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Abstract

This paper is the first part of a three series paper that provides a comprehensive review of the existing models of land development process. In each of the papers the characteristics of these models are presented and evaluated critically in relation to their clarity, applicability and theoretical underpinnings. This will bring together from various sources the principal approaches in the analysis of development activity and also provides a platform to discuss the key components and the implication of the process. Most importantly the review provides some guidelines for the rejection and adoption of a particular methodology as a basis for undertaking research. In this first paper, it is suggested that the equilibrium models, which are based on the neo-classical parameters of demand and supply, in terms of undertaking research are set-up at a level of abstraction. The problem is that it is difficult to substantiate precisely between the actual investigate events and the affecting structural forces. On the other hand, although the event-sequence models focus on the potential blockages to develop activity, they lack the specification of actors and interests, and so provide little help in explaining why a development process takes the form that it does in a particular case.

1.0 INTRODUCTION

In recent years, there has been a growing interest in understanding the land and property development process. As a result, numerous conceptual models of the land development process have been produced. However, much of the academic literature provides a difficult entry point for those seeking initial access into the study of the development process because the models are typically technical in content and too specialised in focus.

This paper reviews the various models of the development process. The characteristics of these models are presented and are also evaluated critically in relation to their clarity, applicability and theoretical underpinnings. Such a review has the advantage of not only bringing together from various sources the principal approaches in the analysis of development activity but also provides a platform to discuss the key components and the duplications of the process. Most importantly, the approach provides some guidelines for the rejection and adoption of a particular methodology as a basis for undertaking research.

The research models which were devised to suit a variety of contexts are based on different conceptual frameworks and different theoretical underpinnings. They are the products of work conducted within certain philosophical boundaries (such as empiricism, positivism, humanism and structuralism) and are derived from different theoretical frameworks of neo-classical economics, urban-political economy and institutional analysis. These have had an influence on the models constructed in terms of the method of reasoning and the argument as all as in the number of different forms the models take. The models range from flow diagrams, through to sequences of events and sets of relationships between the agents involved, to overall frameworks or structures within which land development occurs. In this sense, as Gore and Nicholson (1991,705) note, 'such models are essentially different ways of representing the same thing: there is no question that one may be considered to be correct, and all the others wrong '. It is important to understand the concepts employed in each philosophical perspective. Hence, a brief discussion of the related philosophies follows.

2.0 PHILOSOPHIES OF SOCIAL SCIENCE

According to Johnston (1983), a researcher of a particular academic discipline undertakes research within a framework provided by a philosophy of that discipline. Such a philosophy may be explicitly stated by the researcher and used to establish certain guidelines before commencing work or it may be implied where there are guidelines but these are not fully recognised.
Philosophy involves the study of the ways in which work is conducted within a particular disciplinary boundary and the creation of methods of reasoning and argument (Talmon, 1958). The main element in a philosophy is its epistemology (or theory of knowledge) and associated with epistemology in the philosophical framework is ontology (the theory of existence). Every disciplinary philosophy, therefore, contains both an epistemology and an ontology and together these are used to define a methodology, that is, a set of rules and procedures which indicate how research and argument are to be conducted within the discipline.

To date, the approaches in the philosophy of social science can be categorised under five different types: empiricism, positivism, humanism, structuralism and the structure and agency approach. Table 1 summarises the five different existing approaches in terms of the elements of epistemology, ontology and methodology.

In the empiricist approach, the epistemology is that knowledge can only be gained through experience, therefore, its ontology is that all experiences are those that exist. As such, explanation of knowledge by way of this approach is very descriptive and the methodology is only in the form of presentation of the experienced facts based on collection and organisation of empirical facts and materials.

Positivism, on the other hand, is an approach in which the epistemology is also gained through experience but which requires this experience to be firmly established as verifiable evidence. As ontology, therefore, is one of agreed evidence and it is often known as scientific or the quantitative approach. Hence, this approach is characterised by a belief that reality is present in appearances which are measured repeatedly to form the basis of laws which can be verified with recourse to empirical facts.

