
Ecology and Administration: Revisiting the Prismatic Model of Fred Riggs

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Administration and its environment influence each other to a great extent. The understanding of the dynamics of this process is imperative. This, in simple terms, is the very kernel of the ecological approach to public administration. The ecological approach to the study of administration was initiated by John Gaus and Robert Dahl in 1947. It was then followed by Roscoe Martin in 1952 and was greatly popularised by Fred W. Riggs since 1962. Riggs emerged as its greatest exponent in the domains of Comparative Public Administration and Development Administration. In the 1920s, Gaus drew upon the works of sociologists concerned with the interdependence of human life and its environment. The sociologists, in turn were inspired by the natural sciences which sought to explain how plants and animals adapt to their environments. According to Gaus, such an approach,

“builds... from the ground up; from the elements of a place –soils, climate, location, for example –to the people who live there –their numbers and ages and knowledge, and the ways of physical and social technology by which from the place and in relationship with one another, they get their living.”¹

According to Ferrel Heady, Gaus was primarily concerned with identifying key ecological factors for an understanding of contemporary American public administration and explored a host of factors on which social understanding depends heavily: people, region, physical & social technologies, aspirations and ideas, catastrophe and personality.² This in sum, is the starting point of the ecological approach to public administration and this understanding

has undergone various modifications and alterations to suit it to changing circumstances. If Gaus was applying the ecological approach to understand public administration in early twentieth century America, Riggs and his followers, applied a modified version of it to gauge the levels of development and administration in the so-called ‘developing’ political systems during the second half of that century.

The present paper would first endeavour to account for the roots of the *ecological* approach to administration within the tradition of public administration itself; followed by an explanation of what it actually stands for, and the significance of that approach in developing the science of administration, especially with reference to the concept of bureaucracy. This would be followed by an analysis of Fred Riggs’ treatment of the ecology of administration, and his contributions to the development of an ecological model of public administration. Finally, the focus would be on the recent criticisms levied against the Riggsian model, as certain scholars believe that if we are not ready to abjure Riggs, we can at least strive to make his theories more scientific and technically suitable to the twenty-first century climate.

The Advent of Ecological Understanding in Public Administration

The ecological approach to public administration was greatly popularised by the Comparative Administration Movement and the theory of development administration, which it engendered. The period 1948-1970 provides the perfect temporal reference point for comparative public administration (CPA). It was during this period that public administration faced a crisis of identity, owing to the rejection of the two defining pillars of early administrative theory, viz. the politics-administration dichotomy and the principles approach.³ Evidently, the discipline was in search of an alternative

and this was provided by administrative sciences. The 1950s was a period of multi-focal conceptualizations and the emphasis of administrative writings resonated the prominent foci that were evolved in the 1940s, viz. behavioural, comparative, systemic, decisional, ecological and Weberian. There was a re-assertion of the relationship between political science and public administration and Fred W. Riggs opened up new vistas for cross-cultural administrative research during this period. The 1960s also saw the popularization of development administration by Weidner and Riggs, albeit the fact that George Grant actually coined the term in the mid-1950s.

Comparison has long since been acknowledged as the “very essence of scientific method”⁴ in political science in general and public administration in particular. This scientific spur had gone into the making of CPA during the middle of the 20th century and a sustained effort to undertake comparative analysis in public administration has occurred since the end of the Second World War. The timing and vigour of this movement resulted from a combination of factors: the rather obvious need for this extension of range in public administration as a discipline; the large number of scholars and practitioners of administration to experience with administration abroad during wartime, post-war occupation and subsequent technical assistance assignments; the stimulation of the largely contemporary ‘revisionist’ movement in comparative politics; and the remarkable expansion of opportunities during the 1950s and 1960s for those interested in devoting themselves to research on problems of comparative public administration.⁵

