



## **Regional Development Planning Proposal for Adamawa State, Nigeria Using The Core – Periphery Model**

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**ABSTRACT:** The Core Periphery Model (CPM) explores the imbalance in regional development and offers explanations with possible solutions. This paper used Adamawa State of Nigeria as a case study in investigating this model and in proposing a regional development plan for the State. The low level of, and imbalance in regional development observed in the State suggested the research. Data used for the study were sourced from official documents of the State including settlements listing by districts and Local Government Areas (LGAs) vis-à-vis their population, human activities, infrastructure, resources and development potentials. Data obtained and analysed established the susceptibility of the State to the Core –Periphery Model manifested by low and uneven regional development in the State and that the peripheral settlements are too fragmented spatially and demographically to attract nominal development. The State is lowly served infrastructurally, industrially, and in terms of tourism and mineral exploitation but has high agricultural production. It generates very low revenue internally and community participation in developmental efforts is low. Based on these findings, 3 alternative concepts – Peripheral Development (PD), Intermediate City Development (ICD) and Integrated Peripheral Development (IPD) – were developed, evaluated and the most weighty concept (the ICD) chosen and used to propose the CPM for Adamawa State regional development. The proposed actions were phased and implementation strategies advanced. Recommendations of the study include industrial, infrastructural, agricultural, tourism and mineral resources development; Border Area Industrialization and Commercialisation Programmes and other socio-economic and environmental development projects.

**Key words:** Core – Periphery Model, regional development, Adamawa State, Intermediate City Development, Border Area Development.

### **I. INTRODUCTION**

If there is any situation most people frown at, it is one in which “the rich is getting richer and the poor is getting poorer.” Most sympathetic observers desire to see the affluence – poverty gap narrow down, but, alas, it keeps widening. Glasson (1978) has observed this phenomenon to be common in regions at their industrialization or take-off stage. The United Nations Centre for Human Settlements (UNCH, 1984 p.18) articulates the issue thus; Great imbalances exist in the levels of development among and within regions in most countries of Africa, Asia and Latin America. This disequilibrium in the human settlements network has produced excessive urban growth at the centre and economic stagnation in the peripheral regions.

A critical analysis of the world, Nigerian and Adamawa State situations has revealed the above situation to be true. The developed and the underdeveloped nations have failed to “even out” irrespective of the diverse aids, grants and relief measures. Whereas the developed countries are now thinking of space and nuclear possibilities, the third world nations are going back to the basics, pleading for “debt forgiveness”, “debt rescheduling” and “reparation” to meet basic needs. One cries for urban renewal while the other dreams of rural development. The Gross Domestic Product (GDP), Gross National Income (GNI), Human Development Index (HDI), Global Prosperity Index (GPI) and Global Happiness Index (GHI) show how diverse our nations are and how the affluence – poverty gap is widening (Ilesanmi, 2013b).

At all levels of planning, this disparity yet holds. Whereas some core communities (cities) are highly urbanized, the peripheral settlements (villages) are highly rural. The cores grow exponentially while the peripheries are at best developing arithmetically. All these imply that in line with our egalitarian philosophy aimed at building a Nigerian nation with equal rights and opportunities for all irrespective of spatial location, there is the need to seek an appropriate explanation and process of spatial growth and development at all levels.

This is why this study has attempted gaining insight into the observed inter- and intra- regional dichotomy in Adamawa State using the Core-Periphery Model (CPM). With the understanding of the system, appropriate strategies for a more even development can be proposed.

The problem investigated in this study is that, with the abundant human, natural and material resources within the large land mass of Adamawa State, it is nevertheless one of the least developed areas in Nigeria. Using the yardsticks of the level of industrialization, urbanization, available infrastructural facilities, employment in government/industrial/non-basic establishments, productivity and the standard of living of the population, only a few settlements are developed while a substantial part of the region yet remains grossly under-developed. The country-side is highly backward, yet, natural resources like clay minerals, uranium, limestone, marble, graphite; plant and animal resources lie within the bounds of the State which, if well developed and properly harnessed, can greatly help in achieving a State-wide and high level of development. It is in the light of these that this study seeks a proposal for regional development of the State on the basis of official data collected and analysed on its settlements (their population, human activities, infrastructure, resources and development potentials). Though diverse planning tools are available to the planner for use in the preparation of development plans, and their corporate use is not contested, preliminary investigation revealed that the Core Periphery relationship holds in Adamawa State. The study therefore authenticated the susceptibility of Adamawa State to the core periphery model and advanced regional development proposals and possible recommendations for benefiting from the knowledge of the model.

## II. THE CORE PERIPHERY MODEL

Several persons have worked on this model at different times and places to the effect that authorities have credited the model to different people like Mackinder (Mabogunje, 1980), Hirschman, Myrdal and Friedmann (Glasson, 1978; UNCHS, 1985). A survey of these postulations reveals a central idea of the model. Using Myrdal's version, Glasson (1978) explains the model with two regions or locations 'A' and 'B' growing at almost the same rate to start with. At a point in time, location 'A' begins to grow and develop faster than 'B' because of a variety of natural endowments or/and certain man-made advantages community 'A' enjoys above 'B'. Contrary to some growth theories, this divergence, emerging inequalities and imbalance may never be self-righting or self-correcting. Rather, the disparity may be cumulative with the "rich getting richer and the poor getting poorer" or using Myrdal's Biblical quotation;

For unto everyone that hath shall be given, and he shall have abundance, but from him that hath not shall be taken away even that which he hath (St. Matthew XXV v.29).

The process may continue to put community 'B' (now the periphery) in perpetual dependence on community 'A' (now the core) unless and until there are direct interventions. Using the Friedmann's version of the model in regional contexts, the UNCHS (1985) explains the two key words of the model: "core" and "periphery" thus:

the core regions are territorially organized subsystems of society which have a high capacity for generating and absorbing innovative change; peripheral regions are subsystems whose development path is determined chiefly by core institutions with respect to which they stand in a relation of substantial dependency.