Unlike the scientific positivism, in the humanist approach the epistemology is that knowledge is subjectively created by individuals. In contrast to the positivist approach, which is suitable for the study of nature science, this approach is more suitable for studies related to social phenomena. Its ontology, therefore, is that man is the determining factor, and society, in all its complexity is the dependent product of human interaction. Reality, therefore, does not exist independently of the observer or the observed but is a social reproduction, whose meaning and organisation are the result of the human psyche and social behaviour. Methodologically, it is guided by the ideas and the practical results of human interaction (Horkheimer, 1958). This approach is based on statistical inference based on representative random samples, to those of logical inference (individualised reasoning based on a convincing and compelling facts of events based on unique or idiosyncratic case studies.

In structuralism, the characteristic feature is the principle that knowledge of explanation for observed phenomena must be sought in general structures which underpin all phenomena but are not identifiable within them. Hence, its ontology is that knowledge exists in the underlying structures which in general are divided into three levels of analysis. These are the level of appearance or the superstructure, the level of process or the infrastructure and the level of imperative or the deepstructure. However, according to Johnson (1958), of these three only the superstructure level can be directly understood. A study of the patterns in the superstructure, he argued, should reveal the nature of the deep structure and the contents of the superstructure represents expressions of the infrastructure. In turn the nature of the process operating in the infrastructure is a consequence of the imperative or the deep structure. As such, explanations cannot be produced through empirical study of the phenomena alone but by way of an approach which combines theory and observation analysis.

The structure and agency approach is a product of philosophers who believe that both the social system and the individual actor are equally important in the explanation of social phenomena. It is a relatively new attempt at resolving a great conflict in social theory, and provides a comprehensive explanation that considers how agency and structures come together in the production, reproduction and transformation of society. This approach is an attempt to overcome a serious problem in social theory by transcending, without altogether dispensing with, the two main approaches employed by social analysts, that is, the structuralism and humanism approaches.

Giddens (1979) argued that within the structuralist perspective, to determine social outcomes, the theories focus on the cultural forces and/or economic forces. Giddens (1979) further argued that this entails an understanding of the individual as an active, knowledgeable, reflexively monitoring agent. On the other hand, in the humanism that is the agent-centred philosophies, institutions are treated as only the background to which action is negotiated and its meaning formed (Giddens, 1979). Both these philosophies are also not concerned with power relations and conflict in society and very often focus 'attention almost exclusively upon the nature of relations or intentions in human activity' (Giddens, 1979). To overcome this problem, Giddens (1979, 53) proposed to develop a position where
The notions of action and structure presuppose one another. Therefore, this necessitates a reworking both of a series of concepts linked to each of these terms, and of how terms themselves.

Hence, the reworking of these concepts results in the structure and agency approach where knowledge is sought in both structure and agency elements.

<table>
<thead>
<tr>
<th>Approach/idea</th>
<th>Ontology</th>
<th>Epistemology</th>
<th>Methodology</th>
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<tbody>
<tr>
<td>Empiricism</td>
<td>reality only exists in the thing that is experienced</td>
<td>knowledge is gained through experience</td>
<td>presentation of the experienced facts based on collection and organisation of material which focus on empirical facts</td>
</tr>
<tr>
<td>Positivism</td>
<td>reality is independent of the observer that is objective reality</td>
<td>knowledge is acquired through verifiable facts and is observable (observation)</td>
<td>establish empirical facts using the scientific method that is hypothesis testing (statistical) method widely used</td>
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<tr>
<td>Humanism</td>
<td>reality only exists in relation to people</td>
<td>knowledge is created subjectively in a world of shared meanings and through individuals</td>
<td>concentrate on detailed behaviour case study, qualitative methods such as interviews</td>
</tr>
<tr>
<td>Structuralism</td>
<td>reality consists of underlying structure which gives rise to empirical facts</td>
<td>critical thoughts are used to derive theories</td>
<td>construction of theories</td>
</tr>
<tr>
<td>Structure and agency</td>
<td>reality exists in both the underlying structures of protection &amp; regulation as well as in agency relationships</td>
<td>knowledge is derived by linking structure and agents' interests and strategies through the resources they used and the value of regulation they anticipate</td>
<td>construction of a specific model on specific case study where facts of different form of structures and agents' interests and strategies as well as agency relationships and the internal power relations are gathered using structured interviews &amp; detailed study of past records and data using descriptive and historical analysis</td>
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Source: Own analysis

Table 1: The Theoretical Framework in the Philosophy of Social Science
2. The event sequence model which depicts the development process as a chronological sequence of stages, at each of which certain events occur. These models fall within the empirical theoretical framework.

3. The agency model which falls within the humanist framework. It emphasizes the role of different actors in the process and the importance of the decisions they make in ensuring its smooth operation.