The most tangible product of these early endeavours was an output of published writings on CPA which soon reached voluminous proportions and led, despite the short span of time, to several attempts to review and analyse the literature produced by early 1960s. F. Heady has divided this literature into: 1) modified traditional, 2) development-oriented, 3) general system model-building and 4) middle-range theory formulation.⁶ Fred W. Riggs was

particularly interested in the general system approach. Drawing essentially upon concepts of structural-functional analysis developed by Parsons, Levy and Sutton, Riggs formulated and reformulated a cluster of 'ideal-types' of societies, designed to contribute to a better understanding of actual societies, particularly those undergoing rapid social, economic, political and administrative change. This work culminated in the publication of *Administration in Developing Countries: The Theory of Prismatic Society* by Riggs, which is the most notable single contribution in CPA.⁷ Riggs identified three trends which continued into this period of expansion in his 1962 essay, *Trends in the Comparative Study of Public Administration*. Firstly, there was a shift from normative to empirical approaches. Secondly, there was a movement from what Riggs called 'ideographic' toward 'nomothetic' approaches; essentially this distinguished between studies concentrating on unique cases and those seeking generalizations. Model-building, particularly of the general system type, showed this nomothetic inclination. Thirdly, there was a shift from a predominantly non-ecological to an ecological basis for comparative studies. Riggs not only encouraged these trends but also went on record that his personal preference would be "to consider as 'truly' comparative only those studies that are empirical, nomothetic, and ecological."⁸

During 1960s, development administration became a term almost synonymous with comparative administration. There was a desire to assist developing countries to meet their overwhelming problems. From a scholarly point of view, strong arguments were made in favour of the benefits to comparative studies of a developmental focus. Since the beginning of the comparative administration movement, development administration had been a subject of perennial controversy, and has presented issues that seem to be intractable to resolution. The most important controversy had been regarding defining it. Grant was against setting any rigid definition of the sub-discipline, as he thought development to be a relative term

with the implication that no country was fully developed at any point of time. In tune with the same logic, development administration was simply “the administration of policies, programs, and projects to serve development purposes.”⁹ Grant’s exhortations were almost unanimously agreed upon and later scholars followed his theses in suggesting that the label development administration could best be applied to designing, implementing and evaluating policies and programmes leading to socio-economic change.¹⁰ In the 1970s, Riggs widened this understanding in his introduction to *Frontiers of Development Administration*. He found two foci of attention –the ‘administration of development’ and the ‘development of administration’. In the first sense, development administration referred “to the administration of development programs, to the methods used by large scale organizations...to implement policies and plans designed to meet their developmental objectives.”¹¹ The second meaning involved the strengthening of administrative capabilities, both as means to enhance the prospects for success in carrying out current development programs, and as a by-product of prior programs, such as in education.¹²

Ramesh K. Arora identified that the construct of bureaucracy drawn from the work of Weber is the single most dominant conceptual framework in the study of comparative administration and development administration.¹³ The ecological approach is very basic to development administration, as we gather from the works of Riggs. Every administrative system –big or small, public or private, national or regional- has an environment, which is both internal and external to that system. For efficiency of an administrative system, it must recognize environmental variables, which are essentially socio-economic and politico-cultural in nature. The administrative system affects and is in turn affected by these variables. If ecological considerations were helpful in understanding one’s own administrative system, they would undoubtedly be even more important in a comparative study, which was recognized by Riggs

and his contemporaries.¹⁴ R. K. Arora emphasized that cross-cultural administrative analysis,

“...should focus upon the interaction between an administrative system and its external environment, and also study the dynamics of socio-administrative change in the context of such interaction.”¹⁵

According to Arora, it is more worth-while to analyse socio-environmental impacts on the administrative system, rather than the reciprocal treatment of bureaucracy’s influence on the environment. Arora urged for a more balanced interactional analysis.¹⁶

Development administration asserts that a systematic effort must be made to relate public administration to its environment, insofar as the science of ecology is concerned with the mutual relations between organisms and their environment. The analogy is at the most suggestive, as social institutions are not living organisms; but, the point is that political and administrative institutions, such as bureaucracies can be better be understood, if the surrounding conditions, influences and forces that modify and affect them can be identified and ranked (as per their relative importance), and if the reciprocal impact of these institutions on their environment could also be explored.¹⁷ According to Heady, the environment of bureaucracy may be visualised as,

