General Principles of Economics

BA.LLB-I

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Utility

- “Utility is defined as the satisfaction that a consumer derives from consuming a good or a combination of goods”
- Further divided into 2 types

1. Cardinal Utility
2. Ordinal Utility

Commodity

- A commodity is a basic good used in commerce that is interchangeable with other commodities of the same type.
- Commodities are most often used as inputs in production of other goods and services
- Example- grains, gold, meat, oil and natural gas

Production

- The word production in economics is not merely confined to effecting physical transformation in the matter, it is creation or addition of value. Therefore production in economics also covers the rendering of services such as transporting, financing, marketing

Economic and Non-Economic goods

Economic Goods	Non-economic goods
Economic goods are those which have a price and their supply is less in relation to their demand or is scarce.	Non-economic goods are called free goods because they are free gifts because they are free gifts of nature
The production of such goods require scarce resources having alternative uses. E.g.- land is scarce and is capable of producing rice or sugarcane	Hence these goods do not have any price and are unlimited in supply. E.g.- air, water, sunshine, sand etc.
Economic goods relate to the problem of economizing scarce resources for satisfaction of human wants	Although this concept is turning the other way as the age is modernizing

Law of Demand

- Demand- for a commodity is consumer desire to have it for which he is willing and able to pay.
- Demand for a commodity is the amount of it that a consumer will purchase it at various given prices during a period of time.
- Demand in economics implies both the desire to purchase and ability to pay for a good.
- Eg- if a poor man who hardly makes both ends meet, wishes to have a car, his wish or desire for a car will not constitute the demand for a car because he cannot afford to pay for it, that is he doesn’t have any purchasing power to make his wish or desire effective in market

Law of Demand

- Demand Function –

$$Qd = f(Px, I, Pr, T, A)$$

Where,

Px- price of commodity x

I - Income of the individual

Pr- Price of related commodities

T – tastes and preferences of individual

A – Advertising expenditure made by the producers

Law of Demand

- Functional relationship between price and quantity demanded of a commodity
- According to the law of demand, other things being equal if the price of a commodity falls the quantity demanded of it will rise and if the price of commodity rises, its quantity demanded will decline
- Thus the constancy of these other things which is generally stated as *ceteris paribus* is an important qualification of law of demand

Elasticity of Demand

- The law of demand indicates only the direction of change in the quantity demanded of a commodity in response to a change in its price. This does not tell us by how much or to what extent the quantity demanded of a good will change in response to a change in price.
- Ep = percentage change in quantity demanded/percentage change in price
- Where Ep=Price elasticity

Elasticity of Demand

- Cross elasticity – the degree of responsiveness of change in the demand for one good in response to change in price of another good represents the cross elasticity of demand of one good for other.
- Co-efficient of cross elasticity of demand of x for y =

Proportionate change in the quantity demanded of x/Proportionate change in the price of good y

Elasticity of Demand

- Income elasticity of demand – shows the degree of responsiveness of quantity demanded of a good to a small change in income of the consumers
- Income elasticity of demand may be defined as the ratio of proportionate change in the quantity purchased of a good to the proportionate change in income which induces the former

Income elasticity= Proportionate change in purchases of a good/proportionate change in income

Law of Diminishing Marginal Utility

- Marginal Utility – the addition to the total utility by the consumption of the additional unit is called the marginal utility. This additional unit is called as the ‘marginal unit’
- The concept was explained by Austrian economist Gossen.
- Marshall’s statement – The additional benefit which a person derives from a given increase of a stock of thing diminishes, other things being equal, with every increase in the stock that he already has

Law of Diminishing Marginal Utility

- Assumptions of the law

1. Suitable quantity of consumption
2. Uniformity in quality and size of commodity
3. No gap in time
4. No change in the mental condition of consumer during consumption
5. No change in fashion/taste
6. Constant income
7. No change in prices/substitutes

Law of Diminishing Marginal Utility

Units	Marginal Utility	Total Utility
1	20	20
2	12	32
3	5	37
4	3	40
5	2	42
6	0	42
7	-4	38

Law of Diminishing Marginal Utility

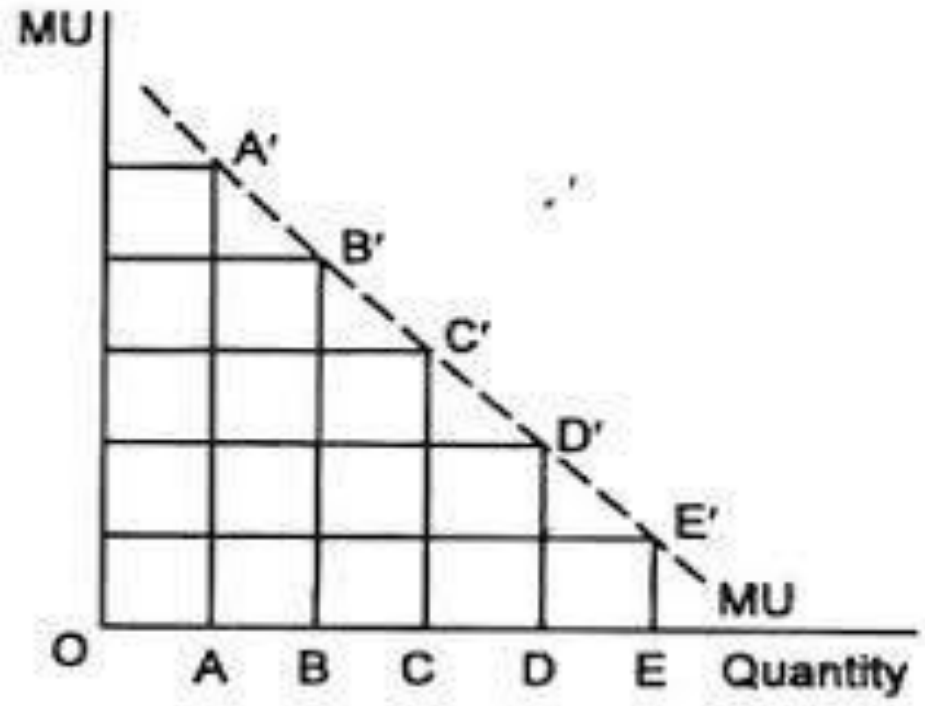


Fig. 2 : Diminishing marginal utility

Law of Diminishing Marginal Utility

- Exceptions to the law

1. Rare and curious things
2. Intoxicants
3. Good books and poetry
4. Consumption of public goods
5. First time consumption of the commodity

Law of Diminishing Marginal Utility

- The law applies to money also in the same way as to the other commodities after a limit. There is no doubt that the utility of money diminishes slowly and is perhaps never zero or negative. This is because money can buy any other commodity/service.
- The more there is of a commodity, the less the relative desirability of its last little unit becomes, even though its total usefulness grows as we get more of the commodity. So it is obvious why a large amount of water has a low price or why air is totally a free good despite its vast usefulness.

Principle of Equi-Marginal Utility

- It is through this principle that consumers equilibrium is explained.
- The law of equi-marginal utility states that the consumers will distribute his money income between the goods in such a way that the utility derived from the last rupee spent on each good is equal
- Marginal utility of money expenditure= **MUx/Px**

MUx=Marginal utility of x

Px = Price of x

Principle of Equi-Marginal Utility

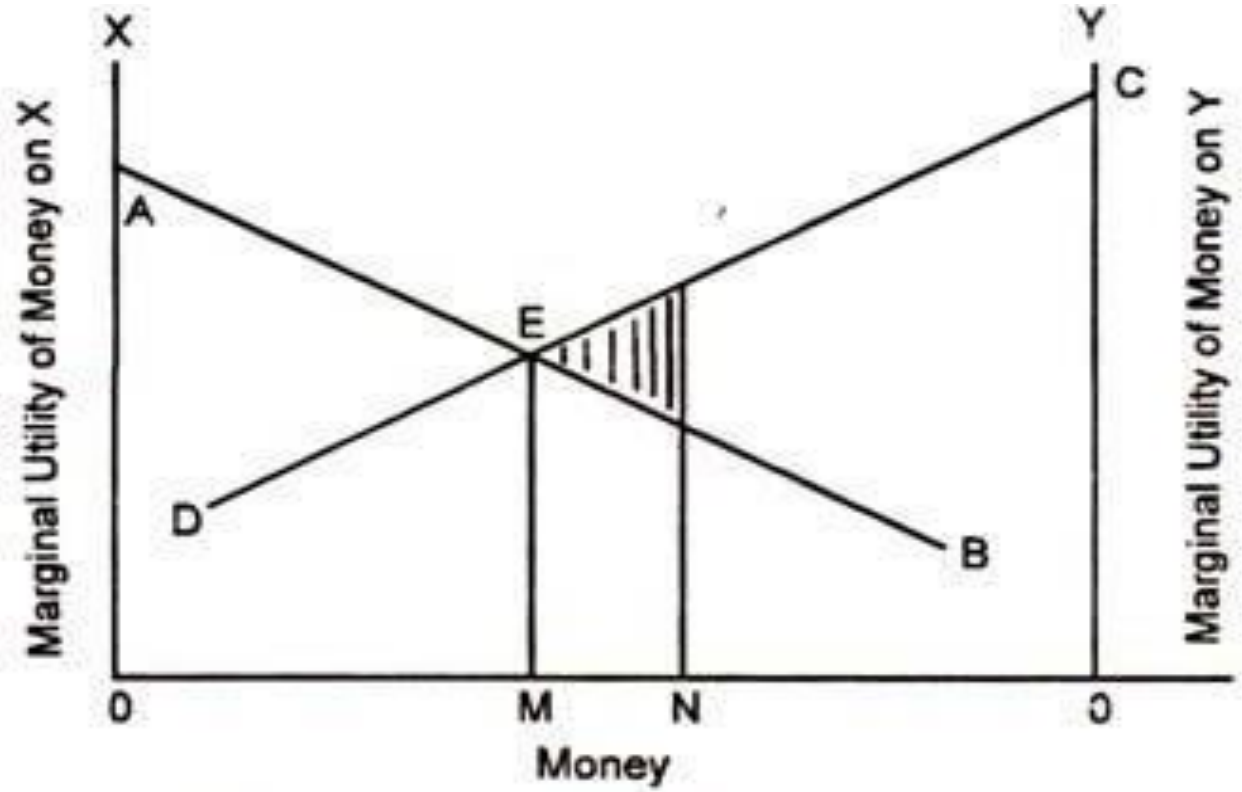


Fig. 4. Equi-Marginal Utility and Consumer's Equilibrium

Principle of Equi-Marginal Utility

- The law of Equi-marginal utility can therefore be stated as the consumer will spend his money income on different goods in such a way that the marginal utility of money expenditure on each good is equal. That is consumer is in equilibrium for both goods

  MUx/Px=MUy/Py

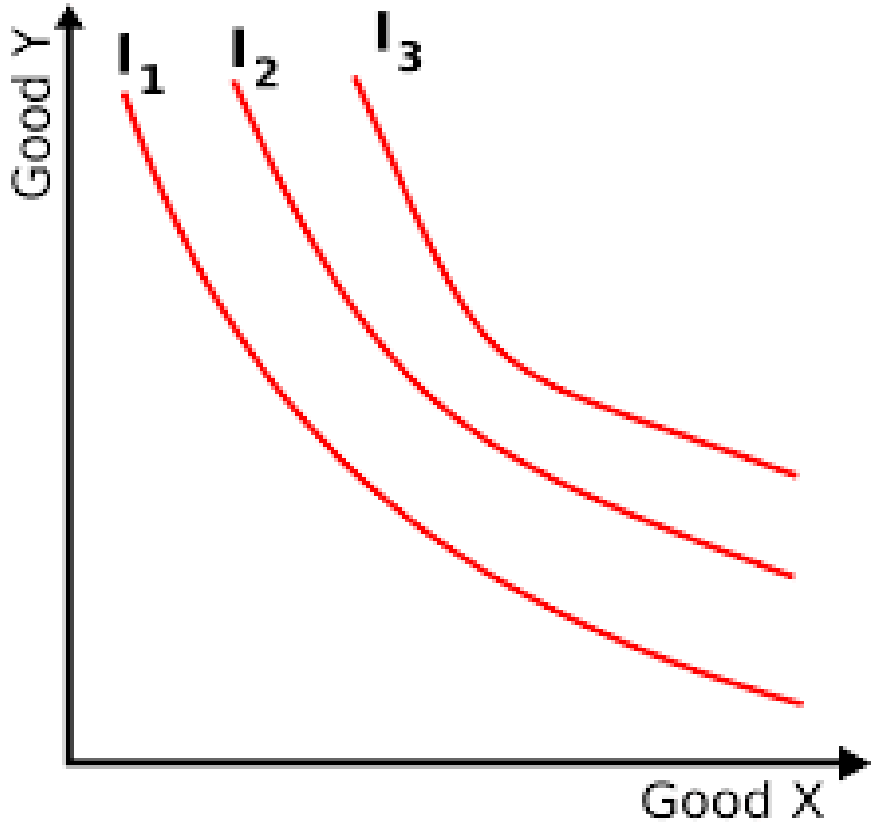
The law of diminishing marginal utility applies to money income also, the greater the size of his money income the smaller the marginal utility of money to him