4. The structure models which portray the development process as a specialized form of productive economic activity, from the perspective of the economy as a whole, that is they tend to be structuralist.

5. The structure and agency models which contend that different types of development are characterized by different institutional, financial and legislative frameworks, as well as the complexity of the social relations involved.

In this paper, these contrasting approaches to the explanation of the land development process will be examined in more detail.

4.0 EQUILIBRIUM MODELS

Equilibrium models of development process are clearly defined within the ephemerological and ontological philosophy of positivists. Hence, in these models, explanations are based on structured theory-led observation and its ontology supports this with the arguments that only what is directly observable and measurable is acceptable as evidence.

Implicitly, within the theoretical perspectives, such models can be categorized as those adopted by the neo-classical economists. The assumption of these models, therefore, is that the development process is driven by the demand for new property. Demand, in this model, is assumed will be translated into supply, with the various agencies involved in development working collectively to provide developments 'at the right time, in the right place, at the right price' (Lichfield and Datin-Drabkin, 1980).

In the past, various urban economists have focused on the built environment, discussing how it is produced. Among them were Harrison (1977), Hallett (1979), Lichfield (1980), Harvey (1981), Hillebrand (1985), Evans (1985) and Balchin (1988). Being positivists, their arguments were from neo-classical economics perspective that the production of the built environment can be viewed in terms of a demand-supply relationship. In addition, it is assumed that a perfectly functioning free market exists without government intervention. Furthermore, in this market economy, exchange takes place on the basis of prices determined in the market by the interaction of supply and demand. Hence, in the case of landed property, rent is the price of occupation and the level of rental values is determined by flows of demand and supply for property to let.

In these models, development activity itself is seen as relatively unproblematic (Healey, 1991). Land and property prices are generally used as indicators to activate transactions and investments in the property market. The performance of the market is then measured by calculating rents and yields using land and property valuations which are derived either from the assessment of costs and returns, with land and property costs considered as a residual, or are based on comparison with established market prices.

One of the most popular models under this category is the classical economic model of demand and supply. Figure 1 illustrates the simple model of demand and supply. It shows that the demand curve slopes downwards to the left. At prices increase there is a decrease in demand. On the other hand, the supply curve slopes upwards from left to right, indicating that when there is an increase in price, supply will increase.

Point E is the point of equilibrium, where the supply and demand curves intersect. Once at this point, the product will continue to supply a quantity, in this case buildings, at the price the consumer is willing to buy or move. At prices to the left of E, producers would make larger profits by producing a lower volume of output. However, the price would be high enough to attract additional output. In other words, at these prices it would be profitable to produce more, so new firms - in this case developers - would enter the market to take advantage of the opportunities presented. On the other hand, to the right of point E, the opposite occurs. The producers or developers could not produce this amount and sell their products profitably. As Harrison (1977)
A Review of The Model of Land Development Process: The Equilibrium and Event-Sequence Model

Source: Adapted from Harvey J. (1981, 397. Diagram 4-4)

Figure 1 - The classical economic model of demand and supply

This simple model of demand and supply was later improved by Hallett (1979) and Harvey (1981). From the graphical depiction of demand and supply, both went further by producing box-diagram models of the development process. These are shown in Figure 2 and 3. As Hallett (1979) notes, through short term fluctuations, the basic relationship is that between demand and stocks. In such cases demand appears to be related to income and price. In addition, the total demand for property services that is square footage will react with the existing stock of property to determine the demand for new accommodation. 

\[ \text{Demand curve} \]

\[ \text{Supply curve} \]

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![Diagram of Hallett's Model of the Development Process]

Source: Hallett, 1979

No site, in all these models, price is assumed to be determined by demand and supply factors rather than to influence and determine them (Harvey, 1981). In these models, the development process is, therefore, demand-driven. As Bourne (1976) argued, demand is met by the market and translated into supply. In addition, agencies in the development process are assumed to act collectively in order to provide development at the right time, the right place and at the right price.

The model is based on neo-classical economic principles and implies the existence of a perfect market and, as a consequence, any price differences are quickly eliminated in seeking to maximise utility and profits respectively, both the consumer and producer are assumed to be informed by legal and other constraints. This assumption has attracted attention of many researchers. Among them were Balchin (1988) and Hillebrand (1985) who argued that the actors in the development process act rationally and seek to maximise return in profitability.

