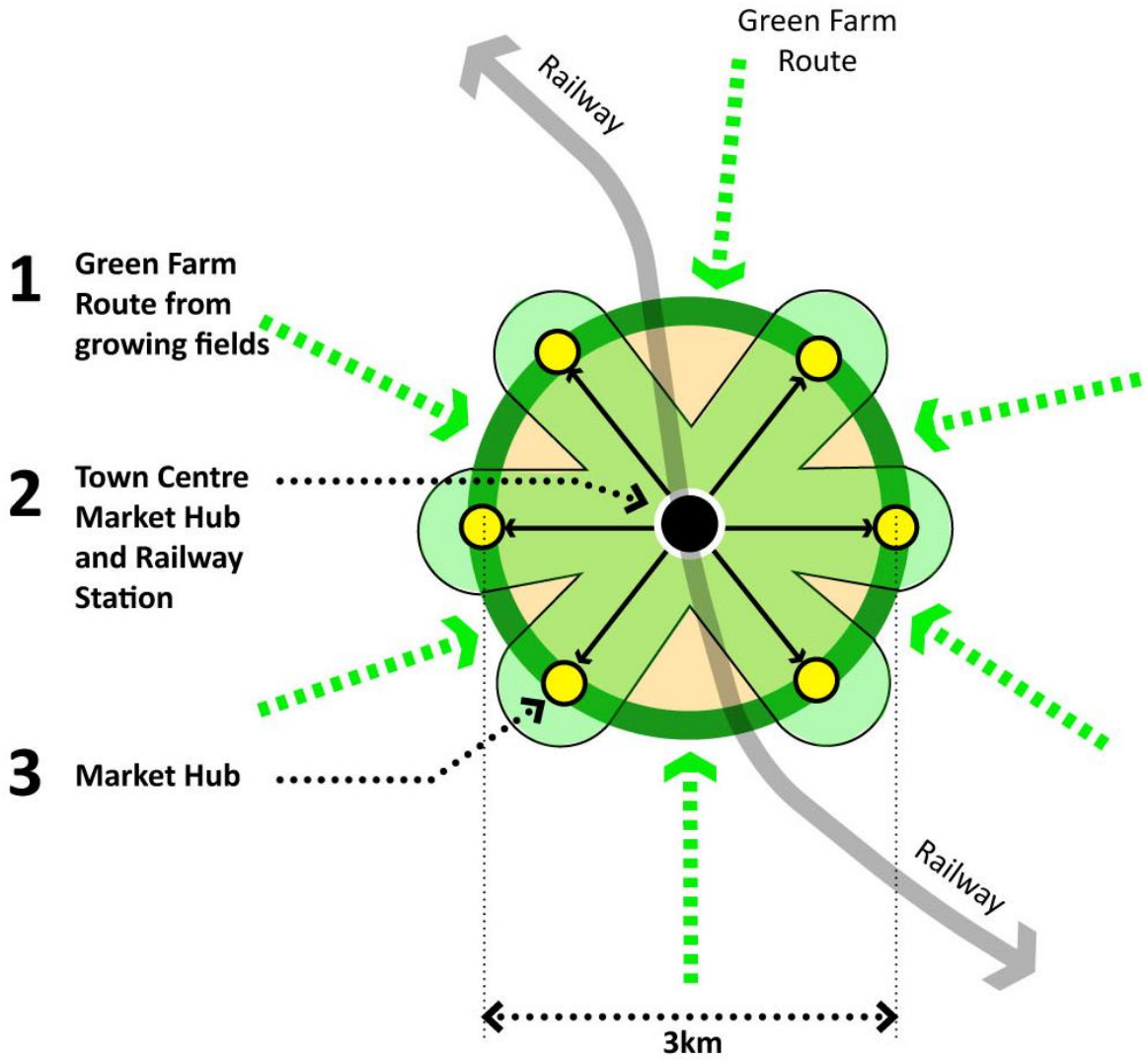
To feed 100,000 population area required

Minimum food	= 365 m² per person 36.5 km²
Standard food	= 700 m² per person 70 km²
Preferred food	= 1100m² per person 110 km²