“...a series of concentric circles, with bureaucracy at its center. The smallest circle generally has the most decisive influence, and the larger circles represent a descending order of importance as far as the bureaucracy is concerned. We may view the largest circle as representing all of society or the general social system. The next circle represents the economic system or the economic aspects of the social system. The inner circle is the political system; it encloses the administrative subsystem and the bureaucracy as one of its elements.”¹⁸

If the administrative subsystem or bureaucracy lies at the core of every modern society, it is nevertheless, an integral part of the environment as a whole and cannot exist independent of it. The environment of administration, comprising the general social system, subsumes the economic and political systems, in the same way as the bureaucracy is subsumed by the political. So, any analysis of administration cannot be complete without referring to its larger, environmental setup. This, briefly, is the basic understanding of the relationship between administration and its environment forwarded by CPA and development administration. Against this backdrop we can now proceed to analyse Riggs' understanding of ecology, and his contributions to the ecological approach to administration.

Riggs' Ecology of Public Administration

In his *The Ecology of Public Administration* (1961), Riggs explored from a comparative perspective, the interaction between public administration and the environment in which it develops. In spite of following the tradition of Gaus, Dahl and Martin, Riggs proffered a very unique and optimistic understanding of the ecology of administration, aimed at empowering the 'developing', postcolonial nations to administer their respective societies. It was understood in the 1960s, that the market-driven assumptions and business-like models forwarded by New Public Management (NPM) were hardly compatible with the ground realities of the Third World countries. The alternative state-centric model of public management, provided by development administration, albeit coming under challenge by NPM could establish its theoretical superiority and contextual relevance, largely due to the efforts of Riggs. Riggs not only devoted his entire life's work to exploring how the administrative systems in developing societies are conditioned by their political, cultural and economic contexts, but also showed why the Western models are relatively irrelevant and dysfunctional in such 'developing' contexts.¹⁹

During the 1960s and 1970s, development administration was being popularised –as an applied part of CPA- largely due to the Comparative Administration Group’s penchant for understanding administrative problems in developing countries; also because it was the agenda set by the Ford Foundation –the CAG’s funding agency- to improve administration for economic prosperity in these countries. Riggs, was the chairman of the CAG during this time and emphasized that the study of Third World administration (or development administration) became the central concern for and synonymous with CPA. Throughout the following decades, a huge volume of literature was produced to articulate, identify and prescribe development administration oriented remedies for the Third World’s social ills. As most of the literature tended to be normative and Universalist in orientation, largely culled up within a non-ecological framework, Riggs was the first scholar to reject it, highlighting their potentially inappropriate and dysfunctional repercussions. Instead, Riggs devoted much of his work to configuring an ecological approach in order to explain the actual features of administration in developing countries conditioned by their own societal contexts; and to articulating nomothetic models of such administration in a new lexis created especially to explain the unique administrative scenarios in these countries.²⁰

It is interesting to decipher Riggs’ understanding of ecology, especially as he is at times almost impossible to understand and often creates new words to suit his purpose. Almost all his written works suffer from the same handicap, as some authors point out that Riggs’ models could not be properly implemented as probably most practitioners of administration could not understand what he actually meant!²¹ Nevertheless, an attempt can be made to succinctly explain what Riggs means by ecology. For Riggs, the ‘environment’ of anything differs qualitatively from whatever is ‘enviromed’; and the relation between any environment and its enviromed system may be discussed by using the word ‘ecology’. This word can also be applied

to discuss the interrelation between authoritative decision-making systems and their environments. Terms such as ‘decision-making ecology’ or ‘politico-administrative ecology’ could precisely convey such an interrelation. In analysing the administrative system from an ecological point of view, Riggs followed the ‘structural-functional’ approach, which envisages that in every society certain fundamental functions must be carried out by various structures, with the application of certain specified methods. For Riggs, such functional requisites also apply to an administrative sub-system in which various structures carry out an array of functions in a specified manner. Riggs’ ecological approach is predicated on the very characteristics of ecology and takes into consideration the influence of recent developments in social science methodology, experience from technological aid to foreign developing countries, and the influence of social systems theory.²²