Lichfield (1980) argued that developers operate on a profit maximisation basis. This is carried out by considering alternative projects and making a selection based on the most profitable per unit investment. The developer will then estimate the net return at each site by taking the difference between the value of the completed development and the cost of inputs discounted to a common date. This difference or the residual is the maximum the developer would be able to pay for the land on a rental or a capital basis. As he notes, "This is the amount given in land economics and valuation theory as what is known as the residual method" (Lichfield, 1980, 71). Such an argument was elaborated further by Cohen (1993 and 1994) through the residual approach which is a method applied in the valuation theory to carry out initial evaluation of the intended development projects. The purpose is to determine the viability of the project.
institutional restrictions, therefore giving rise to differential in rents. As argued by Pahl (1976), the development process is problematic in many ways. The property market, he noted, is hampered by social and spatial constraints which reflect the access to scarce development resources and facilities as well as the distribution of power in society as illustrated by agents who make use of the bureaucratic rules and procedures, which he identified as social gatekeepers, who help to distribute and control urban resources.

Consequently, the diversity of property in terms of physical and legal interests results in a uniquely complex market. Interests in land require management and are subject to specific legislation such as planning controls and land ownership... This indicates the need for specialised knowledge leading to the important role of valuers and solicitors in the smooth running of the property market by way of providing information on property performance, price and availability, arrangement of finance, conduct negotiations and so on. As Fraser (1985, 122) notes, 'the cost of these experts, together with the sheer length of time involved in the sale price, discourages short term trading or frequent in and out operations'.

Unlike the stock exchange, in the property market, there is no organised market place, where prices are quoted and deals can be publicly witnessed. In fact, the lack of detailed knowledge points to the existence of an imperfect market. Most dealings are between buyers and sellers who have special relationships. Therefore, although prices are agreed, they do not however reflect market value (Fraser, 1985). While on the other hand, as Healey (1991) notes, the smooth operation of the market may be impeded by a number of factors whereby producers and consumers may have inadequate information about what each offers and needs.

In addition, this problem of imperfect information is worsened by the presence of uncertainties created by legislation, for example, planning, taxation and land tenure. These in a way form a sort of 'supply side' blockages (Healey, 1991). Hence, in the 1980s, particular attention was focused on the way planning system limited supply (Evans, 1987; Cheshire and Sheppard, 1989). As Cheshire and Sheppard (1989, 469) comments, 'there is evidence that the implementation of planning system creates "scarcity rents" for land in different uses by acting as a constraint on land supply'.

In other words, the process of development control through the planning system acts as a mechanism of supply restriction for particular uses, which puts up the price of land and so raises the cost of buildings put on the land. As she further argued (Healey, 1991, 222), 'The rents paid ... in principle, reflect the process of development control where there is effective supply restriction'.

The problem of imperfect information also arises from the complexity and diversity of interests in property. Further, the problem of estimating rents and prices for a property interest will arise and this is further aggravated by the relatively small number of deals taking place in any sub-market. Hence, changes in property market conditions are difficult to perceive. As Fraser (1985, 122) notes: 'Whereas millions of pounds worth of shares are being bought and sold on the Stock Exchange every day, evidence of only a handful of reliable property transactions might be available per year'.

According to Balkin (1988), property is bought and rented at different prices according to the expertise or lack of experience of the buyer. As a result of market imperfection, therefore, there is an opportunity to make a speculative gain and profit. Since there is limited sales evidence available, bargaining skills are significant in price determination. Thus, once again, market imperfection means that there is a heavy reliance on professional middlemen. Reliance on professional middlemen, for example valuers, has also brought to an additional problem to the property market. Some analysts have claimed that there are cases in which the valuation and appraisal methods used produced distortions in the assessment of risk and reward in property investment. Examples are the different conclusions of the residual and comparative approaches to establishing land prices and the different approaches to calculating property investment yield (Adams et al., 1985; Howells and Rydin, 1990). As Adams et al. (1985) note the comparative method of valuation is unable to cope in cases where there is limited transaction evidence. Similarly, Howells and Rydin (1990) state that the conventional methods of risk and return analysis are misleading when applied to property. This, they argued is because conventional analysis relies upon a quality of data which is not available in the property world, resulting in an overstatement of return and understatement of risk.