In view of the foregoing, this model can be understood as dealing with two spatial/economic spaces 'A' and 'B' where, by virtue of the early takeoff of one, it dominates the other by sapping its resources and then subjecting the sapped community to a state of perpetual dependence while on the other hand, it (that is 'A'), which is now the core, grows spatially and economically with a non-balancing developmental gap thus created between it and the periphery (that is 'B'). Thirlwall (1989) relates this to the dualistic structure of developing countries and the North - South dichotomy. The relationship is also seen by Hilhorst (1971) as essentially a "colonial" one resulting in the emergence of a polarized structure which can give rise to political pressures. Hilhorst (1971) named Friedmann (in 1966) and Perloff and Wingo (in 1964) as those who proposed the use of the model to explain economic transformation. A three step order has been identified with the model:

First, the Centre - Periphery relationship may be described as essentially a colonial one. The emergence of a polarized structure will normally be accompanied by a series of displacements, from the periphery to the centre, of the principal factors of production; labour, capital, entrepreneurship, foreign exchange and raw materials in unprocessed form.

Second, in-so-far as the periphery remains a producer of primary - chiefly agricultural - materials, the secular trend in the inter-regional terms of trade will, on the whole, continue to be favourable to the centre...

Third, growing regional inequalities will give rise to political pressures intended to reverse the traditional flow of resources to the centre and to help per capital income on the periphery to a level of approximate equality with the rest of the nation.

Moughalu (1991) has also opined that the global context of this model gained ground and respectability in the post – Second World War era when some geographers came out to claim that they have discovered a structure which is an important clue for understanding some of the key developmental processes. They then went further to give international/global explanations for the developed and underdeveloped worlds as centres and peripheries respectively. Thilwall (1989) has consistently referred to this model as of Myrdal. Though he recognized the similarities this model has with 1950's Prebich's Model of Peripheries importing more than exporting, whereas cores were exporting more than importing.

Terminologies useful in explaining the theories inherent in this model include innovation, innovation–diffusion, spread effect, dominance and dependence. Friedmann (1973) recognised *emergent innovations 'e'* which include material, technological, spiritual or institutional innovations as the driving force in the development of a spatial system. This is based in the core region from where it diffuses outwards (*innovation–diffusion = 'd'*) thereby affecting the economic activities, socio–cultural structure, the organization of power, and settlement patterns in the periphery. It is thus assumed that continued innovation will force the spatial system through successive structural transformations dictated from the cores region. To Darkoh (1980), innovation diffusion leads to modernization of the periphery. The rate of the diffusion process is however a function of the potential interaction between the core and peripheral settlements. The UNCHS (1985) however offers that innovation diffusion does not quickly benefit the periphery. Initially, migration flows are more important than innovation, and these bring about changes in the settlement pattern to favour the core thereby increasing its primacy. Jefferson worked on primate distribution of cities where he explained the concept of primacy in form of a law (Onokerhoraye, 1984).

All over the world it is the law of the capitals that the largest city shall be super–eminent and not merely in size, but in national influence. Once a city is larger than any other in its country, this fact gives it an impetus to growth that cannot be affected by any other city, and it draws away from all of them in character as well as in size...it becomes the primate city.

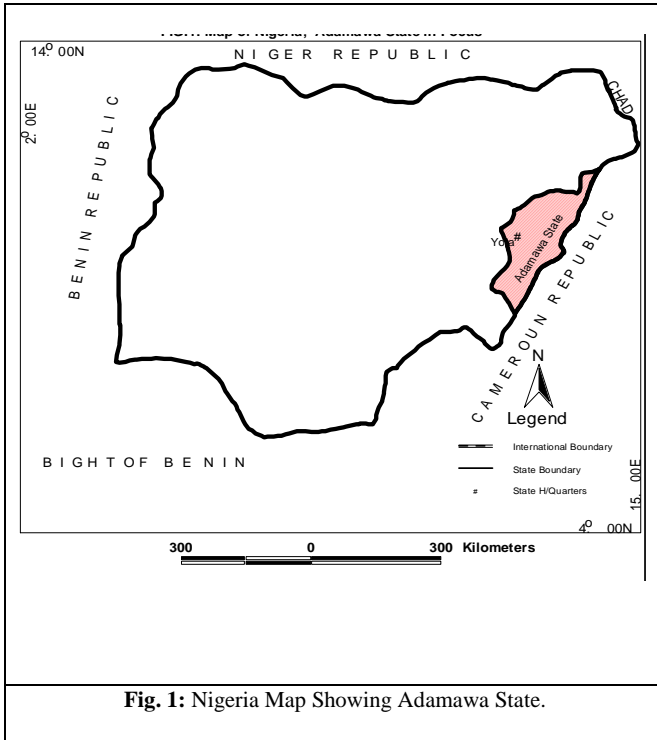
Thus, the phenomenon of *migration ('m')* as it affects the core periphery relationship has been shown here as highly related to the emergent innovations at the core settlements. In addition to emergent innovation" (e), four relevant urbanization processes basic in the spatial system have been included:

– Innovation diffusion (d), Control (c), Migration (m) and Investment (k).

