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Foreword

I am delighted to introduce this edition of Atlas, the journal of the Geographical Society. Atlas provides a wonderful opportunity for students (and sometimes staff!) to contribute to a student-led Geography publication during their time at Trinity. The range of articles included in this year's edition is testament to the broad scope of Geography as a subject, and highlights the diverse interests of our students.

The production of Atlas represents a significant effort, and I would like to congratulate the Geographical Society's committee members who have dedicated their time to publishing this year's edition. This is a particularly special year for Atlas, as it marks the fiftieth anniversary since the journal was first published in 1967. It is also a special year for me, as it is twelve years (!) since I was involved in producing Volume 10 of Atlas as an undergraduate student in the Department – an invaluable experience that I have drawn on a lot since then. In fact, getting involved in the Geographical Society is something I cannot recommend highly enough – the Society's activities and successes are a wonderful example of what an enthusiastic group of like-minded students can achieve. The publication of Atlas each year for the last three years highlights the ongoing active profile of the Society, which continues to go from strength to strength – all of which is due to the hard work and enthusiasm of the committee and of Society members.

The publication of this edition of Atlas is a fantastic way to round out what has been an extremely successful year for the Society. I am delighted that an edition of Atlas has been published during my time as Honorary President, and I have no doubt that Atlas – and the Society – will continue to thrive in future years.

Happy reading!

Gayle McGlynn
Honorary President

Acknowledgements

To begin I would like to thank all contributors to this journal, without them we couldn't have published Atlas as it celebrates 50 years as the official Society Journal of DU Geographical Society.

Although Atlas has gone through periods of absence throughout its existence, this edition celebrates the 50th anniversary of the publication of the very first edition back in 1967!! I am extremely honoured to be the editor of this milestone edition. This society journal reflects the significant impact and legacy that Atlas and DU Geographical Society has had on the Trinity Geography community over the last half century.

This year's instalment features several articles from some of the society's most talented undergraduate members. Atlas proudly displays some of the best work that emerges from our members and within this edition there is an extensive range of articles ranging from Food Security to Development in India. There is surly something for everyone within this year's instalment, the competition was extremely high once again and the editorial team had to make some difficult decisions in selecting the final articles for publication.

I would like to thank Laura Rankin and Evan Carey who played a vital role on the editorial team for this latest edition of Atlas. Without their efforts, this publication would not have been the same.

Finally, I would like to say that without the financial assistance of the TCD Association and Trust this volume of Atlas would never have gotten off the ground. The Trust covered the cost of printing in full and I would like to express the sincere gratitude of the Geographical Society to the Alumni of Trinity College Dublin who donated to this generous fund.

Happy reading!

Stephen McLoughlin
Atlas Editor

Chairpersons' Greeting

As another year for the society comes to a close I couldn't be more proud of what this society has achieved and how far we have come. From achieving a record membership number in Freshers week, to travelling to Bucharest with more members than ever and of course, hosting Earth Ball on our own for the first time.

We have achieved and improved so much and for that I must thank everyone involved in the society. A big thanks to the wonderful committee who helped me out throughout the year. A special thanks to my girlfriend Rachel for getting GeogSoc into the healthiest financial position it has been in for a very long time, also a big thanks to my right-hand man Evan Carey who proved himself as an indispensable member of the committee. I have no doubt that he will serve as an excellent chairperson next year.

Many thanks to this year's editor Stephen for committing so much time in producing the 50th anniversary edition of Atlas and to Laura who has done another brilliant job in designing the graphics, not for the first time this year!

This society has meant so much to me during my time in Trinity College Dublin and has led to friendships that I will treasure for life. It has been an absolute honour to serve as chairperson of GeogSoc and it will stand by me for the rest of my life. For that I must thank you, the society members for all your support and enthusiasm for participating in the society throughout the year. I am confident the GeogSoc has a very bright future ahead of it.

So, enjoy this 50th anniversary edition of Atlas and enjoy everything that this society can offer you because your college days will be over before you know it!

Sincerely,

Evan Cunningham
Chairperson 2016/17

The treatment of Empire, Civilization and Culture in Strabo's Geography.

Helen Peck

Strabo's Geography has been a foundation stone for the discipline for two thousand years, and gives us a vision of a man who thought in many ways similar to how we think today. His texts show that he valued many different cultures, was critical in many ways of the imperial system under which he lived, yet proud of its achievements, and used geographical methods based on facts rather than myth and hearsay. Strabo tried to take an overview rather than look only at details (Dueck et al., 2006). His text has become an integral part of our culture and of the discipline of geography. We may look first at his text's cultural relevance, then at its relevance to civilization, and lastly at its importance for the imperialism of Rome.

Strabo refers to his text as a 'kolossourgia', a Colossal Work. He emphasises that the work should be taken as a whole not just a collection of details. Strabo is to be seen as representing the Roman administration and also his native civilisation centred on the Greek 'polis', which was the highest form of civilisation (van der Vliet, 2008). Pothercary notes that Strabo takes a 'bird's eye view' approach than a 'view from the ground'. Many Greek ideas were influenced by Homer, and Strabo's use of Homeric views provides basis for much of the criticisms of the Geography (Dueck et al., 2006). Roseman observes Strabo's methodological and philosophical principles in his Geography, namely the correcting of the inadequacies of his predecessors, where his reasoning (such as the inhabitability of northern regions), cannot be contradicted by observers (Roseman, 2006). Strabo's focus on description over analysis features in many critiques. Many criticisms deal with inaccuracies/inconsistencies in one place, defeating any understandings of Strabo's intentions as a whole (van der Vliet, 2008). Nevertheless, he is often clear and concise with his recordings of travels, distrusting isolated pieces of information and considering fleeting visits of places unworthy of mention. Strabo's connections with the cultural and political behaviours associated with life in the region of Asia Minor, and the "civilizing" impact of Roman generals such as

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Lucullus and Pompey, shape, give order and characterise the accounts given in the Geography (Clarke, 1997).

Geographical representations provide order, whether in support or opposition of an idea. Simple dichotomies are found in Strabo's Geography, that of the 'civilised' (Roman, Greek) and the 'uncivilised' (barbarian, non-Roman). Control and domination are characteristics of the anthropological ordering of the civilisations. Control is determined by level of self-control and intelligence, with political wisdom found in the level of political or social organisation and the way of life achieved. 'Romanisation' was synonymous with 'civilisation' in Strabo's writings (van der Vliet, 2003). Despite his admiration of all things Roman, Strabo readily acknowledges other great civilisations such as India. Internal geographical differentiations would still exist between peoples across the world even if a single (Roman) order was imposed. This realisation disrupts the concept of a simple binary system of opposites. Here, Strabo's Greek mind emphasises the reality of a complex existence between Roman, Greek, and various Asian civilisations (Konstan, 2002).

Strabo does not romanticise his descriptions. Thule (broadly Northern Europe) offers him little information. Sources by Pytheas are recorded as being false as he simply fabricates districts outside the limits of the habited world. By logic, the absence of fruits and animals in this region means scarcity of people too. Strabo therefore considers people and civilization of the 'frozen zone' as being non-existent. Strabo insists the furthest limit of civilisation should be placed in Ierne (Ireland), making Thule fall outside it (Thayer, 2012).

Strabo's world was centred around the power of Roman rule, with links around the world for the transportation of people, resources and knowledge. At the same time the influx of Greek thinkers (often drawing intellectual ideas from academic teachings of Asia Minor origins) brought with it outlooks different to the thinking of Rome itself. Intellectuals like Strabo, were indeed central to the conceptualisation of the Empire, and their accounts added to the strength of the imperialist rule (Clarke, 1997). "Strabo's Geography is a work reflecting the preoccupations of his whole life-span, when the world was being altered beyond recognition" (Clarke 1997, p.105).

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Strabo's Geography attempted to account for the Roman's take on the world. The 'pax Augustus' was clearly a phase where a unified perspective on the world could be written about. The military leadership of Pompey was crucial to Strabo's idea of controlled, clear, universal Roman rule. Roman ambitions for the world are noted in Strabo's details of various conquests of Pompey, especially the campaigns to squash the power of the pirates and their raids (Clarke, 1997).

Roman rule was centred on cities and the roads connecting them. Cities are distinguished from one another by Strabo in terms of their present and past states. Size is important, but their histories are especially distinguished if they are 'famously' mentioned in Homer's works. Famous events or mentions by classical poets provide identities for cities and their citizens and generate pride in the cities. Rome itself is shown to have brilliance in military control and administration of civilization. The enormity and beauty of the capital's buildings are clearly respected. Tribute is paid to Roman political wisdom in taking care of the things necessary to sustain a good standard of living before beginning to decorate their city (van der Vliet, 2003). The world to Strabo consists of internally ruled urban elites, a Greek intellectual culture, surrounded by tillage of the land, and a strong military force of Roman rule. Thus, Strabo belongs to the two 'civilised' groups. The outside 'uncivilised' groups were of marginal importance in comparison (van der Vliet, 2003).

However, Strabo respects other cultures. He examines and maps India. Strabo considers many written as falsified and highlights their incoherence, alongside the insertion of myths. His role as geographer is to accept these accounts only with additions made by himself for greater clarity. Two important accounts were by Eratosthenes, and Alexander the Great. Strabo notes the Ganges and the Indus. He concludes it is the silt carried down by the great rivers that provide the fertile land. The soft plains were the 'gifts' of the rivers. He records that the people are divided culturally into a seven-caste system, including philosophers, farmers, herdsmen, tradesmen, warriors, the King's inspectors, and the King's councillors. The system ensures order and efficiency in Indian society and makes an interesting comparison with Roman culture (Thayer, 2012).

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In evaluating Strabo's Geography and his treatment of empire, civilisation and culture, we may ask what information is recorded and for what reasons? Superior cultural viewpoints often overshadowed work by geographers who sought to record geographical knowledge. Superior colonial accounts dominated "situated knowledge" (Clarke, 1997). Geertz argues that the culture of people is a formulation of texts. The text author becomes both the narrator and a viewer of the text. The author is thus central to the decoding of presumed values and cultural behaviours recorded in the texts at the time (Geertz, 1973). Examining Strabo's work we can detect ancient authors using deliberate authorial self-representation in their prose and we can respect the restraint shown by Strabo himself (Clarke, 1997). Strabo's text was a way of educating about imperial rule. Studying the effects of the state on the geography of the land was also a practical way to instruct Roman rulers of the world, as they were often ignorant of geography. Therefore, an informed imperial state can at least have the know-how to better fuel its activities. It was hoped then that well-read citizens would then act as a 'checker' on decisions made by leaders, encouraging a sense of global citizenship (Koelsch, 2004).

Strabo begins his imperial lessons by explaining the rise of the Romans. Italy, like an island, is protected by the seas everywhere, bar a few areas guarded by impassable mountain ranges. Italy's abundant supply of fuel and food maintains both humans and animals. Romans sit between the Northern European races and southern Libyans, therefore are well-placed for hegemony over these races. This is not simply due to the upper-hand its people have over them in valour, education, and size, but due to Rome's key location and its eagerness to avail of all their combined services (Thayer, 2012). The Roman take-over of Italy and its hegemonic strategies are described. Romans operated under monarchs for centuries, but then created a governance of a mixture of monarchy and aristocracy which assisted the rule of the state. As many of the neighbouring peoples were uncooperative under this government, the Romans were forced to expand the territory of Rome into that of others, e.g. Sicily, Libya (Thayer, 2012).