Indifference Curve Approach

- Concept given by J.R.Hicks, R.G.D.Allen in their paper ‘A reconsideration of theory of value’
- Indifference curve(IC) = ordinal utility = utility is a psychic entity and it cannot therefore be measured in quantitative cardinal terms

Good X	Good Y
1	12
2	8
3	5
4	3
5	2

Indifference Curve Approach



Indifference Curve Approach

- The combinations in IC2 will be more preferable to the combinations in schedule 1 because it is assumed that more of a commodity is preferable to less of it. In other words, the greater quantity of good gives an individual more satisfaction than the smaller quantity of it.
- While an IC shows all those combinations of 2 goods which provide equal satisfaction to the consumer, it doesn’t indicate how much exactly is the satisfaction derived by the consumer from these combinations.
- The smoothness and continuity of an IC means that the goods are perfectly divisible

Indifference Curve Approach

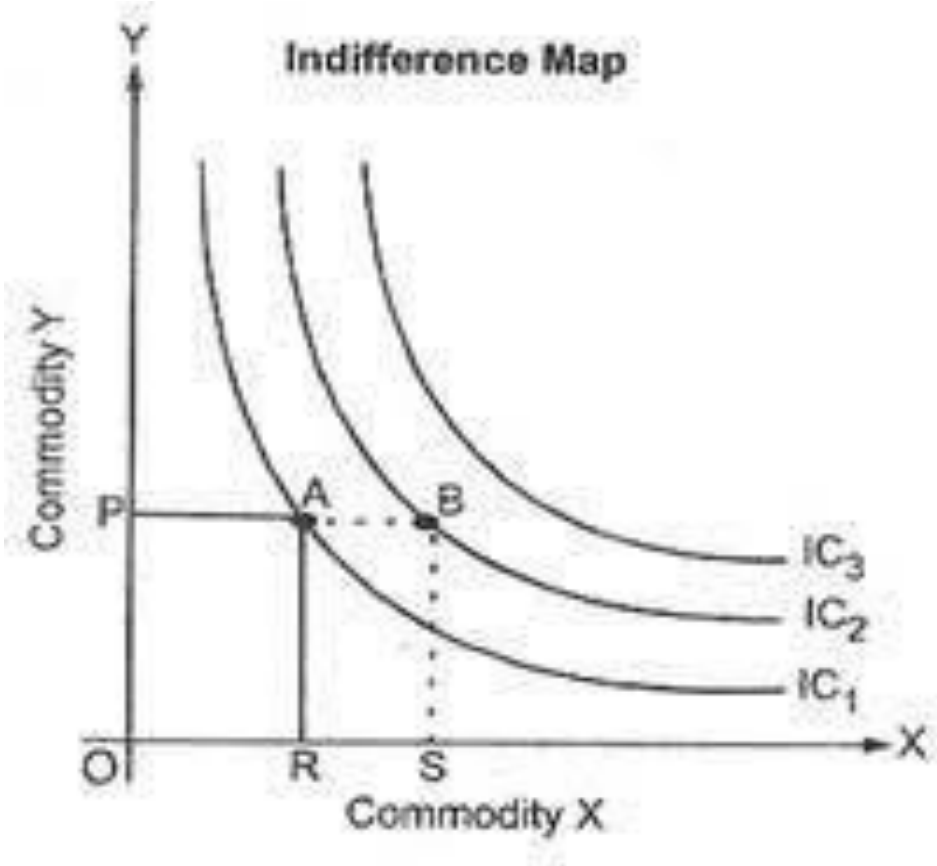
- Properties of IC’s

1. They always slope downward to the right
2. They are convex to the origin and can never be concave.
3. Two IC’s can never intersect each other.
4. Higher IC represent a higher level of satisfaction than a lower IC.

Indifference Maps

- A complete description of consumer's taste and preferences can be represented by an indifference map which consists of a set of indifferent curves, because the field is a two dimensional diagram contains an infinite number of points each representing a combination of good x and y, there will be an infinite number of IC's each passing through the combinations of goods that are equally desirable to the consumers.
- A higher IC will represent a higher level of satisfaction than a lower IC but how much higher cannot be exactly indicated.

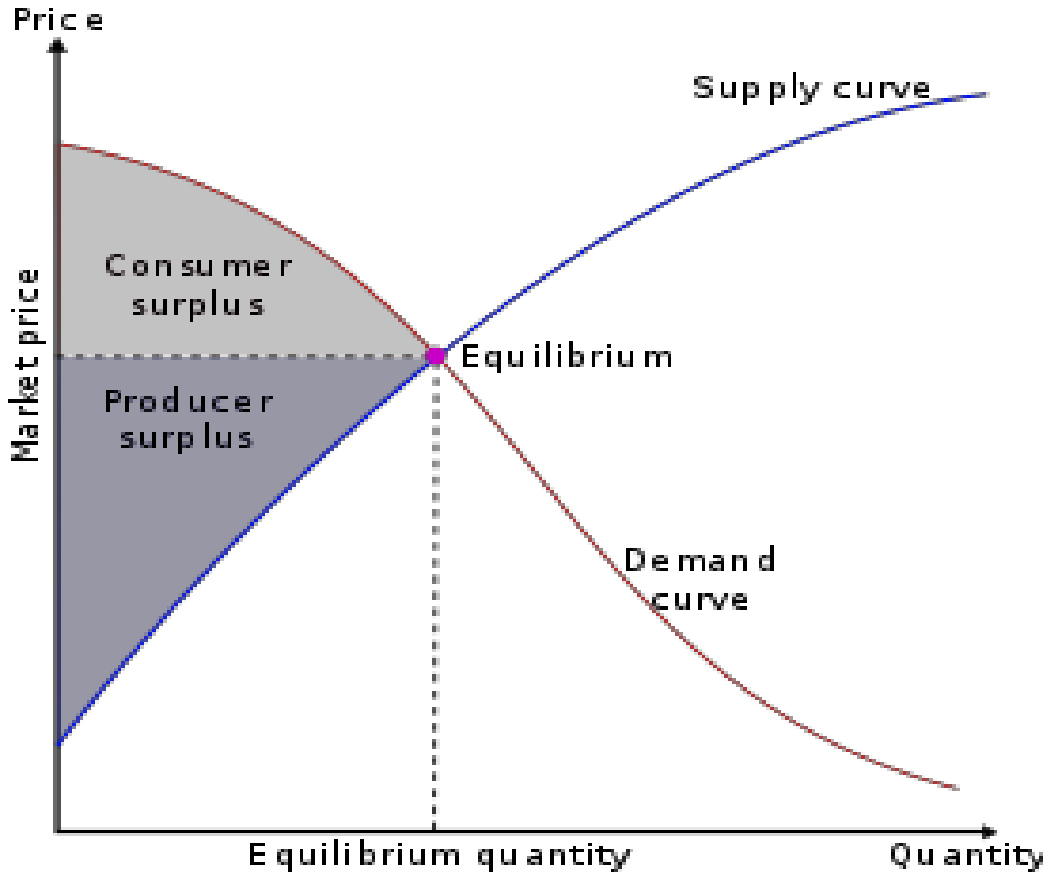
Indifference Maps



Consumer's Surplus

- First formulated by Dupuit in 1844 to measure social benefits of public goods.
- Marshall's definition- 'Every increase in consumer's surplus is an indicator of increase in social welfare'
- Consumer's surplus is simply the difference between the price that 'one is willing to pay' and the price 'one actually pays' for a particular product
- The essence of this concept is that a consumer derives extra satisfaction from the purchases he makes daily over the price he actually pays for them. In other words,people generally get more utility from the consumption of goods than the price for the goods they actually pay.

Consumer's Surplus



Consumer’s Surplus

- Consumer surplus is an economic measure of consumer benefit. It is calculated by analysing the difference between what consumers are willing and able to pay for a good or service relative to its market price, or what they actually do spend on the good or service. A consumer surplus occurs when the consumer is willing to pay more for a given product than the current market price.
- Given the Marginal Utility curve of the consumer, the higher the price the smaller the consumer surplus and lower the price the greater is the consumer’s surplus.

Factors of Production(FoP)

- The term FoP is used for a class of productive elements, the individual members of which are known as units of the factor and all the units of a factor are homogeneous and interchangeable. Technically speaking, all units of a factor are perfect substitutes of one another. This also implies that two different FoP cannot be perfect substitutes of each other.

Factors of Production(FoP)

- Land: The term land has been given a special meaning in economics. It doesn’t mean soil, as in the ordinary speech, but it is used in a much wider sense. In the words of Marshall, land means, “the materials and the forces which nature gives freely for mans’s aid, in land and water, in air and light and the heat”
- Land stands for all the natural resources which yield an income or which have exchange value. It represents those natural resources which are useful and scarce, actually and potentially.

Factors of Production(FoP)

- Capital- in ordinary language and sometimes in economics also capital is used in the sense of money. But when we talk of capital as a FoP, to confuse capital with money is quite wrong. The money which is available for investment and productive purposes has been called money capital or financial capital by some economist. But money capital is not the real capital, real capital consists of machinery, tools, tubewell, factories, tractors etc which directly assist in the production of goods.
- Capital is broadly defined as 'produced means of production'

Factors of Production(FoP)

- Labour- the contribution of labour to the national product and income depends not only on the size of the labour force but also on its quality, by quality of labour we can know how productive it is, that is what its level of productivity. A given labour force with higher productivity will yield a larger national product and income.
- Entrepreneur- it is not enough to say that production is a function of land, labour, capital. There must be some factor which combines these factors in the right proportion and initiates the process of production and also bears the risk involved in it. This factor is known as the entrepreneur. He has also been called the organiser, manager, and the risk taker. But in these days of specialisation, the task of manager and organiser has become different from that of the entrepreneur.

Law of variable proportions

- The act of production involves the transformation ofinputs into outputs.
- The theory of production provides a formal framework to help the managers of the firm in deciding how to combine various factors/inputs most efficiently to produce the desired output of a product or service.
- This law examines the Production Function with one factor variable keeping the other factors fixed. In other words it refers to the input-output relationship when output is increased by varying the quantity of inputs

Law of variable proportions

- When the quantity of one factor is increased keeping the quantity of other factors constant, the proportion between the variable and fixed factor is altered; the ratio of employment of the variable factor to that of the fixed goes on increasing as the quantity of variable factor is increased.
- Since, under this law we study the effects on output of variation in factor proportions, this is known as the law of variable proportions.

Returns to Scale

- The proportionate changes in both the FoP bring about a change in the scale. Thus an increase in the scale means that all inputs or factors used in a production process are increased in the same proportion.
- The term ‘returns to scale’ refers to the degree by which output changes as a result of a given proportionate change in amounts of all factors/inputs used in the production.

Cost concepts

- Money cost- is also known as the nominal cost. It is nothing but the expenses incurred by the firm to produce a commodity. For instance, the cost of producing 200 chairs is Rs. 10000 and then it will be called the money cost of producing 200 chairs.
- Real cost- is a philosophical concept which refers to all those efforts and sacrifices undergone by various members of the society to produce a commodity. Like monetary cost, real cost do not tell us anything what lies behind these costs.

Cost Concepts

- Explicit cost- refers to all those costs/expenses made by a firm to buy goods directly. They include, payments for raw materials, taxes and depreciation charges, transportation, power, fuel, advertising and so on.
- Implicit costs- are the imputed value of the entrepreneur's own resources and services. In fact, these costs refer to the implied or unnoticed costs. They include the interest on his own capital, rent on his land, wages of his own labour etc. Moreover, these costs go to the entrepreneur himself and ar not recorded in practice.