In the property market, instead of a large number of buyers and sellers, there is only small number with sufficient funds to invest. This explains why the property market is dominated by financial institutions and
A Review of The Model of Land Development Process: The Equilibrium and Event-Sequence Model

... investment companies. Private individuals, therefore, have little direct influence in the commercial sector from this, the diversity of property locations may also stimulate monopoly power. Hence, in the context of close substitutes in the market, together with the imperfect information of rent or price level, sellers may achieve a figure higher or lower than the market value. Healey (1961) considered this element as another form of 'Supply-side' blockages. Markussen and Schefman (1977) note that rapidly rising prices are due to monopoly elements in the land market in which the effect is to slow the rate of investment and to cause increases in land prices due to a landowner with market power holding land on the market.

... the exercising of profits, there are other objectives which developers take into consideration. This in turn is the case of public agency landowners who may also pursue environmental and social as well as economic objectives in their decision-making. As Hillebrandt (1985, 35) notes it is the humanists who stress non-classical model by stating that, 'objectives of firms are determined by organisational structures... operations of the firms as much as by purely monetary objectives'.

... further strengthen this point by arguing that developers defer development even when prices are low and are only responsible for the scattered form of development at urban fringes even where there are restrictions on building. In fact, as Belbin (1988) notes, supply of buildings is relatively inelastic and change is slow due to the nature of buildings and there is a small proportion of real property of any type coming into the market.

... The property market, therefore, is said often in a state of disequilibrium.

... that the actors who played roles as suppliers of properties in the market also do not necessarily demand as assumed in the simple demand-supply model. As Harvey (1981) notes development is a peculiar form of demand for real estate resources, sizes, income and taste of population, rate of growth of industry, methods of transport, techniques of production and distribution. Further, as Usher (1990) indicates, national economists overlook the nature of the power relations in the supply-consumer framework. It is argued that the framework of supply and market development is determined by the, 'global finance, national interest rates, government policy and subsidies' (Usher, 1990, 5).

... the nature of supply is determined by the objectives of the suppliers. Hence, the development process is not nor homogeneous, acting in union or responding to demand. Instead as Hallatt (1993) observes this then occurs speculatively preceded by a sharp expansion of money supply. 'There is a surge of speculation which is speculative based on euphoric expectations and financed by over-generous credit' (Hallatt, 1993).

... Schefman (1977) argued that besides development control and monopoly power, land supply for development is also constrained by factors such as speculation and public policy on land development.

... Markussen and Schefman (1977, 4), 'a land speculator is an agent who buys and sells land without affecting improvements or using the land as an output in a production process'.

... Skaburskis (1988) observed that speculation can affect the land market in many ways. First, is that speculation only will drive prices up but also force development activity to go beyond the existing urban land. Second, speculation also affects the land market in terms of the allocation of the ownership stock. In his study on Canadian cities, Skaburskis also concluded that greater development market ability to respond quickly to demand signals and may, therefore, increase the amplitude of the price cycle (Skaburskis, 1988). Regulations that affect development approval, such as strict zoning, can limit the amplitude of the price fluctuations that favour speculation, but these constraints are not effective in the extent of short term speculation after it had started.

... interesting finding of his study is that short term speculators help to stabilise the market. The results show changes in the current activity of speculators are associated with price changes. Speculators react more quickly to price changes than the market. The speculators, therefore, increase the supply of property available in the market as prices rise and reduces the supply as prices drop. Such changes in speculative stocks would reduce, rather than exaggerate, price fluctuations.
A review of the model of land development processes: The equilibrium and event-sequence model

The development process in a rigid sequential framework, that is with a definite beginning and end. Consider the cyclical nature or the diversity and flexibility that characterizes the development process. In these cases, events are not isolated from the rest of the environment and from other events. Thus, government policy, availability of finance and demographic change, simply makes the development process more complex. In addition, they found that most linear models are project based. Hence, their approach is that various development projects remain an open question.

Barrett et al. (1978) moved a step forward in improving understanding of the development process. They moved the linear model into a cyclical form. In their study of the land policy and development, a three-event model was devised. As seen in Figure 6, in the model, activities and decisions have been placed into sets of events. Each set corresponds to one of the three phases of the model (as noted in Figure 6). The first is the stage of suitability and constraints, the second is the development feasibility stage which covers events that occur between the generation of a suitable or profitable project and the commencement of construction. At this stage there is a series of influences and constraints, for example, land use conflicts, ownership and finance which precede before construction work can begin. The final stage is the implementation stage whereby the model normally involves not only the process of construction but also disposal.

