Development Theory and the Canadian North

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The Canadian North is home to a large proportion of Aboriginal Canadians. As a peripheral region, the Canadian North faces numerous development problems. Because of the enormity and complexity of these problems, the region has attracted researchers from different disciplines. In the mid-1970s, Orvik (1975) suggested the adoption of a universal theory in guiding research in the region. He argued that adopting a common theory would foster consistency in explaining development problems in the region. Contrary to Orvik's suggestion, the Canadian North has been studied within the framework of several theories. The factors accounting for the use of a plurality of theories include the changing geopolitical environment of the region. This paper examines a selected number of theories that have been used to explain development issues in the Canadian North. Specifically, the development-underdevelopment, core-periphery, dependency, dualism, and bottom-up theories are examined. The potentials and short-comings of these theories in explaining the development of the region are explored.

Key words: *Canadian North, Development Theories, Dependency, Bottom-up.*

The Canadian North represents one of several resource hinterlands in the world. In view of this, the region is confronted with several development problems. According to McCann (1987) a resource hinterland is characterized by dependence on primary resource production, a highly dispersed population, weakly integrated urban system, limited capacity for innovation, and a restricted political power. To examine these problems, Orvik (1976) more than three decades ago suggested the adoption of a general theory in the study of northern Canada. He argued that because the Canadian North was gaining popularity among researchers from different disciplines, there was the need to identify and adopt a general theory that can guide research in the region. However, the adoption of a universal theory did not materialize.

The question then is what development theories have been applied to the Canadian North? Are these theories unique to the Canadian North? What are the strengths and weaknesses of applying these theories to development problems of the Canadian North? The rationale of this paper is to provide answers to these questions by examining development theories that have been used to explain Northern

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Canadian development. While the review is selective, it provides an excellent representation of the type of theories researchers have used to address development issues in northern Canada which is home to many Aboriginal Canadians (Table 1). Specifically, the development-underdevelopment, core-periphery, dependency, dualism and the bottom-up theories are examined. The first part of the paper focuses on the Canadian North as a region. Part two examines the theoretical perspectives of development and Part three discusses selected development theories that have been applied to the Canadian North.

Table 1: Aboriginal population in Canada and the territories, 2006.

	Population	**% Aboriginal Population**
Canada	1,172,790	3.8
Nunavut	24,920	85.0
Northwest Territories	20,635	50.3
Yukon	7,580	25.1

Source: Statistics Canada, 2008.

THE CANADIAN NORTH AND DEVELOPMENT PROBLEMS

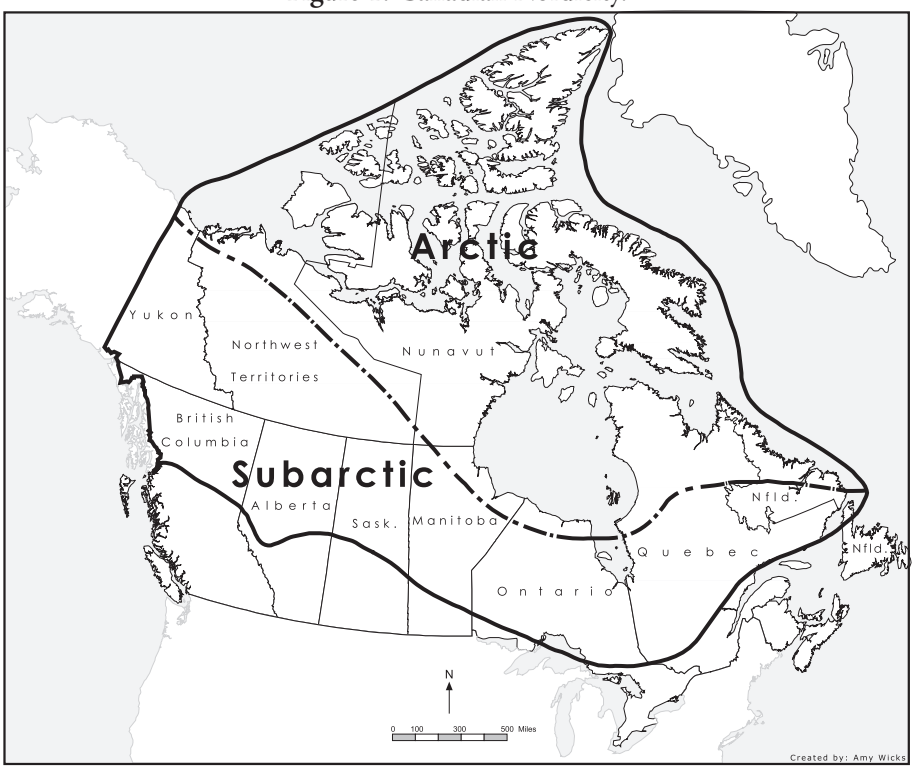
There is no consensus as to which area of Canada constitutes the North. The geographic coverage of the Canadian North is not easily definable (Saku, 2004). Wonders (1987) observed that the definition of the Canadian North is discipline oriented and therefore geographers, geologists, and anthropologists define the north within the framework of their narrow disciplines. Consequently, several approaches have been used in the past to define the Canadian North (Burns et al., 1975; Hamelin, 1979).