Cost Concepts

- Private costs- for a producer of a good, service, or activity include the costs the firm pays to purchase capital equipment, hire labour, and buy materials or other inputs. While this is straightforward from the business side, it is also important to look at this issue from the consumer's perspective.
- Eg- the private costs of driving a car include the fuel, oil, maintenance, depreciation value of the car itself and even the drive time taken by the driver.
- Social Costs- include two types of costs i.e. private costs and any other external costs to society arising from the production or consumption of a good or service.
- Eg-The social cost includes all the private cost + cost experienced by the people other than the operator who are exposed to the congestion and air pollution resulting by the use of the car

Cost Concepts

- Total cost- is the actual cost incurred in the production of a given level of output. In other words, the total expenses (cost) incurred, both explicit and implicit, on the resources to obtain a certain level of output is called the total cost.
- Marginal Cost- is the additional cost incurred in the production of one more unit of a good or service. It is derived from the variable cost of production, given that the fixed costs do not change as output changes. Hence, no additional fixed costs is incurred in producing another unit of a good or service once production has already started.
- Fixed cost- are the cost that are independent of output. These remain constant throughout the relevant range are usually considered sunk for the relevant range(not relevant to the output decision) eg-rent, building maintenance, machinery etc

Forms of market	No of firms	Nature of the product	Price elasticity of demand for an individual firm	Degree of control over price	Ease of Entry
a. Perfect competition	Large number	Homogeneous	Infinite	None	Free
b. Imperfect competition					
i. Imperfect Competition	Large number	Differentiated (but close substitutes)	Large	Some	Free(but for producing close substitutes)
ii. Pure Oligopoly	Few	Homogeneous	Small	Some	Limited
iii. Differentiated Oligopoly	Few	Differentiated products which are close substitutes of each other	Small	Large	Limited entry only
iv. Monopoly	One	Unique products without close substitutes	Very small	Very large	Strong barriers

Classification of Markets

- Examples of different market types

Type of Market	Example
Perfect competition	Weekly agricultural market
Monopolistic competition	Restaurants, grocery shops
Pure oligopoly	Telecom industry in India(Vodafone, Idea, Airtel, Jio)
Monopoly	Indian Railways
Duopoly	Boeing and Airbus(aeroplane making companies)

Classification of Markets

- Classification of markets on the basis of cross elasticity of demand

Market Form	Cross elasticity of demand
Perfect competition	Ec = ∞
Monopolistic competition	Ec = very high
Monopoly	Ec = very less/zero

Cartel, Trust, Company, Merger and Amalgamation

Company - A company is a legal entity formed by a group of individuals to engage in and operate a business—commercial or industrial—enterprise. A company may be organized in various ways for tax and financial liability purposes depending on the corporate law of its jurisdiction.

The line of business the company is in will generally determine which business structure it chooses such as a partnership, proprietorship, or corporation. These structures also denote the ownership structure of the company.

They can also be distinguished between private and public companies. Both have different ownership structures, regulations, and financial reporting requirements

Cartel, Trust, Company, Merger and Amalgamation

Cartel – A cartel is an organisation created from a formal agreement between a group of producers of a good or service to regulate the supply in an effort to regulate or manipulate prices. In other words, a cartel is a collection of otherwise independent businesses or countries that act together as if they were a single producer and thus are able to fix prices for the goods they produce and the services they render without competition

Merger – is an agreement that unites two existing companies into one new company. There are several types of mergers and also several reasons why companies complete mergers.

Amalgamation – is the combination of one or more companies into a new entity. An amalgamation is distinct from a merger because neither of the combining companies survives as a legal entity, a completely new entity is formed to house the combined assests and liabilities of both companies

Functional vs Personal distribution

Functional Distribution	Personal distribution
Studies that how the various factors of production are rewarded for their services rendered in the production process	Personal distribution of national income or what is also known as ‘size distribution of income’ means the distribution of national income amongst various individuals or persons in a society
In the theory we study how the prices of the factors of production i.e. land, labour, capital, entrepreneur are determined	Theory of personal distribution studies how the personal income of the individual is determined and how inequalities of income emerge
In this theory we discuss how the rent of land, wages of labour, interest on capital and profits of the entrepreneur	This theory relates to the individual persons and their incomes. The way in which that income was acquired often remains in the background. What matters is how much someone earns, not so much whether that income consists of wage, interest, profits, pension or else
It is primarily concerned with the price of a unit of labour, unit of capital, unit of land, being an extension of price theory it is also known as theory of prices	


thank
you

Micro, Macro, and Managerial Economics Relationship

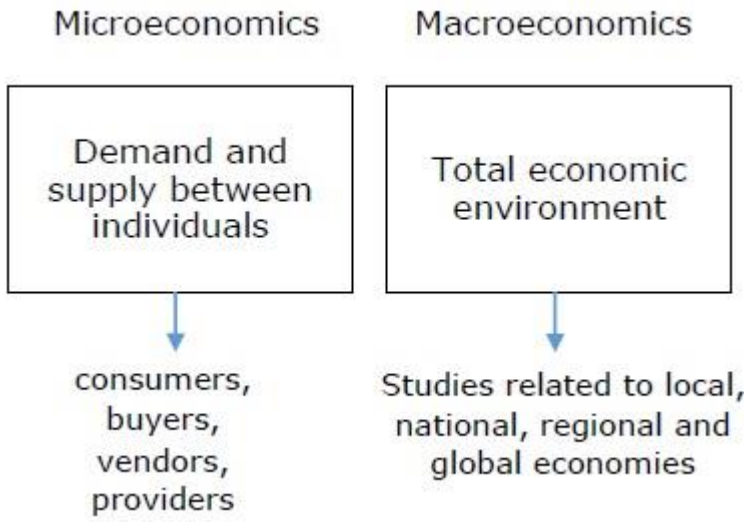
Microeconomics studies the actions of individual consumers and firms; **managerial economics** is an applied specialty of this branch. **Macroeconomics** deals with the performance, structure, and behaviour of an economy as a whole. Managerial economics applies microeconomic theories and techniques to management decisions. It is more limited in scope as compared to microeconomics. Macroeconomists study aggregate indicators such as GDP, unemployment rates to understand the functions of the whole economy.

Microeconomics and managerial economics both encourage the use of quantitative methods to analyse economic data. Businesses have finite human and financial resources; managerial economic principles can aid management decisions in allocating these resources efficiently. Macroeconomics models and their estimates are used by the government to assist in the development of economic policy.

Nature and Scope of Managerial Economics

The most important function in managerial economics is decision-making. It involves the complete course of selecting the most suitable action from two or more alternatives. The primary function is to make the most profitable use of resources which are limited such as labour, capital, land etc. A manager is very careful while taking decisions as the future is uncertain; he ensures that the best possible plans are made in the most effective manner to achieve the desired objective which is profit maximization.

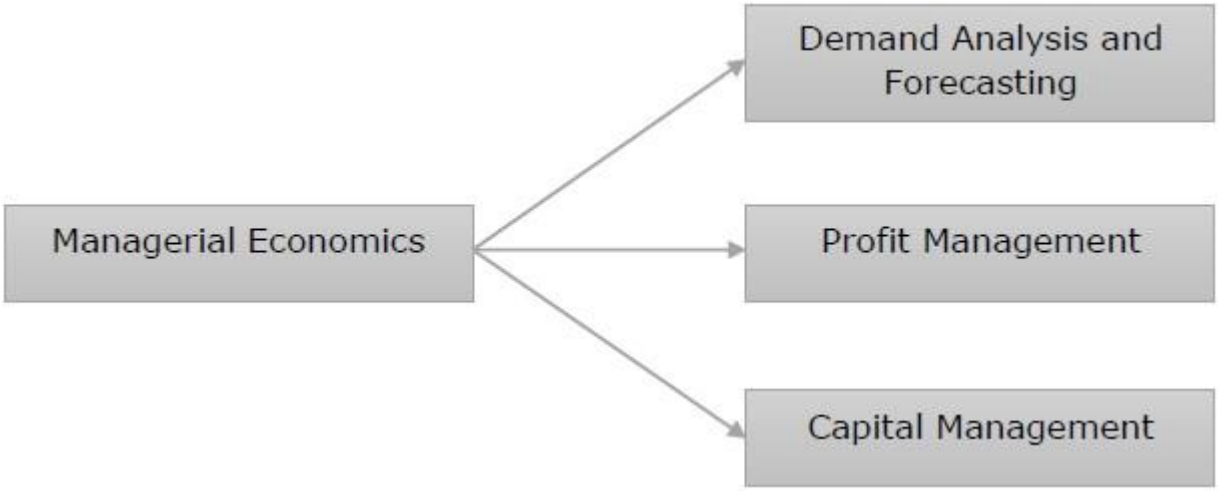
- Economic theory and economic analysis are used to solve the problems of managerial economics.
- Economics basically comprises of two main divisions namely Micro economics and Macroeconomics.



- Managerial economics covers both macroeconomics as well as microeconomics, as both are equally important for decision making and business analysis.
- Macroeconomics deals with the study of entire economy. It considers all the factors such as government policies, business cycles, national income, etc.

- Microeconomics includes the analysis of small individual units of economy such as individual firms, individual industry, or a single individual consumer.

All the economic theories, tools, and concepts are covered under the scope of managerial economics to analyse the business environment. The scope of managerial economics is a continual process, as it is a developing science. Demand analysis and forecasting, profit management, and capital management are also considered under the scope of managerial economics.



Demand Analysis and Forecasting

Demand analysis and forecasting involves huge amount of decision-making! Demand estimation is an integral part of decision making, an assessment of future sales helps in strengthening the market position and maximizing profit. In managerial economics, demand analysis and forecasting holds a very important place.

Profit Management

Success of a firm depends on its primary measure and that is profit. Firms are operated to earn long term profit which is generally the reward for risk taking. Appropriate planning and measuring profit is the most important and challenging area of managerial economics.

Capital Management

Capital management involves planning and controlling of expenses. There are many problems related to capital investments which involve considerable amount of time and labor. Cost of capital and rate of return are important factors of capital management.

Demand for Managerial Economics

The demand for this subject has increased post liberalization and globalization period primarily because of increasing use of economic logic, concepts, tools and theories in the decision-making process of large multinationals.

Also, this can be attributed to increasing demand for professionally trained management personnel, who can leverage limited resources available to them and maximize returns with efficiency and effectiveness.

Role in Managerial Decision Making

Managerial economics leverages economic concepts and decision science techniques to solve managerial problems. It provides optimal solutions to managerial decision-making issues.

The relationship between economics and politics

Economics is concerned with studying and influencing the economy. Politics is the theory and practice of influencing people through the exercise of power, e.g. governments, elections and political parties.

In theory, economics could be non-political. An ideal economist should ignore any political bias or prejudice to give neutral, unbiased information and recommendations on how to improve the economic performance of a country. Elected politicians could then weigh up this economic information and decide.

In practice there is a strong relationship between economics and politics because the performance of the economy is one of the key political battlegrounds. Many economic issues are inherently political because they lend themselves to different opinions.

Political ideology influencing economic thought

Many economic issues are seen through the eyes of political beliefs. For example, some people are instinctively more suspicious of government intervention. Therefore, they prefer economic policies which seek to reduce government interference in the economy. For example, supply side economics, which concentrates on deregulation, privatisation and tax cuts.

On the other hand, economists may have a preference for promoting greater equality in society and be more willing to encourage government intervention to pursue that end.

If you set different economists to report on the desirability of income tax cuts for the rich, their policy proposals are likely to reflect their political preferences. You can always find some evidence to support the benefits of tax cuts, you can always find some evidence to support the benefits of higher tax.

Some economists may be scrupulously neutral and not have any political leanings (though I haven't met too many). They may produce a paper that perhaps challenges their previous views. Despite their preferences, they may find there is no case for rail privatisation, or perhaps they find tax cuts do actually increase economic welfare.

However, for a politician, they can use those economists and economic research which backs their political view. Mrs Thatcher and Ronald Reagan were great champions of supply side economists like Milton Friedman, Keith Joseph, and Friedrich Hayek. When Reagan was attempting to 'roll back the frontiers of the state' – there was no shortage of economists who were able to provide a theoretical justification for the political experiment. There were just as many economists suggesting this was not a good idea, but economists can be promoted by their political sponsors. In the US, the Paul Ryan budget proposals were welcomed by many Republicans because they promised tax cuts for better off, cutting welfare benefits and balancing the budget. A popular selection of policies for Republicans.