A static pipeline model suggests that the development process operates in a spiral form with a new event emerging at the end of each cycle. As such, it underlines the fact that the development process is not linear and that relationships between different elements in the model may change over time. Unlike the static pipeline model, the authors offer additional flexibility where the process of activities may be trailed. Finally, it also provides not only the advantage of showing the points at which the principal external factors affect the process, but also reveals the fact that any difficulty is less likely to be consistent between developments (Gore and Nicholson, 1991).

Like other models, the development pipeline also does not escape criticism. Although it is more flexible and takes into consideration external factors, the treatment of external variables is criticized as being

(c) 1991 from these criticisms, the pipeline model has proved to be useful in particular research studies for three reasons. Firstly, it is useful as a means of tracing the progress of vacant sites towards reuse (Reuter and Gore, 1980). However, it is difficult to take into account the events and activities included in the triangle in the way that the public sector development proceeds. As associated problem is the lack of detail concerning what happens between the end of the pipeline and the start of the "development-stage" leg of the next round.

Gore (1991) notes that the development pipeline model may be suitable in the study of the problem of land vacancy. In an attempt towards this, Gore and Nicholson (1985) incorporated a fourth "vacancy leg" into a model of public sector development process (see Figure 7). In this model, the differences between public and private development are taken into account and it also identifies a wider range of possible external influences than does the original "pipeline". However, many of the fundamental criticisms of cyclical flow diagrams still apply with equal force in this case. Another important model belonging to this category is that of Goodchild and Muston (1985, see Figure 8) who attempted to explain an event-sequence model using a more sophisticated version of Lichtfied's work (1956). As they note:
Figure 4: A Linear Model of the Development Process
A Review of The Model of Land Development Process: The Equilibrium and Event-Sequence Model

Figure 5: The Development Process: Speculative Offices

Source: Park, 1985
Note: 552 relates to Section 52 of the Town and Country Planning Act, 1971
The development process begins when a parcel of land is considered suitable for a different or more intensive use, and is completed when the necessary changes have taken place and land re-occupied.

(1) the 'mattering of circumstances' that makes possible a change in the use of land, for example, the construction of a new road or the selection of a settlement for expansion.

(2) purchase of the land by a person prepared to develop it.

(3) preparation of the land for development, including both 'physical' construction work and 'abstract' operations such as establishing legal title to the land.

(4) preparation of the development scheme, including obtaining all the necessary consents, especially planning permission.

(5) arrangement of finance to carry out the development.

(6) construction of the development scheme.

(7) its occupation by either the developer, a new owner or tenant.

(Goodchild and Morton, 1985, 65).

The model illustrates that the development process involves potential complexities though 'blockages' could occur at several stages of the development process. As illustrated in the Hebburn case, the most time consuming element were the physical and legal work of preparing the land for development, the negotiation of the development scheme, and the arrangement of finance (Healey, 1991).

From the above discussion it is apparent that the event-sequance model is commonly repeated in much of the literature. Indeed, it indicates the problems of studying the development process, whereby with every new text, a new model of land development process is formulated. McNamara (1985) attempts to summarise the common views in each of the development process models in which he concludes comprises of three major stages. These models are compared in Table 2 and their common features are identified.

The first stage is where the various opportunities for investment (in property and elsewhere) are assessed and a decision is made by the developer or whether to be involved with a particular development proposition or not. The second stage entails the preparation of a proposal for a site. This requires an assessment and assembly of all the multifarious requirements for a development (labour, machinery, credit, land, planning permission and so on). The third stage is managing the actual construction process and, as can be seen, Cadman and Austin-Crowe (1978) identify the disposal of a finished product as a fourth stage, whilst the others consider it as simply an integral part of managing and implementing development.

6.0 CONCLUSION
The above discussion on the clarity, applicability and theoretical underpinnings of the equilibrium and event-sequance models of the land development process reveal some significant guidelines as to the suitability of each model as a basis for research methodology in explaining and understanding the land development process.