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Strabo reviews techniques of past imperial expansion in Northern Europe such as when Caesar only crossed over to Britain twice to eventually the relations with the chieftains and Augustus which became established through paying court to the emperor in capital terms, which by default rendered the whole island Roman property (Thayer, 2012). In Eastern Europe and Germany, much territory was under the control of Maradobus, previously a citizen of Rome and a friend of Augustus. Augustus held off his men to prevent inciting these peaceful Germans, who could combine with their fellows in their common hostility for the emperor, a useful way of holding territory without war. Military and political comment aside, Strabo also offers practical aid about German roads, often windy routes through marshy lands and forests. This was important to the imperialist ideas of spreading Romanisation, constructed like a handbook for empire builders (Thayer, 2012). Outside of Europe, e.g., Parthia, were also equal threats on the borders of the Romans. The Parthians, according to Strabo, were ready to give full allegiance to Rome and Augustus, to which the administration of such a dominion would have never been successful if it wasn't for the peaceful period under the dominant rule of Augustus (Thayer, 2012). Here, Strabo feels it was a mistake to refer to the Roman empire as including nearly the 'entire' inhabited world whilst excluding the civilisations of the Parthians and the Indians. These civilisations could become 'Roman' by simply adopting the ways of life practiced, speaking the language of the people and accepting their cultural politics (van der Vliet, 2003).

In summary, Strabo's "conceptual map" is laid out as follows - topographical, ethnic, the finally political (Dueck, 2000). He examines geographical change in regions not for its own sake but for its broader influence in generating differences across the globe. Dueck highlights that Strabo lays out each regional segment into a systematic pattern for comparative analysis, forwarding the ideal of universalism across the 'oikoumene' (Dueck, 2000). Clark (1999) notes that Strabo was writing under the time of the first Roman emperor, trying to balance the relationships between delicate localities and continuous space of the entire global world, a situation not unlike that found today in modern geography. The habitable areas provided the stage for analysis, and these influence and change human action. The framework of his

accounts is reminiscent of today's 'core-periphery model' with chains of commodity flows from major cities to the hinterlands. He focused on the geographical alterations over time in relation to the physical landscapes and human populations (Clarke, 1999).

Strabo was critical of the traditions of his discipline, often supplementing earlier work with his own ideas. "Space geography" is the main concern of Strabo's Geography (Clarke 1999, p.97). Detailed accounts of place exploration need not necessarily be associated with imperialist writings but they do become utilised by such. His text thus provided support for Roman imperial power (Koelsch, 2004). Given that the culture of people is a formulation of texts, part of our culture comes from Strabo, the narrator and viewer of a powerful text central to the values and cultural behaviours at the time. Strabo's text repeatedly takes the "bird's eye view", stemming ultimately from his Greek culture and civilization. His methodological and philosophical principles, namely the correcting of the inadequacies of his predecessors, render his reasoning difficult to contradict by observers (van der Vliet, 2008). It also places his Geography among the great foundation works of the discipline.

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How does the various ways of measuring 'development' affect one's assessment of changes in India since the early 1990s?

Rachel Gallagher

Since the 1990s, India has experienced massive economic growth. However, in 1991, India's economy was in crisis. Import prices were increasing, the level of exports was declining, India was facing huge foreign deficit and there was a shortage of funds preventing growth in India. Desperate, immediate action for economic reform was taken by the government to liberalize the economy. Since the 1990s, trade barriers and restrictions on businesses were removed, allowing multinational corporations and foreign investors to set up in India. Globalisation seemed like the solution to India's problem but consequently it has created inequalities in the Indian economy and has impacted people through brain drain, outsourcing/offshoring and the exploitation of natural resources by multinational corporations who relocated to India. Growth is crucial to the Indian economy as with a current population of 1.295 billion (World Bank, 2014) and 18 million added to the population every year, a growth rate of 6-7% per annum needs to occur for growth to remain stagnant. In this essay we will explore the different methods of measuring development in India and evaluate the benefits and disadvantages of each. The measurements used to measure development in India we will be discussing are Gross Domestic Product (GDP), Gross National Happiness (GNH), the Gini Coefficient and Human Development Index (HDI).

Reducing Trade Barriers: Increased Brain Drain and Foreign Investment

The demolition of trade barriers has led to increased brain drain and foreign investment in India. Brain drain is defined as the migration of people in search of a better standard of living and a better quality of life, higher salaries, access to advanced technology and more stable political conditions in different places worldwide. The majority of this type of migration is from developing to developed countries (Dodani

and Laporte, 2005). In India this began with highly educated third level students leaving India to join technology firms around the world. However, India is a rare example of reverse brain drain, which is when students who left their home country to study and work abroad return to their home country. When the IT economy took off in India and the 'dotcom' bubble burst in the US in the early 1990s, it sparked reverse brain drain for non-resident Indians. There were now jobs for these students to be employed in back at home in India and the government helped by incentivising them to return home (Development in Action, 2015). Mukherjee (2008: 2) states that Bangalore has become globally recognised as the hi-tech hub of India. BMP brochure described this South-Indian city as home to 125 multinational corporations, and 1150 software companies, of which is responsible for 35% of India's software exports and 120,000 IT professionals (Mukherjee, 2008: 2-3). As the majority of India's growth is IT based, Bangalore has adopted the title of the Silicon Valley of India, causing middle class professionals to migrate to this South-Indian city to 'ride the wave of IT led growth' (Mukherjee, 2008: 3). Consequently, the area from which they move from suffers due to the emigration of the educated people as a result of brain drain. Service sector jobs have become more common in India as foreign investors are attracted to set up in India for a number of reasons. Hardy (2013) argues that companies are more willing to pay wages of $2 per hour to workers in India as opposed to paying more than ten times that amount to workers in the United States and as a result resort to outsourcing. Unfortunately, workers in India are often exploited. Low labour costs is a definite pull factor for these multinational corporations to move their production from the Western World to countries such as India, as it massively decreases overall running costs of the company. Foreign investors often exploit natural resources, such as water and seeds. Economic growth led by the IT industry has resulted in a middle class bias, with only a fraction of the population benefitting directly from economic growth. Although GDP growth in India has allowed the state to increase spending in order to alleviate poverty. A UN study found that more people are below the poverty line in eight states in India than in all of sub-Saharan Africa (World Bank, 2015).

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Gross Domestic Product (GDP)

The first method of measurement we are going to explore is Gross Domestic Product, also referred to as GDP. It is the most commonly used measure of economic activity in the world. It is calculated by subtracting imports and government spending from consumer spending, investment and exports. India's GDP at market prices (current US$) is $2.049 trillion in 2014. India ranks as third in the world in terms of total GDP behind China and the United States (IMF, 2014). GDP per annum has been increasing in India every year since 1992 and continues to increase; 6.6% in 2011, slight drop to 5.1% in 2012, 6.9% in 2013 and continued to increase to 7.3% in 2014 (World Bank, 2015). In an article in *The Guardian*, Shiva (2013) discusses how GDP is an 'artificial boundary'. It does not in fact measure economic activity and social progress as a whole. The poverty economic growth creates is concealed; we do not see the nature it destroys and the struggle communities participate in to survive as a result (Shiva, 2013). Seeds are used as the basis of food production. Seeds only produce growth when they are 'modified, patented and genetically locked' (Shiva, 2013). Measurement of GDP in this case does not take into account the well-being of the farmers who have to compete with companies, such as Monsanto, who sell genetically modified seeds to farmers, meaning farmers cannot reuse the seed (Hayes, 1999). This is an unfair system as it leads to a lot of debt. These genetically modified seeds (GMOs) do in fact generate growth and income for the economy, but at the expense of nature and the farmers themselves. Water does not generate growth, but it does when a Coca-Cola plant is set up filling up bottles of water with it (Shiva, 2013). Water is a common resource and essential for life. The extraction of water means that the water table is lowered and women have to walk further distances as a result (Shiva, 2013). The privatisation of public services, such as water and education has increased the level of poverty in India. GDP does not give a rounded perspective of growth and instead 'measures the conversion of nature into cash and commons into commodities' (Shiva, 2013). It is not an effective measure of growth and development as it does not take into account poverty and other social issues exploitation brings with it. GDP is not a reliable indicator of economic activity and social progress. In the book *Mismeasuring*

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Our Lives: Why GDP Doesn't Add Up, Stiglitz and Sen, Nobel-prize winning economists, state that GDP does not 'capture the human condition' (Shiva, 2013). It does not give a rounded perspective on the country's conditions. Different methods of measure economic growth and development need to be introduced. Kennedy (1968) argues that GDP does not measure health, education and standard of living; it measures everything except these factors that really matter in life (John F. Kennedy Presidential Library and Museum, 1968).

Gross National Happiness (GNH)

Another possible method of measuring economic growth is through gross national happiness (GNH). Bhutan is the leading example of how measuring economic growth through happiness has been very effective and been more beneficial, since 1971 when Bhutan decided not to have gross domestic product as their only measure of progress and prosperity of the country (Kelly, 2012). The Gross National Happiness index is based on 'equitable social development, cultural preservation, conservation of the environment and promotion of good governance' (Kelly, 2012). An article in the *Indian Express* reveals that India is the 117th happiest country in the world, out of 158 countries, according to 2015 World Happiness Report published by SDSN (Press Trust of India, 2015). Happiness and well-being is considered a proper measure of progress. In the 2015 World Happiness Report, the six variables used to measure the Gross National Happiness (GNH) were GDP per capita, health and life expectancy, having support and someone to count on, freedom to make life choices, freedom from corruption and generosity (Ronamai, 2015). India has fallen six places in the rankings since 2013, where India was ranked the 111th happiest country in the world. Gross National Happiness is a good indicator of development of India as it considers the well-being and overall standard of living of the people as opposed to just measuring economic growth and exploitation like GDP does. Governments should be leaning more towards adopting policies that put the well-being of the people first (Ronamai, 2015).

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Gini Coefficient

Gini Coefficient measures income inequality. The higher the number, the larger the inequality is; zero means total equality, one means total inequality. In 2013, India had a Gini Coefficient of 0.339, ranking 135th out of 187 countries in the world (World Bank, 2013 cited by UNDP, 2013). Ahmed and Varshney (2008: 2) depict that although poverty has decreased in terms of the growth of per capita income, income inequality has on the other hand increased as well as the gap between the rich and the poor in average per capita income. As a result of the lack of reliable income data, the Gini Coefficient in India is calculated by comparing the Gini Coefficient of per capita expenditure with per capita income in other countries (Drèze and Sen, 2013: 216). The Human Development Survey 2004-05 contains data on income and therefore the Gini Coefficient per capita income can be calculated for India; it is 0.54, which is much higher than 0.35 per capita expenditure that generally is calculated (Drèze and Sen, 2013: 216-217). The World Bank stated that India are on the same level as high-inequality countries, South Africa and Brazil (Drèze and Sen, 2013: 217). From this report alone, it is evident that income distribution is 'less unequal' than other developing countries, but these results are biased as they are based solely on one survey, the measurements used are biased as 'distribution of per capita expenditure, across the world, tends to be less unequal than that of per capita income' (Drèze and Sen, 2013: 216). Therefore, the use of the Gini Coefficient to measure development is seriously open to question.

Human Development Index

Human Development Index (HDI), is calculated via life expectancy, education levels and income. According to a UNDP report, India ranked 135 out of 188, putting India in the category of 'medium development' (UNDP, 2015). The United Nations Development Programme (2013) discusses the technical calculations of the Human Development Index through three dimensions. The first dimension is whether or not people live a long and healthy life, measured by life expectancy at birth, creating a life expectancy index. The second dimension is knowledge, measured through mean years of schooling/ the expected years of schooling, creating an education index. The third

and final dimension is a decent standard of living, measured by GNI per capita (PPP $), creating a GNI index. The combination of these three dimensions are ultimately what calculates the Human Development Index (HDI). India's HDI of 135 of 188, is the lowest HDI among the BRICS countries; Brazil being 75, Russia being 50, China being 90 and South Africa being 116 out of 188 countries (World Bank, 2015a; 2015b; 2015c; 2015d; 2015e). It is only slightly ahead of neighbouring countries; Pakistan and Bangladesh. India's Human Development Index is below the HDI average of the South Asian countries (World Bank, 2015: 4).