Economic thought independent of politics

On the other hand, economists who stick to data and avoid cherry picking favourable statistics may well come up with conclusions and recommendations that don't necessarily fit it with pre-conceived political issues.

Many economists may be generally supportive of the EU and European co-operation, but the evidence from the Euro single currency is that it caused many economic problems of low growth, deflation and trade imbalances.

Economics needs political support

If you study economics, you can make quite a convincing case for a Pigovian tax – a tax which makes people pay the full social cost of the good, and not just the private cost. This principle of making the polluter pay provides a case for Carbon Tax, congestion charges, alcohol tax, and tobacco tax etc.

However, whether these policies get implemented depends on whether there is political support for them.

For example, a congestion charge was proposed for Manchester, but it was very heavily defeated in a referendum. A new tax is rarely popular. As an economist, I would like to see more congestion charging because it makes economic sense. But, what can make 'sense' to an economist can be politically unpopular.

The political appeal of austerity

Another interesting example is the political appeal of austerity. After the credit crunch, there was a strong economic case for expansionary fiscal policy to fill in the gap of aggregate demand. Politically, it can be hard to push a policy which results in more government debt. There may be an economic logic to Keynesian demand management in a recession – but a politician appealing to the need to 'tighten belts' and 'get on top of debt' can be easier slogans to sell the general public, rather than slightly more obtuse 'multiplier theories of Keynes'

Who runs the economy – Politicians or economists?

Another interesting case is the relationship between fiscal policy (set by government) and monetary policy (largely set by independent Central Banks)

In the UK and US (and Europe) fiscal policy has been relatively tight, given the state of the economy. As a consequence, it has fallen to Central Banks to pursue an expansionary monetary policy to offset the deficiencies of fiscal policy. If politicians pursue tight fiscal policy, Central Bankers have to adapt Monetary policy.

Micro economics – free of politics?

There are some areas of economics we could argue are free of politics – basic supply and demand and concepts like the theory of the firm are not laden with political ideology. But,

even in micro-economics, you could argue that politics can't help seeping in. If you take an issue like privatisation – there is a clear political issue. Who should control key industries – private enterprise or the government?

Agenda

Another issue with economics is that some criticise the subject for prioritising economic growth and maximisation of monetary welfare. Some argue that the aim of society is not to maximise GDP – but to maximise happiness, the environment and being satisfied with what we have. Therefore, a politician from an environmental background may disagree with the whole premise behind macro-economics. It is not just about the best way to promote economic growth. But whether we should be aiming for economic growth in the first place. That is a political issue too.

Micro, Macro, and Managerial Economics Relationship

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Microeconomics and managerial economics both encourage the use of quantitative methods to analyse economic data. Businesses have finite human and financial resources; managerial economic principles can aid management decisions in allocating these resources efficiently. Macroeconomics models and their estimates are used by the government to assist in the development of economic policy.

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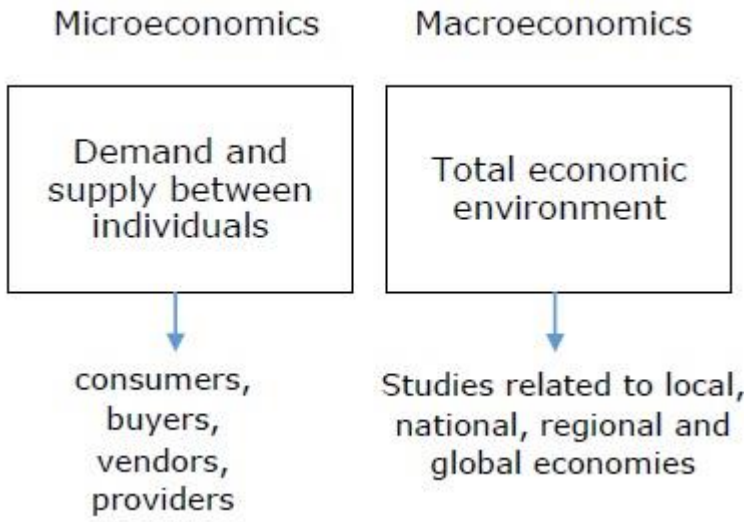

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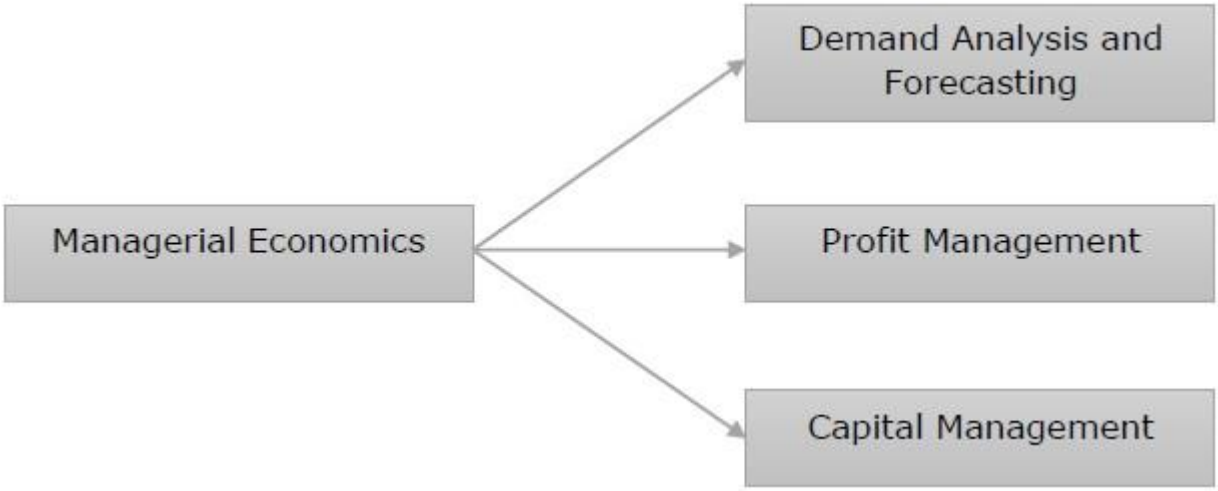
- Microeconomics includes the analysis of small individual units of economy such as individual firms, individual industry, or a single individual consumer.

All the economic theories, tools, and concepts are covered under the scope of managerial economics to analyse the business environment. The scope of managerial economics is a continual process, as it is a developing science. Demand analysis and forecasting, profit management, and capital management are also considered under the scope of managerial economics.



Demand Analysis and Forecasting

Demand analysis and forecasting involves huge amount of decision-making! Demand estimation is an integral part of decision making, an assessment of future sales helps in strengthening the market position and maximizing profit. In managerial economics, demand analysis and forecasting holds a very important place.

Profit Management

Success of a firm depends on its primary measure and that is profit. Firms are operated to earn long term profit which is generally the reward for risk taking. Appropriate planning and measuring profit is the most important and challenging area of managerial economics.

Capital Management

Capital management involves planning and controlling of expenses. There are many problems related to capital investments which involve considerable amount of time and labor. Cost of capital and rate of return are important factors of capital management.

Demand for Managerial Economics

The demand for this subject has increased post liberalization and globalization period primarily because of increasing use of economic logic, concepts, tools and theories in the decision-making process of large multinationals.

Also, this can be attributed to increasing demand for professionally trained management personnel, who can leverage limited resources available to them and maximize returns with efficiency and effectiveness.

Role in Managerial Decision Making

Managerial economics leverages economic concepts and decision science techniques to solve managerial problems. It provides optimal solutions to managerial decision-making issues.

The relationship between economics and politics

Economics is concerned with studying and influencing the economy. Politics is the theory and practice of influencing people through the exercise of power, e.g. governments, elections and political parties.

In theory, economics could be non-political. An ideal economist should ignore any political bias or prejudice to give neutral, unbiased information and recommendations on how to improve the economic performance of a country. Elected politicians could then weigh up this economic information and decide.

In practice there is a strong relationship between economics and politics because the performance of the economy is one of the key political battlegrounds. Many economic issues are inherently political because they lend themselves to different opinions.

Political ideology influencing economic thought

Many economic issues are seen through the eyes of political beliefs. For example, some people are instinctively more suspicious of government intervention. Therefore, they prefer economic policies which seek to reduce government interference in the economy. For example, supply side economics, which concentrates on deregulation, privatisation and tax cuts.

On the other hand, economists may have a preference for promoting greater equality in society and be more willing to encourage government intervention to pursue that end.

If you set different economists to report on the desirability of income tax cuts for the rich, their policy proposals are likely to reflect their political preferences. You can always find some evidence to support the benefits of tax cuts, you can always find some evidence to support the benefits of higher tax.

Some economists may be scrupulously neutral and not have any political leanings (though I haven't met too many). They may produce a paper that perhaps challenges their previous views. Despite their preferences, they may find there is no case for rail privatisation, or perhaps they find tax cuts do actually increase economic welfare.

However, for a politician, they can use those economists and economic research which backs their political view. Mrs Thatcher and Ronald Reagan were great champions of supply side economists like Milton Friedman, Keith Joseph, and Friedrich Hayek. When Reagan was attempting to 'roll back the frontiers of the state' – there was no shortage of economists who were able to provide a theoretical justification for the political experiment. There were just as many economists suggesting this was not a good idea, but economists can be promoted by their political sponsors. In the US, the Paul Ryan budget proposals were welcomed by many Republicans because they promised tax cuts for better off, cutting welfare benefits and balancing the budget. A popular selection of policies for Republicans.

Economic thought independent of politics

On the other hand, economists who stick to data and avoid cherry picking favourable statistics may well come up with conclusions and recommendations that don't necessarily fit it with pre-conceived political issues.

Many economists may be generally supportive of the EU and European co-operation, but the evidence from the Euro single currency is that it caused many economic problems of low growth, deflation and trade imbalances.

Economics needs political support

If you study economics, you can make quite a convincing case for a Pigovian tax – a tax which makes people pay the full social cost of the good, and not just the private cost. This principle of making the polluter pay provides a case for Carbon Tax, congestion charges, alcohol tax, and tobacco tax etc.

However, whether these policies get implemented depends on whether there is political support for them.

For example, a congestion charge was proposed for Manchester, but it was very heavily defeated in a referendum. A new tax is rarely popular. As an economist, I would like to see more congestion charging because it makes economic sense. But, what can make 'sense' to an economist can be politically unpopular.

The political appeal of austerity

Another interesting example is the political appeal of austerity. After the credit crunch, there was a strong economic case for expansionary fiscal policy to fill in the gap of aggregate demand. Politically, it can be hard to push a policy which results in more government debt. There may be an economic logic to Keynesian demand management in a recession – but a politician appealing to the need to 'tighten belts' and 'get on top of debt' can be easier slogans to sell the general public, rather than slightly more obtuse 'multiplier theories of Keynes'

Who runs the economy – Politicians or economists?

Another interesting case is the relationship between fiscal policy (set by government) and monetary policy (largely set by independent Central Banks)

In the UK and US (and Europe) fiscal policy has been relatively tight, given the state of the economy. As a consequence, it has fallen to Central Banks to pursue an expansionary monetary policy to offset the deficiencies of fiscal policy. If politicians pursue tight fiscal policy, Central Bankers have to adapt Monetary policy.

Micro economics – free of politics?

There are some areas of economics we could argue are free of politics – basic supply and demand and concepts like the theory of the firm are not laden with political ideology. But,

even in micro-economics, you could argue that politics can't help seeping in. If you take an issue like privatisation – there is a clear political issue. Who should control key industries – private enterprise or the government?

Agenda

Another issue with economics is that some criticise the subject for prioritising economic growth and maximisation of monetary welfare. Some argue that the aim of society is not to maximise GDP – but to maximise happiness, the environment and being satisfied with what we have. Therefore, a politician from an environmental background may disagree with the whole premise behind macro-economics. It is not just about the best way to promote economic growth. But whether we should be aiming for economic growth in the first place. That is a political issue too.

Oxfam

WORKING TOGETHER FOR A FAIR SHARE FOR ALL

WWF

Resource scarcity, fair shares and development

A WWF/Oxfam discussion paper – Alex Evans

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Purpose

This discussion paper is intended to contribute to the evolving debate on the links between resource scarcity and international development, in particular by focusing on the issues of equity and "fair shares" for poor people and poor countries that arise in the context of resource limits and environmental boundaries. It provides a short overview of some of the main issues, together with ten tentative policy recommendations and areas for future work. The views in this paper are those of the author and do not necessarily represent any opinion or policy of either WWF or Oxfam. Comments on the paper can be sent to Dominic White, *dwhite@wwf.org.uk* and Sarah Best, *sbest@oxfam.org.uk*.