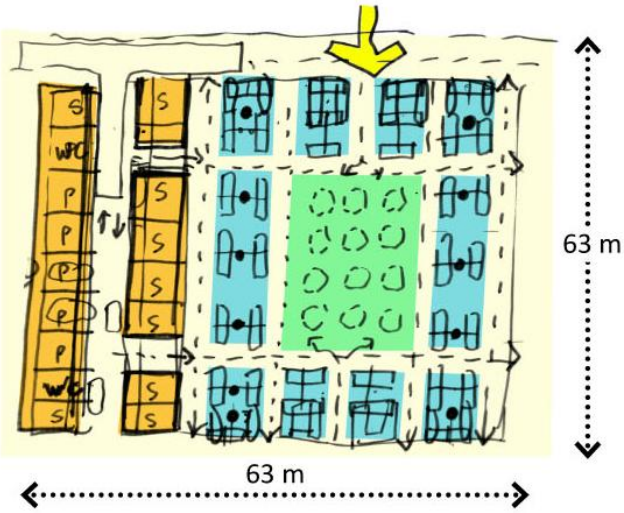


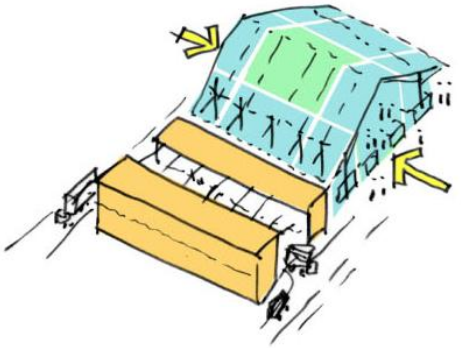
+ Extension with Market Hubs
3- 5,000 population
1- 2,000 homes