The three dimensions of the Human Development Index (HDI) are long and healthy life, education and standard of living. The first dimension, long and healthy life, is measured through the life expectancy index. The Times of India published an article conveying that the UNDP claimed life expectancy in India went up by 7.9 years since 1990 (TNN, 2014). The United Nations Development Programme (2015c) revealed that life expectancy in India in 2014 was 69.5 years for females and 66.6 years for males. This is below both the South Asian average and the medium HDI average. To live a long and healthy life, you need a good healthcare system. Gupta (2010: 46) discusses how the Indian state only supports 17.3% of total healthcare expenses and in 2004 it was found that only 1.3% of GDP is directed toward health. This is especially low when compared against the United States (44.7%) and the United Kingdom (86.3%) (Gupta, 2010: 46-47). The level of education is measured through the mean years of schooling and the expected years of schooling. The mean years of schooling for children in India is 11.3 for females and 11.8 for males and the expected years of schooling is 3.6 for females and 7.2 for males (United Nations Development Programme, 2015c). This is below the Medium HDI average. India has a low level of education; only 10.7% of government spending is invested in education, which is very low compared to the United States (15.2%) (Gupta, 2010: 47). India has a dropout rate of 53% and only 19.75% of girl's finish middle school (Gupta, 2010: 47). This lack of education will lead to an uneducated nation. The second dimension, education, is necessary for skilled jobs. Children need to be educated from the start and not experience disadvantage in life as education is vital for the development of the child. This lack of

education is a great indicator of the development of the state. The third dimension, standard of living is measured through GNI per capita expressed through constant 2011 international dollars converted using PPP rates. In 1980 the GNI was 1,255 and rocketed to 5,497 in 2014; meaning an increase in GNI per capita by 338.0% (United Nations Development Programme, 2015c: 2). In 2005/ 2006 it was measured that of the population 18.2% were near poverty, 27.8% were in severe poverty and 23.6% were below the income poverty line (United Nations Development Programme, 2015c: 7). The UNDP (2015c: 7) also discovered that the contribution to overall poverty of deprivations in living standards in India is 44.8%. Ultimately the reason for such a low Human Development Index in India is a result of the low level of schooling the country has. A lack of education can translate into low income later on in life, due to a lack of opportunity. Poor health, low income and a low level of schooling has resulted in a low HDI for India.

This essay has explored four different methods of measuring development in India. Each measurement gives different results as it gives a different perspective. GDP is not an effective measure of growth as it does not consider the well-being of the people and conceals inequality in the landscape. It can be seen from the examples used, regarding the extraction of water and the patenting of seeds, that according to GDP, growth only occurs when these resources are exploited and the population end up losing out. It may be the most economic measurement in the world but it does not give the real picture of India's development. The Gini Coefficient is also not an efficient measurement of growth as due to the lack of data on income in India per capita expenditure with per capita income in other countries (Drèze and Sen, 2013: 216) but this method is biased because per capita expenditure distribution is less unequal than per capita income distribution. India is seen as 'less unequal' than other developing countries, which seems questionable. The most accurate measurement of growth is Human Development Index (HDI), as it takes into account three dimensions; long and healthy life, education and standard of living. The Gross National Happiness (GNH) and well-being are considered proper indicators of how progress. India fell from the 111th happiest country in the world to the 117th. Massive growth and development is worthless if the nation is in poverty, starving and

unhappy. Governments should imply policies directed at the development of people's happiness, rather than economic growth. There is still huge poverty and corruption in India, which is continuously covered up. While this is still going on, India will not develop as a whole.

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The Climate change effects on Food Security are Gender specific. Discuss this in terms of Climate justice.

Patricia O'Beirne

''Climate change policy is based on survival of the fittest'' (Denton, 2002, p16). The Vulnerable people of our society are the ones who will suffer the most because of climate change. Adapting and mitigating Climate change are not processes which have been universally effective. The uneven distribution of the effects of Climate change has become evident over the last number of years and climate justice has grown from this ideology (Mary Robinson, 2015). Climate justice is a new field of research and study which aims at making people take responsibility for the earth and the changes that are happening. It also aims at ensuring that the effects of climate change are not concentrated in one place, on one sex or on one race. Leaders in the climate justice movement have been trying to ensure that everyone has the equal right to survive when it comes to Climate change adaptation. It other main focus is that everyone has the equal chance to adapt to these change.

Climate justice has a variety of different dimensions which have been focused on, however some of the dimensions would gain more attention than others. Although Food Security has been a dominant aspect of climate change discussions and programmes the Gender dimensions to this has been completely ignored (Agarwal, 2011). Food Security and Gender Inequality alone are such large issues and have been discussed to a great extent over the past number of decades. However, the relationship between Gender and Food Security been side-browed in the majority of cases. People see agriculture and farming as a '*masculine field'* (Momsen, 2010). However according to statistics, the feminization of agriculture has already occurred and women are our main food producers in many areas around the world. Therefore, women are becoming increasingly important in agriculture and Food Security issues around the globe. In order to understand and reduce the effects our changing climate is having on our Food Security, it is important to understand the gender dimensions of our food chains. Has climate change resulted in gender specific issues in

regards to Food Security (Mary Robinson, 2013)? Climate change is effecting our food chains and if it is women who are predominately producing our food, Climate change must also be greatly affecting them. Policy makers are continuously creating policies which aim at assisting adaptation and mitigation processes, however gender issues are ignored. The discussions are often gender blind (Mary Robinson, 2013) when often eliminating Gender Inequality can solve many of the current climate change issues. There is a significant amount of questions which come to mind when reviewing this issue. Firstly, what role is gender playing in climate change policies currently? Secondly what effects is climate change having on our global Food Security and is its effect gender specific? Finally, how can we assist and create programmes that will improve gender relations to Food Security? According to Von Braun (2007), Food Insecurity will not improve if we continue to side-brow our main producers. The problems of Food Security which are caused by climate change can be solved by ending Gender Inequality.

The Relationship between Food Security and climate change.
The first dimension of this topic which will be discussed is the importance of the relationship between Food Security and climate change. This necessary to understand the need for a gender role in the climate change discussions as well as the overall problems Climate change will cause for both genders. Food and lack of food will be one of the major problems caused by a changing climate. climate change and Food Security are intrinsically linked. According to the IPCC report (2014) climate change effects and will affect every single aspect of Food Security. It will affect food accessibility, food availability, food utilization and food systems as a whole. The overall general effect climate change will have, is stated in the most recent IPCC report: '*For the major crops (wheat, rice, and maize) in tropical and temperate regions, climate change without adaptation is projected to negatively impact production for local temperature increases of 2°C or more above late-20th-century levels, although individual locations may benefit (medium confidence)*" (IPCC, 2014, p17).

Climate change is having a significant effect on our ecosystem. Desertification, temperature changes and increased climate variability will

have a significant impact on our food systems (Agarwal, 2012). Extreme weather events have already increased to 500 per annum from 120 per annum in 1980 and there is high confidence that this is as a result of climate change (IPCC, 2014). These changes are dramatically disrupting food chains. *''The accelerating pace of climate change combined with global population and income growth threatens Food Security everywhere*" (IFPRI, p3)

It is the people who are already food insecure who will be the worst affected by these changes. It will cause more harm in developing countries as the populations of developing countries tend to rely more on natural resources which are being greatly affected by these change (Wong, 2009). The food system is vital for the income of 36% of the world (Von Braun, 2007) and it accounts for 20% of the GNP in the majority of countries in Africa. However, climate change is disrupting global food chains and this is dramatically decreasing global yields. According to Bina Agarwal (2011) wheat yields will decrease by 49%, rice yields will decrease by 12% and maize yields will decrease by 9% globally by 2050. According to the graph (IPCC, 2014, p18) below, in all different projections, yields will decrease until 2109, however to a different extent depending on the different emission scenarios.
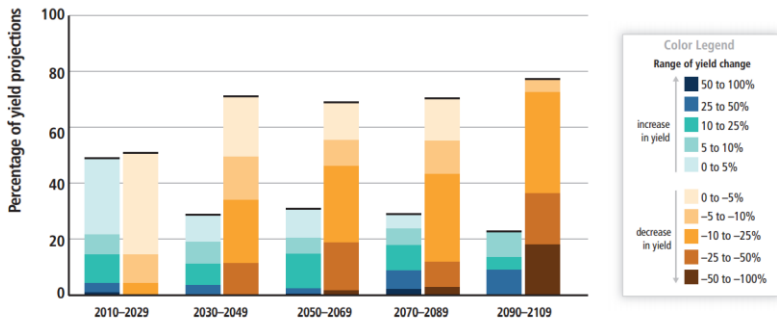

Figure SPM.7 | Summary of projected changes in crop yields, due to climate change over the 21st century. The figure includes projections for different emission scenarios, for tropical and temperate regions, and for adaptation and no-adaptation cases combined. Relatively few studies have considered impacts on cropping systems for scenarios where global mean temperatures increase by 4°C or more. For five timeframes in the near term and long term, data (n=1090) are plotted in the 20-year period on the horizontal axis that includes the midpoint of each future projection period. Changes in crop yields are relative to late-20th-century levels. Data for each timeframe sum to 100%. [Figure 7-5]

Source: IPCC, p18

However, with the world population expecting to reach nine billion by 2050 and simultaneously decreasing yields, effective adaptation measures to climate change are vital. It has been proven that with improved technology and training women, can increase their yields by up to 30% (Bunch and Mehra, 2008). This would dramatically increase Food Security around the world and solve various Food Security problems which are related to our changing climate.

Women are a vital part of global food systems.
''A key failing of past efforts to reduce hunger and to increase rural incomes has been the lack of attention paid to women as farmers, producers and entrepreneurs in their community" (Bunch and Mehra, 2008, p1). Climate change magnifies the inequalities that already exist. Gender Inequalities in Food Security are becoming more and more evident as a result of the changing climate and disruption of the food system. According to the UNDP (2012), world leaders and policy makers needs to change their perception of gender roles, particularly in agriculture and start appreciating the extensive role women play in our food system. People often question how much women are actually involved in the agricultural system. However, women workers depend much more on agriculture then men due to their lesser access to non-farm jobs (Habtezion, 2012). According to Bunch, (2008) African female unpaid work is worth one third of the GNP in African countries. 63% of females in Africa are dependent on agriculture as their main economic activity in comparison to 45% of males. A child's survival rate decreases by four times without their mother present (Bunch and Mehra, 2008) and a child's survival rate increases by 20% when the woman is in charge of the food supply (FAO, 2011). It is already clear from above, the general benefits women have and the general benefits their kin have when they are in control of agricultural areas and production (Agarwal, 2012). However certain barriers are restricting women from being successful in agriculture and they are often not involved in agricultural programmes which assist in technological improvements as well as adaptive farming measures in relation to climate change. In Kenya, study showed that woman's production yields increased by 22% when they were offered the same production opportunities as men

(Bunch and Mehra, 2008). Women have fewer opportunities in relation to land security, training and education.

Land Insecurity and land fertility
Women are disadvantaged in statutory and customary land tenure systems. Out of 141 countries studied, 103 of them have legal differences between male and females which would hinder women's access to land, to the market and to economic opportunities (Habtezion, 2012). Women have less rights and less access to the knowledge of their rights then males have. Therefore, often where there are laws they might not be implemented. Land insecurity is one of the major factors which results in less land productivity among females then among males. According to Udry (1996) there is a 30% lower productivity rate among female plots then among male plots in Burkina Fasa, Africa. The main reason he gives for this is the fact that women have tenure insecurity and they are therefore less likely to invest in fallowing and improving their land as they are unsure whether or not it will be kept in their ownership. According to the UNDP (2012), 10% of African women own land, with only 1% of them having land certificates to actually prove ownership of that land.