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Citation

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Introduction and overview

Issues of resource scarcity are rising rapidly up the political agenda – in both developed and developing countries, and at multilateral institutions from the UN to the G20. At the same time, recognition is also growing of the centrality of these issues to development, given the higher vulnerability of poor people and their greater reliance on natural assets. For the most part, political attention on resource scarcity issues has focused on the two areas of supply side measures: increasing the availability of food, water, energy etc. through greater investment, technological innovation etc, and reducing vulnerability to the shocks and stresses that resource scarcity can drive, for example through emergency food stocks and crisis management systems.

However, given that demand for key resources may well outstrip supply, a third key theme – which has so far received less political attention – is the need to confront the distributional issues that arise in a world of environmental limits. As total global consumption levels start to hit sustainable (or in some cases absolute) limits for resources like land, water, food, oil and carbon space, the need to advocate for "fair shares" of these resources for poor people and poor countries will become increasingly central to international development.

Mapping out this new development agenda will involve unpacking some highly political questions. What definition of "fairness" is most appropriate – just ensuring that poor people's basic needs are met, or a more egalitarian approach that tries to reduce inequality in access to resources? Does it make sense to think about equity of access to a particular resource (carbon permits, say), or is it more helpful to think about overall wealth or income distribution, and the entitlement that this carries with it to resources of all kinds? Which aspects of the agenda should campaigners focus on most?

This discussion paper aims to contribute to this evolving debate by providing a short overview of some of the main issues involved, together with some tentative policy recommendations and areas for further work. Part 1 begins by setting out some examples of access and equity issues that arise in the context of scarce resources, both within countries and internationally. Part 2 then sets out a discussion of some of the underlying issues involved, including different ideas of fairness and some of the potential dilemmas involved. Part 3 explores some of the concrete policy implications of this agenda and sets out ten tentative policy recommendations and suggestions for further work:

Policy recommendations

1. **Invest in improving the data.** Any agenda of 'fair shares in a world of limits' will depend on accurate data. But current surveillance systems on resource scarcity suffer from major gaps, and are poorly integrated across both issues and levels of governance.

2. **Recognise that scarcity isn't just relevant to specialists in environment, climate and rural livelihoods.** On the contrary, resource scarcity will become increasingly central to governance, economics, social development and conflict advisers, and should be incorporated into training and professional development across these areas.

3. **Understand how scarcity shapes politics in poor countries.** Rather than seeing scarcity as a stand-alone issue, donors and NGOs need to understand how it fits in to the larger political economy context and relates to urban / rural tensions, political parties, spending decisions, civil society dynamics, the politics of ethnic groups and so on.

4. **Focus on access to justice.** Even where legal frameworks are in place to ensure a certain level of resource access, poor people may find their rights abrogated – for example through forced displacement from land – as scarcity increases. Focusing on access to justice will therefore be critical for governance specialists.

5. **Be clear that this isn't just an in-country agenda.** It is at international level where there is most to be done, given that the key drivers of resource scarcity are global – so donors should scale up work on areas like policy coherence for development, international institutional reform and sustainable consumption in OECD countries.

6. **Start developing policy options now, before the policy space for them opens up.** As impacts of scarcity and climate change increase in frequency and severity, political space will open up – often after shocks, for a limited time. This places a premium on having ideas 'on the shelf', that can be deployed rapidly when opportunities open up.

7. **Focus on basic needs to start with.** Much support for development already depends on the idea that all people have a right to the basic needs of life. The fact that resource scarcity imperils these basic needs can create a bridgehead narrative that opens up space for talking about more difficult aspects of fair shares.

8. **...but start building up the broader 'fair shares' narrative too.** Donors and NGOs should do everything they can to deepen awareness that individual consumption choices have global impacts, and that taking equity seriously is a prerequisite for sustainable management of shared resources – *not* just a 'left wing' agenda.

9. **Focus on poor people, not just poor countries.** A focus on resource scarcity necessarily implies looking at inequality *within* countries – partly because poor people are most vulnerable to resource scarcity and environmental shocks, but also because scarcity will create new opportunities for elite rent-seeking, corruption and exploitation.

10. **Don't jump straight to the limits to growth question.** Debate is starting to open up on whether limits apply just to certain resources, or to growth itself. Even if the latter is true (which it could be), it will take time for this to become clear. While campaigners should not try to duck the question of whether there are limits to growth, neither should they risk polarising debate by taking too definitive or didactic a tone at the outset. Instead, they should play a long game: suggest that there is a genuine debate to be had about limits to growth, and that the jury is still out, but above all underline that it is *already* clear that there are limits to the supply/availability of crucial resources - and that policy needs to face up to this, and in particular the fair shares issues that are unavoidably involved.

Part 1: Into a world of scarcity

In recent years, issues of resource scarcity and environmental limits have risen up the global agenda. Demand for resources of all kinds is rising sharply due to both a growing population and rising affluence in emerging economies. But at the time, supply growth has sometimes struggled to keep pace, and there are concerns that these tensions could intensify. For example:

- Demand for **food** is projected to rise by 50% by 2030.[i] However, the world consumed more food than it produced in 7 of the 8 years between 2000 and 2008, rates of productivity growth driven by the 'Green Revolution' are running out of steam, and the world is having to make up for a long period of under-investment in agriculture.[ii]

- The amount of arable **land** per capita halved from 1960 to 2007, from 0.39 to 0.21 hectares[iii], but demand for it is increasing from multiple sources including food, feed, fibre (paper, timber etc.), biofuels, carbon sequestration, conservation and cities.

- Demand for **water** is likely to rise by 25% by 2025, but is already beyond sustainable use levels in many areas of the world, leading to depletion of both ground and surface water resources.[iv] Climate change will further exacerbate the problem. By 2025 up to two thirds of the world's people are likely to live in water-stressed conditions.[v]

- Demand for **oil** is projected to rise by 40% by 2030, but supply is already hampered by significant under-investment in new production sources and the increasing difficulty of reaching remaining reserves, leading the International Energy Agency to warn of the risk of a major supply crunch.[vi]

- Despite countries' continuing unwillingness to define a safe global **carbon** budget in the UNFCCC, the amount of carbon space for any stabilisation level continues to shrink rapidly as emissions continue to grow, meaning that carbon budgets will have to fall even more steeply in the future.[vii]

- And scarcity concerns have also been mooted in many other contexts, including rare earths and metals that are essential for many clean technologies, uranium (essential for nuclear power generation), access to ecosystem services, biodiversity and so on.

As supply and demand balances have tightened, volatility has increased. As a result, so has the political salience of resource security, climate change and (perhaps above all) commodity prices. Food and commodities feature prominently on the 2011 G20 agenda, as they did at the 2008 G8. The 2011 World Economic Forum has launched a major new programme of work on resource scarcity.[viii] While the 2009 Copenhagen summit achieved limited progress on climate change, it marked a new level of engagement on the issue by heads of government.[ix]
Private sector engagement in resource scarcity and climate change has moved well beyond the weak voluntarism of 'corporate social responsibility'.

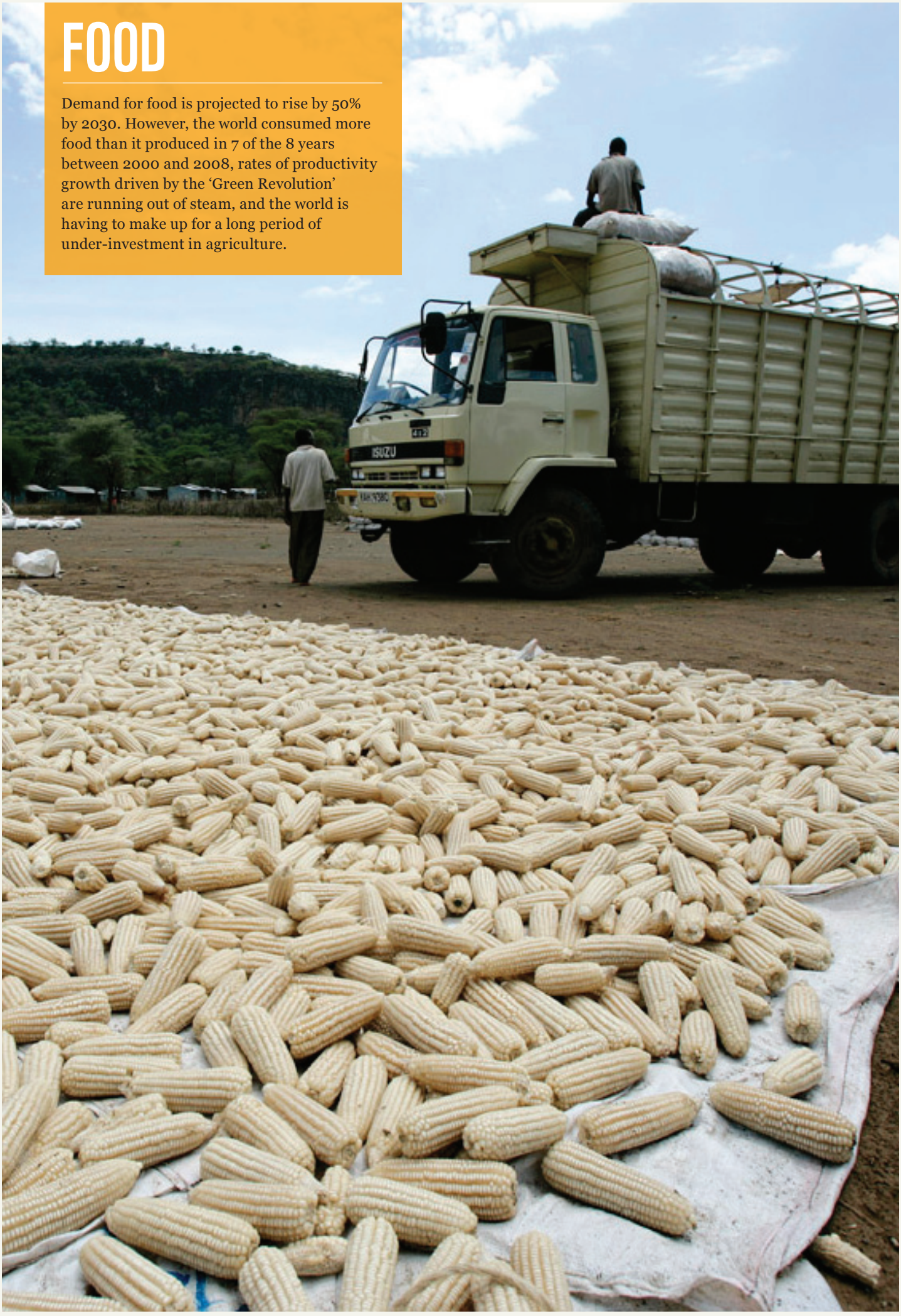
So far, the policy agenda on resource scarcity has focused primarily on two key areas – increasing the supply/availability of resources, and improving management of shocks and volatility (see table below).

Figure 1: Examples of how policymakers are currently responding to scarcity

	Increasing supply/availability	Managing shocks and volatility
Food	OECD policymakers' initial reaction to the 2008 food spike centred on the need to invest more in agriculture and produce more food. Many developing countries reacted by panic-buying on global markets or banning exports.	The 2011 G20 agenda includes proposals to set up a global system of emergency reserves, increase transparency over national stocks and improve systems for crisis co-ordination. Many countries have dramatically scaled up their stock levels since the 2008 spike, or sought to reduce reliance on imports.
Oil	Oil importers have reacted to price spikes by demanding that OPEC pump more oil. Oil importers are also trying to diversify supply through long-term supply deals with producer states (e.g. the 'new scramble for Africa'), biofuels, tar sands, shale gas and more deepwater drilling.	OECD countries are seeking to nudge emerging economies towards membership of the IEA (an emergency management mechanism). G20 agenda of greater transparency on stock levels may apply to oil as well as food.
Land / water	Food importers have sought to increase the amount of land (and water) available to them through so-called 'land grabs'. Many coastal countries are seeking to improve water security with desalination plants, despite their often high energy intensity.	(See left)
Climate	The low ambition approach adopted by the US and the BASIC countries at Copenhagen is heavily focused on expanding the supply of clean technologies through voluntary approaches.	Recent years have seen substantially increased political attention to climate adaptation, including financial commitments on 'fast-start' finance (though not all of this will be for adaptation, or indeed additional to ODA).
Overall	The emerging "green economy" or "green growth" agenda – central to South Korea's G20 Presidency and to Rio 2012 – is heavily focused on clean technologies and other supply side measures.	There is growing interest in resilient development – for instance through investing in areas like social protection, peacebuilding, disaster risk reduction, climate adaptation and livelihoods – none of which were strongly emphasised in the MDGs, but all of which are highly relevant to managing the shocks and stresses that resource scarcity can drive.

