



**“DIVIDED CITIES”**  
*caught between hope and despair*

**MEETING THE CHALLENGE OF RAPID AND CHAOTIC  
URBANISATION  
IN THE FACE OF CLIMATE CHANGE**

**Beatty Memorial Lecture**

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**by**

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*Check against delivery*

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Distinguished guests,  
Ladies and Gentlemen,

It is a great honour and privilege for me to join you this morning to deliver the 2007 Beatty Memorial Lecture. It is also a pleasure to be in this beautiful city of Montreal, a city that is renowned in urban planning and management circles for its innovations, diversity and dynamism.

During my first visit in 2002, I was awarded an honorary doctorate. So it is particular pleasure for me to address you this morning as a fellow alumnus of this prestigious institution.

On that occasion, I had the opportunity of addressing graduates at their Macdonald Campus for what was only my second visit to Canada. However, in the last five years, I am happy to say that I have become a regular guest, meeting with gatherings of civic leaders, planners, architects, provincial and federal ministers, and even Hip-Hop artists!

I will forever fondly remember the Third World Urban Forum which took place in Vancouver last year. It was a truly wondrous experience. Over 10,000 people representing all spheres of government, civil society and practitioners partook in a massive brainstorming session to exchange their knowledge and expertise on urban issues and to “turn ideas into action”. The discussion took off from an inspiring vision given by Prime Minister Harper who officiated at the opening ceremony of that Vancouver meeting in recognition of the challenge of our times, namely, rapid and chaotic urbanization.

The Third World Urban Forum was more than just a meeting of minds. It embodied many of the values and characteristics I have come to appreciate in this nation of diversity.

The enormous interest shown in the World Urban Forum and the intensity of debate it generated is a true testament to the incredible foresight of leaders who gathered in Canada some thirty years ago to create UN-HABITAT, a United Nations institution established to help member states with challenges of developing human settlements.

Accordingly, my lecture today is divided in three parts.

The first part of my lecture will be devoted to some facts and figures on rapid and chaotic urbanisation and why we need to continue to focus our attention on this issue, especially in the face of climate change.

In the second part of my lecture I will endeavour to describe what are some of the social and economic consequences on the ground: what it means for the lives and livelihoods of millions of people living in urban poverty and deprivation. I shall try to walk you through a reality check.

Finally, I will devote the third part of my lecture to action – more specifically what the United Nations is doing to meet these challenges and the specific role of my agency – the United Nations Human Settlements Programme, or UN-HABITAT for short.

I was asked to speak for 50 minutes. So bear with me, if you have preferred a shorter presentation, I normally do! Hopefully at the end of my presentation we will all have enough energy left to engage in dialogue which is what I cherish the most. But, my intention is to address you not only as a professor and the head of a UN agency, but also as a mother, and a woman from the third-world who has also lived the process of rapid structural transformation and dramatic socio-economic changes and circumstances. My perspective is informed by local insights of cause and effect regarding the challenges that I am about to describe.

*The scale and pace of urbanisation: why we should be concerned*

It is now clear that some of the greatest challenges facing humankind in this new millennium are rapid and chaotic urbanization, as well as increasing urban poverty. Assisted by a variety of technological innovations and advances in science, since 1950 humankind has endured its most rapid expansion growing from 2.5 billion to 6 billion people. This year, 2007, is a historical one as 50% of humanity for the first time became urban. We say that “homo sapiens” have now been transformed into “homo urbanus”. And there is no turning back. Sixty per cent of this increase has been in urban areas, in particular in the urban areas of the developing world, where the urban population has increased more than six-fold in only 50 years.

Virtually all of the projected population increase of about 2 billion people between 2001 and 2030 will take place in urban areas. The global urban population will increase from 2.9 billion in 2001 to about 4.9 billion in 2030. In percentage terms, the world’s urban population will increase from 48 per cent of the total world population in 2001 to about 60 per cent in 2030. This means that every year, the world’s urban population will increase by about 70 million people, equivalent to seven new megacities of 10 million people each per year. The greatest impact of this increase will be felt in the developing world, especially throughout South and South East Asia and Sub-Saharan Africa. In the next 15 years, many large cities in Asia and Africa will nearly double their population.