For Riggs, ecology and interdependence are two parameters of administrative performance in the Third World. And while analysing ecology, it is imperative to distinguish between *environmental administration* and the *ecology of administration*. In one of his articles, Riggs clearly explains his idea of the ecology of administration:

“By the “ecology of administration” we may refer to ways in which the environment conditions the politico-administrative process. Let me say immediately that to “condition” is not to “determine”. The environment of anything sets parameters for whatever it environs, and parameters must be viewed as both constraints that limit what can be done and concurrently, as resources that may be used by decision makers. When making choices it is important to know what cannot be done as it is to see the alternative course of action that are, indeed, feasible. Not to recognize the constraints imposed by one’s environment is to risk attempting the impossible and, hence, to court frustration and defeat.”²³

According to Riggs, although the environment is at a given moment a constant, but in the long run, it becomes a variable, insofar as decision-makers are aware of this fact and take into cognizance not only the existing environmental condition, but also the factor of environmental change. Inversely, the question of how environmental transformations (which are occurring by themselves) may be modified should also be answered. Riggs opines that considerations about the impact of a changing environment on politico-administrative systems invariably lead to considerations about how decision-makers can affect their environment, leading to 'environmental administration'.²⁴ As the complexities and urgencies of environmental issues increase, the need for decision-making systems (capable of administering and formulating policies) become apparent. Herein, the bureaucracy comes into focus and it is invariably thought that public bureaucracies obstruct the proper execution of environmental policies, not only in the industrialized countries, but also in the Third World. For Riggs, this problem could be addressed, without resorting to any form of nihilism, and without increasing the size of bureaucracy or tinkering with the governmental machinery. Riggs is against any form of administrative 'nihilism', opining that if we look at the environment simply as a set of constraints, we may soon resort to pessimism. We will only see how the lack of resources hampers the capacity of governments to implement their present policies. Riggs ominously points out that,

“As the burden placed on government increase and as bureaucracies expand, all too often the quality of administration declines while corruption, time-serving, nepotism, underemployment, and various bureau-pathologies increase.”²⁵

Instead of dwelling on administrative nihilism, Riggs asserts that our outlook will become more positive if we look at the resource side of our environmental parameters. The focus would then be on choices available to policy-makers and leaders in developing countries

within the limits imposed by their respective systems. It is unrealistic to think only of constraints when our environment provides myriad opportunities to all the countries of the world. By contrast, if we think of the alternatives that are viable and the choices that can be made, then a more helpful perspective appears. Riggs, further opines that,

“The key question becomes how to make the best possible use of available resources and subsequently to evaluate... to appreciate the benefits of appropriate choices –i.e., the decisions that do need improve one’s condition in life and one’s administrative capabilities. This is the central import of an ecological approach to administrative development: the selection among feasible alternatives of those best calculated to serve one’s purposes.”²⁶

Equipped with such an understanding of the ecology of administration, Riggs goes on to explain the possible occurrence of ecological relationships between public administration and other factors, with the help of certain models. For Riggs, ecological public administration can not only provide a solid basis of research, but can explain and predict public administrative behaviour as well. It is not only a tool for uncovering systemic ailments, but can also address and correct them.²⁷

Following Waldo’s assertion that structural-functional analysis might provide some guidance in the construction of “a model of what an administrative system is like as a general type”²⁸, Riggs –in 1956– came out with his bipolar analytical framework known as the *agraria-industria* model, which highlighted the contextual distinction of public administration between the traditional agrarian societies and modern industrial countries. While the *agraria* is characterised by self-contained, agriculture-based economic systems, family-based organizations, divine authority source and communalistic values; the *industria* has independent market economy, achievement-oriented organization, secular authority, individualistic values, etc. given such variations, the administrative

system of *agraria* is marked by politics-administration fusion, lack of specialization and ritualistic orientation. But in *industria*, it is based on politics-administration division, specialization, impersonal human relations and functional action. Riggs, while emphasizing the importance of contextual determinants of *agraria-industria*, he also developed –in 1957- an intermediate model called *transitia*, representing transforming societies, possessing the characteristics of both *agraria* and *industria*.²⁹