FOOD

Demand for food is projected to rise by 50% by 2030. However, the world consumed more food than it produced in 7 of the 8 years between 2000 and 2008, rates of productivity growth driven by the 'Green Revolution' are running out of steam, and the world is having to make up for a long period of under-investment in agriculture.



This overall agenda – of seeking to counter scarcity by increasing supply and then dealing with short term shocks and stresses through building more effective buffers at both international and country level – makes sense. But it also leaves open a key question: what if it proves impossible to increase the supply or availability of key resources enough to meet spiralling demand?

Such an imbalance is a very real possibility. Policymakers are currently assuming that massive breakthroughs in technology and resource efficiency will be made, and then rolled out on a global scale, within timescales of historically unprecedented rapidity. This is not to say that the kind of intense scarcity likely to be seen in the next few years or decades will be a permanent condition – on the contrary, markets, institutions and communities will adapt to changing circumstances as they always do. But this process of adaptation will come with time lags attached, given perverse subsidies for inefficient resource use, path dependency, vested interests, political impediments to action and so on. In the meantime, levels of risk will be substantially heightened.

To an economist, the answer to what happens during such an imbalance of supply and demand would simply be that prices would increase and choke off demand. This dynamic can arguably be seen when high oil prices act as a brake on economic growth, leading to demand falling and oil prices easing once more. Some economists have argued that this is part of what happened in 2008 when oil prices collapsed fell after touching $147 a barrel.[x] But even if this is true, there is still a difference between short term price declines within a longer term outlook of inflation combined with higher volatility on one hand, and genuine "demand destruction" on the other. At present, it is hard to see many signs of genuine economic transformation away from oil. Other resources, such as food, water, land and carbon space, are much harder to substitute for – meaning that while demand destruction is still needed, the question arises of *whose* demand must fall.

In other words, a third aspect to the policy agenda - which policymakers have been slower to embrace - comes into play. This is about the distributional or equity issues that inevitably arise when demand exceeds supply, not just during a short term shock, but over a longer term structural transition: the question of 'fair shares in a world of limits'. This third cluster of issues is particularly important in the international development context, as the following examples show.

- On **food**, how much is produced is only part of the story: as important is who enjoys *access* to the food that is produced. (As Amartya Sen famously put it, "starvation is the characteristic of some people not having enough to eat. It is not the characteristic of there not *being* enough to eat.")[xi] Poor people are especially exposed to food price volatility and variability, frequently spending three quarters of household income on food.[xii] While access to food is partly about what happens in countries, it also has crucial global dimensions. Two of the main sources of additional demand for food are global: a larger and more affluent 'global middle class' shifting to western diets, and diversion of food crops to biofuels (40% of this year's US corn crop will be used for ethanol).[xiii] Global factors such as climate change, high input prices and competition for land will also affect supply growth. Scaling up social protection may not be a sufficient policy response if these overarching supply and demand tensions mean that poor people or countries are priced out of the market.

- On **energy**, too, issues of access are critical. Poor countries have been heavily impacted by high oil prices: a 2007 report from the IEA found that in 13 non-oil producing states in Africa (including Ethiopia, South Africa and Ghana) increases in the cost of oil from 2004 to 2007 came to more than they had received in aid and debt relief over the same period.[xiv] While mechanisms such as the IMF Standby Credit Facility exist to support countries facing balance of payments difficulties, the explicit assumption is that such difficulties will be short term. But if high oil prices represent a 'new normal' - because of under-investment, peak oil or simply because demand grows faster than supply -then poor countries risk being priced out of the market unless longer-term mechanisms are in place to ensure their access.

- While **land** is not an internationally traded commodity, intense distributional issues still apply. Even when poor people do enjoy access to land, they often lack formal title to it, leaving them exposed to displacement. This brings vulnerability to the global trend of long term land access deals, which are already estimated to account for 79.9 million hectares of land, primarily in Africa, and disproportionately on community lands. Many of these deals have disadvantaged poor people by displacing them from land without their participation or consent, without creating employment and without due consideration given to food security impacts.[xv] A similar problem is visible in fisheries, where for example EU fishing fleets have bought up the fishing rights of some African coastal states, with financial benefits accruing to political elites rather than fishing communities (an 'offshore landgrab').

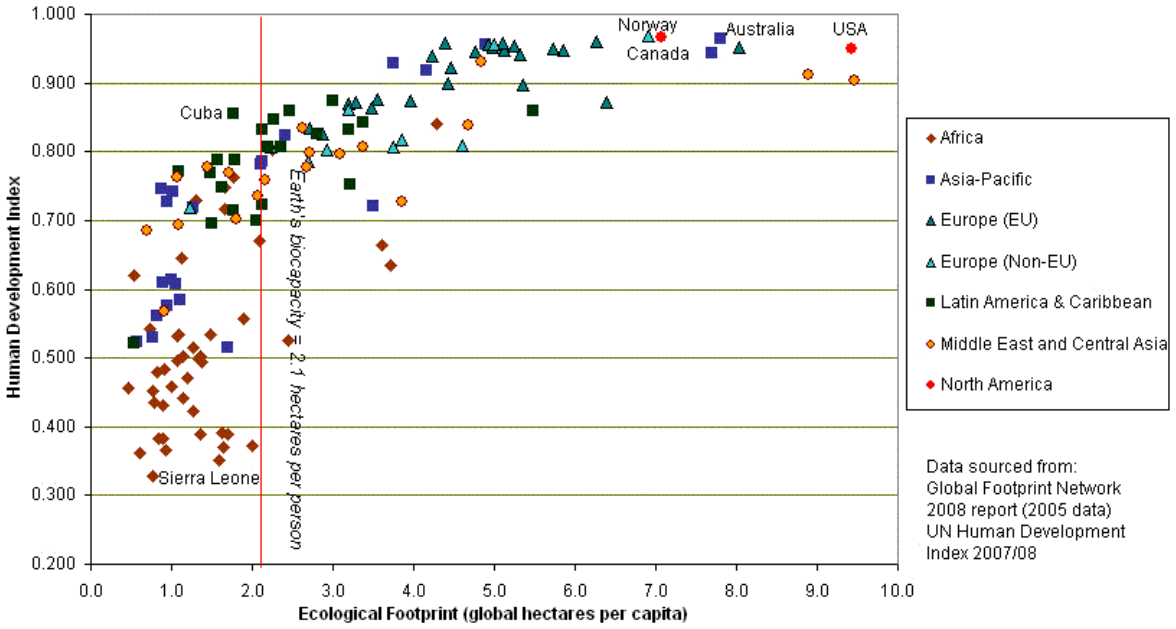
- On **water**, as already noted 'landgrabs' are often also water grabs in that water rights come with title to the land, enabling the leaseholder to export the water used to grow crops produced on it (virtual water). Intense equity issues also arise in any discussion about pricing water, or allocating water rights. Equally, if water is *not* priced or allocated, then this can also lead to inequitable outcomes, particularly if overall use rates are unsustainable - as the poor are often the first to lose out in this situation (e.g. through exposure to price-gouging by water sellers, or being unable to afford water drilling technology).

- On **climate change**, UNFCCC Parties have long been unwilling to discuss how any future global carbon budget would be shared out. This makes it effectively impossible to start talking about a global policy framework for stabilising greenhouse gas concentrations, and also impacts developing countries in that carbon space is still being used up whether or not a carbon budget has been defined, so entitlements that would belong to developing countries in an equitable and comprehensive framework are instead being used for free by high emitters.

There is also a broader issue of access to natural resources and environmental goods at the aggregate level. This can be illustrated by ecological footprinting (see WWF's *Living Planet Index*), which quantifies demand on ecosystems by measuring the total productive land and sea needed to produce and regenerate the resources that an individual or population consumes. The latest LPI finds that current global consumption overshoots planetary capacity by 1.5 times (i.e. it would take "1.5 planets" to sustain today's economy).[xvi] Similarly, the Stockholm Environment Institute has identified nine key planetary boundaries - climate change, stratospheric ozone, land use change, freshwater use, biological diversity, ocean acidification, nitrogen and phosphorus inputs to the biosphere and oceans, aerosol loading and chemical pollution. It argues that three (climate, biodiversity and biogeochemical flows) have been crossed while others are nearing their tipping points.[xvii]

But these issues of boundaries and sustainable limits are also inherently linked to issues of who gets to consume what *within* those limits. At present, high income countries' footprint is three times that of middle income countries, and five times that of low income countries (see figure 2). If total consumption is to fit within sustainable levels *and* low income countries are to grow their economies and improve their material standard of living - both precursors for sustainable development - then major issues of fairness arise, above all the need for developed countries drastically to reduce their footprints so as to provide a 'fair share' of limited environmental space for developing countries.

Figure 2: Human development compared to ecological footprint and sustainable use levels[xviii]



LAND

The amount of arable land per capita halved from 1960 to 2007, from 0.39 to 0.21 hectares, but demand for it is increasing from multiple sources including food, feed, fibre (paper, timber etc.), biofuels, carbon sequestration, conservation and cities.

Part 2: Fair shares in a world of scarcity

The convergence of equity and scarcity

Access to natural resources is, of course, grossly unequal even before increasing resource scarcity is taken into account. The world produces enough food today to feed all of its inhabitants, but around a billion people don't get enough to eat.[xix] The fact that 1.4 billion people lack access to electricity is not because of an inherent limit to how much power could be generated, but because of a failure of governments and markets.[xx] The fact that the world's poorest tend to be landless and rural is far from new. If anything, the fact that such inequalities should exist is all the more scandalous, given that they exist amid conditions of plenty.

It is also worth noting that inequality is rising steadily up the development agenda independently of any considerations relating to natural resources. The Millennium Development Goals, pre-eminent in framing development objectives for more than a decade, focus heavily on absolute poverty – above all the number of people living on less than a dollar a day. But as the MDGs' 2015 deadline approaches, some influential commentators are arguing for more emphasis on equality rather than just absolute poverty – in some cases suggesting that this could be the new 'big idea' on development.[xxi]

But resource scarcity will be a game-changer for debates on fairness and equity in development. The potential for scarcity to bring a harder-edged debate about distributional issues into play is well captured by Martin Wolf in a *Financial Times* article, written as concern over food, fuel and climate change was surging in 2007, in which he argued that,

"The biggest point about debates on climate change and energy supply is that they bring back the question of limits … this is why climate change and energy security are such geopolitically significant issues. For if there are limits to emissions, there may also be limits to growth. But if there are indeed limits to growth, the political underpinnings of our world fall apart. Intense distributional conflicts must then re-emerge - indeed, they are already emerging - within and among countries."[xxii]

Whether or not Wolf is right that limits to growth *per se* are involved, it is clear that reaching limits of any kind changes the discussion for debates about fairness. While left and right have long had opposite ideas about distributive justice, after all, they have shared the assumption that the total quantum of wealth to be distributed will expand over time.

If the resources and materials "cake" is expanding, debates about fairness are relatively benign in nature – allowing, for example, John Rawls to argue in his famous *A Theory of Justice* (1971), that inequalities in the distribution of goods can be justified if (and only if) they mean the worst-off in society are better-off in absolute terms. But if the amount of goods available is held static, then issues of equity take on an absolute rather than relative tint. In this case, inequalities in the distribution of goods must by definition disadvantage the worst-off: more for one party means less for another.

So debates about issues of justice in conditions of scarcity are especially challenging. They are also, of course, not new. In the 19th century, classical economics assumed that since the supply of land (which was understood as a proxy for natural resources more broadly) was fixed, it would become ever scarcer, pushing up rents and slowing down growth. The American political economist Henry George argued from this perspective for a land value tax, arguing that it would be both just and efficient to socialise land rents given that natural resources were not only finite, but a form of unearned wealth.[xxiii]

In reality, of course, the economy did *not* show signs of diminishing returns during the 20th century; on the contrary, technological innovation and the increasing use of fossil fuel-based inputs saw growth continue and indeed accelerate. Now, though, with resource scarcity, peak oil and climate change on the agenda, the context has shifted again. Considerations of equity in the context of limits are back on the table. Economists are debating whether neoclassical economics made a mistake in aggregating natural resources and capital as a single factor of production.[xxiv] While recent years have seen policy debates about equality and resource scarcity proceed on largely separate paths, their trajectories increasingly seem to be on convergent (or indeed collision) courses.