What does this rapid expansion of the urban population mean? When the projected additional urban population is combined with the current slum dweller population of close to 1 billion, about 2.8 billion people will need housing and urban services by 2030. The precision of this figure is not really very important. What is critical is its order of magnitude. Close to 3 billion people, or about 40 per cent of the world’s population will need to have housing and basic urban infrastructure and services by 2030. If this population is divided into household units of 5 people each, the need for housing in this period will be around 565 million housing units. This means 22.6 million housing units per year, or completing 61,918 housing units per day or 2,580 units per hour. Failure to recognise this need will guarantee the rise of slums in developing countries and the negative socio-economic and political impact it will unleash locally and ultimately globally. And we have already started to see the consequences in terms of not only rapid chaotic urbanization but increasing pressure for international migration and the increasing exploitation and trafficking of desperate people wishing to flee from abject poverty and unemployment in the slums.

A proven economic theory, known as the Harris-Todaro Model provides considerable insight. People move not because they will be better off but because they believe that they will be. It is the expectation of a better life that has unleashed this massive movement from dwindling rural livelihoods and existence into cities in the hope of a better life. When and if things do not work out well for them, they remain, hoping that luck will favour their children. For this reason, urbanization is irreversible.

The challenge of rapid and chaotic urbanization is clearly huge. Almost all of the world’s total population increase during the period 2001-2030 will take place in urban areas. About half of this increase, or 1 billion people, will take place in urban slums, mostly in South and South East Asia, as well as in Sub-Saharan Africa. In 2001, a total of about 924 million people lived in urban slums globally. This constituted 32 per cent of the world’s total urban population. About 43 per cent of the urban population of all Developing Regions combined lived in slums and just about 78 per cent of the urban population in the Least Developed Countries lived in slums. It is projected that between 2001 and 2030, unless serious action is taken, the world’s slum population will increase by slightly over 1 billion, to about 2 billion in 2030. In percentage terms, the slum population will increase from 32 per cent of the world’s urban population in 2001 to about 41 per cent in 2030.

As I will show in more detail later, most of these slum dwellers do not have access to adequate housing, and lack access to safe water and sanitation. They live in overcrowded conditions, often situated on marginal and dangerous land. Their waste not only remains untreated, it surrounds them and their daily activities and affects their health and that of their children.

This situation is being exacerbated by two factors - an almost complete lack of planning or preparation for urban growth in most parts of the world, and a rapid increase in both inequality and poverty, which is compounded by policies intended to improve growth, but which have mostly not done so because they have tried to fight the key urbanisation dynamic rather than working with it.

UN-HABITAT's recently published Global Report on Human Settlements 2007 shows that urban slum dwellers, now numbering almost 1 billion globally, are the segment of the urban population most vulnerable to the rising incidence of disasters. The report shows that the number of natural disasters increased three-fold between 1975 and 2006 and that climate change has led to a 50 per cent increase in extreme weather events between the 1950s and 1990s. The report further shows that the greatest increase in the incidence of disasters in recent decades has occurred in Africa and Asia and that the increasing vulnerability of cities to disasters is partly a result of the expansion of slum settlements into marginal land prone to flooding, land slides and pollution. Another significant finding of the report is that, of the 211 million people affected by natural disasters annually from 1991 to 2000, 98 per cent were living in developing countries. This is not surprising, given the large numbers of people living in unplanned and un-serviced urban slums.

The consequences of chaotic urbanization and of poor urban planning are likely to be magnified several times over in cities affected by climate change. The 2007 Global Report on Human Settlements shows that the location of major urban centres in coastal areas exposed to hydro-meteorological hazards is a significant risk factor. Twenty-one of the 33 cities which are projected to have a population of 8 million or more by 2015 are located in vulnerable coastal zones and are increasingly vulnerable to sea level rise. Around 40 per cent of the world's population lives less than 100 km from the coast, within reach of severe coastal storms. In effect, close to 100 million people around the world live less than one meter above sea level. Furthermore, recent research shows that 13 per cent of the world's urban population lives in low elevation coastal zones, defined as less than 10 meters above sea level. Thus, if sea levels rise by just one metre, many coastal mega cities with populations of more than 10 million people, such as Rio de Janeiro, New York, Mumbai, Dhaka, Tokyo, Lagos and Cairo will be under threat.

### *Some social and economic consequences – the ugly face of urban poverty*

Now that I have completed my professor bit, allow me to address you as a mother and a woman from a poor country.

Most of you will have heard about or even seen a slum. But I must admit that having grown up in a rural village myself, before I started investigating slums, I was unaware of the true dimensions of urban poverty and deprivation. In the villages we may have had limited means, but we did have our own decency and dignity. This is not possible in most slums.