However, as these ideal-types were inadequate to explain the real nature of society and administration in the postcolonial, developing nations, Riggs was in search of a more technically sound model. He came up with a new analytical construct –known as the fused-prismatic-diffracted model- to explain such transitional states. While conducting field-work in Thailand and Philippines during the late 1950s, Riggs articulated the ‘prismatic’ model of society based on the metaphor of a prism (whereby fused white light passing through a prism, becomes diffracted into separate colours). Here, the fused light signifies the fused (single) structure of traditional society performing all necessary functions. The diffracted colours represent the specialized or differentiated structures of modern society, created especially to carry out separate functions; and the condition within the prism –or the transition between fused & diffracted stages- represents the condition in developing countries, which Riggs marks as ‘prismatic societies’.³⁰ In explaining the nature of administration in such ‘prismatic’ societies, Riggs extensively uses the ecological approach to explore their non-administrative realms of society, politics, economy and culture.³¹

Following the ecological approach, Riggs conclude that prismatic societies are characterized by: a) formalism or the gap between theory and practice; b) functional overlaps, where similar functions are performed by different institutions.³² These features are reflected in the prevalence of: distrust among communities or *polycommunalism*; the *bazaar-canteen* model of economy (caused

by the influence of social status, bargaining capacity and official position on economic behaviour); and *polynormatism* in decision-making process (representing the use of both rational & non-rational criteria).³³ These ecological factors, for Riggs, play a crucial role in shaping the nature of development administration, which he proffers as the *sala* model administration characterised by the coexistence of universal official norms and respect for traditions, reflected in the influence of family and community on official decisions, prevalence of both ascriptive and achievement criteria leading to the ‘attainment’ norms in public offices.³⁴ Although Riggs refined this prismatic model to make the understanding of development administration more rigorous (based on an appreciation of the unique ecological and contextual forces of the Third World), his fused-prismatic-diffracted model soon came under severe criticisms from different quarters of administrative experts.

Indictments against Riggs’ Model and Further Discussion

Some major detractors of Riggs, such as La Palombara and others indict his ideas as too deductive and theoretical, far removed from empiricism; too static about the influence of external social forces, too indifferent towards social change and too over-simplified and based on few case studies.³⁵ It is indeed true, that like any theoretical work, Riggs’ models also have limitations which could be summed up in the following points. First, some followers of Riggs believe that the prismatic model could replace empirical studies in administration –which has little or no value-considerations attached to it. But, it must be understood that when scholars attach more emphasis on a model of administration rather than on the basis of broader empirical research, the results could be disastrous for any social research. Second, Riggs’ theory of prismatic society is indeed too broad and abstract. Some scholars have tended to denounce such middle-range theories, opting instead for thorough empirical investigations. Third, critics argue that while the prismatic model is deductive in nature,