The focus of equilibrium models, therefore, is on the quantities of demand and supply, as structured on a 'stock and flow' principle, showing the balance between take-up of stock and additions to stock (Healey, 1991). Since they are based on the neo-classical parameters of demand and supply, in terms of undertaking research, the equilibrium models are set-up at a level of abstraction. The problem is that such characteristics of these models have led to the difficulty in substantiating precisely between the actual investigated events and the affecting structural forces (Healey, 1991).
In the discussion above and as Healey (1991) suggests, such models are only suitable for standard types of projects in relatively stable conditions where an active property market exist and which are not dominated by a few large operators. However, this is hardly the case in reality. As discussed above, there are distortions when the models are applied to the more complex reality. First, they are unable to take into consideration the diverse forms of demand in which the user and investor demands respond to different signals. Second, since they focus on the economic factors of demand and supply, they fail to take account of the non-economic interests of those involved in the development process. Third, they are also unable to cope with the considerable uncertainty in assessing future gain, due to the time scale of the development process and the limited number of interactions in land and property markets (Howell and Rydin, 1990). Fourth, it is also difficult to establish the value of land and buildings especially in a destabilised market produced through economic restructuring.

Finally, as Healey (1991) suggests, equilibrium models are not suitable for complex development processes involving the realisation of a set of events which occur over a considerable period of time within a set of specified structural forces, with different actors potentially involved at all stages. The balance of power between the agents may vary significantly at different stages of the development process. Hence, as Healey (1991) notes, more attention needs to be given to the institutional dimensions such as the strategies and interests of the production side of the development process and to the activities which constitute it.

Secondly, in conclusion, sequential models do provide some preliminary insights into the workings of the development process, particularly those of the cyclical flow type. Although they focus attention on the potential 'blockages' to development activity, they lack the specification of actors and interests, and so provide little help in explaining why a development process takes the form that it does in a particular case. Gore and Niebelson (1991,711) comment:

'It is their form that presents the severest limitation, making it difficult to capture fully the viability of the development process and its integral relationships within their likely rigid confines'.

Further, there is ample evidence that there is no standard sequence of events for a development project, which means that the extent of applicability of each model remains an open question.

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Source: Mc Namara 1985, 120

Table 2: The three separate views on the stages of the Development Process

REFERENCE
- Bruton, M and Grice, A (1980), Vacant urban land in South Wales, report to the Land Authority for Wales and price of Wales Committee. University of Wales Institute of Science and Technology, PO Box 68, Cardiff CF1 3XA.
Hayley, P. (1994). Land Use and Planning Zones: Department of Town and Country Planning, University of South
Territorial Management. (Unpublished MSc thesis, University of South
Territorial Management).

Hayley, P. (1991). "The role of land use planning in urban development. Department of Town and
Country Planning, University of South Territorial Management." (MSc thesis, University of South
Territorial Management).

Howell, J.M. (1990). "The role of land use planning in urban development. Department of Town and
Country Planning, University of South Territorial Management." (MSc thesis, University of South
Territorial Management).

Territorial Management).

Johnson, B.R. (1983). "The role of land use planning in urban development. Department of Town and
Country Planning, University of South Territorial Management." (MSc thesis, University of South
Territorial Management).

Johnson, B.R. (1982). "The role of land use planning in urban development. Department of Town and
Country Planning, University of South Territorial Management." (MSc thesis, University of South
Territorial Management).

Litchfield, N. and Bateman, J. (1990). "The role of land use planning in urban development. Department of Town and
Country Planning, University of South Territorial Management." (MSc thesis, University of South
Territorial Management).

Country Planning, University of South Territorial Management." (MSc thesis, University of South
Territorial Management).

McKinnon, F.J. (1990). "The role of land use planning in urban development. Department of Town and
Country Planning, University of South Territorial Management." (MSc thesis, University of South
Territorial Management).

Noor, N. (1987). "The role of land use planning in urban development. Department of Town and
Country Planning, University of South Territorial Management." (MSc thesis, University of South
Territorial Management).

Pugh, B.R. (1982). "The role of land use planning in urban development. Department of Town and
Country Planning, University of South Territorial Management." (MSc thesis, University of South
Territorial Management).

Rashid, J. (1985). "The role of land use planning in urban development. Department of Town and
Country Planning, University of South Territorial Management." (MSc thesis, University of South
Territorial Management).

Sadulak, A. (1986). "The role of land use planning in urban development. Department of Town and
Country Planning, University of South Territorial Management." (MSc thesis, University of South
Territorial Management).

Usher, D. (1990). "The role of land use planning in urban development. Department of Town and
Country Planning, University of South Territorial Management." (MSc thesis, University of South
Territorial Management).

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