Women also tend to have less access to fertilizer and modified seeds to improve their productivity. According to Habtezion (2012) women only receive 5% of the agriculture extension services worldwide. Although this is directly related to the lack of cash and credit, women in general tend to have less access to both cash and credit due to the labour divisions in certain countries. According to the African Studies Quarterly (2002) there have been gender dimensions of fertilizer use in Southern Africa as well as gender divisions in relation to biomass techniques.

There has been a number of measures and exercises implemented to try and tackle and better understand this problem of Gender Inequality when in relation to land access and land improvement. Quisimbing (2009) describes a study which was undertaken in Ethiopia to try and improve gender equality in terms of land ownership. It is known as the Ethiopian Land Certification scheme. Committees were set up in various areas around the country in order raise awareness of the scheme. Each of these committees had to have at least one active female member. This resulted in greater female participation in Ethiopia of women in agricultural policy

and improvement of land security in general (Quisimbig, 2009). Farmer field schools have also been a productive way in distributing technological information as well as adaptive techniques to women, in order for them to increase their yields. This was seen in Kuapa Kokoo in Ghana.

Kuapa Kokoo is an organisation in Ghana which aimed at empowering local farmers to improve the cocoa business in the area. The organisation is particularly focused on women's interaction with farming and aim at '*'enhancing women participation in all affairs''* (Divine Chocolate, 2015). In 1996 gender analysis was undertaken in Kuapa Kokoo to identify certain problems in the cocoa business in the area. The study revealed that 26% of the farmers were women, however all of them were producing on small farms and receiving very low income. It was also discovered that men controlled the vast majority of the land and the produce. In order to solve this problem, the Kuapa Kokoo Gender Pledge was created in 1998. This would hope to encourage and train local women in the cocoa business as well as assist them financially. The scheme was a success and by 2008, 556 women had benefitted from the loan scheme which had a 93% repayment rate. (Bunch and Mehra, 2008) Also, by 2008 more women than men were voted onto the National Executive and women hold more senior positions then men at present. From Kuapa Kokoo it is clear that when women are given the tools to adapt and to lead, they take those opportunities and succeed. (Divine Chocolate, 2015)

Climate change and Gender

There are certain gender specific barriers that limit female adaptation to climate change globally. According to Gerald Terry (2009, p3) '*'A person's vulnerability to climate change depends in part on Gender roles''*. However there has been a significant amount of research undertaken to understand why there is a gender difference. Terry (2009) believes that women are seen as victims to climate change rather than agents of the solution. When reviewing climate change policies and adaptation measures, there is clear lack of gender inclusion in the policies. Some reasons for this include lack of gender data and knowledge as well as lack of participants of gender experts in these discussions (Hemmati, 2009). climate change debates to date have been narrow and mainly focused on the economic effects of Climate change. However, according

to Hemmati (2009) a more human perception is necessary. According to the Global Gender Climate Alliance's website the Kyoto protocol was:
"*making Climate change a problem that needs mainly technological and economic solutions which makes it hard to find an entry point to introduce gender equality into the equation*" (GGCA, 2015)

Taking Gender into account during these discussions might give scientists a greater understanding of the problems women might face when it comes to Climate change. Lack of gender involvement in climate change discussions has been particularly evident in United Nations Framework on the Convention of Climate change (UNFCCC) negotiations.

Women's participation in UNFCCC negotiations.
The United Nations Framework Convention on climate change began in 1992 when an international treaty was created to try and develop a plan to deal with the global carbon emissions as well as adaptation measures to Climate change. Their first convention began in 1994 and now it has almost universal membership with 195 countries as members. The convention now has clear gender aspects to various days and discussions. This year at the convention, an entire day was dedicated to Gender Inequality and climate change. However, this was previously not the case and gender was continuously left out of the discussions year after year. The first convention, known as COP1, mentioned genders importance in the climate change discussion. However, it was not really discussed or developed significantly and was not introduced into the discussion until 2000 in COP6. At COP6 there were general complaints about the lack of gender inclusion in these debates and by COP7 there was a call for nominations of women to the UNFCCC and Kyoto Protocol bodies. There was a gradual increase in participation of women as well as increased inclusion of gender issues into debates with COP8 including '*is the Gender dimension of the Climate Debate Forgotten*". By COP13 Gender CC were established which aimed at mainstreaming gender issues and rights into climate change discussion. Gender involvement in these conventions has grown and continues to grow, year upon year. According to the UNFCCC (2015) website:
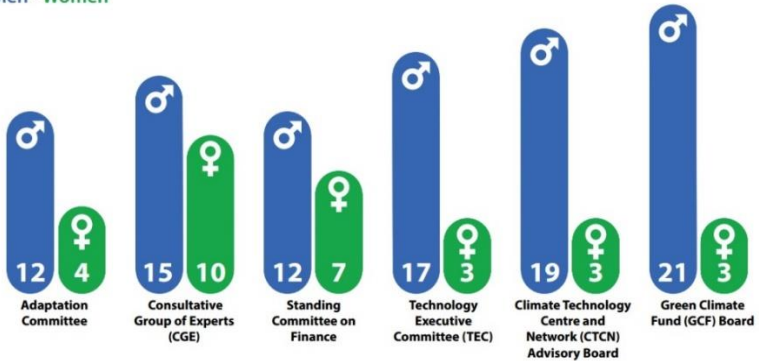 "*At its eighteenth session, the COP adopted decision 23/CP.18 on promoting gender balance and improving the participation of women in*

UNFCCC negotiations and in the representation of Parties in bodies established pursuant to the Convention or the Kyoto Protocol''

Source: UNFCC: decisions and conclusions: exciting mandates and entry points for gender equality, Pie

However, from viewing the above diagram of the current divisions in gender in the current UNFCC committees, it is clear that males still dominate the vast majority of these committees. One eight of the 'Green Climate Board' are females and there are only three female members out of twenty on the 'Technology Executive Committee

Women's Participation at the Conferences of the Parties (COP)

© gendercc
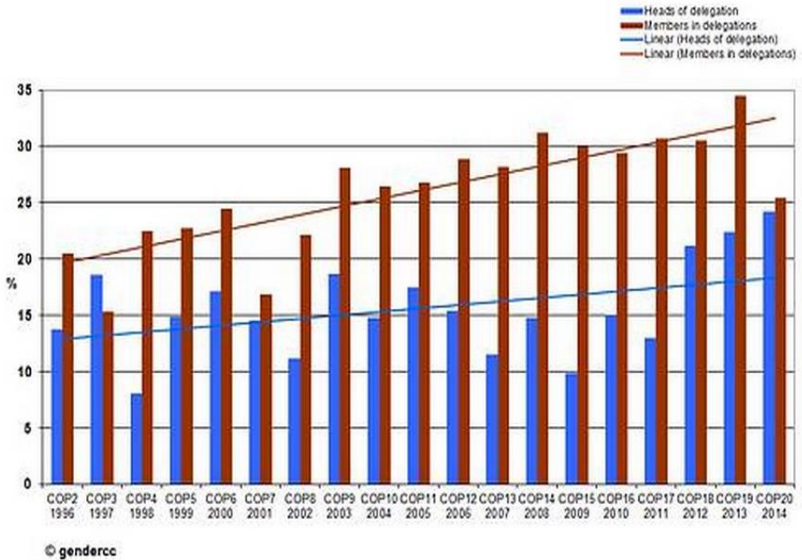
The graph above shows the increase of female members in UNFCCC delegations from 1996 to 2014. There is an increase of 15% from 1996 to 2013 in female delegation members. However, this year resulted in a decline once again in female participation in the discussions.

From reviewing the growth and development of the convention it is clear that gender issues are becoming of growing importance in climate change policy discussions. There is a greater emphasis on gender in these discussions in general. Also as a result of the growth and development of climate justice globally, there has been an entry point for more human perception in climate discussions rather than an economical basis (Hemmati, 2009). Hemmati (2009) discusses the need to take a variety of different social groups into perspective when creating these policies. This became a reality with the foundation of Gender CC at COP9 in Milan which aimed at emphasising climate justice and Gender Inequality issues at all UNFCCC events.

Gender CC- An organisation dedicated to the problem.
Gender CC is one of the primary organisations which are striving towards climate justice in terms of gender. According to their website:

"*The challenges of climate change and gender injustice resembles each other - they require whole system change: not just gender mainstreaming but transforming gender relations and societal structures. Not just technical amendments to reduce emissions, but real mitigation through awareness and change of unsustainable life-styles and the current ideology and practice of unlimited economic growth*"

Gender CC began in 2003 at COP9 in Milan. It originated as a result of a debate which began at the conference focusing on the absence of the gender element in the UNFCCC. Since then Gender CC has been working at gathering knowledge and data worldwide in relation to Climate change and gender. The first major breakthrough occurred at COP13 in Bali where the network published several papers discussing women's and gender expert's perspective on the most pressing issues of this debate (Gender CC, 2015). Since then Gender CC has increased awareness of gender issues in climate change as well as expressed the importance of the issue at all UNFCC conferences.

Gender CC views agriculture and Food Security adaptation as one of their primary focuses in terms of climate justice. According to their website, climate change will increase the workload, decrease the health status and place a larger burden on the women in agriculture. Because of this growing burden there will be less of a chance for women to contribute in policy making decisions and therefore further leave gender out of the picture. In order to try and decrease the effect of climate change in agricultural areas as well as improve adaptation measures, Gender CC has had a leading role in UNFCCC discussions. It is clear from Gender CC's briefing at COP13 of their views and their opinions of the best way forward in order to achieve climate justice for women in relation to Food Security. According to the briefing the gender element of climate change has been receiving growing attention over a number of years and there has been increased awareness of the climate justice issues in relation to gender and Food Security (Gender CC, 2012). However, it then goes on to discuss the current agricultural policy of the UNFCCC. According to the briefing there is a need for a more focused and stringent policy then that which was

present in the Kyoto Protocol which stated the need for 'promotion of sustainable agriculture' by each party (UN, 1998, Article 2.1(a)). By COP18 the agricultural policy was improving. Following this discussion, the document continues with the current relationship between gender and Food Security because of Climate change and the understanding of various publications and experts of this relationship. The aim of this element of the discussion was to emphasise the need for a gender element in agricultural policy of the UNFCCC and the various related parties (Gender CC, 2012). Overall Gender CC is one of the primary global organisations which are emphasising Gender Inequality and Climate change. It is one of the leaders at the UNFCCC to ensure that Gender is a key focus to all of the discussions. However, it is also vital to develop adaptive and technological programmes for women to assist adaptation.

How to achieve Justice with Gender and Food security.
Adaptation is the key to climate justice when focusing on gender and Food Security. Climate change has already affected global food supplies and this will continue for hundreds of years no matter by how much we begin to decrease our global carbon emissions. The damage has already been done. With adaptation, women can continue to work and produce on their land. There are certain cases where this has been successful and evident. As mentioned previously Kuapa Kokoo successfully empowered women in their organisation to take control of their land and incomes. Women have similarly received training in both business and farming skills to improve their Food Security and income.