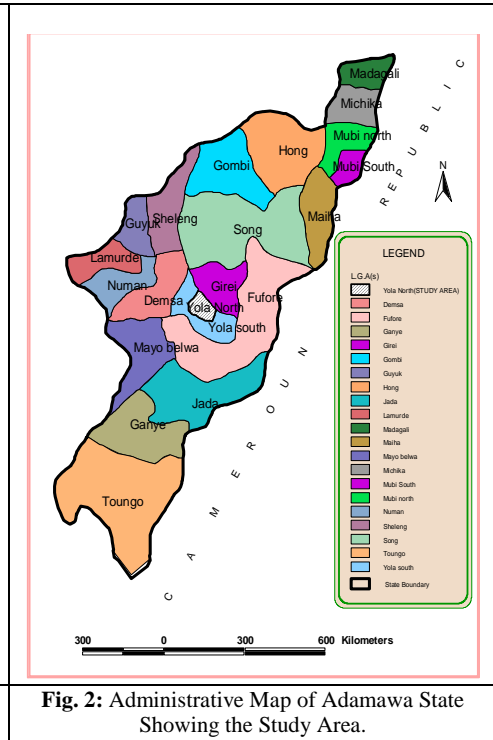
### III. ADAMAWA STATE – THE STUDY AREA

Adamawa State is one of the nine States created in Nigeria on 27<sup>th</sup> August 1991. It was a part of the defunct Gongola State, North Eastern Nigeria. It lies between latitudes 7<sup>o</sup>N and 11<sup>o</sup>N of the equator and longitudes 11<sup>o</sup>E and 14<sup>o</sup>E sharing national boundaries with Bauchi (West), Yobe (North West), Borno (North), Taraba States (West), and an international boundary with the Cameroon Republic (East and South). The State covers about 36,987 km<sup>2</sup> land area with 21 Local Government Areas (Figs. 1&2) and a total of 2,102,053 people by the 1991 population census at 56.8 persons/km<sup>2</sup> (Adebayo and Tukur, 1999 and Gambo, 2002) and 3,737,223 in 2005 (Wikipedia, 2013) projected to 4,553,443 in 2013 at 2.5% growth rate. The State is multi–ethnic and multi–lingual with about 478 autonomous communities in its 37 districts (Ilesanmi, 1992). Major indigenous tribes include Bachama, Bura, Chamba, Fulani, Gude, Hausa, Higgi, Kilba, Lunguda, Margi, Nyandang, Yungur among others. The State has a tropical climate with rainy season from April to October and dry season from November to March or April. Towards its north, the sub–Sudan vegetation holds while its southern end enjoys the Northern Guinea Savannah. It is transversed with a mountainous relief and river valleys of Benue, Gongola and Yedsarem (Adamawa State Government, 1998; Ilesanmi, 2013; Wikipedia, 2013).

Majority of the people in Adamawa State are farmers. Cash crops produced include groundnut, cotton, sugar cane, maize, rice, cowpea, sorghum, yam, cassava and potatoes. Large herds of cattle are owned and reared in the State (Table 1). Mineral resources in the State include Clay, Magnesite, Limestone, Cassiterite, Graphite, Gypsum, Bentonite, Coal, Trona, Uranium, Feldspar and Barite, Zinc, Lead, Copper, Manganese and Nitrate oxides (Adebayo and Tukur, 1999; Gambo, 2002). As shown in Table 2, these mineral resources are generally unquantified, spread throughout the different local government areas and are unexploited. There are however very few of these agricultural produce and minerals that are processed or converted to the nature that is most profitable. Significant industrial establishments within the state are still very few. The Savannah Sugar Company, Numan; Faro Bottling Company, Yola, Bajabure Industrial Estate, AFFCOT Industries Limited, Inter State Flour Mills, Yola; and a few Bakeries, Farms and Furniture Factories are among the few existing industries. Infrastructurally, the state is lowly served. Communities with pipe borne water, electricity from the national grid, telephone services, good roads and the social infrastructural facilities in adequate nature are very few. Some natural tourists' attraction sites also exist along with other rich cultures undeveloped and unpackaged for tourism. This kind of atmosphere suggests that the state can be made to develop.



**Fig. 1:** Nigeria Map Showing Adamawa State.



**Fig. 2:** Administrative Map of Adamawa State Showing the Study Area.

**Table 1: Percentage Distribution of Livestock in the Four Pastoral Blocks of Adamawa State.**

S/No	Pastoral Block	Percentage Distribution of the Livestock				
		Cattle	Sheep	Goats	Pigs	Poultry
1	Toungo	25.4	20.8	15	3	8.4
2	Jada–M/Belwa	10.5	7.3	7.2	1	12
3	Benue Trough	50.7	39.5	50.5	30.3	47.6
4	Hong–Michika	13.4	32.4	27.3	65.7	32
Total Estimates in millions		2.8–3.5m	2–2.5m	2–4m	<.5m	2.5–3m

**Source:** Average of estimates from various sources (including Adamawa State Ministry of Agriculture, Trade Fair Manuals of LGAs and Adamawa State Diary, 1998 and 1999), Igwe, *et. al.* (2005); Wafar (2012).

**Table 2: Mineral Deposits in Adamawa State.**

S/No	Minerals	Location (LGA)	Major Industrial Uses
1	Clay	Mubi, Garkida, Numan, Ganye, Gombi	Ceramics, Chalk burnt bricks etc.
2	Limestone	Numan, Guyuk & Lamurde	Cement, Lime fluke stone, filter etc.
3	Gypsum	Numan, Guyuk & Lamurde	Cement processing, ceiling board etc.
4	Bentonite	Guyuk	Drilling mud in oil Industry, fertilizer & paints.
5	Trona	Song	Glass, soap & chemicals industries caustic soda, water treatment pulp paper
6	Graphite	Fofure, Toungo, Ngurore	Manufacture of pencils
7	Feldspar	Maiha	Ceramic industry, ornamentals
8	Magnesite	Gombi	Electrical installation
9	Barite	Ganye	Drilling of mud, manufacture of white chemicals
10	Cassiterite	Toungo	Tin and metallic coating
11	Coal	Numan	Source of energy
12	Uranium	Michika	Nuclear energy fuel, sources of Radium in medicine
13	Mn, Pb, Zn, Cu, NO <sub>3</sub>	Jimeta	Roofing sheets, Fertilizer etc

**Note:** Radioactive Potassic Feldspar, found in both the sedimentary and basement areas throughout the State.  
**Sources:** Opeloye and Dio (1999); Ladi (2000); Federal Ministry of Solid Minerals Development (1999); Uyanga, (2000); Idama (2000) and Gambo, (2002).

#### IV. IMPLICATIONS OF THE CORE – PERIPHERY MODEL FOR ADAMAWA REGIONAL DEVELOPMENT

The susceptibility of Adamawa State to the theory is based on certain characteristics of the State which include the following as documented in Ilesanmi (1992); Adebayo and Tukur (1999); Adebayo (2010); Gambo (2002), Igwe *et al* (2005) and Wafar (2012):

- a. It is naturally endowed with human and material resources, which can be developed for exogenous sales to perpetuate endogenous growth and development.
- b. It is lowly developed and hence needs viable strategies that can enhance its growth and development for policy formulation and effectuation.
- c. It is lowly served with industries and necessary infrastructural facilities, which, under this theory will be required for profitable production and export trade.

Since the Core–Periphery model speaks of the comparative advantage which the rich region/city has over the poor one because of certain factors of earlier take–off, it can be clear that this model helps in the understanding of the existence of regional inequalities, disparities and imbalance. It also shows a lot of political, economic, spatial and regional development implications for Adamawa State and other areas.

The UNCHS (1985) surveyed many planning tools on the basis of their merits for proposing regional development plans for developing economies. The survey condemned almost all the tools on the grounds that studies in different parts of the world have not reported notable successes in the tools' use. The Core–Periphery Model was however held up–high as a convenient peg on which to hang other analytical frameworks. While scholars in Chile, Bolivia and Colombia (Darkoh, 1980) showed the abandonment of the Growth Pole strategy for other alternative bases for regional planning and that empirical studies of Mabogunje (1980) in Nigeria and 1973's Misra and Sundaram work in India suggest that the diffusion theory or spread effect of the Growth Pole does not work, alternatives like the Core–Periphery Model have been suggested for regional development planning (UNCHS, 1985). This agrees with this work and the susceptibility of Adamawa State to the model.