Prior to the 1930s, a single factor definition was the prevailing approach (Graham 1990). Since scholars at that time were primarily concerned with the physical limitations of the Canadian North, physical factors were the principal choice of variables in defining the region. This approach for example relied on the presence or absence of trees to determine the southern boundary of the Canadian North. Indeed, the use of one variable is a narrow way of determining the southern limit of the Canadian North because a region should be perceived holistically by taking into account a combination of physical and cultural factors that constitute its environment. To overcome the problem of a single variable approach, Hamelin (1979) proposed the multi-variant approach that combines several variables to create a numeric value or index.

Hamelin (1979) was the first person to combine several variables to create a numeric value or index in defining the southern limits of the Canadian North. Ten variables representing the main characteristics of the Canadian North were used to create a "nordicity or circumpolar index". The 10 variables include: latitude,

summer heat, annual cold, air service, types of ice, total precipitation, natural vegetation cover, population, accessibility by air, and the degree of economic activity. The physical variables measure the coldness of the region and the human variables measure development status of the North (Table 2). While the nordicity value of the North Pole is 1,000 polar units, the southern limits have polar units of 200. Based on the nordicity value of each location, Hamelin (1979) classified the Canadian North into five regions Extreme North, Far North, Middle North, Near North and Ecumene North (Figure 1).

Figure 1: Canadian Nordicity.



Bone (2003) considers the Canadian North as a political region comprising of the Yukon, Nunavut, Northwest Territories, and the northern areas of the seven provinces. Within this perspective, the Canadian North accounts for about 77.8 percent of the total land area of Canada (Table 3). Apart from Alberta and British Columbia, all the provinces have at least 50 percent of their territories considered northern. With about 81 percent of its territory located in the north, Quebec is the province with the largest northern territory while British Columbia with 40 percent is the province with the smallest proportion of its territory in the north.

Table 2: Ten variables and their polar units.

Variable			Polar Units
Latitude	90		100
	80		77
	50		33
	45		0
Summer Heat	0 days above 5.6°*C*		100
	60 days above 5.6°*C*		70
	100 days above 5.6°*C*		30
	>150 days above 5.6°*C*		0
Annual Cold	6,650 degree days below 0°		100
	4,700 degree days below 0°		75
	1,950 degree days below 0°		30
	550 degree days below 0°		0
Types of Ice	*Frozen Ice*	Continuous permafrost 457 m thick	100
		Continuous permafrost <457 m thick	80
		Discontinuous permafrost	60
		Ground frozen for less than 1 month	0
	Floating Ice	Permanent pack ice	100
		Pack ice for 6 months	36
		Pack ice < 1 month	0
	Glaciers	Ice sheet >1,523 m thick	100
		Ice cap 304 m thick	60
		Snow cover <2.5 cm	0
Annual Precipitation		100 mm	100
		300 mm	60
		500 mm	0
Natural Vegetation		Rocky desert	100
		50% tundra	90
		Open woodland	40
		Dense forest	0
Accessibility	*Land or sea*	No service	100
		For two months	60
		By both land and sea	15
		By either land or sea	0
	Air	Charter only	100
		Weekly regular service	25
		Daily regular service	0
Population	*Settlement size*	None	100
		About 100	85
		About 1,000	60
		>5,000	0
	Population density	Uninhabited	100
		1 person per sq. km	50
		4 persons per sq. km	0
Economic Activity		No production	100
		Exploration	80
		20 hunters/trappers	75
		Interregional centre	0

Source: Hamelin, 1979.

Table 3: The geographic size of Canadian North by Province/Territory ('000 square kms).

Province or Territory	Total Area	Northern Area	Percentages	
			North	Canada
Canada	9,850	7,661		77.8
Alberta	662	310	47	3.2
British Columbia	945	370	40	3.8
Manitoba	448	480	74	4.9
Newfoundland	405	300	74	3.0
Ontario	1,076	700	65	7.1
Quebec	1,542	1,250	81	12.7
Saskatchewan	651	325	50	3.3
Provinces	5,929	3,740	63	38.0
Yukon	482	482	100	4.9
Northwest Territories	1,346	1,346	100	13.7
Nunavut	2,093	2,093	100	21.2
Territorial North	3,921	3,921	100	39.8

Source: Bone, 2003.

Excluding the northern areas of the seven provinces, the Territorial North consists of Nunavut, the Yukon Territory and Northwest Territories (Figure 2). The three territories extend over four physiographic regions in Canada: the Arctic, the Canadian Shield, the Interior Plains and the Cordillera. Even though these territories function as political entities, territorial governments lack the ability to raise money through taxation like provincial governments. As a result, they depend exclusively on the federal government for transfer payments.

Apart from the problem of determining its southern boundary, the Canadian North is prone to several cultural, economic and political problems (Table 4). One unique problem of the region is that there are two prevailing perceptions about the region. While southern non-Aboriginal Canadians perceive the region as a resource hinterland, Aboriginal Canadians who reside in the region perceive it as a homeland. Because of the two contrasting perspectives, there is conflict with resource exploitation and utilization. As a homeland, northern Aboriginal Canadians are interested in the preservation of natural resources in the Canadian North but they are also conscious about environmental abuse and destruction that could impact their way of life. On the other hand, southern non-Aboriginal Canadians are mainly interested in the extraction and consumption of resources in the Canadian North.