6 Strategic locations of Market Hubs - with access to central railway station and legible routes from field to market



The Market Hubs - 4000m²



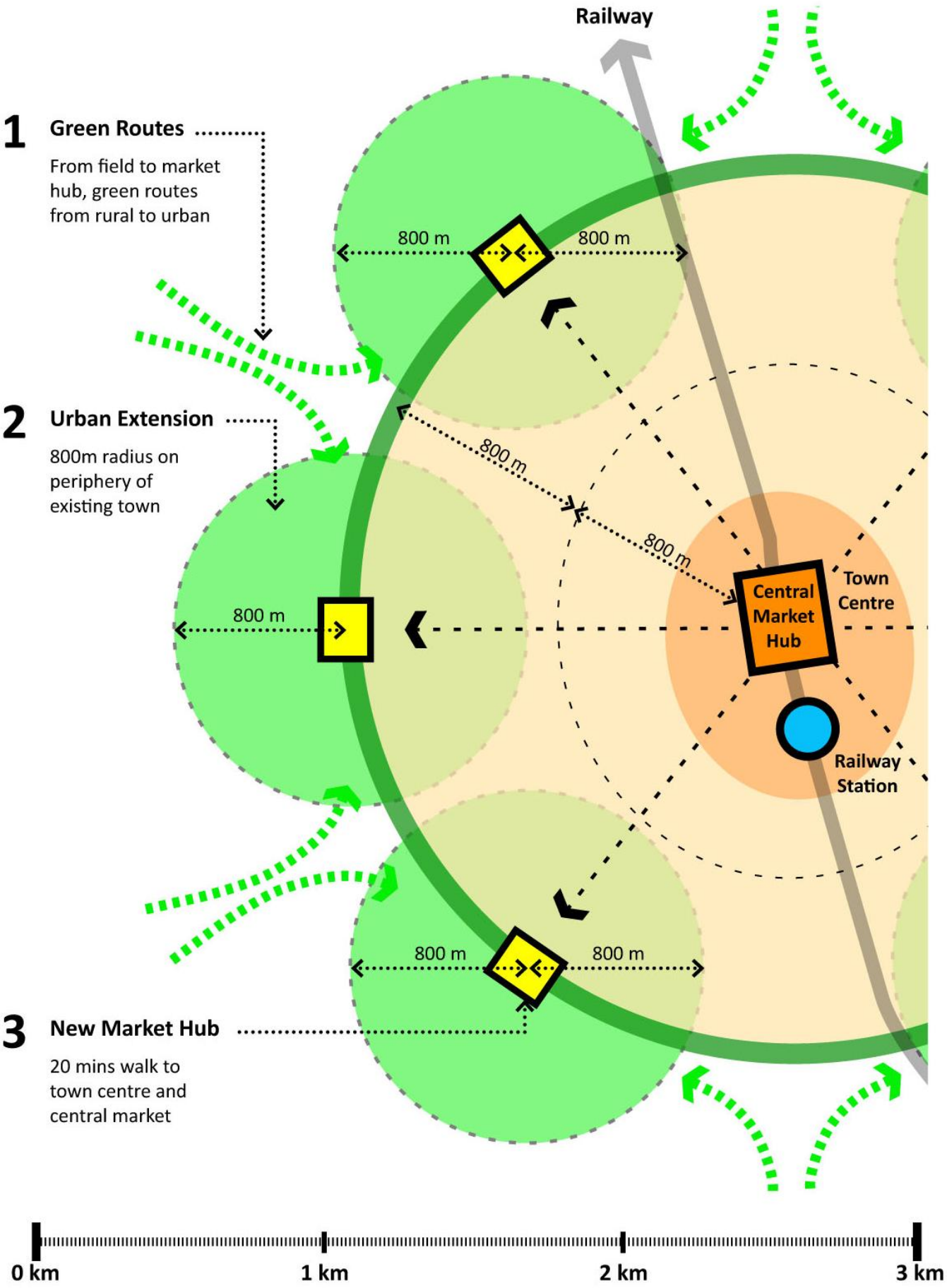


Permanent shop units

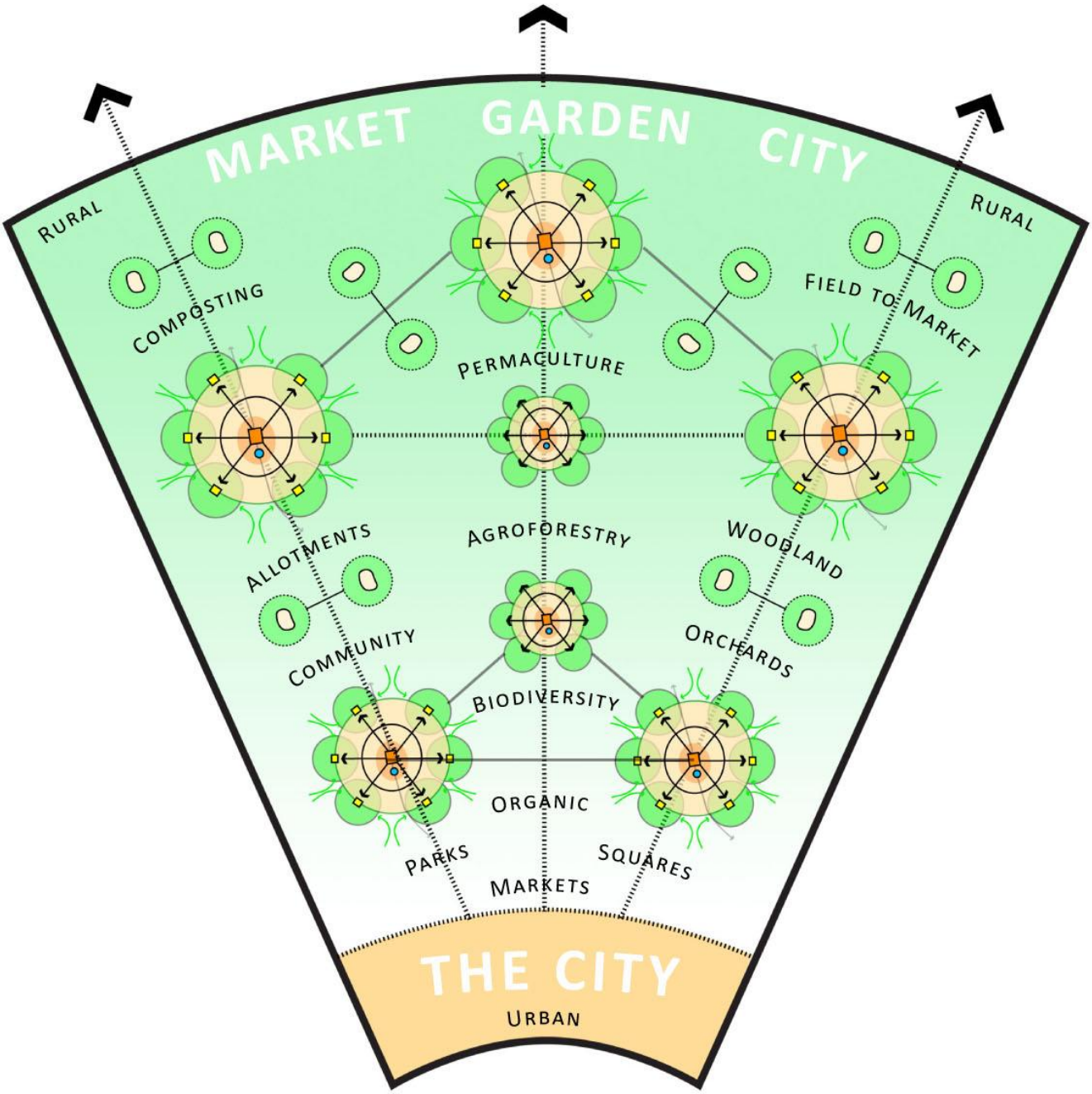
Semi permanent market stalls

Flexible market stalls

7 Detail of Urban market framework and town organisation



8 The Market Garden City



The objectives of the market garden city:

1

Existing homes to maximise potential for food production; by using existing spaces more productively.

Foodscaping in Geneva

2

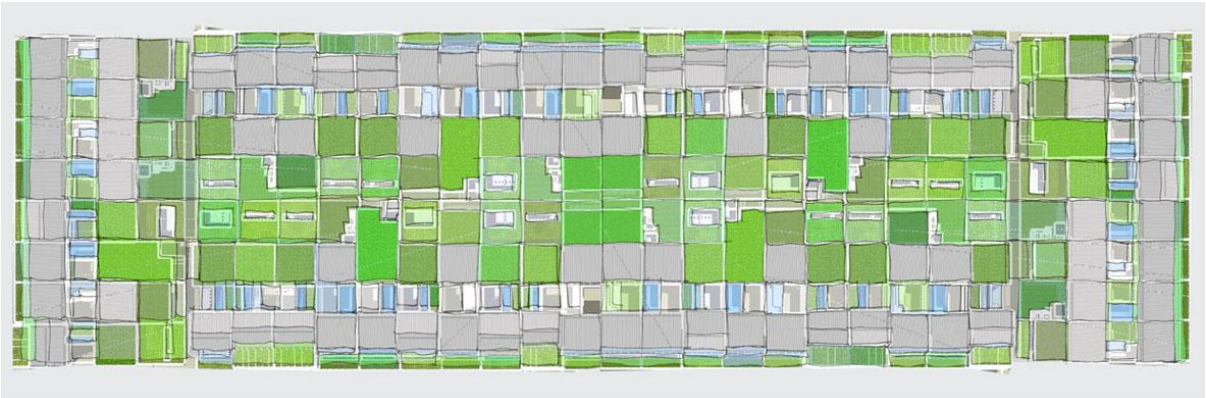
A significant increase in area for food production; in the design of new homes and private realm.

New urban homes should aim to double private space per person to 28-30 m^2 (minimum food energy for a person for four weeks) through reduced car parking, accessible flat roofs, reducing paved areas. New suburban homes should aim to provide 224m^2 of space (minimum food energy for four people for four weeks).

3

A significant increase in area for food production; in design of existing and new public realm.

Existing and new urban areas should provide 50% of public realm for food production. A small town of 30,000 people covers approx 700 hectares of which approx half is public realm. With better design at least half of the public realm could be made available for food production (25% of the whole urban area). 175 hectares (1,750,000m^2) would provide the minimum food energy for 30,000 people for 8 weeks or 700 people for a year.



Roofscaping - a traditional terrace housing block re-imagined for the 3rd green revolution

4

A sufficient area on the perimeter of an urban area will be defined to provide the food production for all the existing and planned population.

A typical town of 30,000 people will require a minimum food productive area of approx 12km^2 or 1200 hectares, and a preferred area of 36km^2 or 3600 hectares for more varied food supply. As an example the area for minimum food energy for 30,000 people in mid density urban town would be a radius of 2.5 km from the centre. The preferred varied diet could be provided in 4km radius if all the surrounding land was of a suitable quality for growing food crops and up to 6km if 35% of land was suitable as the UK average.