The Kamuli district of Uganda is a key example as to how dispersing agricultural knowledge as well as access to technological information can greatly contribute to productive success. Farmer field-schools were created which consisted mostly of women (Habtezion, 2012). They aimed at assisting in the transferring of knowledge, in addition to assisting in adaptation of the important farming technologies. In particular, they wanted to improve the crop varieties based on which would be more suitable for the climate. It began in 2004 with collaboration between Iowa-State University, Makere University and Volunteer Efforts for Development Concerns. Using a sustainable livelihood approach they successfully increased market readiness and Food Security in the area

from 9% to 77% in two and a half years between eight hundred farm households. According to the project report '*The Sustainable Livelihood approach focuses on understanding and supporting individual and community capabilities, assets, goals, strategies and activities'* (Mazur, 2011, p1). The group recognises that improving farming yields in the area will be a significant step to improving Food Security in the area also. The group focused on ensuring gender equity in the area while conducting training and most participant were females. With an improvement in Food Security and market readiness in the area from 9% to 77%, it is clear the importance of training women in agricultural programmes and ensuring their involvement in future adaptation schemes (Mazur, 2011).

Conclusion

It would be impossible to solve the growing food crisis caused by Climate change without the assistance and leadership of women. Women are controlling our food supply world-wide. Policy makers have been taking a long time to adjust their current policies to adhere to gender inequalities within the agricultural sector. With the assistance of Gender CC, the UNFCCC is focusing more on gender however there is still a large division between make and female members. Climate change is further damaging and disrupting our food supply and creating more problems and work for women. climate change is gender specific in many ways. The gender gap is only growing with the changing climate and resulting in more inequalities globally. This is in turn making it more difficult to help the adaptation process. However, when given equal opportunities in training and education, women improve their overall farming yields and improve their overall livelihoods and incomes. However, it will not just be about creating training and adaptation programmes. It is vital to start changing and transforming our current image of women and begin to view women as leaders, producers and farmers. Overall a more gender focused approach to climate change policies will greatly improve the Food Security around the world as well as decrease global inequalities.

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"Governance has a critical role to play in co-ordinating disparate voices and securing collective-action to achieve a more sustainable future" (Evans, 2012). Discuss.

Ivan Loza

Introduction

The intricate set of governance processes and institutions involved in decision-making play a significant role in achieving collective action through a management framework working to obtain sustainability of Earth's natural resources. In the globalised world that we live today, global leaders have a responsibility of achieving collaboration between cross-boundary societies whilst facilitating the contrasting views of their respective population. Throughout this essay, the topic of water governance will be used as a focus point in relation to Evan's (2012) argument on sustainability. Firstly, the essay will discuss the influence of globalisation on environmental governance with the creation of supranational institutions such as the EU. However, in recent years, EU environmental governance has declined. The second part of the essay will be an in depth analysis of water governance featuring Castro's (2007) depiction of UNESCOs argument of a "water crisis" as well as EU policy through European Water Directive Framework. The final section of the essay will discuss the privatisation of water and use case studies to compare variety of ways water is governed worldwide.

Globalisation & Decline of EU Environmental Policy

The processes of globalisation have had a major impact on the scale of governance as the neoliberalist concept profoundly altered "the power geometries in the world economy" (Swyngedouw, 2004, p.27) through a shift in economic and political structure of world economy. Interestingly, this process has forced the scale of governance to shift in two directions. On one side, governance has shifted towards a transnational/supranational institutional infrastructure such as the WTO and the EU. While on the other hand, the free market approach of globalisation has deregulated

national states causing power to be diluted into local municipalities governing their region. Hence, Swyngedouw's (2004) coining of the term "glocalization". In relation to environmental governance, Jasanoff (2004) believes that environmentalism is part of the larger process of global constitution making spawned out of 'civil society' politics. Global environmentalism remains a contested topic as Earth is imagined differently amongst world polities. Furthermore, he believes that a knowledge centred approach to global environmental cooperation is an important concept that must be considered by supranational governance bodies (Jasanoff, 2004). Recently, some of the most intriguing balancing acts between the global and local actors came from the domain of environmental governance as there is an increasing interaction between scientific and political authorities forging a local-global partnership.

The institutions and processes designed to manage world resources not only accommodate national interests and facilitate cooperation; but they also help construct politics that crosses geopolitical borders and transcends interests into a new governance domain of supranational politics (Jasanoff, 2004), like the EU. The first environmental action adopted by the EU was in 1973 tackling measures in the area of water protection. Since the 1970s, Kramer (2012) argues that the EU has been a powerful enforcer of environmental governance. However, since the beginning of the century, EU environmental policy is slowly diminishing in importance due to accession of new member states which possess an undeveloped environmental policy and the promotion of economic liberal thinking by the Commission impacts environmental policy too. Unfortunately, the Commission has the monopoly for making proposals which does not ensure the application of the provisions on environmental protection that had been agreed upon at EU level (Kramer, 2012). Without a correct framework for environmental policy in EU politics, the responsibility for the protection of the environment lies with the national governments. The monopoly of the European Commission over the application of EU environmental law is unjustified and there is a need for a public advisory body to inform the Commission on long-term environmental trends in order to achieve sustainability.

Water Governance

Water governance is one of the most important topics in the international water community in the twenty-first century; appearing on the international stage during the Second Water Forum in Hague 2000. In the same year, UN Millennium Assembly emphasised protecting our common environment through stopping the unsustainable use of water resources and develop management strategies at regional and local levels to promote adequate supplies (Rogers and Hall, 2003). This notion was endorsed at the World Summit on Sustainable Development 2002 where state leaders agreed to implement Integrated Water Resources Management (IWRM). The IWRM sets out a participatory framework for water governance that promotes coordinated development and management of water in order to maximise economic and social welfare without compromising sustainability long term (Lautze et al., 2011). Hence, effective water governance, according to Lautze et al. (2011) "consists of the processes and institutions by which decisions that affect water are made…does not include practical, technical and routine management functions…does not include water resources outcomes" (p.7). Given the complexities of water use within society, ensuring environmental sustainability requires the acknowledgement of disparate voices and respecting decisions made over common water (Rogers and Hall, 2003). In relation to this argument, institutions should be built with an aim towards long-term sustainability and water governance must consider the future as well as the present users. The challenges facing water management have become increasingly global in the last forty years. At the 1977 UN Water Conference in Argentina, it was agreed that everyone has 'the right to have access to drinking water in quantities and of quality equal to their basic needs' (Castro, 2007). However, there is a continuous debate about water being treated as a common resource that should be shared and unregulated to the public. Unfortunately, this approach is unsustainable in the world we live in today. Hardin's (1968) crucial law explains that the exponential growth of human population would produce mass demands that would outstrip available resources, water is no exception. Furthermore, the failure to acknowledge Hardin's law of nature could lead to a devastating outcome where "injustice is preferable ruin" (Hardin, 1968, p.1247). In relation to this topic, the UNESCO report in 2006 argued that there is an existing

"water crisis" in the world as the total water volume of freshwater on Earth is only 2.5% and only a fraction of this water is usable for human consumption. More importantly, freshwater is unevenly distributed geographically with 1.1 billion people (17% of world's population) lacking access to safe water resources while almost 2.4 billion people (40% of world's population) have no access to adequate water sanitation; making the resource vulnerable to severe pressures from human driven processes (Castro, 2007). The report further argues that the 'water crisis' is a result of a 'crisis in governance'. Castro (2007) believes that several adjustments in governance must be made in order to ensure the sustainability of water in the twenty-first century. Firstly, water governance must be a neutral tool that includes the role of "citizenship" within "civil Society" (2007, p.104) where an individual's rights are protected in the free-market liberalist economy. Castro's (2007) second suggestion overlaps with Jasanoff's (2004) argument that the most significant change must occur in the development of higher levels of coordination between different cognitive structures and cultures involved in the production of 'techno-scientific' knowledge about water. In order to make alteration to water governance, there is need for strong supranational institutions to implement these initiatives.

In recent times, there has been a major effort to improve water governance through new initiatives and directives. The EU is arguably the most influential supranational institution that has enacted a series of directives to improve all areas of environmental governance; one of these being the European Water Framework Directive (WFD) established in 2000. Initially, the directive aimed at achieving a 'good status' of all water by 2015 but this ambitious deadline was not achieved and postponed to 2020 (Peterson et al., 2009). This new approach emphasised on new concepts such as the integrated river basin management through the IWRM, emphasising importance on hydro-geographical boundaries. Commonly, river basins extend over national boundaries into two or more member states where there could be a potential disparity of opinion. For example, Lake Peipsi is shared by Russia and Estonia and is a good example of a case that uses IWRM tools in managing transboundary waters, illustrating how co-operative approaches can lead to sustainable water management (Rogers and Hall, 2003). The WFD aims at creating a

network using modern governance strategies to provide cooperation between cross-boundary societies. National governments alone cannot regulate a water basin as they are unlikely to incorporate their neighbour's interests. Therefore, supranational institutions such as the EU provide rules and regulations in a framework for local authorities to meet (Rogers and Hall, 2003). Hence, national governments carry the responsibility of guarantor to ensure supranational laws are enacted into existing national laws in order to achieve the aim of a good water status.

Property Rights of Water
The privatization of water supply is an intensely debated topic in some countries as the question of whether water supply is a human right or human need is still contested, particularly in third world countries. The Hague declaration specified that water must be treated as an economic good which should be managed efficiently and distributed equally to consumers. However, the privatization of water supply often implies commercialisation which reworks management institutions through "neoliberal principles in policymaking" (Bakker, 2003, p.331); giving the private sector authority over water governance. This involves the deregulation of state policy and creates an opportunity for investment into water governance. Interestingly, scale of multinational corporate involvement in water privatisation is low as two privately owned French companies- ONDEO/Suez Lyonnaise des Eaux and Vivendi/Générale des Eaux, control approximately 70% of the global water market. Their dominance is due to the absence of local competitors in the private sector (Bakker, 2003).

Decentralisation of water is a continuous process but it does not enhance water governance in some states. For example, the water governance processes in India are open with an inclusive structure in place. In contrast, Chinese authorities keep governance processes relatively closed as decisions stem from the centralised government, lacking transparency and consultancy. This might suggest that the open policy of Indian authorities provides a better standard of governance than the Chinese state but ground water resources are managed better in China, according to conventional indicators such as water productivity (Lautze et al., 2011). In some developing countries the ability to pay for domestic

cost of water is a frequent issue. In Buenos Aires, for example, after the privatisation of water and sewage systems in 1993, pricing schemes were implemented charging full cost of new users but this was largely unsustainable as poorer regions of the city refused to pay forcing the infrastructure in place to reform (Bakker, 2003). In contrast, a similar problem occurred in Chile but poor households were allocated a partial rebate of the charges via the municipality. Chilean water development was largely influenced by external governance of the civil society and open-market approach. Within a short space of time, Chile is now a world leader in water governance with a system incorporating ecosystem concerns and nationwide participation (Rogers and Hall, 2003). Evidently, good water governance is subject to openness and transparency with broad participation alongside good laws; these are vital to securing collective action.

In conclusion, this essay has discussed the influence of globalisation on governance by explaining the shift occurring towards a relationship between global actors and local municipalities. Furthermore, the role of supranational governance has evolved in recent years with EU environmental policy declining but it is crucial that this trend improves for future viability. There is a general agreement that the IWRM provides the best approach to achieving sustainable water use and management but the initiative it is up to authorities to implement their suggestions into action (Rogers and Hall, 2003). The so called 'water crisis' will be resolved with further decentralisation alongside a stronger role of the IWRM. Furthermore, the privatisation of water shows the growing importance of local governance strategies like in Chile. In order to achieve more effective water governance, the creation of an enabling network is key to facilitate initiatives between the public and the private sector because good water governance is essential for securing cooperation between disparate voices, in order to achieve a sustainable future.

Annotated Bibliography:

Bakker, K. (2003). Archipelagos and Networks: Urbanization and Water Privatization in the South. *The Geographical Journal,* 169 (4): 328–41.