Furthermore, a problem confronting the Canadian North is its dependence on resource exploitation for economic growth and prosperity. Bone (2003) has observed that the development of natural resources in the Canadian North is dependent on global economic conditions. Resource exploration and exploitation increases rapidly

during periods of global economic boom and high demand for natural resources. During years of economic slump, natural resource exploitation declines significantly because of lower prices. This change in the economic conditions negatively affects employment and personal income of northern Aboriginal Canadians.

Figure 2: The Canadian North.

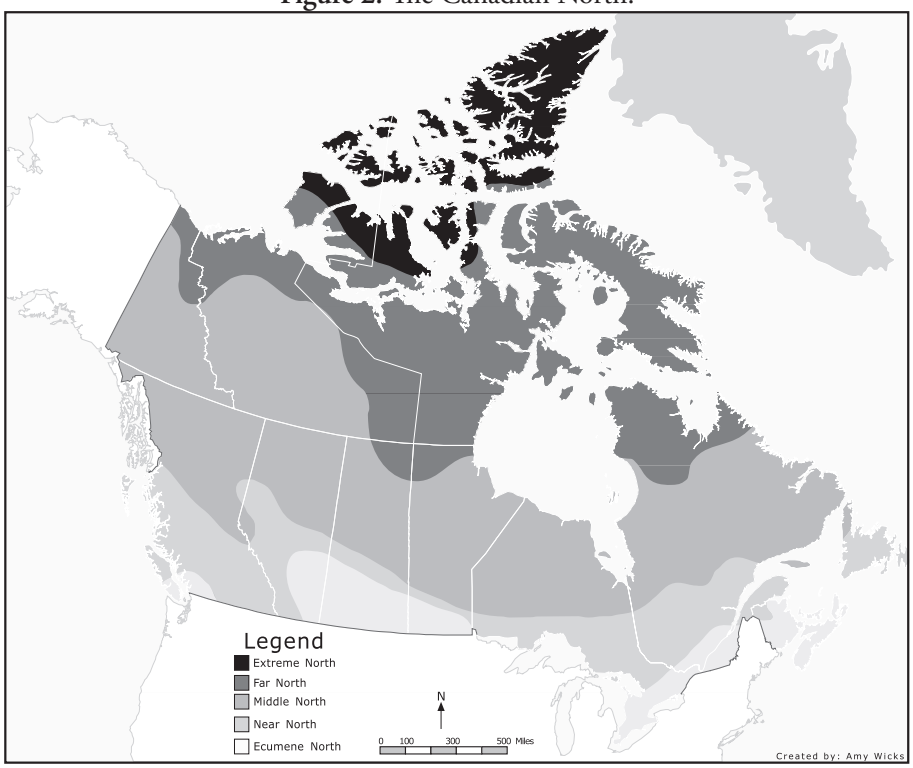


Table 4: Selected Problems of the Canadian North.

1. Remoteness
2. Resource base economy
3. High economic leakage
4. Dependence on transfer payment
5. External ownership of business
6. Low and sparse dispersed population
7. High incidence of population growth
8. Environmental destruction
9. Dependence on store food
10. Lack of trained personnel

Source: Compiled by the author.

In addition, the remoteness of the Canadian North from southern markets is a major economic problem. A viable economic integration between southern and northern Canada has not materialized because of the distance and remoteness of the region. The cost of transporting goods and services to the region is very high. Most of the agricultural and manufactured goods consumed in the Canadian North are produced in the south and airlifted to the north. This increases significantly the price of consumer goods.

The population geography of the Canadian North also adversely affects economic development. The region is "characterized by small populations scattered over a very large geographic region" (Saku, 2004, 257). For example, the 20,635 population of the Northwest Territories is spread over an area of about 1,346,000 sq. kms. Small populations limit large scale production because of lack of potential market for goods and services. More importantly, unit cost of service delivery is very high because of small populations. The preceding overview describes a context within which development issues abound.

A THEORETICAL FRAMEWORK OF DEVELOPMENT IN THE CANADIAN NORTH

The term development has no precise meaning and accepted definition. Hoggart and Buller (1987, 18) noted that "when commentators speak or write about development, they frequently mean very different things … what development actually is, is a personal evaluation". Similarly, Black (1991) indicated that development is a user-friendly term and therefore has virtually as many potential meanings as potential users.

Development is narrowly perceived by some as economic growth. Todaro (1989) for example, indicated that development means the capacity of a region to generate and sustain an annual increase in its Gross National Product (GNP) at a rate of more than 5 percent. This definition equates development with increase in GNP. Apart from economic growth, development also involves other aspects of human life (Lele 1975). It includes positive changes in the demographic, social, and political characteristics of a society or region. For example, among others, a region or country experiencing development would experience improvements in health, education and housing, changes that may be partly attributed to economic growth but development is a multi-dimensional process of societal change. These changes usually occur over a period of time.

Since the 1990s, the United Nations has used Human Development Index (HDI), a composite measure of development to classify countries into developed (high development), developing (middle development) and underdeveloped (low development). The three aspects of human dimensions used to calculate the index include life expectancy at birth, education and standard of living. Within the past

two decades, Canada has been ranked the most for eight times as the number one country, followed by Norway (7), Japan (3) and Iceland (2). In 2007, Norway's HDI of 0.971 was the highest while Niger's 0.340 HDI was the lowest in the world.