Perimeter areas of land available for the production of food: housing meets countryside

5

A significant intensification and diversification of existing and new land uses.
Differing growing conditions and situations for food production will be vital to the success of the market gardens to encourage and to promote a variety of end products available for consumption as well as providing polycultures and landscape growing characters which increase interest, plant and animal species and successful placemaking.

Summary

The **market garden city** concept demonstrates how a community could work together to provide security and self sufficiency in food - which is one fundamental aspect essential to health and life. It is typical to associate this idea to small communities of similar minded people, which has been the case in most precedents.
The aim of this proposal is to show that the concept is scalable where an individual, starting by providing a small percentage of their own food, could build up to a larger self sufficient community.

The concept also demonstrates that there is sufficient space to achieve this ambition, even close to urbanised areas. The concept assumes a strict and measured approach is taken to the value of land for food over other competing criteria, particularly close to urban areas and where there is suitable quality of soil and climate.

The method used to demonstrate the viability of the concept, based on land areas, is surprisingly realistic, and has factored in that only a third of all land is productive for arable as an UK average. This therefore allows the possibility for significantly improved returns for food in better soil environments reducing distances from production to consumption further; alternatively it allows other necessary land uses e.g. water attenuation in river valleys, woodland for erosion protection on uplands, land for leisure and healthy lifestyles, recovery of soils by rotation.

The concept of food security is not alone in demanding attention. There are many other equally important and interrelated aspects. Energy supply and security, water resource and security, protection of the natural environment, employment, skills and training, education and caring for the young , providing a nurturing and meaningful lifestyle which supports a diversity of people the elderly and disadvantaged.

These aspects are not ignored in the **market garden city** concept. The graphs in the introduction demonstrate that the present time is a critical moment in many choice of direction. There is an understandable feeling that an individual cannot make a decision which affects these aspects. The objective of the **market garden city** concept is to demonstrate that each person with only $1m^2$ of land and the freedom to approach how they care for and use this resource can make a difference to their life, even with just one day of food self sufficiency. Every person cannot individually own a year's worth of land for food supply, however the **market garden city** concept demonstrates that around communities there is sufficient land available which would make this possible.

The concept also assumes that a set of new values are required for individuals to build communities which can succeed with localised food production and therefore once established by increments, this collective spirit will establish the community values required to tackle the other major issues facing livelihoods.

We consider that the appropriate approach to the competition to find a Garden City is to demonstrate that the desired places already exist but have not had the necessary evaluation of assets and resources, information and support to create the true meaning of "Garden City without limits", the green ecumenopolis.

We have chosen to demonstrate the **market garden city** concept in a typical existing semi urban, semi rural area. This shows that, even within the metropolitan area of a large city, sufficient food can be provided to support the local population, or provide food to support a proportion of the adjacent central urban population, or part of both. This typical London Metropolitan area of approx 100km^2 is also similar in scale and location to many of the pioneering garden cities. The garden cities have lost the meaning of the word as a **"garden city without limits"**, to become a protective environment where the narrow values of self protection eclipse wider values of community; a **"garden city with walls"**, which is the opposite of ecumenopolis.

The **market garden city** concept intends to return to the original values **"garden without limits"** and demonstrate that providing food for a community is feasible and measurable dependent on the area of land available. Protection and nurturing of that land then becomes part of real community trust. The areas of land in the study are sufficient, but at present not used for the purpose of local food. Lack of clarity of community values have resulted in open land being given the negative association value of protection from competing uses of land a symbol as a resistance to change.

A **market garden city** concept offers a balanced plan which will provide real community value for open land. ***Why has this approach not been considered before?***
The answer is not because it is not possible, but because local food production is not appropriately valued as a use for land owners, government, the wider or the local community.

The simple conclusion is: the means in land and human **resource are available**, the **will is needed** to value local food proportionately to counterbalance the alternative cost in long term and irreversible environmental damage: the do nothing scenario is not an option. There is need for a green revolution and return of the **market garden city** concept. **This should build on the basic understanding that an individual can start one day with 1m2 and collectively achieve the aim and the value provided by local food for 365 days a year.**