Simply put, the implication of the Core–Periphery Model for regional development highly favours rural development in the regional planning process. A rural based State like Adamawa could therefore benefit greatly from the model. The exploits of the cores must have bearing with helping the sub–regions to grow. Thus Cole (1981) has identified six ingredients of development which can be visited for the benefit of the peripheries: (a). Human population; (b). Natural resources; (c). Means of production; (d). Products; (e). Links, and (f). Organization. According to Amara and Founou–Tcheuingoua (1990), Koinyan (1990), Millard (1996), Kasente *et. al.* (2000), Food and Agricultural Organisation (1984) as well as Higgins and Higgins (1979) agricultural development is the critical choice for development in which the rural areas cannot be left out.

Urbanization has a demographical side. Except peripheral settlements have a tangible population, they will remain undeveloped for a long time. Natural resources are always extracted and sold exogenously to perpetuate economic buoyancy in developing regions. Developing means of production, infrastructure, communication, information and entrepreneur development are among the strategies that can be used for peripheral development. The reasons for regional inequalities identified in Ilesanmi (1992) include differences in manpower potentialities, natural endowment, transportation ease, nearness to core or growth centres, political features and the ratio of population to resources. Except for manpower, infrastructure and technology in which the peripheries lag behind, they are rich in natural resources – a critical consideration of these ingredients and inequality factors will help each peripheral region to develop its own developmental strategies.

The Core – Periphery Model has economic implications for regional development in any region like Adamawa State. While considering how to develop peripheral nations, Seers (1969) in Rahman (1991) considered a country to have developed if' poverty, unemployment and inequalities have declined from high levels and the country has attained self reliance (not meaning self sufficiency). Viewed internationally, joint ownership of' multinational companies, indigenisation of enterprises or outright nationalization have been proposed as ways peripheral nations can exploit in their search for development. Regionally, since raw materials are mostly in the peripheries, the sale of these at high prices to core–regions has also been suggested. How the domineering decisions of the core will not negate this was not usually discussed. Since core–regions are now becoming involved in direct exploitation of raw materials, the implication for peripheral regions is to develop their own indigenous technology to meet their felt needs, process their produce or embark on regional co–operation and integration. Thus, for a place like Adamawa State, indigenous technology through home–grown innovations, inter–settlement co–operation and core–periphery integration are implied by the Core–Periphery Model.

There are also spatial implications of the model for Adamawa State: Efficient land–use planning has been considered as a principal way of solving regional problems implied through the Core–Periphery Model analysis. Hillihorst (1971) suggested two objectives of' spatial developments expansion and consolidation. The expansion strategy leads to investment in a region's peripheral areas in order to foster the development of the region's centre. Such investments often relate to natural resources development, but they also open up new markets for products of' the centre by means of constructing roads.

The distributive domination condition and spatial expansion in terms of development are real. The model implies scattering or distributing the factors of development in different geographical locations. Investments are made sometimes not primarily for the interest of the national or regional centre, but for that of peripheries for egalitarian ideologies (Hillhorst, 1971). A strategy of consolidation will then be based on the recognition that certain balance between maximising overall development and developing all simultaneously has to be struck. The investments in regional centres will then be of such a nature that they guarantee maximum spread effects.

Hilhorst (1971) and Wangwe (1995) have recognized two strategies for development: Expansion and Consolidation. Expansion is more or less peripheral development whereas consolidation deals with core development with a view to perpetuating spread effects. These have implications for our study area. Hillhorst (1971) further identified four types of spatial strategies implied by the core – periphery Model for regional development: (a). Dispersed Expansion; (b). Concentrated Expansion; (c). Dispersed Consolidation; (d). Concentrated Consolidation. Depending on the peculiarities of any geographical space being considered, any of these strategies may be panacea for the regional development. Dispersed expansion can be achieved by the *construction of development corridor* or by the development of tertiary places that are close to the region's boundary as well as to secondary places in the region. *Border region development and secondary cities* are here implied. Concentrated expansion can be achieved through the establishment of investments in limited secondary places. The *intermediate or secondary cities* idea for development under the Core – Periphery Model is here implied. Dispersed consolidation can be achieved by the of investments in tertiary places close to the regional centre, in places along an internal transport route, or in secondary places close to the boundary. Intermediate cities and border development are implied also here. Concentrated consolidation can be achieved by establishing investments in the centre of the region, in a new regional centre, in the *region's secondary places* that are close to the region's centre. Hillhorst (1971) further discussed different characteristic of regions under their problems and objectives and the type of policy that can help in solving the regional problems. In a region that has resources for development, both expansion and consolidation strategies are useful. Where there is rank size city distribution and large periphery development corridor, secondary centres close to the regional boundary or close to regional centres and concentrated centres along internal transport routes are possible.

UNCHS (1985) offers that the appeal of the Core – Periphery Model is partly that it offers two–region model as an alternative to neo–classical theory. It informs the planner of the likely dichotomy that will manifest if no conscious effort is given to order growth and development. The model also sheds light on the constraints and opportunities of population distribution during the development process. Thus, the consciousness of a tendency of regional imbalance by over–concentration of development projects in certain places is instilled by this model while it also helps to achieve a fairly even spread of population and resources in its land–use planning. Demographically too, it has explained one of the principal causes of rural–urban migration (i.e. regional imbalance in terms of development). Hillhorst (1971) talked of the emergence of a polarized structure accompanied by a series of displacements from the periphery to the core, of production: labour, capital, entrepreneurship, foreign exchange and raw materials in unprocessed form. This is migration indeed. The dispersed expansion strategy is an approach recommended for correcting is demographic change which the model explains. Others include: decentralization of powers to regional and local authorities; local development planning; intermediate city development to produce viable regional economic capable of absorbing intra–regional migrants, provision of incentives for dispersion of industrial and manufacturing activities to under–developed regions; public investments in rural infrastructure and services at advantageous costs; establishment of regional and local social development funds to qualitatively improve the regional human settlement system, and targeted economic development to fully exploit the resource potential of neglected regions (UNCHS, 1984). These are possible alternatives for the development planning of a place like Adamawa State, Nigeria.