The difference in the definitions and measurement of development presupposes different theoretical frameworks but since development theories are inter-related, there is a potential danger in classifying them independently. However, the classification of existing development theories is hampered by overlap because most of these theories address similar or related issues. Hence, any broad classification should therefore be considered as relative and not absolute.

Black (1991) groups development theories into First and Third Worlds. This classification assumes that there is a fundamental difference in the type of theories that are applicable to developed and developing countries. Yet, because of the similarities in development experiences between developed and developing countries, there is often an overlap in the application of some theories to both worlds. More importantly, there are enclaves of impoverished communities in the developed world while there are pockets of development in developing countries. It is therefore possible to apply third world development theories to first world regions and vice versa.

Other researchers have proposed different classifications. For example, Pretes (1988) has classified development theories into modernization and dependency. Weissling (1989) proposed the centre-down and bottom-up scenarios. A number of researchers have discussed the Canadian North from different theoretical perspectives including development theories that are applicable to Third World countries (Muller-Wille, 1987; Pretes, 1988; Weissling, 1989; Saku and Bone, 2000).

THE CANADIAN NORTH AND UNDERDEVELOPMENT

Marxist scholars use the term underdevelopment to describe a condition achieved through economic and social deprivation of the periphery by the core. Todaro (1989) suggested that underdevelopment should be measured within the context of low incomes, high unemployment, and income inequality. In most cases, underdevelopment is considered as a condition of economic deprivation that is unacceptable to the majority of the population as they acquire information about better economic conditions of other societies.

Griffiths (1983) argued that Arctic Canada is regarded as part of the Third World because it shares similar socio-economic characteristics with underdeveloped countries of the equatorial regions of the world. The socio-economic characteristics include high unemployment, low level of educational attainment, economic deprivation and high fertility rates. It is an accepted fact that underdevelopment is not necessarily a problem of only the Third World but also that of the First World. For example, high unemployment, economic deprivation, low educational attainment and high fertility rates prevail in the Canadian North. However, in 2009, the United

Nations ranked Canada as the fourth best country to live in the world after Iceland, Norway and Australia.

Pretes (1988) noted that the Canadian North is an underdeveloped region located within a highly developed nation. He identified underdeveloped regions as those without control of their natural resources. The impact of investments and resource exploitation in these regions is not often realised because of the flow of investment money out of the region back to the core. As a peripheral region, the Canadian North is prone to high economic leakage. This is because investment in the north is redirected to southern Canada in the form of wages, salaries, and equipment purchases (Saku, 2004). An example of this phenomenon is evident in the mining sector in Nunavut. Overall, 85 percent of workers in the mining sector come from outside the territory (Government of Nunavut, 2003). These workers live and spend a greater proportion of their income in southern Canada. As a result, the impact of their wages and salaries is not felt in the Canadian North. Also, resource companies in this region purchase their equipment from outside the region. As a result, the exploitation of the region's resources does not promote sustainable economic impact because of high economic leakage.

There are some researchers who consider the Canadian North as fundamentally different from the Third World. Weissling (1989) observed that Arctic Canada is not part of the Third World and therefore should be identified within the context of what is called the Fourth World. Fourth World is used here to describe regions inhabited by indigenous minorities who reside in developed countries like Australia and Canada. While residents of Fourth World live within democratically governed countries, they are often denied autonomous status and are governed by majority-run institutions. Other socio-economic characteristics of Aboriginal northerners include low income, high unemployment, poor health, and low life expectancy which they share in common with third world countries.

The Core/periphery Theory

The core-periphery theory is closely related to the underdevelopment theory. The theory is based on the premise that development begins in relatively favourable locations which is the core and spreads to lagging areas - the periphery. The conventional perspective is that development starts from few areas and spreads to the hinterlands or periphery. Hirschman (1958) refers to the process as trickling down effects and Myrdal (1957) uses the term cumulative causation (spread and backward effects) to describe it. The relationship between the core and periphery are often perceived as beneficial. While the periphery supplies the core with labour and natural resources, the profits generated within the core are transferred and invested in the periphery. It is believed that the new investments create jobs and economic prosperity in the periphery. The final outcome of the relationship is that the periphery experiences development like the core.

The core-periphery theory has been extensively applied to the Canadian North.

According to Muller-Wille (1987), northern and southern Canada share a core-periphery relationship. The author observed that this relationship represents an extension of colonial attitudes that catered for the political and economic needs and goals of southern Canadians. Weissling (1988) examined the processes responsible for the under-development of the Canadian Arctic within the framework of the core-periphery theory. He maintained that the peripheral regions of Arctic Canada have had changes imposed on them by the federal government of Canada. To support his argument, Weissling examined the impact of western education on the Inuit of the Canadian North. He concluded that Canadian educational institutions and universities were instrumental in using formal education to transform Inuit from traditional to modern society. Contrary to expectations, Weissling indicated that the Canadian educational system had detrimental effects on the Inuit. The effects include high unemployment and social alienation that occur because of settlement living and an emphasis on an urban life style.

Oppong and Ironside (1987) also employed a core-periphery theory in the study of quality of life in Northern Alberta. The objective of their research was to examine the impact of High Prairie as a growth center on neighbouring communities. In 1970, the federal and provincial governments deliberately created two settlements - High Prairie and Slave Lake in central Alberta as growth centres. To serve as growth centres for neighbouring settlements or towns, federal and provincial agencies were established in High Prairie. The rationale was that development would spread from High Prairie (local core) to the hinterlands (local periphery). Contrary to this expectation, the authors observed that the positive impact of the initiative was only felt on High Prairie.