While a picture is worth a thousand words, pictures do not tell the whole story so let me elaborate.

### *Who lives in slums?*

The vast majority of people living in slums are the urban poor, and most of them fall into the category of the income poor, living on less than a dollar a day. But income poverty is only part of the picture.

Slum dwellers represent a wide cross-section of society. Let me give you examples from my city adoptive city in Nairobi Kenya where the UN environmental agencies UNEP and UN-HABITAT have their headquarters. Kibera, the largest of some 100 slums in Nairobi, the capital of Kenya, is home to over 700,000 people. It is a city unto itself. And like any city of a comparable size, we have old people, young people, single women, single mothers, single fathers, single men, nuclear and extended families. They live in the slum because there is no affordable housing on the market. They live in Kibera because it is centrally located, close to sources of fixed or temporary employment and livelihoods including begging in the Central business district that is within walking distance.

Yet this thriving city slum of Kibera is like most slums in the world, it is considered by the public authorities as an informal settlement – illegal if you wish. Yet it has been a fixture of Nairobi as long as anybody can remember. Politicians make promises every few years when elections are being held. But few if any of these promises are kept.

In the meantime Kibera was continued to grow in size and political influence.

The politics of Nairobi City are today dominated by who controls Kibera. UN-HABITAT has a slum upgrading programme office in Kibera. Before we could do anything we had to win peoples trust, and convince them that we were not there to move them to other places and demolish the shacks in which they live, but to work with them towards realizing decent housing solutions. Sadly, Kibera is not an exception but is symptomatic of the situation of similar slum settlements all over Africa, Asia and Latin America.

As Head of UN-HABITAT, I have visited huge and smaller slums in many parts of the world. In Mumbai, India pavement dwellers told me they were not interested in being resettled to the suburbs unless they remained connected to the downtown business district, the rail road, and to public transit. In the city of Recife, the Government of President Lula da Silva finally found a solution to upgrade the people of “Brazilia Termosa”, a large slum located right on a prime beach.

Interestingly its name is derived from previous failed attempts to move the slum dwellers. They did not trust anyone until Lula came along. It is this informal status of slums and extreme deprivation that pushes people to lose trust in official systems and is what lies at the heart of much of the deprivation and the vicious cycle of poverty. Paradoxically, informality also increase chances for exploitation. For example, 80% of the residents of Kibera are tenants paying exorbitant rents for shacks that they live in. Profits for the slumlords are so high that the payback period is 9 months for real estate investors!

### *Lack of service provision*

First of all, there is no public service provision. This is very common to many slums around the world. Their illegal or informal status prevents or inhibits utility firms and the city government itself from providing basic services. It is hard to imagine, but the fact is that the 700,000 people living in Kibera, like many other slum dwellers around the world, have no public water supply system, no sanitation, no garbage removal, no streets, no street lighting, in fact, no legal connection to the energy grid.

I am not trying to paint the picture any darker than it is. But the average is 10 people to a room and 200 people sharing a toilet, and this figure goes as high as 300 people sharing a toilet in some slums in Asia. What do such statistics, already shocking in themselves, actually mean?

The 2006-2007 State of the World Cities report, published by UN-HABITAT reveals that slum dwellers are more likely to die early, suffer from malnutrition and disease, be less educated and have fewer employment opportunities than any other segment of the population.

On the health front, studies have shown that prevalence of the five diseases responsible for more than half of child mortality, namely pneumonia, diarrhoea, malaria, measles and HIV/AIDS, is directly linked to the living conditions found in slums and not to income. These conditions are overcrowded living space, poor security, lack of access to potable water and sanitation, lack of garbage removal, and contaminated food.

Similarly, the lack of access to safe water and decent sanitation is the single biggest cause of disease among women. It is the key contributing factor to why adolescent girls drop out of school. The average woman or girl in Kibera spends up to four hours a day to fetch water. Those who can afford to buy water from a vendor pay up to 50 times more than those who have access to piped water supply. The lack of modern energy supply forces most slum dwellers to use either charcoal or kerosene, a major cause of respiratory disease and fire hazards.

In short, slum dwellers suffer from a double jeopardy: they live in life-threatening conditions and their plight is the blind spot of government action and of international development assistance.