Yet on economic and industrial development, Perroux has made it clear that domination of a sub system 'B' by a sub–system 'A' occurs when the reactions in 'B' are not sufficient to offset the actions of 'A' with regard to 'B'. The factors responsible are if 'A' is considerably bigger in size than 'B', if 'A' has a superior structure and if 'A' has a greater bargaining power (Hillhorst, 1971). In view of this, raw materials development at the peripheries, mineral exploration exploitation as well as the establishment of allied industry at the peripheries is useful. Other strategies pro–peripheral places suggested are the formation of local marketing and unions to enforce raw materials price for peripheral advantage, direct financing of community projects; higher prices for agricultural commodities and better roads. The development of other forms of rural infrastructure is also implied. Community mobilization for self–help development and government's assistance should back up all physical and economic planning measures to help in raising the standard of living in the peripheral regions. As the core continue to grow, this model also has it that without peripheral development, the cores may have to suffer from high cost of living, congestion, outdated and over–loaded facilities housing shortage, inadequate services, political unrest, health and sanitation problems (UNCHS, 1984). Efficient land–use planning could help in addressing these issues especially if re–distributive measures in terms of population and resources are implied.

With several examples in the Philippines, UNCHS (1985) has advanced the outstanding contribution of the postulations of this model and its relevance to the rural – urban imbalance dichotomy. Its concepts of innovations diffusion, dominance and dependence and the need for spread in land–use planning have become highly relevant to avoiding the regional imbalance hitherto noted in many regions – Adamawa State to context.

## V. PROPOSAL

Three alternative concepts were advanced, evaluated and the most weighty chosen. The Core - Periphery Model for Adamawa State was then articulated on this basis, action plans proposed, phased and implementation strategies proffered. The alternative concepts are: Peripheral Development (PD), Intermediate City Development (ICD), and Integrated Peripheral Development (IPD).

### A. *Peripheral Development (PD) Concept*

As reported, the core – periphery relationship in Adamawa State is not mutually benefiting - it is rather parasitic instead of being symbiotic. With this understanding, it has become rational to correct the age-long imbalance by tilting the pivot of development in favour of the peripheries whose resources have been sapped and siphoned to advance the development of the cores. This is the rationale for this concept called Peripheral Development (PD). Like other physical planning models used in regional planning (such as the Growth Poles and Growth Centres of Perroux and Boudeville (Darkoh, 1986) and the Central Places Theory of Christaller (Onokerhoraye, 1984), the Peripheral Development concept of the Core - Periphery Model advances that development can be perpetuated in a geographical space if the necessary factors are put in place. Such factors include easy transportation possibilities, infrastructural support, market/economic forces and government backing. Thus, the government has an important role to play in counter-balancing the forces of regional inequalities by implementing a concept of this nature overtly in favour of the peripheries.

To achieve peripheral development, such places need to be opened up with good transportation networks to evacuate agricultural produce, encourage industrial location and the provision of infrastructural facilities useful in benefiting from other natural potentials in those localities. The argument is that, instead of concentrating development in a few cores, this approach seeks to even out development as the urban dwellers will now begin to commune to these peripheries for trade and industrial work. This approach is similar to the concept of accelerated rural development which advocates that since the cores were developed at peripheral expense, we need to stay development in the cores while propelling development in the peripheries at least to allow the peripheries come up to a reasonable level.

Those who oppose this concept argue that it is more or less the accelerated “thing” that always fails e.g. Accelerated Wheat Production Programme, accelerated housing programmes. They see distributive strategies as lacking consolidation hence unsustainable. They also talk of the urban elites frustrating it. A ways to eliminate some scepticism against this concept is the implementation strategy: Government Sponsored Projects, Community Financed, and Government Assisted Programmes. Every project to be implemented in any of these communities will be weighted and financed as by this arrangement, community participation will be enhanced and cumulative efforts will be high thereby achieving balanced and accelerated development of the State.

### B. *Intermediate City Development (ICD) Concept*

While agreeing with the peripheral development concept, this alternative proposal considers it practically too fragmentary to attempt to raise the level of development in about 478 identified autonomous communities of Adamawa State at the same time. The situation becomes more glaring as many of these autonomous settlements are thinly populated (under 3,000). Grouping these communities together and developing the eventual communities which can help perpetuate development in the surrounding settlements will be a more viable alternative way of raising the level of development in the peripheries. The eventually developed communities are the *intermediate or secondary cities* aimed at by this concept. With good implementation, the less than 50 intermediate cities (District, LGA and Development Area headquarters) will develop as growth centres or central places for their respective areas thus acting as “take-off” perpetuators. It is the opinion of others that this will set the ‘lucky’ communities as cores to their region thereby beginning another ‘apartheid.’ This is however not seen as perpetuating any new evil since the overall result will bring development nearer to all the areas. Though the intermediate cities are set as cores to their respective regions so far they work towards balancing development in the area, it is considered desirable.

### C. *Integrated Peripheral Development (IPD) Concept*

Although the Core - Periphery Model recognizes that regional imbalance exists and that the gap thus created may never be self-correcting nor self-bridging until and unless certain policy changes are effected to the overt advantage of the peripheries. This concept recognizes that peripheries may not develop without the cores. It is socially unjustifiable to stagnate development at the cores until the peripheries meet up especially for a State with overall low level of development.

The role of cores in innovation, decisions control and regional development implied in the Core - Periphery Paradigm support integration. In the light of all these and with the recognition that the cores in the State are no havens themselves, Integrated Peripheral Development (IPD) concept is proposed here as another alternative. It is to effect a gradual and corresponding development in both the cores and the peripheries even though the pivot is much more tilted in favour of the peripheries.

This concept has in effect embraced the fundamental ideas of Peripheral development in the two earlier proposals but added further development of the cores simultaneously. This can be approached through the same vehicles: Transportation, agricultural infrastructure, industrialization, commerce and others. In doing these, a sectoral integration is also advocated by the concept in which all efforts are geared towards bringing about a symbiotic relationship between the cores and tile peripheries: Basic problems are solved in the rural areas, other social problems of the urban areas are visited simultaneously.

One of the principal strategies proposed for implementing this alternative is the zoning of the State into four sub-regions out of which two cores or “growth centres” were identified for each sub-region. Development policies on roads, agriculture, infrastructure and others will then be revolved around these cores with a view to developing their respective areas. The advantages of this alternative concept include all the advantages usually connected with integration programmes. This is an urban age; to seek ways the cores can help lift up the peripheries is a much needed approach in this age because the current urbanization trend is really irreversible.