The underlying assumption of this theory is flawed because two regions or countries cannot maintain absolute complementary relationship. In reality, when two regions are involved in an economic relationship, one region has strong potential to dominate the other. This is because naturally, there are inequalities in the spatial distribution of human and natural resources. Those regions or countries endowed with favourable human and natural resources enjoy a comparative advantage and are therefore likely to use their resources to dominate other regions.

Hansen (1981) noted that the core always dominates the periphery because of six feedback effects. These are: 1) the dominance effect which involves weakening of the periphery by the core through resource transfer; 2) the information effect or increased innovation within the core relative to the periphery; 3) the psychological effect, that is, higher expectations and lower risks in the core; 4) modernization effect which represents institutional changes favouring innovation in the core; 5) linkage effects or the tendency of innovations in the core to induce further innovations; and 6) production effects which involve increased in the scale of production and agglomeration of production.

Within local, regional or global economic systems, there is always the tendency for core regions to dominate the resource hinterland. This is precisely the nature of

the economic relationship between northern and southern Canada. The Canadian North provides natural resources that are exploited and utilized by people who live predominantly in the south.

The Dependency Theory

The dependency theory was proposed by numerous scholars from developing countries especially Latin America as a reaction to the identified limitations of the core-periphery theory. The theory is associated originally with the writings of Bagú (1949) who criticised the existing economic relationship between developed and developing countries. Bagú (1949) maintained that instead of bridging the economic gap between developed and developing countries, the imbalanced relationship rather created more economic problems for developing countries. "Consequently, underdevelopment came to be seen not as an original condition, to be overcome by closer integration of the world economy, but as a process brought about by that integration" (Sheppard et. al, 2009, 86). Based on Marxist perspectives, scholars of dependency theory argued that the development of the core (developed countries) was intrinsically related to the underdevelopment of the periphery (developing countries).

As the principal advocate of the core-periphery theory, Frank (1969) strongly disputed the argument that the process of development takes place through the economic and social integration between the core and periphery. He maintained that the capitalist system through the appropriation of surplus is responsible for the development of the core and underdevelopment of the periphery. The dependency theory attributes underdevelopment of certain regions to external factors. More importantly, some countries were only able to develop because of the exploitation of natural resources of other nations.

Pretes (1988) applied the theory to the Canadian North by comparing the forces responsible for the underdevelopment of the region with that of the Brazilian North. He maintained that the process of underdevelopment of the Canadian North can be explained within the framework of dependency theory. Pretes argued that the boom and bust cycles which began with early capitalist intrusions, followed by passive involution led to its underdevelopment. He cited the fur trade, Klondike gold rush, Arctic whaling and oil exploration boom in the Beaufort as examples of development in northern Canada that resulted in the underdevelopment of the region.

According to Pretes, the fur trade was the first human activity that promoted underdevelopment in the north. Development during the fur trade was characterized by the introduction of barter and cash economies to Aboriginal people of the region. The money generated from this region by Hudson Bay Company was transferred to the south and not retained in the north. The decline in fur trade and subsequent withdrawal of Hudson Bay Company negatively affected the economic livelihood of Aboriginal northerners.

The next destructive human event was the Klondike gold rush. Pretes maintained

that the gold rush attracted a tremendous number of outsiders to the region. This migration had a significant impact on population growth of the region. For example, Whitehorse and Dawson were two northern Canadian cities that experienced large population influx and growth. When the economic boom ended, out-migration and economic decline occurred with subsequent underdevelopment of the region.

Whaling was the next human activity that created dependency in the region. Whaling started in the Beaufort Sea region in the middle of the 19th century and ended just before World War I. By 1890, Herchel Island became the center of the whaling industry. Like other activities, the whaling industry experienced growth and decline. The decline in the industry left the Inuit without access to trade goods and store foods.

The final event Pretes identified was the oil boom and bust. The discovery of the Norman Wells Oil Fields and oil exploration in the Beaufort Sea led to the influx of capital and non-Aboriginal southerners to the region. Again, oil exploration was characterised by boom and bust. Following the construction of the Norman Wells Project, few jobs were created. The decline in oil prices in the 1980s led to the withdrawal of oil companies.

The evidence provided by Pretes seems to explain the process of underdevelopment of the Canadian North. His examples certainly indicate the cycle of economic boom and bust. Yet, the examples used to support these cycles are very general and distort the prevailing conditions. Pretes for example assumes everybody was economically "worse off" after each cycle of boom. This may not always be the case because of potential short term positive economic impacts like wage employment for Aboriginal Canadians.

In criticizing the dependency theory, Ettema (1983) maintained that because the theory is applied to nation-states, internal spatial economic impact is ignored in explaining underdevelopment. The focus of the theory on the relationship at the national scale neglects internal allocation of resources between the social classes. Specifically, the disproportionate acquisition and consumption of resources by a few upper class in developing countries is not accounted for by the dependency theory. Another criticism of the dependency theory is that it focuses on just one factor of development and therefore provides very simplistic perspectives on development (Sheppard et al., 2009). In addition to these criticisms, Orlove (1977) has criticized the dependency theory on the grounds that it assumes societies are entirely capitalist and fails to recognize the existence of traditional economies. Even though dualistic theory is not a substitute to the dependency theory, the theory focuses on this aspect that the dependency theory ignores.