Yet it is the 700,000 inhabitants of Kibera, and the estimated remaining 60% of the urban population that lives in similar circumstances in Nairobi, who work in our plants and factories and produce affordable goods and services. Without them, the economy of Nairobi would most probably grind to a halt.

Whenever I walk through the slums of Asia, Africa or Latin America, as a mother and as the head of the UN agency in charge of sustainable urban development, I find it hard to witness children suffering under what can only be described as the shame of our time. I am astonished at how women manage to raise their families under such appalling circumstances, without water or a decent toilet, for water is life, but sanitation in dignity. Too many of us are also indifferent and find a haven in our own posh, protected neighborhood.

The promise of urban independence for these people, has given way to the harsh realities of urban living largely because too many of us were ill prepared for our urban future. Many cities are confronting not only the problems of urban poverty, but also the very worst of environmental pollution. In fact 30% of slum dwellers in Africa are “environmental refugees” coming from failing rural pastoral livelihoods due to environmental stress and advancing desert frontiers

### *Living under a constant threat of eviction*

But there is another dimension to living in slums which is perhaps even more pernicious, and definitely a contributing factor to the poverty trap. I refer here to the issue of lack of security of tenure. This is not about professorial tenure in a university, which many of us would like to have.

It is about living under the constant threat of eviction.

Here again, the illegal or informal status of many slums means that they are tolerated as long as it is convenient for the economy as whole to have a ready pool of cheap labour in proximity to where such labour is required.

As cities grow, the land on which many slums are located becomes more valuable, either for private development or out of public necessity, for example, for roads, by passes and other forms of public infrastructure. There comes a point in time when this value outweighs the value of cheap labour, and slum dwellers inevitably get evicted.

As the UN agency responsible for promoting housing rights, we have little argument against the laws of the marketplace. But what is unacceptable, is the lack of due process and compensation, either in the form of alternative housing solutions or monetary compensation, or both. This is what we call “forced evictions” which affect more than 2 million people every year, to which we need to add another 10 million evictees annually who are affected by expropriation and compulsory acquisition.

While this may seem to many of us as legalistic or administrative issue, it is also an economic one.

For most people, in the North and South, our homes are the single biggest investment we make in our lifetimes. This also holds true for slum dwellers. But in the case of slum dwellers, their homes are not recognised as houses. The threat of eviction, or lack of secure tenure, means that their homes cannot be insured, cannot be used as collateral for a loan, and can be demolished overnight. Thus, in the case of a slum dweller, their single biggest asset is discounted to zero. As I have pointed out, the majority of slum dwellers are renters. It can be counter argued therefore that renting informal shacks is no big deal for them. But alas, it is! In a slum, access to a rental room is not easy.

Often landlords require that rent be paid on an annual basis, not to mention the cost of relocation if they are torn down. In 2005, I was appointed as a Special Envoy to look in to the humanitarian crisis resulting from the eviction of poor people in what was called a “City clean up operation” in Zimbabwe. I established that the majority of the people who had suffered were renters living in backyard extensions. The owners could at least remain living in the “official house” which had a legal building permit.

### *Cities and climate change*

At this stage of my lecture, you may ask, what does all of this have to do with climate change?

Let us turn the clock back a bit and revisit Hurricane Katrina. Who were the most affected in New Orleans? Who are the ones that are finding it most difficult to bounce back? The same goes for the victims of the Asian Tsunami in Indonesia and in Sri Lanka.

The fact of the matter is that most of the world's growing cities are located in developing countries and situated in coastal areas: India: Bombay or Mumbai, Brazil: Rio de Janeiro, Indonesia: Jakarta, China: Shanghai, just to mention a few. They will be the first affected by climate change, by more extreme weather patterns and flooding caused by rising sea levels. To this we have add the influx of environmental refugees, those whose farms, businesses and livelihoods are affected by climate change.

In essence, the effects of global warming will put cities at great risk. With ongoing climate change, we are entering a new era of urban vulnerability. The rapid pace of urbanization and concentrated living patterns in towns and cities will significantly increase the overall risk factors facing urban areas. The most affected today, and in the future, will be the world's urban poor – and notably among them, the 1 billion slum dwellers, the majority being women and the children they support!

There is no doubt that local authorities will be the front-line actors in finding local answers to these global challenges.