Urban elites may most likely frustrate all kinds of rural development programmes which exclude the simultaneous development of the urban areas, rural demographic powers may be useless, powerless, poor and may at best be pregnant with ideas. Those who oppose this concept see it as further perpetuating imbalance and widen the development gap as in reality, it will result in core development when actually implemented. However, with proper co-ordination and review to effect goal achievement, this fear may not be real after all.

#### D. Evaluation of the Concepts

Based on the fore-going analysis of the merits and demerits of each of the alternative concepts, a tabular rating of each of the three alternative concepts is presented below in Table 3. The factors were rated thus 3 = Highly satisfactory; 2 = Averagely satisfactory, and 1 = Lowly satisfactory. The ratings of the weighted factors for each of the concepts reveal that the Intermediate City Development (ICD) concept is the most appropriate of the three concepts for achieving the regional development Adamawa State through the Core - Periphery Model. It is followed by the Integrated Peripheral Development (IPD) concept and the Peripheral Development (PD) concept is least. Hence, the Intermediate City Development (ICD) concept has been chosen as ideal for regional development planning for Adamawa State.

**Table 3: Evaluation of the Alternative Concepts.**

Factor	Concert A (PD)	Concert B (ICD)	Concert C (IPD)
Feasibility of concept	1	3	2
Specificity	2	3	2
Goal achievement	1	3	2
Overall regional benefit	2	3	2
Cost performance	1	3	2
Achievement within reason able time	1	3	1
Total	8	17	11

#### E. The Core - Periphery Model for Adamawa State

Having established that Adamawa State is susceptible to the Core – Periphery Model, it is also clear that it is difficult for each of the 478 autonomous communities in Adamawa state to develop so fast as may be desired particularly because they are so fragmented and the population may not support many of such communities. In the light of this, the State has been delineated into cores and peripheries in Table 4 and the chosen intermediate cities from each of the 37 districts identified with development projects in Table 5.

Jimeta-Yola is the main and only first-order core settlement of the State. Its sphere of influence reaches unto all the parts and beyond the State administratively, commercially, industrially, socially and economically. The sphere of influence therefore does not know administrative boundaries. Jimeta-Yola therefore serves well as a point to generate regional development ripples and innovations. The relative ability of such ripples and innovations diffusion to trickle far and wide depends on the strength of these factors of developments and how they are activated along the line in the secondary cores. The second order cores are Mubi, Numan and Ganje in that order. Third order cores identified are Gombi, Yola-Town, Michika and Jada. These form smaller nuclei for their respective sub-regions and so qualify to be called third order cores.



Their respective population and spatial size, market size and levels of infrastructural development outshine other settlements in their areas. Some Local Government Headquarters like Shelleng, Guyuk, Mayo Belwa and Song do not qualify as cores at all in these three ranks. Though administrative centres, other variables have revealed that they have not appreciably developed to be cores in any of the three levels identified.

**Table 4: Delineating Cores and Peripheries in Adamawa State.**

Rank of core	Settlements	Extent of influence/ peripheries
1st Order Core	Jimeta-Yola	The whole of Adamawa State, Adamawa Province of Cameroon Republic and parts of Taraba, Bauchi, Yobe and Borno States of Nigeria.
2nd Order Core	Mubi	Mubi, Michika, Madagali, Maiha, Song, Hong and Gombi LGAs, parts of Cameroon Republic and Borno/Yobe States
	Numan	Numan, Demsa, Guyuk, Shelleng and parts of Yola and Mayo-Belwa LGA's as well as parts of Bauchi and Taraba States.
	Ganye	Ganye, Jada, Mayo-Belwa LGAs, parts of Fufore LGA, Taraba State and Cameroon Republic.
3rd Order Core	Gombi	Gombi, Hong and parts of and Song Yobe and LGAs Borno States.
	Yola Town	Fufore and Song LGA's, and parts of Cameroon Republic.
	Michika	Michika parts of and Madagali LGA's parts of Mubi LGAs, Borno State and Cameroon Republic.
	Jada	Jada and parts of Mayo-Belwa and Ganye LGAs.

#### *F. Proposed Actions*

In line with the Core - Periphery Model for Adamawa State regional development and the Intermediate City Development (ICD) concept chosen, the proposals were made on the basis of the following:

- a. **Plan Period:** 2014 - 2020
- b. **Land Area:** 36,917 km<sup>2</sup> land area
- c. **Population Projection:** 3,737,223 in 2005 projected to 4,553,443 for 2013 to 5,412,613 in 2020 AD
- d. **Growth Rate:** 2.5%
- e. **Sub-regional Delineations:** Greater Yola, Greater Numan, Greater Mubi and Greater Ganye. These follow the Senatorial delineations of the State except the Southern zone that was split into Numan and Ganye.
- f. **Sectoral Proposals:** General and specific proposal for the development of each intermediate city was based on the following sectoral proposals:
  - i. Agriculture: Rural Roads, Storage Facilities, Irrigation Infrastructure, Fishing Bays, Large Scale Mechanized Farms, Cattle ranches,
  - ii. Industrial and Mineral Resources: Border Area Industrialization Programme, Community Priority Project, Milk Factory, Fish canning, Market development,
  - iii. Commerce/Trade and Tourism: Private investors' involvement, Improved Revenue Generation, Tourism Site Development,
  - iv. Infrastructure: Industrial Estate Development, Transportation development and maintenance (Federal, State and Rural Roads), Mass Transit mobile and base workshops,
  - v. Energy: Rural Electrification Projects, Fuel Stations, Solar lighting, Kiri Dam electricity Development,
  - vi. Telecommunication: Rural telecommunication,
  - vii. Water Supply: Kiri Dam Utilisation Water Project, Mubi Water Project,
  - viii. Social Infrastructure: Schools, Health Care Centres, Community Centres, Social Housing Projects,

In line with the Intermediate City development concept, 45 intermediate cities were identified and proposed for development as shown in Table 5 and Figure 3. They are basically made up of one community from each of the 37 districts in the State that satisfied the features expected of an intermediate city earlier stated. All the Local Government Headquarters which were not selected among the intermediate cities in their respective district were included.