The Dualistic Theory

The next theory that has been used to explain development in the Canadian North is dualism. This theory was originally used by Boeke (1953) to describe the exploitative relationship between the Dutch Empire and Indonesia in the early 20th

century. As part of the exploitation, Boeke argued that the Dutch imposed advanced technology on a segment of indigenous population while the other lacked the necessary technology. The actions of the Dutch led to the evolution of two societies in Indonesia, that is, the modern and traditional societies. Dualism therefore involves the coexistence of two societies or economies.

Others have applied the theory to developing countries with different interpretations (Ginsburg 1973; Todaro 1989). Todaro (1989) suggested that the theory can be used to describe situations where the poor and rich people co-exist. Each group exhibits distinctive cultural and economic characteristics. The prevailing relationship between the groups is usually that of superiority and inferiority. Thirlwall (1983) noted that dualistic economies are characterized by differences in social customs between the subsistence and exchange sectors, technological gap between rural-subsistence and urban-industrial economies, and differences in income within and between regions of a country.

The dualistic theory has been applied to northern Canada. The idea of applying dualism to a region within a modern western country occurred when Usher used the theory to explain the frontier economy of northern Canada (Bone and Green, 1987). Usher (1987) identified and described the existence of two economies in northern Canada based on their mode of production. The two modes of production are domestic or traditional which is mainly associated with Aboriginal northerners while the industrial or modern mode of production is associated with non-Aboriginal Canadians.

According to Usher, the traditional mode of production consists of two sectors, that is, a commodity or exchange sector and a subsistence or domestic sector. On the other hand, the industrial mode of production consists of three sectors which are the government, corporate and small local businesses. While the traditional and modern modes of production are separate economic systems, there is a close relationship between them. For example, Aboriginal people earn wages through employment within the modern mode of production, operate businesses and obtain state funding through transfer payments. Usher (1987) argued that some of this money is used to support the traditional economy.

Bone and Green (1987) used the theory to investigate the educational and monetary differences between Natives and non-Natives in Northern Administrative District of Saskatchewan. They concluded that the income of people with higher fluency in English was slightly higher. Their analysis however showed a weak correlation between education and income.

Stabler (1989) also used the theory as the basis of a study in the Northwest Territories. The goal of his study was to determine the degree to which people participate in the traditional economic sector and the extent they wait to enter the modern economic sector. The results of this study confirmed the existence of a dual economy and labor markets. Stabler (1989) observed that only 15 percent of adult males were employed full time within the traditional sector and about 36 percent of

Aboriginal people who participated in hunting and trapping were employed within the modern sector. Those who were unemployed within the traditional sector and were therefore seeking employment exceeded those who did not by a ratio of 4:1. Stabler (1989) attributed this to the fact that those unemployed in the traditional sector formed a queue and must wait for jobs in the modern sector.

The dualistic theory lends itself to empirical analysis of the development problem in northern Canada. Data collected on the modern sector economy can be compared with those from the traditional economy. This comparison allows researchers to consider the role of the two sectors simultaneously. More importantly, researchers utilizing this theory have the opportunity to examine the changing roles and importance of modern and traditional economic systems.

A criticism of the dualistic theory is that it does not predict a particular outcome in the relationship between the two groups. However, any form of public intervention can reduce the socio-economic differences between both groups. Transfer payments and welfare payments are examples of governmental interference in the Canadian North.

The Bottom-up Theory to Development

In the 1970s, a number of scholars and policy analysts questioned the effectiveness of the top-down approaches to development. The idea of promoting "alternative development" in rural and remote regions was strongly advocated (Bebbington, 1993; Ekins, 1992; Adams 1990). An alternative theory of economic development which emphasizes development from below was therefore proposed. Friedmann and Weaver (1979) indicated that the goal of development from below (bottom-up) is to develop the full potential of both natural and human resources of a region and satisfy the basic needs of the people. The institutions responsible for the basic needs are organized at grass root levels. In the 1980s, the bottom-up theory was initiated to address these issues. This type of development advocates an indigenous and locally controlled economic and political system. The theory involves promotion of local development with greater emphasis on local empowerment.

The bottom-up theory advocates community economic growth and structural changes. Improving the socio-economic status of people living in small localities and regions is often the priority of economic development initiatives. Residents of such communities share common political, social and economic identity. They operate similar administrative institutions and share the same culture. Members of the community are actively involved in the direction of its development. Through empowerment, communities identify a common objective and focus on specific issues related to their basic needs. Ironside (1990) observed that the fundamental objective of local development is one of organizing the collective resources, ingenuity, and spirit of neighbouring small communities that are not viable individually.

An examination of the main components of the bottom-up theory indicates that it is applicable to the Canadian North. McMillan (1991) indicated that the best

alternative to past dependency and alienation of northern Aboriginal communities is the promotion of locally controlled development.

Table 5: Land allocation in selected Modern Land Claim Agreements.

Land Claim Agreement	**Total Land Surface** (sq. kms)	**Subsurface rights** (sq. kms)
Inuvialuit	169,000	13,000
James Bay and Northern Quebec	1,164,000	Not applicable
Nunavut	352,000	36,000
Gwich'in	24,000	6,000
Nisga'a	1,992	1,992
Tlicho Land Claims	39,000	39,000
Sahtu	41,970	2,000

Source: Saku, 2008.