There are no “one-size fit all” solutions and each local authority will have to assess its own risks and vulnerability and plan accordingly, whether in coping with rising sea levels, cyclones, droughts, flooding, or environmental refugees. It is obvious that local authorities, especially in secondary cities in developing countries that are growing the fastest, will be severely tested by these challenges. These cities, despite their rapid growth, contribute a minimal share to global greenhouse gas emissions. Yet, they are the cities that are most at risk in terms of feeling the impacts of climate change.

### *An agenda for action*

Allow me to phase into the third part of my presentation and to address you in my capacity as the head of a UN agency. This third part is on action: action at the local, national and international levels.

Climate change has been making headline news for quite some time now. All of us have heard of melting ice caps and glaciers and of drowning polar bears. Many of us have witnessed first hand more extreme and unpredictable weather patterns.

The Inter-governmental Panel of Experts on Climate Change has issued one report after another warning us of what is likely to happen and the need to undertake action on two fronts: mitigation and adaptation.

Both of these actions are closely related to cities and human settlements.

On the mitigation front, suffice it to say that with half of humanity living in urban areas, cities and towns are already responsible for over 80% of energy consumption and 70% of all waste including green house gas emissions. About half of the energy consumed is for urban transport. The other half is used to run our offices and appliances, the ubiquitous appliances that make up our so-called modern lifestyles.

This situation will in all likelihood continue. And here we have to go back to urbanisation within the context of a globalising world economy. One of the major consequences of urbanisation is that it brings about irreversible changes in our production and consumption patterns. It changes forever the way we use land, water, energy and forests.

At the same time, globalisation favours cities as centres of production, of economic growth and wealth creation. It accelerates the process of urbanisation.

These two processes together alter the relationship between our cities and the local and global environment. They alter the quantity and concentration of waste we produce.

But until now, few comprehensive examples of mitigation and adaptation at the local level exist. However, cities worldwide are alerted to take action. This is an opportunity for all of us - policy makers, planners and environmental specialists and citizens - to join forces and place cities and urban issues at the forefront of the sustainable development agenda, indeed of the national political agenda. Adapting to climate change will require that we revisit our planning laws and bylaws, our building standards, our energy supply systems, our infrastructure and transportation planning.

This is an excellent opportunity to re-examine how we manage and plan our cities.

It is an opportunity to re-think many of our policies that have made cities the single biggest source of green house gas emissions in the North, while at the same time, excluding up to two-thirds of the urban population from decent living standards in the South.

In essence, reducing the vulnerability of cities to the effects of climate change should and needs to be seized as an opportunity to improve the living conditions of the most vulnerable segments of our urban populations.

### *What is the contribution of the UN and of UN-Habitat?*

#### *Ladies and Gentlemen,*

Allow me now put on my hat as the head of a UN Agency and to share with you what has been and is being done at the global level. I will start with a brief recap of major UN Conferences and their outcomes.

Our quest for sustainable development started in Stockholm in 1972 with the 1<sup>st</sup> UN Conference on the Human Environment. This led to the establishment of UNEP and set the stage for the 1<sup>st</sup> UN Conference on Human Settlements in 1976 in Vancouver.

This Conference, in turn led to the creation of UN-HABITAT.

The Vancouver Conference called for concerted approaches to housing, already seen as a looming crisis. However, urbanisation was still a distant concern with less than one-third of humanity living in cities.

The 1992 Rio Conference on Environment and Development, and its landmark Agenda 21 firmly placed sustainable development at the forefront of international action. This led to many initiatives focusing on preventative measures to reduce pollution and to protocols including the Montreal Protocol on CFCs. Urbanisation remained, however, in the background.

Partly due our research and our relentless attempts to highlight the challenges of rapid urbanisation, the internationally community met again in 1996 in Istanbul for the 2<sup>nd</sup> UN Conference on Human Settlements.

The outcome of the Conference – the Habitat Agenda- focused on two goals: “Shelter for all” and “Sustainable human settlements in an urbanising world”. It could be said this was the first time the international community fully acknowledged the importance of urbanisation in the sustainable development equation.

But our battle was far from over, and it took the combined efforts of the Millennium Summit, the World Summit on Sustainable Development and a Special Session of the UN General Assembly on the review of



progress in the implementation of the Habitat Agenda, all of which took place in 2001, to translate the goals of the Habitat Agenda into concrete targets. These are Targets 10 and 11 on water and sanitation and slum upgrading of Millennium Development Goal 7 on sustainable development. These targets call for reducing by half the number of people without adequate access to water and sanitation by 2015, and to improve the living conditions of at least 100 million slum dwellers by 2020. In the process, UN-HABITAT's status was upgraded from that of a Centre to a fully-fledged UN Programme.