there is little empirical evidence to support it. Moreover, Riggs often ignores certain variables in some cases, only to overemphasize them in others. Fourth, the Riggsian model profoundly ignores the ultimate goal of public administration, in its attempt to build a value-free science. Riggs' theory is predicated on a great many logical speculations and assumptions. Although the analytical pattern of the prismatic model is grounded on the structural functional approach, Riggs gives undue emphasis to societal factors. This prevents alternative explanations of phenomena including the psychological and cognitive aspects of a prismatic administrative system. In the name of ecology, Riggs overemphasizes the organic and unified nature of social systems. Fifth, like all constructional theorists, Riggs too had fallen prey to causal inferential errors. Riggs admits that his model is suitable only for examining the occurrences of social transformation; but, in real society, the independent variables and dependent variables are complex and causality is very difficult to establish. Sixth, Riggs uses too many novel terminologies and jargons, which make his theories unduly difficult to understand. He often takes refuge under non-existent words to explain his concepts; words which has no application whatsoever to other models. Seventh, from the structural perspective, the model is awkwardly divided into three sections, which makes it cumbersome and reflects its formal limitations. It must be recognized that causes of social transformation are latent, unstable and indefinite; hardly conforming to the logic prescribed by Riggs. Knowing this, if one insists on using the prismatic model for analytical purposes, the results might not be relevant to facts. Last, some scholars feel that Riggs' model presents a very pessimistic understanding of transitional societies. They surmise that Riggs might have been sceptical about the success of modernization projects in developing regions. They justify such indictments by proving that Riggs views the transitional, non-Western societies from the epistemological perspective of the West.³⁶ Thus, Riggs, in spite of his ecological approach, was not free from ethnocentrism, which was characteristic of the non-ecological

scholars. It is not only inappropriate to apply Western standards to non-Western societies, but it is highly retrograde and dangerous.

In spite of such shortcomings –which might have been uninformed, based on a misunderstanding of Riggs’s model³⁷ Riggs is indispensable for the study of public administration, and especially development administration, as his prismatic model still holds certain strengths, which could not be diminished despite huge onslaughts against it. As mentioned earlier, public administration in developing countries has gone through serious reforms based on the market-driven principles of NPM, which were largely ideographic, reductionist and non-ecological. The drawbacks of such models were unravelled by Riggs, who hankered for ecological or contextual diversity. The nomothetic approach of Riggs can provide valuable lessons in comparing, critically understanding and systematically generalizing public sector management and reforms. Moreover, the contemporary market-driven and Universalist reform models which are being thrust upon developing countries in the name of ‘structural adjustments’ are extremely detrimental for the economies of such weaker countries and the message inherent in Riggs’ ecological approach could be taken into account in this respect. Moreover, the practice of imitating the pro-market models of the developed countries by developing countries was something Riggs was always staunchly opposed to. He emphasized the importance of building the nationally or domestically suitable models of administration in developing countries based on their own contexts and ecological needs. Finally, unlike advanced industrial nations where major societal aspects enjoy a relative autonomy to each other, such domains are deeply interconnected in developing societies, which requires a multi-dimensional approach and inter-disciplinary approach to understand the embedded relationship between politics and society. Following Riggs in this respect would be highly profitable.³⁸

Thus, Riggs' model, like any other in social sciences bears both strengths and weaknesses. And as one author has very astutely pointed out, that to take away Riggs from public administration would make the discipline barren and uninteresting, in the same way that to take Weber away from sociology would make it unbearable. Thus, we can at the most indict the theories of such greats and not make an attempt to abjure them to the dustbin of intellectual rubbish! In the same way, this work would end by suggesting ways in which the present generation of administrative scholars could build upon Riggs' model and make it suitable to the myriad needs of the developing countries in this era. First, in using the ecological model of Riggs, due emphasis must be given not only to the assertion that the environment can determine administrative behaviour, but also acknowledge the influence individuals have on the environment. Second, although the ecological approach attempts to explain the transformation process within the functioning of a particular environment, it unfortunately ignores the ultimate concern of public administration, viz. the evaluation of policies and the realization of administrative goals. Thus, rather than pointing out behavioural limitations, the ecological approach should instead emphasize strengths in problem-solving. Finally, ecological models are largely predicated on intuitive and a priori assumptions which make them inefficient and cumbersome, especially in the dearth of empirical knowledge. Thus, an ecological model of administration could employ statistical analyses and other quantitative research methodologies to study interrelated ecological factors that are deeply rooted in empirical experience.³⁹

Notes:

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3. Pardeep Sahni and Etakula Vayunandan, *Administrative Theory*, New Delhi, PHI Learning Pvt. Ltd., 2010, p. 86
 4. Marleen Brans, "Comparative Public Administration: From General Theory to General Framework", B. Guy Peters and Jon Pierre (ed.), *Handbook of Public Administration*, London, Sage Publications, 2003, p. 424.
 5. F. Heady, op. cit., pp. 13-14
 6. ibid. p. 14
 7. ibid. p. 16
 8. ibid.
 9. George Grant, *Development Administration: Concepts, Goals, Methods*, Wisconsin, The University of Wisconsin Press, 1979, pp. 19-21
 10. F. Heady, op. cit., p. 39
 11. Fred W. Riggs, *Frontiers of Development Administration*, Durham, Duke University Press, 1971, p. 6.
 12. ibid. p. 7
 13. Ramesh K. Arora, *Comparative Public Administration*, New Delhi, Associated Publishing House, 1972, pp. 5-29, 37
 14. [Internet Access] Fred W. Riggs, "The Ecology and Context of Public Administration: A Comparative Perspective", *Public Administration Review*, March-April 1980, pp. 107-115, http://www.google.co.in/url?url=http://hum.ttu.ee/failid/VAH/riggs-ecology-of-PA.pdf&rct=j&sa=U&ved=0CB8QFjABahUKEwiWrtny_9THAhULV44KHbuHAWw&sig2=d-taToDMPLU8MNN1rLg-uA&q=fred+w+riggs+the+ecology+of+public+administration&usg=AFQjCNHyjhBuHKq9CvDDa4VMYgPdV5Kxg; Accessed on 20 August, 2015
 15. R. K. Arora, op. cit., p. 168
 16. ibid. p. 175
 17. F. Heady, op. cit., p. 86
 18. ibid. p. 87
 19. [Internet Access] M. Shamsul Haque, "Rethinking development administration and remembering Fred W. Riggs", *International Review of Administrative Sciences*, 76 (4) 767-773, p. 767, http://www.google.co.in/url?url=http://profile.nus.edu.sg/fass/polhaque/RAS394320.pdf&rct=j&sa=U&ved=0CBsQFjAAahUKEwjagZmrgdXHAhVNHo4KHbOVDnQ&sig2=uaHXJ2X65I9u631dWVMkhw&q=fred+w+riggs+shamsul+haque&usg=AFQjCNFT9-MONmCDVW__La5dWO6gnKDxXA; Accessed on 20 August, 2015
 20. [Internet Access] ibid. p. 769
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21. Vayunandan and Sahni, op. cit., p. 246
 22. [Internet Access] Wen-shien Peng, "A Critique of Fred W. Riggs' Ecology of Public Administration", *International Public Management Review*, Vol. 9 Issue 1, 2008, p. 218, http://www.google.co.in/url?url=http://journals.sfu.ca/ipmr/index.php/ipmr/article/download/51/51&rct=j&sa=U&ved=0CCQQFjACahUKEwiWrtny_9THAhULV44KHbuHAww&sig2=X4AQ_YAyWyRj4h2RPn22uA&q=fred+w+riggs+the+ecology+of+public+administration&usq=AFQjCNFow_CZZv6vDX4CJQlgBu3IwnNQTw; Accessed on 20 August, 2015
 23. [Internet Access] Fred W. Riggs, op. cit., p. 108
 24. [Internet Access] *ibid.*
 25. [internet Access] *ibid.* p. 111
 26. [Internet Access] *ibid.*
 27. [Internet Access] Wen-shein Peng, op. cit., p. 218
 28. Sahni & Vayunandan, op. cit., p. 65
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 31. *ibid.*
 32. *ibid.*
 33. *ibid.*
 34. *ibid.*
 35. La Palombara Joseph (ed.), *Bureaucracy & Political development*, Princeton, Princeton University Press, 1963
 36. [Internet Access] Wen-shein Peng, op. cit., pp. 219-222
 37. [Internet Access] *ibid.* p. 222
 38. [Internet Access] M. S. Haque, op. cit., pp. 771-772
 39. [Internet Access] Wen-shein Peng, op. cit., pp. 222-223

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