This article examines the impact of urbanization and privatization of water supply on cities of the Global South. Water supply is highly susceptible to monopolistic control by multinational corporations looking to manipulate the commodity value of a resource that the global population is reliant upon; raising the never-ending question of whether water supply is a human right or a human need. The regulatory change towards private management impacts human use and access to water as there is an evident difference in impact of privatization of water on the urban realm to rural regions in developing countries as unequally distributed investment is focused on densely populated urban areas whilst the inhabitants of the countryside face water shortages as well as poor sanitation. Based on this notion, the author discusses the different versions of 'archipelago' (networks) of water supply in the Global South and how the institutionary regulations are reliant upon commercialisation and territorialisation of corporate powers.

Castro, J. (2007). 'Water governance in the twentieth-first century'. *Ambiente & sociedade,* 10(2): 97-118.

This article outlines a critical analysis of UNESCOs 2006 report about the topic of "water crisis" describing the crisis being directly linked to a "crisis of governance". The lingering debate about treating water and sanitation as a public good and not a private entity is raised in the article in the 2006 report but there is a lack of clarity surrounding the conceptualisation of water as a commodity instead there is reiteration that water is a "resource". Castro believes that there is deficiency of techno-scientific knowledge surrounding water governance which has a tendency to cause conflict as the Earths freshwater is unevenly distributed geographically making it subject to adverse pressures driven by human processes. To solve the matter, higher levels of coordination need to be developed between different cognitive structures and cultures participating in the production of knowledge about water.

Hardin, G. (1968). 'The Tragedy of the Commons', *Science,* 162 (3859): 1243-1248.

This article establishes the classical economic and political theory of collective action problem through the use of 'pasture' as a metaphor to the over-grazing of common land. Similarly, to pasture, people will destroy the common pool of natural resources (shared and unregulated) that the planet offers through rational self-interest unless we prevent their actions by costly means or incentivize through market mechanisms. Hardin's key law highlights that the demands produced from the continuous growth of human population would challenge the availability of resources. Furthermore, failure to understand the law of nature could lead a catastrophic outcome of 'injustice is preferable ruin'. To resolve the issue, individuals must put their self-interest aside and work collectively to achieve the common goal of sustainability.

Jasanoff, S. (2004). 'Heaven and Earth: The Politics of Environmental Images', in S. Jasanoff & M. L. Martello (eds), *Earthly Politics: Local and Global in Environmental Governance.* Cambridge, Massachusetts: MIT Press. 31-54.

This book chapter outlines an argument that world polities must overcome selfishness of local particularism and engage in governing the environment through a global collective action process as the topic of environmentalism is becoming an important variable in the process of 'global constitution making'. However, the science and action of 'thinking globally' is unevenly distributed across the planet as some states like India are burdened with substantial community inequalities. On the basis of WCED's (World Commission on Environment and Development) Report in 1987, the clear message of dissolving local boundaries and working towards globalism resonates with the author's suggestion that sustainability in the 21st century will be achieved through environmental action being transcended into political campaigns.

Kramer, L. (2012). 'EU Environmental Governance'. Retrieved: March 2nd, 2015, from http://www.clientearth.org/aarhus-centre-documents/lk-eu-environmental-governance.pdf

The author of this article outlines the administrative structure of EU governance in relation to environmental policy as well as the legislation processes instruments featuring the regulations and directives executing law. The 'new policy instruments' of the EU include market-based instruments and information devices such as eco-labels which charge externalities. However, the author believes that the EU lacks transparency and coherence as member states highlight the continuous issue of decisions being made at EU Council level without advisory consent of member states. To promote the sustainable production and consumption, the author offers a strict approach of enforcing environmental legislation through EU Court of Justice as well as proposing a need for public advisory to inform and advise commission on long-term environmental trends.

Lautze, J., De Silva, S., Giordano, M., & Sanford, L. (2011). 'Putting the cart before the horse: Water governance and IWRM', *Natural Resources Forum,* 35(1): 1-8.

This article seeks to find the appropriate definition of water governance as the meaning itself has been somewhat misinterpreted since its original terminology from The Hague Convention in 2000; "governing water wisely to ensure good governance". The author argues that governance is a set of processes which utilises institutions in decision-making, where decisions are made best to develop and manage water resources. The Integrated Water Resources Management (IWRM) is an environmental protection organisation which constructs a framework of practical tasks such monitoring groundwater to be undertaken by national or supranational institutions in their environmental policy. However, implementing these policies is largely dependent on compliance of state regime. For example, a country like India possesses an open market where water management is dictated by private actors but, in centralised states like China, water control is dictated by the state which is arguably a better management infrastructure as it provides transparent principles for the entire population to follow in order to sustain a commodity like water for future generations.

Petersen, T., Klauer, B., & Manstetten, R. (2009). 'The environment as a
        challenge for governmental responsibility—the case of the
        European Water Framework Directive', *Ecological Economics*,
        68(7): 2058-2065.

This article argues that the concept of guarantor responsibility is the most important aspect that national governments must be willing to accept to achieve a good status of water in Europe; in regards to implementation of policies drawn by the European Water Framework Directive (WFD). Maintaining a good status of water across Europe is a significant initiative of EU environmental policy but the institution itself cannot force a voluntary participation upon its member states to achieve this initiative. Hence, the governance of a common resource such as water becomes complicated if members are unwilling to collaborate. Therefore, achieving a good water status in the EU is dependent on compliance of member states organizing its knowledge and scientific sector on the target and integrating environmental policy into politics through laws. The EU relies upon national governance policies in order to achieve a common environmental policy objective as they are constrained to enforce policy over sovereign states.

Rogers, P., & Hall, A. W. (2003). 'Effective water governance', *Global
        Water Partnership Technical Committee*, 7(1): 1-48.

This report discusses governance as an enforcement mechanism that achieves collective action through the creation of a framework in which all inhabitants cooperate. The authors are clear advocators of decentralization of water governance by national authorities and having a market-led framework in place based on deregulation and privatization. The future of water governance is dependent on authorities implementing the processes proposed by the IWRM accompanied by development of local level institutions as community authorities have deep knowledge of local affairs but do not have the regulatory capability to regulate, instead, they are bypassed by central authorities. In order to achieve effective water governance, authorities need to create an enabling environment which facilitates public and private initiatives accompanied by a legal framework with autonomous regulatory regime.

Swyngedouw, E. (2004). 'Globalization or 'glocalization'? Networks, territories and rescaling', *Cambridge Review of International Affairs,* 17(1): 25-48.
This article argues that there is a shift occurring in global governance under the impact of globalization; Swyngedouw terms this shift as 'glocalization'. This term refers to institutional infrastructures of national scale shifting towards supranational scales such as the EU, but simultaneously there is shift occurring downwards into local scale governance which is a significant process in regards to privatization of commodities. The emergence of new territorial scales of governance change the organization of socio-spatial processes that control social power relations due to de-territorialisation forcing a new approach to govern these 'politics of scale'. The author believes that national governments are the most important actors to regulating political space but in the twenty-first century governance has crossed national boundaries forcing states to participate in network structured decision-making within international institutions where decision-making is based on stakes and rational choices.

United Nations Educational, Scientific and Cultural Organization (UNESCO), (2006). 'Water: a shared responsibility', *United Nations Water Assessment Program.* Paris.
This report makes an assessment of water as a commodity before arguing the challenges to water governance in the 21st century through monitoring changes over time in freshwater resources and their management. It examines a range of key issues such as population growth and urbanization as a result. The report claims that there is a 'water crisis' in the manner in which it is governed due to large levels or corruption worldwide causing a lack of transparency accountability. The report suggests several solutions to solve this 'crisis' such as regulatory procedures and cross-border cooperation to achieve sustainability for future generations.

People in China are true winners of economic globalisation.

Shona Egan

Introduction

When analysing and discussing globalisation, it is difficult to find a better case study than China. With a staggering population of 1.37 billion (livepopulation.com, 2016) and GDP in excess of $10 trillion in 2015 (Wong, 2016), the People's Republic of China has had a major impact on every aspect of our world in recent decades. In the late 1970's and early 1980's, the Chinese government introduced new policies that gradually opened the country up to the outside world (Yuan, 2014). In the decades that have followed, globalisation has transformed China. Indeed, millions of people in China have benefitted from the country's economic development, however, globalisation and development have also come at a cost. This essay will examine both the costs and benefits of globalisation to the people of China from an economic, a social, and an environmental perspective. Based on this analysis, this essay aims to determine whether 'People in China are true winners of economic globalisation'.

Economic Benefits of Globalisation

1978 was a pivotal year for China and its economy. As explained by Yuan (2014), the Chinese government introduced new policies to gradually move from a centrally planned economy to a market-oriented economy. State-owned enterprises (SOEs) were privatised or dismantled, which reduced inefficiencies and increased profits consistently in the years that followed. The 1980s saw years of reform for China, and the country reaped the rewards of a more open economy in the 1990s and 2000s.

On December 1st 2001, The People's Republic of China became a member of the World Trade Organisation. Yuan (2014) highlights the significance of this move for the country: "China was looking outward for the first time, actively engaging in the world economy". Membership of the WTO reduced tariff levels and barriers to trade which improved China's foreign trade environment. The openness of the newly-emerging Chinese economy meant that for the first time, external demand became

the engine of economic growth". China experienced an average increase of 9.4% in gross domestic product every year from 1984 to 2014. GDP measures the size of the economy, hence, the consistent increase in GDP figures highlights the speed at which the economy was rapidly expanding. Perhaps even more impressive was the average annual growth rate of 8.2% in GDP per capita over the same period. GDP per capita can be used as a rough measure of a country's standard of living. The continuous rise in GDP per capita in China is particularly impressive on account of the continuous rise in population.

This new growth in the Chinese economy stimulated job prosperity. Employment in urban centres grew by over 6.7% between 1990 and 2002 (Ghose, 2005). Though this may seem like a modest figure, in the context of China with a population in excess of 1 billion, a 6.7% rise equates to approximately 67 million new jobs. Ghose explains how industrialisation, and the growth of the manufacturing industry in particular, were leading factors in rising urban employment. Many rural agricultural workers travelled into urban centres such as Shanghai to take up jobs in factories. This new employment provided millions with a stable income which was, in many cases, considerably larger than any income earned previously. Manufacturing work also provided upskilling opportunities. This provided millions of Chinese workers and families with the opportunity to escape the poverty trap. Though growth in China's manufacturing industry has slowed in the last 5 years, it still accounts for approximately 29.5% of the country's workforce (Statista, 2016). From a purely economic perspective, opening up to the world economy and globalisation has had a profoundly positive effect on China. GDP, GDP per capita, employment levels, and the standard of living have all increased dramatically. The consistent growth and expansion of industry since the 1980s has driven economic development in China over the past three decades, and has played a major role in the globalisation of China and its relationship to the global economy. As Sokol (2011) states simply: "China contributed to a significant reduction in the number of people living in extreme poverty. The success of China in reducing poverty through this managed globalisation is hard to dispute". Millions upon millions have benefitted from the development and globalisation through employment, higher incomes, job security, and ultimately a higher

standard of living than that of previous generations. From this economic perspective, one could certainly argue that people in China are true winners of economic globalisation.

Rising social, economic and spatial inequality
Globalisation and an open economy, however, come at a cost. In the whirlwind that was Chinese globalisation, many millions got left behind. As Bardhan (2010) points out, before the economic reform of the 1980s "China had one of the most impressive basic public-health coverage systems in the world". Within the socialist system, the majority of the population was poorer, but it was a more equal society. Basic education and healthcare was provided to all. After 1978, many millions did indeed prosper and progress economically, but many more got left behind in sheer poverty. As the newly-emerging economy developed and opened up to the world, the social, economic and spatial inequality within China continued to grow. China's income inequality has grown sharply over the past two decades, its Gini coefficient hitting 0.469 in 2014 (Business Insider, 2015). This continues to rise, with a Gini coefficient of .53-.55 estimated in 2015 and 2016 (Xie & Zhou, 2016). As previously mentioned, China achieved an annual average growth rate of 8.2% in GDP per capita between 1984 and 2014. However, it is important to note that GDP per capita is merely an average that smooths income equally over the total population, and does not account for inequalities.