Methodological challenges

Before addressing the question of how to deal with questions of fairness in conditions of scarcity, it is necessary to note five key methodological issues that arise in this context.

First, there are real **limitations to the data** on resource availability, together with often enormous ranges of uncertainty. Scientists have an imperfect understanding of how the atmosphere works, for example, which directly affects estimates of what carbon budget will keep the world within a given level of average warming; data on recoverable oil reserves are highly contested. At the same time, the effect of policy measures such as changing prices is also far from predictable.

Second, it is important to be clear that **equity considerations apply in different ways to different kinds of resources**. Some resources - like water - are renewable, and hence involve decisions about what use level is sustainable before issues of allocation can come into play. Others - like oil - are non-renewable, and involve considerations about the entitlement of future generations that do not arise in the same way with renewable resources. Others again involve questions about the health of whole systems (such as ecosystems, or the climate), where there is the risk of outright and potentially irreversible collapse.

Similarly, some kinds of environmental resources, such as oil, are rivalrous (i.e. consumption by one consumer prevents simultaneous consumption by another consumer) and excludable (i.e. it is possible to prevent people who have not paid from having access to it), while others are not (e.g. global public goods such as a stable climate). Some are easily and cheaply substitutable, while others are not. And equity considerations also apply to the distribution of risk: while a fair society would be one in which risk is broadly distributed and shared throughout the system, in reality poor people are disproportionately exposed to risks such as climate variability or food price volatility.

WATER

Demand for water is likely to rise by 25% by 2025, but is already beyond sustainable use levels in many areas of the world, leading to depletion of both ground and surface water resources. Climate change will further exacerbate the problem. By 2025 up to two thirds of the world's people are likely to live in water-stressed conditions.

A third methodological challenge arises from the fact that **different resources are managed at different scales**. For example, although the fact that 'virtual water' is effectively imported and exported in crops, meat or other goods means that water security has a global dimension, water management still takes place primarily at scales defined by hydrology: those of a river basin or an aquifer, for example. By contrast, oil markets and climate change are much more global in nature - even if the patchwork of global governance institutions that try to oversee them are often messy and imperfect.

This complexity, and the system coherence challenges that come with it, are further compounded by the fact that **natural resources are often interchangeable** . For example, natural gas is used as a feedstock in fertiliser manufacture, and oil is used extensively both on farms and in transporting food: in both cases, fossil fuels are in effect being turned into food. But by the same token, the fact that food can be turned into fuel - for instance ethanol or biodiesel - closes the loop the other way, in effect creating an arbitrage relationship between food and fuel.[xxv] As a result, it is not possible to consider access to food without also taking energy into account. Linkages like these frequently go unrecognised or are badly understood, often a particular problem in governance systems configured into single issue 'silos'.

Fifth and finally, there is the fact that **scarcity is affected by other 'megatrends'** that also need to be taken into account in policymaking. For example, the outlook on resource scarcity interacts heavily with the outlook for demographic change, urbanisation and the effectiveness of national level institutions – and changes on any of these variables will in turn affect the availability of resources and the equity considerations that apply.

So one aspect of giving practical shape to an agenda of fair shares in a world of limits is about dealing with the numerous methodological issues that apply. But assuming that such methodological issues can be overcome, what constitutes "fair" in the allocation of scarce natural resources?

What's "fair"?

The question of what constitutes "fair" is among the most contested issues in political philosophy, involving questions not only of distributive justice, but also of identity (whether people should be considered first and foremost as individuals or as part of communities, for example), institutions and rights. This section therefore tries to reduce these vast debates to a manageable scale by focusing on some of the conceptual issues that are of most direct relevance for resource scarcity, identifying concrete examples wherever possible. A good place to start this discussion is with the observation that **a concern for equity can be interpreted either minimally or maximally** in the context of resource scarcity.

At one end of the spectrum, a minimal approach might be limited in ambition to ensuring that all people have access to sufficient resources to be able to meet at least their basic needs (although there is of course considerable debate about what constitutes a 'basic need').[xxvi] For example:

- *Humanitarian assistance* is one obvious instance of this kind of approach, particularly in the context of food.

- Many forms of *social protection* also fit into this category, whether they are cash-based (e.g. cash transfers such as the *Bolsa Familia* in Brazil or employment guarantee schemes such as the NREGA in India) or resource-specific (e.g. food safety nets; in future, social protection systems may also be applied to access to basic energy needs).

- *Subsidies*, for example on food or fuel, can also be seen in the minimalist context although they are often problematic (economy-wide subsidies are frequently a major fiscal burden, and also send distorting market signals).

- More broadly, *rights-based approaches*, such as a right to water or to food, can also be seen as minimalist approaches to equity, given that the right offered is access to enough of the resource to meet basic needs, not an equal share of the total amount available.

- *Land reform* can be seen as minimalist when the objectives of reforms are simply to provide poor landless families with enough land to provide for a basic livelihood (again, as opposed to a larger agenda of redistribution in pursuit of equality *per se*).

At the other end of the spectrum, maximal approaches move beyond basic needs, and aim for an equal overall allocation of access to the resource in question - either because such a distribution is seen as desirable in its own right (e.g. a belief that people deserve equal shares of common resources), or because equitability is seen as a prerequisite for effective institutional function (e.g. to reduce free riding and maximise compliance). For example:

- Rationing in Britain during World War II was based on the principle of equitable rights to scarce foodstuffs and other goods, with special allowances for some citizens (larger food entitlements for pregnant women or nursing mothers, for example) based on need.

- The Alaska Permanent Fund receives at least 25% of the royalties from oil and gas production in the state, and provides all citizens over voting age with an equal annual dividend (usually between $1,000 and $1,500) every year, irrespective of age or the number of years of residency in the state. A land value tax could be used to apply a similar approach to land.

- The 'Contraction and Convergence' approach to global climate policy would work by defining a global stabilisation target for greenhouse gas concentrations, and then sharing out the resulting global carbon budget on the basis of convergence to equal per capita entitlements to by some negotiated date. Entitlements would be tradable, allowing countries to sell unused allowances providing low income countries, with their low per capita emissions, with a major new source of finance for development.[xxvii] The Greenhouse Development Rights approach is another attempt to solve the question of how to share out a global emissions budget.[xxviii]

Of course, the twentieth century saw both socialism and communism attempting in different ways to achieve equality of outcome– not always with obvious success. Here, however, it is also worth distinguishing between projects that are redistributive in scope (e.g. progressive taxation)

versus those based on equitable allocations of a newly privatised resource that can be regarded as having been a commons up to that point (e.g. the atmosphere, state-owned oil resources).

This distinction between minimal and maximal approaches is in some ways comparable to the debate in international development between advocates of tackling absolute or dollar a day poverty and advocates of a more ambitious approach centred on reducing inequality.

Equity between countries or between people?

Another important question is **whether the objective of equity applies primarily at the country level, or - more ambitiously - at individual level**. In recent years, aid donors have tended to focus on countries' GDP or GNI per capita as an indicator of their overall level of development: the categorisation of high, middle and low income countries is based on GNI per capita, for example.[xxix] However, countries with comparatively high GNI per capita can still have high rates of inequality, and long poverty 'tails' – indeed, a recent study argued that the majority of the world's poor people live in middle, not low income countries.[xxx] As a result of this distinction, there is an ongoing debate in development about whether aid should be focused primarily on poor countries, or on poor people.[xxxi]

This debate has direct relevance to questions of equity in the context of resource scarcity. One of the problems associated with 'landgrabs', for instance, is that while such deals can potentially provide genuine benefits to the host country, such benefits often accrue to elites while poor people lose out (for example, as a result of displacement from land that they had previously). Similarly, an approach to carbon space based on equal per capita rights to the atmosphere might regard governments as the owners of carbon permits, in some cases creating new rents for elites to exploit; or it could go further, and provide each individual citizen with an equal carbon entitlement (as proposed in the concept of personal tradable carbon allowances).[xxxii]

Equity today versus equity between generations

Next, **there is an important temporal dimension to equity considerations on access to scarce resources**. In the case of climate change, for example, the longevity of many greenhouse gases in the atmosphere means that present day emissions disadvantage future generations both by using up 'carbon space' that they might otherwise have had access to, and by exposing them to climate impacts. Similarly, current use rates of non-renewable resources such as fossil fuels also prioritise consumption today over consumption tomorrow. These equity dilemmas can in effect be quantified through the discount rate employed to place a net present value on a resource (a way of measuring the value today of cash flows or costs that are received/incurred in the future). As a result, the levels used for such rates can be highly controversial, as was the case for example with the Stern Review of the Economics of Climate Change and its accounting for the social cost of climate change.

Another example of the temporal aspects of equity, again drawn from the climate change context, is how to account for historical emissions that are already in the atmosphere. For example, Britain began to industrialise earlier than most nations – and the emissions from coal it burned during the 19th century are still in the atmosphere. In this sense, while Britain has about the same per capita CO_2 emissions as South Africa, it has a larger overall responsibility for climate change because of its past emissions. (However, one can also argue the point the other way, i.e. that Britain should receive credit for innovations produced during its early period of industrialisation that are available to all countries today.)

OIL

Demand for oil is projected to rise by 40% by 2030, but supply is already hampered by significant under-investment in new production sources and the increasing difficulty of reaching remaining reserves, leading the International Energy Agency to warn of the risk of a major supply crunch.

Equity on specific resources versus equity generally

Yet another question is that of **whether it makes most sense to think about equity in access to a particular resource, or to focus on equity more broadly**. For example, while inequality in access to land or forestry may be a very real issue for many poor people, the underlying issue is arguably less about those natural resources themselves than the livelihoods that they enable. If people who depend on those resources for their wellbeing had alternative livelihoods that provided a secure income, as well as sufficient access to markets to enable them to purchase food and other goods, then they might not need direct access to land or forests.

So one can argue that equity in access to natural resources like land, water and food is much less important than overall inequality of income and wealth - and that development policy and advocacy should concentrate on this bigger picture, for instance by pushing for policies that can reduce inequality such as redistributive taxation. On the other hand, though, there are also good reasons to consider natural resources as a special category. For example:

- It might take a long time to reduce overall inequality – but in the meantime, poor people will remain especially reliant on basic natural resources, whether because they use natural resources directly for their livelihoods (three quarters of poor people are rural), or because their low incomes mean they spend a high proportion of their incomes on basic goods like food and energy. Natural resources also often have enormous cultural significance for many poor people and indigenous groups.

- Wealth and income may not always ensure access to resources. Some small, low-income countries struggled to secure enough food on open markets during the 2008 food spike, despite having enough money to pay the market rate.

- While markets will respond to resource scarcity (e.g. making alternative energy technologies available to replace oil, or desalination as a response to water scarcity), these kinds of innovations will take time to come on stream. Many will have to compete with perverse subsidies that favour the status quo; others will depend on transformation of entire infrastructures (such as power transmission grids). In the meantime, poor people will continue to be disproportionately exposed to risk during the transition.

- Even when new innovations *are* available, they will often have high initial capital costs that put them out of the reach of poor people. This was often the case with agricultural innovations during the earlier stages of the Green Revolution, which initially benefited larger landowners, who had better access to credit.

At the same time, it is also important to be clear that the emergence of resource scarcity will itself create winners and losers in the wider economy, regardless of what policy action is taken. For example, an age of higher food prices may benefit rural food producers while urban consumers lose out. Policy action may therefore also be taken to address new disparities that are created by resource-linked drivers of change.