**Table 5: Intermediate Cities Proposed for Development.**

S/No.	Intermediate City	District	Local Government Area	Proposed Development Projects: All = Large scale mechanized farming, Banking, Market Upgrade,
1.	Ngurore	Yola	Yola	Gypsum, Quarry
2.	Mayoine	Mayoine	Fufore	Canals, Fishing bay
3.	Gurin	Gurin	Fufore	BAIP
4.	Fufore	Balala	Fufore	Cattle ranch, Milk factory
5.	Sangere	Girei	Girei	Canals, Mechanized farming
6.	Lamurde	Numan	Numan	Canals, Coal market
7.	Bille	Batta	Numan	CPP, Mechanized farming
8.	Borrong	Mbula	Demsa	Canals, Fishing bay
9.	Kiri	Kiri	Shelleng	Canals, Fishing bay, Fish canning
10.	Shelleng	Shelleng	Shelleng	Mechanized farming
11.	Guyug	Lunguda	Guyuk	Mechanized farming, Cement factory
12.	Jalingo-Lala	Lala	Guyuk	CPP
13.	Malabu	Malabu	Fufore	Canals, Fishing bay, Fish canning
14.	Ga'anda	Ga'anda	Gombi	Cattle ranch, Mechanized farming
15.	Uba	Uba	Hong	CPP, Mass Transit Workshop
16.	Garaha	Kilba	Gombi	Cattle ranch, Clay industry
17.	Sorau	Sorau	Maiha	Cattle ranch, BAIP
18.	Maiha	Maiha	Maiha	CPP, Ceramic Industry
19.	Belel	Belel	Maiha	BAIP
20.	Duhu	Madagali	Madagali	Cattle ranch
21.	Garta	Chubunawa	Michika	Cattle ranch, BAIP, Uranium mining,
22.	Madagoba	Mubi	Mubi	Cattle ranch, BAIP, Boreholes
23.	Mayo-Bani	Mayo-Bani	Mubi	CPP, Clay Industry, Boreholes
24.	Song	Song	Song	Canals, Cattle ranch, Milk factory, quarry
25.	Dumne	Dumne	Song	Mechanized farming
26.	Jabbi-Lamba	Jabbi-Lamba	Song	CPP, Social Housing
27.	Zumo	Zumo	Song	Canals, Quarry
28.	Karlahi	Velle	Fufore	CPP
29.	Bakopi	Girei	Girei	Canals, Mechanized farming
30.	Mayo-Belwa	Mbilla	Mayo-belwa	CPP, Social Housing
31.	Tola	Binyeri	Mayo-belwa	CPP
32.	Mayo-Farang	Nassarawo	Mayo-belwa	Cattle ranch, Milk factory
33.	Toungo	Toungo	Ganye	Canals, Mechanized Farming
34.	Sugu	Sugu	Ganye	Canals
35.	Jada	Jada	Jada	CPP, Mechanized farming
36.	Yelwa	Yelwa	Ganye	CPP, Mechanized farming
37.	Kojoli	Leko	Ganye	CPP, Mechanized farming
38.	Zongabi	Zongabi	Ganye	BAIP
39.	Dambora	Dambora	Ganye	Canals, Fishing bay, Fish canning
40.	Ganye	Mbulo	Ganye	CPP
41.	Gombi	Kilba	Gombi	CPP
42.	Demsa	Batta	Demsa	Canals, Fishing bay, Fish canning
43.	Garkida	Kilba	Gombi	CPP
44.	Hong	Kilba	Hong	CPP, Social Housing, Mechanized farming
45.	Madagali	Madagali	Madagali	CPP

*Note:* Canals, Fishing bays where rivers and their tributaries are found. Cattle Ranch where animal husbandry potentials are available; Border Area Industrialisation Project (BAIP) in Boarder communities; Community Priority Project (CPP) based on the sectoral emphases in all other Intermediate Cities. Mechanized farming of crop variety grown in the respective intermediate cities. Social housing in selected intermediate cities.