China's increasing inequality is most starkly seen in spatial terms. Industrialisation was focused almost solely in the cities and urban areas such as Shanghai and Beijing. Beyond the city walls, China's countryside seems to have been forgotten, left behind. The urban centres have developed rapidly becoming prominent on the world market, whereas rural regions' development has grinded to a halt. One may think that development and globalisation would lead to a more equal society and economy, however the very opposite seems to be taking place in China and around the globe at the moment.

Another point worth noting is that China would seem to disprove the Neo-Classical theory of spatial equilibrium. As explain by Sokol (2001), this economic theory suggests that in the short run, there may be inequalities in the quantity of capital and labour found between regions

(i.e. urban and rural China). However, in the long run, according to simple supply and demand models, the capital and labour stock should even out so that all regions are in equilibrium. China is the perfect example to demonstrate that, on the contrary, as time goes by the gap between certain regions becomes wider and wider. As globalisation occurs at a greater pace in a wider arena, spatial inequalities become more and more prevalent. These spatial inequalities in local areas and regions have spillover effects, affecting economic and social inequalities also. For example, in 2010, the average annual income in China's cities was more than triple that of the average rural income (Moore, 2010).

Environmental effects of industrialisation and globalisation
One of the most prominent and concerning issues surrounding China's economic globalisation is the damage being done to the environment. Prior to the 1980s, China had no record of serious environmental damage or pollution as it was neither a developed economy nor an industrialised country. However, over the last three decades China has quickly become one of the world's largest polluters, outdoing many other super-nations such as the United States and Russia on environmental issues.

As China quickly became industrialised, the demand for natural resources sky-rocketed and pollution levels rose steadily year on year. For two decades' coal was the main source of energy for Chinese industry. Air pollution is one of China's biggest challenges that it must address immediately. Greenpeace reports that 'smog hangs heavy over Beijing, Shanghai and Hong Kong as asthma and respiratory illnesses become increasingly common. In four of China's largest cities air quality does not meet standards set by the World Health Organisation. It is the local people who suffer most as a result of this pollution, much of which comes from industry and transportation. Cardiovascular and cerebrovascular diseases, cancer, and even premature deaths are some of the health risks associated with the poor air quality. Greenpeace estimates that premature deaths would decrease by 81% were China to meet the World Health Organisation's air quality standard guidelines. This in turn would have economic benefits of $875 million for the Chinese economy. China is losing approximately 6.5% of GDP to pollution-related costs (Gustke, 2016).

China is also the world's biggest global contributor to carbon emissions. China is responsible for 30% of global carbon emissions, which is greater than the US and Europe combined. Manufacturing is a major sector that contributes to China's carbon emissions (Liu, 2015). Given the magnitude of its emissions output, China plays a critical role in addressing the global environmental issues of pollution, energy resources and climate change.

Evidently, industrialisation and economic globalisation have numerous negative externalities associated with economic development. From this environmental perspective, it would seem that people in China are, in fact, the losers of economic globalisation. Indeed, China's actions to tackle its environmental problems will affect the entire world, however, those living in China are most directly affected by the pollution. If pollution and environmental degradation continues at the current rate, China will be faced with severe consequences, namely a slowdown or collapse in the economy.

Conclusion

'People in China are true winners of economic globalisation' is a very broad and sweeping statement. In order to analyse this argument comprehensively, it must be viewed from a number of perspectives. Each perspective, be it economic, social, environmental, sheds a different light on the argument. It could be argued from both sides, that people in China are winners or losers. However, to approach the subject as black or white, wrong or right terms is too narrow an outlook on such a complex topic.

It is important to note that China's economic progression and globalisation remains to be a process under development, therefore this is also a thesis in gestation. As the issue of Chinese globalisation is very much unfolding in the present, it is difficult to analyse the situation with a reasonable and omniscient perspective. It may take years before researchers and economists can look back and remark as to whether people in China were true winners of economic globalisation.

Another conclusion to be drawn from this analysis is that it is vitally important that China continues to constantly respond and adapt to changes in the economy and global conditions. It is crucial that China addresses the negative effects of globalisation, such as pollution, as they

arise. Currently the positive and negative effects on China are in fine balance, but as the economy starts to slow down, the negative effects such as inequality may outweigh the positive effects.

As mentioned above, the Chinese economy has been showing signs of slowing down since 2014. GDP grew at its slowest rate in over 25 years in 2015, with many economists fearing that an economic crash is imminent (McCurry, 2016). The big question is what effect will this have on China and the world as a whole? The Chinese economy's influence is such that it could cause chaos in the global economy with unprecedented effects on society and politics. Is it then that the extent of the effects of globalisation will be seen? The state of China's economy and globalisation is therefore of the upmost importance globally. If its economy does crash, is it then that we will finally be able to determine whether people in China are true winners of economic globalisation? Currently many questions remain unanswered, therefore it is vital that research continues in this field of studies.

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From Polis to Metropolis, the Ideal City discussed.

Alexander Fitzpatrick

Cities, according to the late and great Jane Jacobs "have the capability of providing something for everybody, only because, and only when, they are created by everybody." (1989). This unprecedented search for equilibrium, for a context of belonging and fitting into the crowd that surrounds and creating the 'ideal', has forever been the fascination of city planners, developers and the state since the founding of the "Polis" (Mumford, 1991) to the mega cities of today. The ideal city as a concept has translated itself in a plethora of altering forms and representations over the centuries, but the ideals of unity, uniformity, beauty and cooperation along with the happiness of the populous and of course the "free citizen" (Mumford, 1991) have all transcended time and are still communicated through modern architecture and cityscapes today. The expanding city spreads itself in a similar pattern to dendritic fluvial drainage, organically and yet ever so carefully planned, transporting outwards, reaching out and absorbing the surrounding hinterland in a sweeping motion of urbanization. This essay plans to dissect and critically engage with the evolution of this so-called 'ideal city' and questions whether such a thing really exists. The ideals that have led city development in the direction that they have followed have converted from social ideals, to physical, to now a carefully balanced combination of both. This essay sets out to initiate the realization of the intertwined nature of the social and the physical, along with highlighting how ancient ideals have integrated themselves into the modern city. Rooted in us is the idea of the city as a hub, the centre of function and activity, and the occupier and mother to whomever chooses to take refuge in it. The city therefore must be responsive to those who live within its borders whilst at the same time providing them with the playground of opportunity to become those very people. The city therefore, as Jane Jacobs said and many before her also pronounced, encompasses and is "created by everybody" (Jacobs, 1989).

The origins of the ideal city lie "not primarily in stone but in flesh and blood" (Mumford, 1991). When conceptualizing the city, we must dissect and dismantle the physical structure that surrounds the human form

and first delve into the mind of the "free citizen" (Mumford, 1991). When thinking of the modern day city, ideas and notions surrounding hygiene, technology and progression spring to mind, as deemed the hub of social interface, the city is there, in some form or another, as a showcase of human capability. However, rewind time and the story of the ideal city is drastically different to its modern day counterpart. The Greeks set the standard for the first real city, or "Polis" (Plato, Laws) and as Lewis Mumford puts it in his book, 'The City in History', this original form of city was "deeply organic" (1991) and "order was in the mind rather than the physical existence of the city" (1991) itself. Predeceasing "the uniform terrace" (Cruickshank, 1985) of the Georgian era, with plush Palladian design and unity, the original Greek Polis was one "poor in comforts and convenience…but rich in experience" (Mumford, 1991). The city was divided into two distinct districts, the "Acropolis" (Lawton, 2015) and the "Agora" (Lawton, 2015). The Acropolis housed state assets; the temple, the treasures as well as being the location of those in power. The Agora on the other hand was the realm of the "free citizen" (Mumford, 1991). It was this distinctive divide that gave way to the Greek ideal forming. Urbanization of the polis "promoted a fresh search for order" (Mumford, 1991) in everyday life as it was not to be found in the physical structure of the city but in the mind of its populous. Social ideals and social constructs formed with a heavy importance placed upon the shoulders of equality, unity and shared responsibility. The Agora was unstructured, its streets winding and angled and no form of linear planning to be discovered within the district. "`The rich and the poor were side by side" (Mumford, 1991), living in a squalor of unorganized chaos which surprisingly gave no issue to the discovery of social order. The Surroundings, the residencies and the houses that were reminiscent of ones to be found in a small town or village held in their view at all times the great structures of the Acropolis, "open and finished on all four sides" (Mumford, 1991). "No public latrines" (Mumford, 1991) were to be found and there was no "bodily shame" (Mumford, 1991) amongst neighbours. In their lack of personal extravagance, their encoded acceptance of their living conditions, the citizens of the Polis had "produced a correspondingly unfettered mind" (Mumford, 1991). The social ideal of the city had been born, one of unity, acceptance and cooperation, continued further in the political mechanism

that placed the Polis at the panicle of social equilibrium even by modern standards.

When conceptualizing cities, we must think deeply of its political structure, the very object that instills function into a society. The Polis had found unity in its political mechanism by way of inclusion. "The role of the Polis was admirable: every part of the city had come to life in the person of the city" (Mumford, 1991) as each individual was as equally involved in the arts as they were in the running of the state as well as their private lives. It had found "the golden mean between public and private life" (Mumford, 1991). One could argue that this form of social order resembles a very socialist society, and one would be correct except perpendicular to the beliefs of modern day socialism, communism almost, the Polis embraced the arts and expression as well as public inclusion in the running of the state as "participation in the arts was as much a part of a citizens' activities as service on the council" (Mumford, 1991). The order that was founded within the borders of the Polis underscores that the social ideals can of course out-weigh, in some cases benefit more than, the physical form that surrounds. The citizens of the Polis were in some ways naked and yet in others fully cloaked in both knowledge and experience.

Out of the Polis came the Hellenistic city and with it came the transfer of importance from the social to the physical. Beauty in the physical and the permanent was sought after with Plato writing that "the temples are to be placed all around the agora, and the whole city built on the heights of a circle, for the sake of defence and the sake of purity" (Laws). Social equality as noted through the inclusion of all in the defence tactics of the state and not only the Acropolis, employs the idea that the citizen was still very much as important of an asset to the state as assets of permanency. Physical form, for the first time regarding the entirety of the state, had become the ideal. The urban reform, the act of beautifying the city to enable private purity in physical form had come about. The Hellenistic city in many ways resembles modern ideals, a city that is both physically and socially ideal, one that is inclusive enough to instil happiness in the everyday citizen whilst at the same time retaining enough power to rule, lead and develop. The Hellenistic city was in many respects the beginning of an urban Utopia. However, with growth the debate around the ideal scale of the city had arisen. When conceptualising the

notion of a city, one cannot urbanise at will for the success of a state or city is dependent on its ability to maintain and control social and political order. "The city must be of a suitable and sustainable size" (Annas, 1981) but this was in many respects the downfall of the Greek era. As previously stated, the city is seen as the hub of the state and activity and thus creates an immediate and attractive draw towards it. Population growth and therefore, expansion, is inevitable. Structure needed to become the ideal.