Resources managed as commons

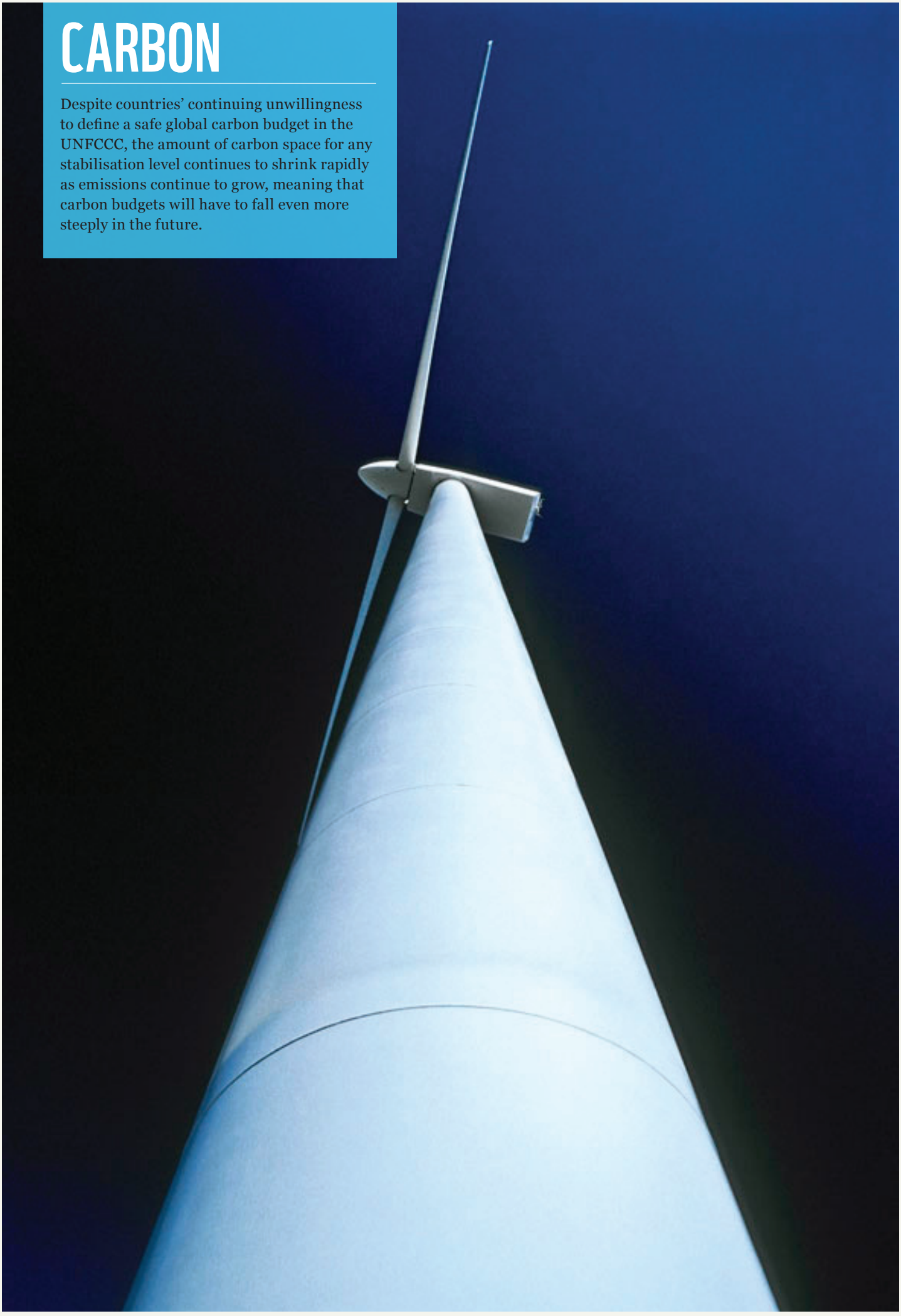
Finally, it is worth noting that there are also forms of equity in natural resource access that do not depend on monetising natural assets. In particular, **resources can be managed as commons instead of being privatised** - an approach that some analysts argue to be particularly appropriate given that the kinds of wealth contained in commons are not 'earned' in the same way as other forms of capital.[xxxiii]

While the idea of commons is often associated in popular imagination with the idea of the 'tragedy of the commons' - the dilemma in which multiple individuals reliant on a shared resource ultimately deplete that resource through rational pursuit of their narrow self-interest- in fact there is a vibrant and burgeoning literature on how to make commons work sustainably and inclusively, notably the work of Elinor Ostrom. Significantly, research on management of commons strongly emphasises norms of fairness and reciprocity as important requirements for effective cooperation – implying that fairness is both an outcome of a well-managed commons, and part of what makes it work. Commons theorist Peter Barnes argues, for example, that one of the five key organising principles for commons sector institutions is that of "one person, one share", observing that:

"In the case of scarce natural assets, it will be necessary to distinguish between usage rights and income rights. It's impossible for everyone to use a limited commons equally, but everyone should receive equal shares of the income derived from selling limited usage rights."[xxxiv]

CARBON

Despite countries' continuing unwillingness to define a safe global carbon budget in the UNFCCC, the amount of carbon space for any stabilisation level continues to shrink rapidly as emissions continue to grow, meaning that carbon budgets will have to fall even more steeply in the future.



Part 3: Conclusion – putting fairness into practice

So much for the conceptual and methodological issues that arise in discussions of fairness in conditions of scarcity. What does the agenda mean in practice for international development – and what can aid donors, as well as campaigning organisations and think tanks, do to take it forward? This section sets out ten tentative recommendations – not a comprehensive or definitive list, but rather one intended to tease out possible implications and provoke debate.

1. Invest in improving the data

The methodological issues flagged up in the last section are not merely of academic interest. On the contrary, finding ways to manage them is a fundamental prerequisite for making any kind of progress on a fair shares agenda on resource access and environmental space. At the most basic level, this means improving the data, both at supranational level and in countries. Some of the foundations are already in place – comparatively good surveillance systems for food production and food security already exist, for example – but critical gaps exist as well (country-level data on water availability and projected climate impacts are two key examples). Above all, donors and think tanks need to work with developing countries to improve *integration* of data, both horizontally across issues (e.g. connecting the dots between water, land, food and climate data in countries) and vertically across governance levels (e.g. connecting on-the-ground surveillance with early warning of how global trends could impact individual countries).

2. Recognise that scarcity isn't just relevant to specialists in environment, climate and rural livelihoods

By extension, donors must also recognise that resource scarcity is not an agenda that is only relevant to specialists in environment, climate and rural livelihoods. On the contrary, the political economy of scarce resources can be expected to become increasingly central to issues of governance, economics, social development and conflict – where disputes over the distributional dimensions of resource scarcity are already a significant threat multiplier within fragile states (competition for land was a significant factor in Kenya's post-election violence in 2008, for example).[xxxv] It will therefore be essential that professional development in these and other specialist areas of development practice includes training on the specific issues of competition and equity in natural resources.

3. Understand how scarcity shapes politics in developing countries

Recent years have seen the Department for International Development and some other donors move towards mainstreaming 'drivers of change' assessments in country programme planning, to ensure that spending decisions and influencing strategies are based on a sophisticated sense of countries' longer term political contexts. As resource scarcity increases and becomes a major driver of change in its own right, this kind of analysis will become more important than ever. Rather than seeing scarcity as a stand-alone set of issues, donors need to understand how it fits in to the larger political economy context, and relates to urban/rural tensions, political parties, spending decisions, civil society dynamics, the politics of ethnic groups, and other political economic variables. NGOs and donors will also need to be clear how far they are prepared to try to influence domestic debates over natural resource governance in the countries where they operate.

4. Focus on access to justice

In the governance area specifically, issues of access to justice may become particularly important as resources become more politicised, since even where legal frameworks are in place to ensure a certain level of resource access, poor people may in practice find their rights abrogated – for example through forced displacement from land to which they enjoy customary title – as natural resources become more scarce. Existing literature on conflict over natural resources stresses that conflict risk is highest in contexts where communities facing scarcity are "politically irrelevant" and therefore less able to resolve disputes over resource access through the state.[xxxvi] Focusing on access to justice will therefore be an especially critical area of work for governance specialists.

5. Be clear that this isn't just an in-country agenda.

Aid donors will naturally tend to focus on what they can do in the countries in which they operate – it is there, after all, that the bulk of their staff are located, most of their money is spent and where they tend to feel they have most influence. But they need to be clear that on resource scarcity, it is the international level agenda where there is most to be done. As this paper has highlighted, the key drivers of resource scarcity, on both the supply and the demand side of the equation, are global. While developing countries can adapt to some extent, and donors can do much to help them in this, ultimately global solutions are needed to global problems. This means that it is imperative that donors prioritise their work on areas that can contribute on this front – like policy coherence for development, international institutional reform, green economy, sustainable consumption in OECD countries and so on.

6. Start developing policy options now – before the policy space for them opens up

At present, there is scant political space for taking forward a global agenda of fair shares in a world of limits. On the contrary, governments are failing to act collectively on a whole range of global issues (climate change, the Doha trade round, food export bans and global economic imbalances to name just a few), and sustainable development issues are among those showing fewest signs of progress. However, as the impacts of resource scarcity and climate change continue to increase in frequency and severity, it is likely that political space will open up – often in the aftermath of shocks, for a limited time window. This places a premium on having ideas (as well as communications and public affairs strategies) ready 'on the shelf', that can be deployed very rapidly when windows of opportunity open up. Governments, NGOs and think tanks all tend not to invest in this kind of preparedness, instead pursuing much more incremental strategies. From now on, they need to do both.

7. Focus on basic needs to start with...

Much public and political support for international development already depends on the idea that all people have a right to the basic needs of life, such as food, clean water and so on. The fact that resource scarcity imperils these basic needs can create a crucial bridgehead narrative that opens up space for talking about scarcity, and the more politically challenging aspects of fair shares. Aid donors and NGOs are in effect already focused on many basic needs aspect of the fair shares agenda, for instance through their focus on areas such as social protection, humanitarian assistance, and the need for greater emphasis on small farmers in any new 'agricultural renaissance' (which inevitably involves issues of access to land, water and other assets).[xxxvii] Again, though, work in countries must be matched by advocacy at the trans-boundary level. The World Food Programme has provided one example of what this looks like in its effort to win exemptions for humanitarian assistance from food export bans when these are applied. Another example is provided by the recommendation made by the ten international agencies commissioned to produce a report on food volatility for the G20, that national biofuel

support policies should be suspended when food prices surpass a defined level (a 'safety valve' approach).[xxxviii]

8. ...but start building up the broader 'fair shares' narrative too

At present, the idea of equity in access to 'environmental space' is largely absent from mainstream public debate, even if it is becoming more recognised in environment and development contexts. Consumers are only gradually getting used to the idea that their carbon footprints implicitly have a fair shares dimension (emit too much and you're using someone else's share), and more progressive consumers are just beginning to take the global impact of diet choices more seriously. Building up a broader fair shares story in the public mind should be a key objective for the development sector, involving both the agenda-setting capacity of politicians and NGOs, and the technical expertise of think-tanks (for example in developing indicators that can help inform consumption choices). Above all, it will be important to stress that arguing that taking equity seriously is a prerequisite for sustainable management of shared resources in a world of limits and high interdependence – *not* just the norm or a 'left wing' agenda.

9. Focus on poor people, not just poor countries

As previous sections have noted, the development agenda has in recent years sometimes focused primarily on country-level indicators (such as GNI per capita) more than the distribution of income *within* countries. More recently, as described earlier, the issue of inequality has risen up the development agenda, while research findings have emphasised that countries classified as 'middle income' are still home to hundreds of millions of poor people. A focus on resource scarcity would strongly support the shift towards focusing on poor people rather than just on poor countries. This is partly because, as discussed, poor people are most vulnerable to resource scarcity and environmental shocks. But it is also because the changing political economy of resource access also creates new opportunities for elite rent-seeking, corruption and exploitation of poor communities: the emergence of the issue of landgrabs is a case in point of how deals that can potentially seem to provide benefits for countries can in reality provide gains for elites and severe losses for poor communities.

10. Don't jump straight to the limits to growth question

Debate is starting to open up on whether limits apply just to certain resources, such as oil or carbon space, or to economic growth *per se*. The latter could yet prove to be the case: while green economy agendas focus on 'decoupling' economic growth from environmental impacts (i.e. reducing the carbon or resource intensity for each unit of production), current decoupling rates are being outpaced by economic growth, so that total environmental impact is still rising.

But even if there really are limits to growth, it will take time for this to become clear. While campaigners should not try to duck the question of whether there are limits to growth, neither should they risk polarising debate by taking too definitive or didactic a tone at the outset. Instead, they should play a long game: suggest that there is a genuine debate to be had about limits to growth, and that the jury is still out, but above all underline that it is *already* clear that there are limits to the supply / availability of crucial resources –and that policy needs to face up to this, and in particular the fair shares issues that are unavoidably involved.

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