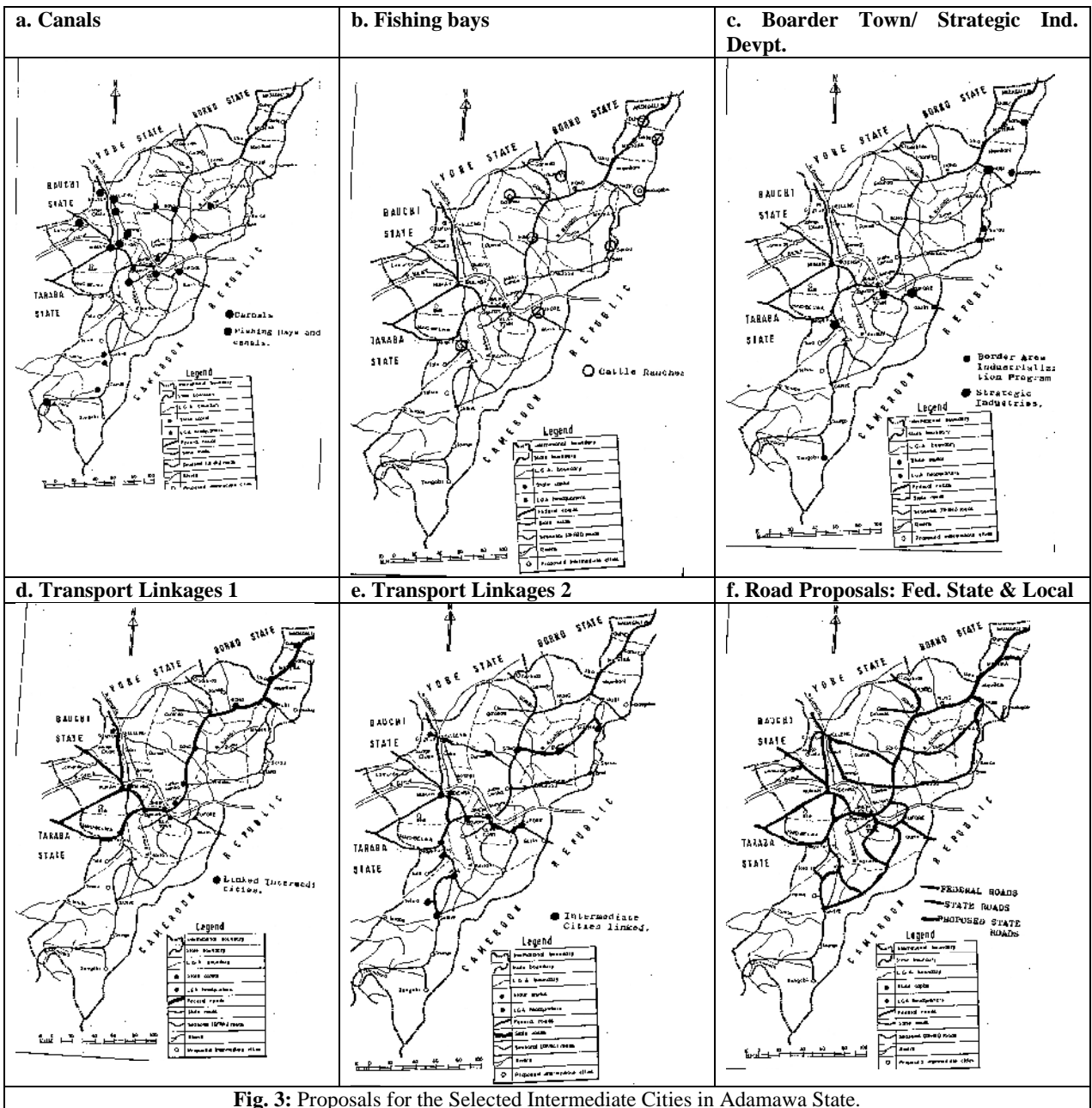


Fig. 3: Proposals for the Selected Intermediate Cities in Adamawa State.

**G. Phasing and Implementation Strategies**

A 3-phase implementation strategy has been proposed between 2013 and 2015 as detailed in Table 6. The implementation strategies: Each project is to be implemented on the basis of the selected finance options listed below: (a). Government financed projects, (b). Community financed projects, (c). Government assisted projects, (d). Investors financed projects, (e). International or national aids financed projects, and (f). Privately financed projects. Community participation shall be highly encouraged using the National Orientation Agency mobilisation network, State information services, traditional institutions and development associations that are well informed of the intents of this plan. With the 25% incentive from the Government, it is hope that many of the communities will respond positively to such government assisted projects.

The period under phase 1 has also contained time for wooing investors and for popularising the proposal as a way of soliciting private participation and national 4 or international aids. With all these, it is believed that the projects shall be well implemented to achieving state wide development.

**Table 6: Phasing Plan for Intermediate Cities Development in Adamawa State.**

<b>Phase 1 (2013-2014)</b>	<b>Phase 2 (2015-2018)</b>	<b>Phase 3 (2019-2020)</b>
<ul style="list-style-type: none"> <li>- Approval of scheme and preparation of necessary revisions</li> <li>- Establishment of an implementation board</li> <li>- Updating the State Population Census figures</li> <li>- Commissioning of the preparation of detailed sub- regional master plans with this proposal updated as brief</li> <li>- Auditing the settlements for existing facilities</li> <li>- Preparation of Investors' Guides and wooing investors through seminars, conferences and community mobilization.</li> <li>- Resumption of links with boards and infrastructure agencies in respect of projects in their areas</li> <li>- Repairs of all existing roads and the establishment of maintenance teams</li> <li>- Budget preparation and soliciting for fund, aids, loans or financial assistance</li> <li>- Establishment of site offices (District Development Implementation Office)</li> <li>- Establishment of Information Offices in each intermediate city proposed</li> <li>- Preparation of utility waster plan for each of the intermediate cities</li> <li>- Construction of silos in 1/4 of the intermediate cities.</li> <li>- Implementation of large scale mechanized agric farms proposed in 1/4 of the locations.</li> <li>- Review.</li> </ul>	<ul style="list-style-type: none"> <li>- Review of Phase 1</li> <li>- Construction of all roads proposed and inauguration of maintenance mechanism for them</li> <li>- Construction of silos in 5 of the intermediate cities</li> <li>- Construction of irrigation canals in 10 of the 20 districts proposed</li> <li>- Construction of 6 of the 11 fishing bays proposed</li> <li>- Construction of 6 of the 9 cattle ranches</li> <li>- Implementation of large scale mechanized agric farms proposed</li> <li>- Implementation of government and community supported infrastructural priority projects</li> <li>- Establishment of 3 out of the 6 Border Area</li> <li>- Industrialization Programmes</li> <li>- Implementation of resources exploration and exploitation proposal phase 1.</li> <li>- Review.</li> </ul>	<ul style="list-style-type: none"> <li>- Review of phase 2</li> <li>- Construction of the silos for the remaining intermediate cities</li> <li>- Construction of the remaining 10 irrigation canals</li> <li>- Construction of the remaining fishing bays</li> <li>- Construction of the remaining 3 cattle ranches</li> <li>- Implementation of the telephone project and other infrastructural plans</li> <li>- Implementation of Tourism proposals</li> <li>- Implementation of left-over proposals</li> <li>- Review of the entire plan to ensure full implementation and resourcefulness as well as goal accomplishment.</li> </ul>

## **VI. CONCLUSION**

This study has revealed that given the present regional development trend in Adamawa State, regional imbalance, dualism in terms of core - periphery relationship and regional inequalities will continue to deepen. The Core - Periphery Model for Adamawa State has been used as the search-light to establish this. Case studies reviewed affirm that government intervention is a force highly needed to turn the tide of the present imbalance. Policy options available to government both in raising the overall level of development and for correcting the imbalance have been identified, articulated, appraised and the alternative adjudged as best has been chosen with appropriate action plans phased out for implementation.

## **VII. RECOMMENDATIONS**

In addition to the specific proposals for the development of intermediate cities already advanced, the following recommendations are to further enhance the achievement of the objectives of' the study:

- i The Adamawa State Government should throw its weight behind all rural development programmes which do change names with every new administration but with the singular aim of rural development.
- ii The State Government should enforce the keeping of adequate and accurate demographical, geological, infrastructural and resources (manpower and mineral) data to enhance planning.

- iii The State Government should set up a “Think-Tank” to undertake a comprehensive study of the State potentials, resources and capabilities to recommend economic, industrial and technological development policies and programmes for the State.
- iv Completion of abandoned development projects in various parts of the State should be a State priority.
- v In view of the low level of internally generated revenue in the State, and the low level of community participation in development reported, mobilization in these directions should be carried out with vigour.
- vi The issue of religious volatility of the State should be considered again since the study has revealed that this single factor has been very responsible for discouraging investors to come in to the State.

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