Last but not least, the 2005 World Summit Outcome called for urgent action, in addition to slum upgrading, for Governments to prevent the future growth of slums and urged for strengthening financing for decent, affordable housing.

As you can see, there has been a long but steady progression in global awareness on the consequences of rapid and chaotic urbanisation, and commitments to action.

However, realizing these commitments requires continuous and relentless awareness raising and advocacy as well as capacity building and technical assistance to pave way for follow-up investment in housing and urban infrastructure. Our advocacy work is spearheaded by the World Urban Forum which I mentioned earlier and by our Global Campaign on Sustainable Urbanisation which builds on our previous Campaigns on Urban Governance and Secure Tenure.

Our technical assistance combines policy advice, capacity building support for institutional reform, and technical expertise designed as a pre-investment package to bring pilot demonstration projects to scale.

For this we have established a Slum Upgrading Facility and a Water and Sanitation Trust Fund. Both of these initiatives work closely with international financial institutions, regional development banks and domestic financial institutions to help cities attain the Millennium Development Goals.

Our technical assistance work is supported by continuous research and development focusing on Participatory urban planning, management and governance; Pro-poor land and housing; Environmentally-sound and affordable basic infrastructure and services; and Strengthening human settlements finance systems.

Allow me to conclude by highlighting the importance of human settlements finance. It is the key to finding a lasting solution to affordable housing and to the slum challenge. In today's world, nobody is expected to pay for their housing solutions through savings alone. We rely on various forms of housing finance from the conventional mortgage to other forms of credit to meet our housing needs.

Yet the 1 billion slum dwellers in the world today are excluded from most forms of finance.

We have been struggling for over three decades to address the issues of cost of land and infrastructure, cost of building and construction. We have neglected the most important factor that determines access to decent housing. This factor is the cost of money.

Last April, the governing body of UN-HABITAT approved a four-year period for developing Experimental Reimbursable Seeding Operations, or ERSO. This provision allows the Habitat and Human Settlements Foundation to provide credit enhancement for slum upgrading and low-income housing. The objective of ERSO is to mobilize domestic capital. It builds on ongoing experiences in leveraging public expenditures in infrastructure and services, the private real estate sector, and the efforts of slum dwellers themselves to find win-win solutions. The role of UN-HABITAT is to package technical assistance and policy reform with seed capital to enable housing cooperatives and women's groups to access housing finance. It complements micro-credit, which is largely limited to short-term loans, by providing longer-term finance for land acquisition or new housing construction.

It is our hope that this facility will help put in place a critical piece of the puzzle in combating urban poverty - to enable and empower the urban poor to do what most wealthier people do everyday, namely to leverage their savings and assets to create wealth through housing and to become true stakeholders in society.

So while we may have a map and a vision, we are still very at the starting point on this journey. What is

clear is that we need to do things different and we must work together - together as nations, together as a people.

We must work to overcome the artificial divisions that lead us to believe that wealth can insulate from all ills. Disasters and chaos are sometimes referred to as “Acts of God”. But can we truly attribute the urban chaos and the divided cities and societies we live in today to the acts of an omniscient being, rather than of our own making?

***We need visionaries, planners, community activists, and even bankers too!***

In the 1880s Canada was a country divided by its enormous geography. It took the efforts of two companies competing against one another to meet this challenge. As you might know, one was the Canadian National Railway, a government crown corporation. And the other was the Canadian Pacific Railways, a private sector company headed by Sir Edward Beatty. There were many who considered this project an impossible feat, while others argued that it was a waste of taxpayers’ money. But the government of the day recognised that certain ideas are so crucial to the growth and well being of a people that they must be pursued, trusting that with commitment, enormous sacrifice and struggle, solutions can be found. True it cost more, and it took longer to complete than expected. Given the harsh terrain the final routes taken were very different than originally planned.

***But the impossible was realised, and has made this country into what it is today, a leader among world nations.***

Today we are in need of such vision, leadership and commitment.

I hope that all of you, especially those of who are beginning your studies, stand ready to take on such a challenge.

I thank you for inviting me to celebrate the life of Sir Edward Beatty and his compatriots as pioneers in corporate responsibility.

I trust that my presentation has done justice to the significance of his legacy. And wish you all the best in this upcoming academic year.