Table 6: Benefits of Modern Land Claim Agreements.

Land Claim	**Inuvialuit**	**Yukon**	**Northern Quebec**	**Gwich'in**	**Sahtu**	**Nunavut**
Cash reward	$150m	$242.7m	Cree $135m Inuit $90m	$75	$75m	$580m
On-going	Oil & gas	Share o Gov. royalties on Type 1 lands	Hunters & Trappers income security program	Share of royalties	Share of royalties	Share of royalties
Resource Management	Yes	Yes	Yes	Yes	Yes	Yes
Social Services	Yes	Yes	Yes	Yes	Yes	Yes
Conservation Management	Yes	Yes	Yes	Yes	Yes	Yes
Governance	Local & Regional Government initiatives	Legislative authority	Local Cree, Inuit gov.	Local & Regional gov.	Local & Regional gov.	Legislative authority

Source: Saku, 2002

Saku and Bone (2000) used the bottom-up theory to explain the role of Modern Land Claim Agreements on the economic and social development of northern Aboriginal people. MLCAs in Canada are contracts between groups of aboriginal people and federal and provincial governments. These agreements, much like a

business contract, establishes specific rights and privileges for the indigenous group or groups within a specified area in return for relinquishing aboriginal title to the land, which is typically a much larger area (Table 5). A variety of benefits are provided to Aboriginal people who signed an agreement (Saku, 2002). The benefits include revenue sharing from resource development, participation in environmental management, cash compensation and access to wildlife harvesting (Table 6). The 1973 James Bay and Northern Quebec Agreement was the first MLCA achieved in Canada. Three years later, the North-eastern Quebec Agreement was achieved. While five agreements were achieved in the 1990s, two were concluded in 2000. These are: 1) The Gwich'in Final Agreement (1992); 2) the Sahtu Final Agreement (1993); 4) the Nunavut Final Agreement (1993); 5) the Yukon Umbrella Final Agreement (1993); 6) the Nisga'a Final Agreement (2000) and 6) Thlicho Land Claim Agreement (2005).

The bottom-up theory is applicable to MLCAs (Saku, 2008; Ironside, 2000; Saku and Bone, 2000). First of all, these agreements promote local control of human and natural resources. The agreements also promote the economic and social integration of small Aboriginal communities. Through cooperation, Aboriginal communities are able to pull their human and natural resources together to promote viable economic systems. These agreements recognize local initiative as an important component of regional economic growth. Also, the main objectives of these agreements involve improving the living standards of beneficiaries through the provision of basic community needs.

The main problem with applications of the bottom-up theory to development problems of the Canadian North is that the theory emphasizes a closed economy. In this 21st century, globalization has created regional integration and as such, it is very difficult for economies to operate in isolation. For example, global demand for natural resources has a significant impact on resource exploitation in the Canadian North. More importantly, in northern Canada, the theory is hampered by structural problems (Saku and Bone, 2000). Because the local population is scattered over a vast geographic area, unit cost of providing services is extremely high.

CONCLUSION

The Canadian North is characterized by several development issues that have attracted researchers from a wide range of disciplines. Contrary to Orvik's suggestion that a universal development theory should be adopted in studying the Canadian North, a host of theories have emerged. As development issues in the Canadian North changed and became complex, the theories used to explain problems of the region may need to also change. For example, underdevelopment theory featured prominently during the early years of resource exploitation in the region.

Apart from underdevelopment theory, the spatial relationship between the south-

ern core and northern periphery has been examined. This core-periphery theory was popular in the 1970s and 1980s during intensive resource exploitation in the region. Additionally, dualism was used to explain the coexistence of the traditional and modern economic sectors that exist in northern Canada. While these theories were highly applicable during the 1960s to 1980s, the present geopolitical environment dictates that the bottom-up theory may provide appropriate explanations for the development issues in the Canadian North. In particular, the evolution of MLCAs in the Canadian North has changed the dynamics of regional economic development. The achievement of these agreements requires active participation of northern Aboriginal Canadians in the development process, which the bottom-up theory advocates.

REFERENCES

Adams, W. (1990) *Green Development: Environment and Sustainability in the Third World*. London: Routledge.

Bagú, P. (1949) Economiá de la Sociedad Colonial. Buenos Aires: El Ateneo.

Bebbington, A. (1993) Modernization from below: An alternative indigenous development. *Economic Geography,* 63:274-292.

Black, J.K. (1991) *Development in Theory and Practice: Bridge the Gap*. Oxford: Westview Press.

Boeke, J.H. (1953) *Economics and Economic Policy of Dual Societies as Exemplified by Indonesia*. New York: Institute of Pacific Relations.

Bone, R.M. (2003) *The Geography of the Canadian North: Issues and Challenges.* Toronto: Oxford University Press.

Bone, R.M. and Green, M.B. (1987) Frontier dualism in northern Saskatchewan. *The Operational Geographer,* 12: 21-24.

Burns, B. M., Richardson, F.A and Hall, C. N. H. (1975) A nordicity index. *The Musk Ox,* 17: 14.

Ekins, P. (1992) *A New World Order: Grassroots Movements for Global Change.* London: Routledge.

Ettema, W. (1983) The centre-periphery perspective in development geography. *Tijschrift voor Economische en Sociale Geografie***,** 77: 107-119.