Leading on from the ideals of the classical and the ancient, similar tactics and concepts of urbanisation can be applied to far more recent movements. Aristophanes wittily jokes in one of his classical pieces of something that he blatantly was unaware centuries later would become the ideal. Counteracting the unstructured Agora of his time, he joked that he would "work to inscribe a square within a circle; in its centre will be the market place, into which all streets will lead, converging to its centre like a star, which…sends forth its rays in a straight line from all sides" (Mumford, 1991). The ideal notion of structure, the notion of "the geometric absolute" (Mumford, 1991) has since become the form which every city has conformed to. Not to say that Dublin for example is in any way the ideal city, however view it on a map and it clearly resembles these structural ideals. The city centre becomes the "market place" (Mumford, 1991), the region where business is conducted on a now global and local scale. The Motorways that proliferate and the ring-road that is the M50 illustrate the cosmos through tarmacadam and cement. Classical ideals are not only the ideals of the classics, but now shown, they are ideals that can transcend time and have done for centuries.

Roman cities developed so to encompass order in a very evident, physical form. A road leading north to south, known as the "Cardo Maximus" (Lawton, 2015) and a road leading East to West, the "Decumanus Maximus" (Lawton, 2015) intersected to form a cruciform shape, the forum at its centre. The quadrants that formed served as the city's districts: residential, retail, military and religious. Order and the ideal form had come about. This, again, can be seen from above in Dublin's city centre. The spire serves as the forum, O'Connell street its Cardo Maximus and Henry Street the Decumanus Maximus.

Georgian architecture acted in a similar manner with regards to uniformity and proportion. The ideals of proportion are of course nothing

new with the great minds of the past such as Leonardo da Vinci conjuring up such concepts through the mediums of art and architecture, evident most obviously in his notebooks and sketchbooks, especially in the drawing of the 'Vitruvian man'. This golden ratio of proportion played into the development of "the uniform terrace" (Cruickshank, 1985) and the movement of modernity, in Dublin as well as every other developing city of the 19th century, most notably Paris. With the development of science came new ideals, a furthermore precise beauty found in the squares, streets and brick fronted townhouses of the time. "Morris's cube and a half" (Cruickshank, 1985) set the proportional standard of Palladian architecture to 2:3. The streets of cities, the now ideal apparel, was one of a very linear, scientific and mathematically observed form. Urbanisation had taken on a very new stance, one which saw the forum being cleared and making way for the illustrious squares that became the centre of public activity in the residential domain. However, similar as the Georgian era may be to the ideals of the past aesthetically, socially the norm was far from the same. The poor no longer lived side by side with the rich and there was an evident rift between those that had wealth and those that had not such monetary means. Ideals of the 'ideal city' were ideals to those who could afford such commodities; the lush townhouses, the haut couture of imported teas and wines and the beauty of art and architecture that fronted the streets. In many ways, this era became the new norm, the norm that segregated many and included the powerful few.

However, simultaneously, wealth was continually shared in a very public form. The squares and parks were open to all. In Paris, the redevelopment of the city under Baron Haussmann's vision (not so surprisingly dissimilar to the cosmos style lay out described previously by Aristophanes with its proliferating streets and roundabouts) had given way to the enjoyment of the new boulevards and widened streets, all too politically placed however to deter any further revolution or revolt. The ideal city had become less of a socially ordered culture but one of now political control. The combining of the classical and the modern has risen questions of what the ideal city really is. We, no matter how hard we try, always seem as a species to resort back to what has gone before us and instead of reinventing, we re-conform.

In thinking of and creating the urban ideal, developers and states must draw on past experience and carefully balance both the social and the physical. But what exactly is the balance? Every mega city and global hub seems to have the answer, or so it seems. Whether it be the "urbanization and construction over the next three decades" (Wang, 2016) that are set to sweep the urban streetscapes of Shanghai or the "creative capital" (ncygo.com staff, 2015) of New York, the search for the ideal city and the fine balance between cultural, social and the physical ideals is becoming ever more difficult to find. The recent Wardian developments by Ballymore developments has marketed its residencies as when "the elegance of nature meets the grandeur of architecture" (Ballymore, 2015). The new city ideal seems to be reminiscent of that of Ebenezer Howard, combining the garden and the city, one of structure formed by both man and nature and living in sync in a utopian like serenity. An attempt to link the natural with the synthetically constructed has become almost as fashionable as fashion itself, a constant murmur of interest and investment. However, allocate too much investment or space to agriculture and nature, then the human aspect of the city becomes confined. The same principle works when applied to that of nature becoming scarce or restricted. Capitalist values pulse through the veins of the modern city and with that investment and profit will always win, and if so is that the ideal?

Plato's state was by definition a city, "a group where there is a unity of interest" (Annas, 1981), a group with a united purpose or existence and a coherent mind-set of progression and ordered cohabitation. In modern cities however, is there not a conflict of interest? When conceptualising the ideal city, one must think of the people first and foremost but are we not all subject to being sold the 'American dream' of the city, one where we are told it's socially the best and also physically the most social of spaces, only to realise we have been led down the wrong path? The ideal city therefore, is impossible to construct. It would involve the political and social constructs of the Polis along with the economic stability, growth and living standards of the modern metropolis. However, as pointed out earlier, the Polis has growth as its weakness and the modern day city has growth at the top of the priority list. Urbanisation has therefore provided either one or the other, either the economic and physical infrastructure or the social capacity to live as a unified unit, and thus

creating the 'ideal' has failed. "To remould one is to introduce appropriate changes to the other" (Mumford, 1991), to focus too much on either the physical or the social order of the city would be to exclude the interests of the whole, unified community, and that, under all circumstances is less than 'ideal' let alone the concept of the ideal city itself.

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A selection of DU Geographical Society pictures from 2016/17

Chairperson Evan Cunningham welcomes An Taoiseach Enda Kenny to the Society stand on Fresher's week

Chairperson Evan Cunningham and Postgraduate rep Jane Maher

44 members of the Society partake in this year's annual fieldtrip to Bucharest in Romania, November 2016

GeogSoc welcomes the Geographical Society from The University of Turku, Finland, September 2016

Helen Peck, the proud first ever 200th member of DU Geographical Society. Pictured here on Fresher's week 2016 with Society Treasurer Rachel Gallagher

The Society reinstates the National Trip in March by travelling to Killarney, Co. Kerry. Members were treated to incredible sunshine while visiting Killarney National Park

'Snapography' participants outside the Museum building, September 2016

Marking the annual opening of the GeogSoc library PRO Laura Rankin, 1st Year Rep Luke Nolan, Member Michael Nagle and Librarian Stephen McLoughlin

Participants of the Geo Week activities, November 2016. The theme for the latest GeoWeek was Exploring the Power of Parks

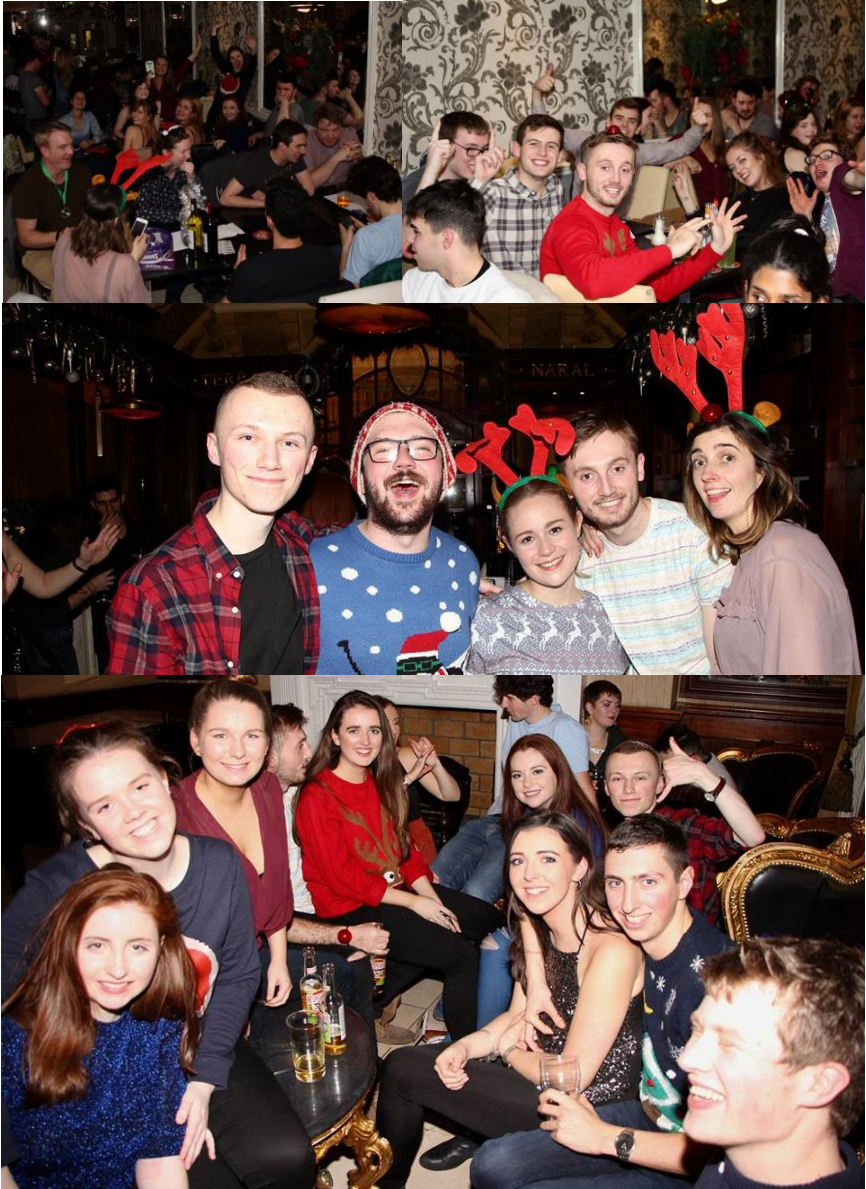**Members of the society participate in the CSC football tournament. The GeogSoc team was aptly named 'the Globtrotters'**

Members of the Society attending a conference in the University of Bucharest as part of the annual fieldtrip

Society members enjoying the annual Christmas Pub Quiz, December 2016

Earth Ball,
February 2017
~ Carnegie Court Hotel, Swords ~

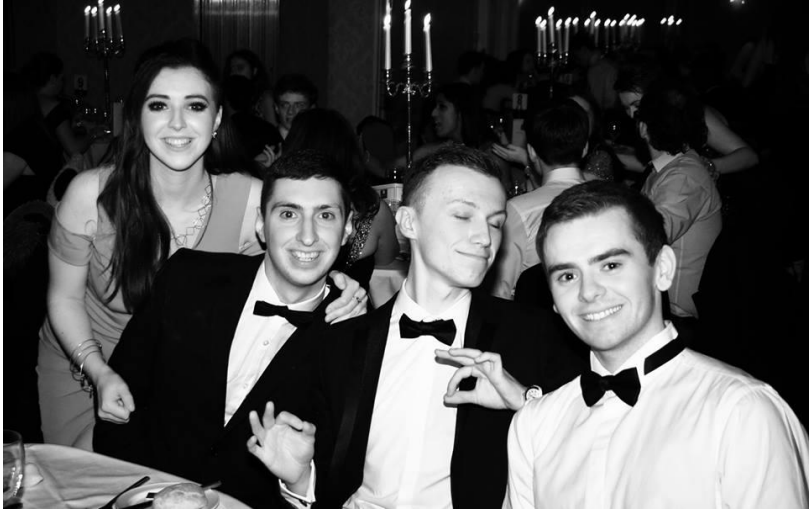**The Globetrotters being awarded for their successful season**

Treasurer Rachel Gallagher, Chairperson Evan Cunningham, Secretary Evan Carey and Librarian Stephen McLoughlin

Committee members enjoying the festivities at the annual CSC Ball

Atlas

Atlas