Frank, A.G. (1969) *Capitalism and Underdevelopment in Latin America: Historical Studies in Chile and Brazil*. New York: Monthly Review Press.

Friedmann, J. and Weaver, C. (1979) *Territory and Function: The Evolution of Regional Planning.* London: Arnold.

Ginsburg, N. (1973) From colonialism to national development: Geographical

perspectives on development patterns and policies. *Annals of the Association of the American Geographers,* 63: 1-21.

Government of Nunavut (2003) *Basic Facts: The Economy*. Available at http://www.nunavut.com/basicfacts/english/basicfacts_3economy.html. Accessed 2/27/2003.

Graham, A. J. L. (1990) Indexing the Canadian North: Broadening the definition. *The Northern Review,* 6: 21-27.

Griffiths, F. (1983). Arctic third world: Indigenous people and resources. *Cold Regions Science and Technology,* 7: 349-355.

Hamelin, L-E. (1979) *Canadian Nordicity: It's Your North Too.* Montreal: Harvest House.

Hansen, N.M. (1981) Development from above: The Center-down Development Paradigm. In: Storr, W.B. and Taylor, D.R.F. (eds.) *Development from Above or Below? The Dialectics of Regional Planning in Developing Countries*. Toronto: John Wiley and Sons, pp.9-26.

Hirchman, A. O. (1958) *The Strategy of Economic Development*. New Haven: Yale University Press.

Hoggart, K. and Buller, H. (1987) *Rural Development: A Geographical Perspective.* London: Croom-Helm.

Ironside, R.G. (2000) Canadian northern settlements: Top-down and bottom-up influences. *Geografiska Annaler,* 82B:103-114.

——, (1990) Regional development aid in the peripheral region of Northern Alberta. In: Smith, P.J. and Jackson, E.L. (eds.) *A World of Real Places*. Edmonton: University of Alberta, Department of Geography, pp.35-56.

Lele, U. (1975) *The Design of Rural Development.* Baltimore: John Hopkins University Press.

McCann, L.D. (1987) Heartland and hinterland: A framework for regional analysis. In: McCann, L.D. Gunn, A. (eds.) *Heartland and Hinterland: A Regional Geography of Canada*. Scarborough: Prentice Hall, pp. 2-35.

McMillan, R. J. (1991) *Community Development Planning, The Institutional Impediments to State-Sponsored Community Development in Canada's North: The Case of the Northwest Territories Housing Corporation.* Vancouver: The University of British Columbia.

Muller-Wille, L. (1987) Indigenous peoples, land use conflicts, and economic development in circumpolar lands. *Arctic and Alpine Research*. 19: 351-356.

Myrdal, G. (1957) *Rich Lands and Poor Lands*. New York: Harper and Row.

Oppong, J.R. and Ironside, I.G. (1987) Growth Centre Policy and quality of life.

The Canadian Journal of Regional Science. 10: 281-299.

Orlove, B.S. (1977) *Alpacas, Sheep and Men: The Wool Export Economy and Regional Society in Southern Peru.* New York: Academic Press.

Orvik, N. (1976) Toward a theory of northern development. *Queen's Quarterly,* 83: 93-102.

Pretes, M. (1988) Underdevelopment in the two norths: The Brazilian Amazon and the Canadian Arctic, *Arctic,* 41:109-116.

Saku J.C. (2002) Modern land claim agreements and northern Canadian Aboriginal communities. *World Development***,** 30: 141-151.

Saku, J.C. (2004) Promoting Development in the Canadian North. In: Janelle, D.G. Warf, B. and Hansen, K. (eds.) *World Minds: Geographical Perspectives on 100 Problems. Commemorating the 100th Anniversary of the Association of American Geographers 1904-2004.* Boston: Kluwer Academic Publishers, pp.255-259.

Saku, J.C. (2008) Towards an understanding of Aboriginal regional corporations: The case of the Inuvialuit of the Western Arctic of Canada. *Geography Research Forum*. 28: 113-129.

Saku, J.C. and Bone, R.M. (2000) Looking for solutions in the Canadian north: Modern treaties as a new strategy. *The Canadian Geographer,* 44: 259-270.

Sheppard, E, Porter, P.W., Faust, D. R. and Nagar R. (2009) *A World of Difference: Encountering and Contesting Development*. New York: The Guilford Press.

Stabler, J. C. (1989) Dualism and development in the Northwest Territories. *Economic Development and Cultural Change,* 4: 805-839.

Statistics Canada (2008) *Aboriginal Peoples in Canada in 2006: Inuit,* Métis *and First Nations*. Ottawa: Minister of Industry. Catalogue no. 97-558-XIE

Thirlwall, A.P. (1983) *Growth and Development: With Special Reference To Developing Economies.* London: Macmillan.

Todaro, M.P. (1989) *Economic development in the Third World.* New York: Longman.

Usher, P.J. (1987) The North: metropolitan frontier, native homeland? In McCann, L.D. (ed.). *A Geography of Canada*. Scarborough: Prentice Hall, pp.483-527.

Weissling, L.E. (1989) Arctic Canada and Zambia: A comparison of development processes in the fourth and third worlds. *Arctic* 42: 208-216.

Wonders, W.C. (1987) The changing role and significance of native peoples in Canada's Northwest Territories. *Polar Record,* 23: 661-671.