Wicked Problems and Crisis: Policy Areas of Climate Change and Poverty

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Abstract: **This paper endeavours to critically examine the different ways in which policymakers can effectively tackle wicked problems. It explains the best possible strategies when resolving policy crisis – stating the nature, scope and meaning of crisis. The piece demonstrates the characteristics of wicked problems and crisis. It profoundly presents the complexity of crisis and such problems by referring the policy areas of climate change and poverty. The objective of the paper is to suggests that wicked problems and crisis have no quick fix as stakeholders have different understanding of the problem definition as well as its solutions. Therefore, to tackle such a problem and crisis in which its causes and effects are unknown – policymakers need to effectively address the nature of the problems. By doing so policymakers need to engage different stakeholders on a long-term focus, which is outside of the box thinking.**

Keywords: **Wicked Problems, Crisis, Stakeholders, Policymaking, Problem-Solving, Climate Change, Poverty.**

1. INTRODUCTION

If there is no definitive statement of a problem, it is difficult, and sometimes it may be impossible to deal with that problem. Because, it is incomplete, the requirements are changing frequently, and the problem itself is contradictory – such a problem and its changing requirements are often arduous to recognise – this is called a wicked problem. As some scholars argue, the use of the term 'wicked' here has come to the resistance to resolution rather than evil (Head and Alford, 2015). Wicked problems are complex and interdependent problems, hence to solve one aspect of the problem may create new one or reveal unexpected problems. The nature of the problems is extremely difficult to control, solve or manage. As per the fact that it is likely to change suddenly (Churchman, 1967; Rittel and Webber, 1973). Yet, it does not have planned ending, therefore it may develop, or inter into an open-ended discussion if not carefully addressed (Head and Alford, 2015). Therefore, the paper attempts to critically discuss the different ways that policymakers can effectively address, or tackle the nature of complexity. It addresses how policy crisis are resolved and addressed by policymakers – by defining and elaborating the crisis management theory practice (Lagadec, 2009). It argues that policy problems are difficult to understand, or find an answer, because of the involvement of having different but relating parts (Radford 1977; Rittel and Webber 1973; Mason and Mitroff 1981, cited in Bueren, et.al. 2003). Therefore, to address such a problem in which its causes and effects are unknown – there is a need to engage different stakeholders and a long-term focus, which is outside of the box thinking (Bueren, et.al, 2003). Since it has numerous interrelated – arduous nature and characteristics that make impossible to easily recognise its casual relations.

2. CHARACTERISTICS OF WICKED PROBLEMS

The phrase ''wicked problems'' was firstly used in social planning, however its modern sense was introduced in 1967 by C. West Churchman and published in the Journal Management Science. Churchman responded the previous use of the term by Professor Horse Rittle of the University of California Architecture Department (Roberts, 2000). As documented by Churchman, Professor Rittel identified his distinctive definition as such "class of social system problems which are ill-formulated, where the [available] information is confusing, where there are many clients and decision makers with conflicting values, and where the ramifications in the whole system are thoroughly confusing. . . [such that] proposed 'solutions' often turn out to be worse than the symptoms" (Churchman, 1967, p. B-141). Moreover, according to the

Australian Public Service Commission (APS, 2007) the formulation of Rittel and Webber 1973 of wicked problems in social policy planning specified ten characteristics: -

a.   *There is no definitive formulation of wicked problem.* Different stakeholders have different opinions and perceptions when it comes to solving a 'wicked problem'. Without this definitive formulation the version of each stakeholder is incomplete. For example, the definition of poverty in the developed world and that of the developing world have different characteristics. Therefore, no version is right or wrong when debating the causes of the problem as well as its solutions. It is more similar to that of environment and the climate change (APS, 2007).

b.   *Wicked problems have no stopping rule.* The above characteristic explained that wicked problems have no definitive formulation. In this second characteristic- there is no definitive solution. Tim Curtis explained when policymakers and stakeholders ''run out of resources such as money or energy, not when an optimal solution emerges. This refers that no definitive solution to wicked problems. The logic inherent in the problem does not tell you when to stop the enquiry and the process to discover the facts about the problem (Skaburskis, 2008).

c.   *Solutions of wicked problems are not true or false – but good or bad.* No idealized end state of a wicked problem in which policymakers can reach. But there are ways to improve that situations caused rather than finding quick solutions. In other words, it is not a factual judgment to determine if certain solution is good or bad, however it is a value judgment (Burge and McCall, 2014).

d.   *There is no immediate and no ultimate test of a solution to wicked problem.* It is the nature of a wicked problem that it has resistance to resolution (Head and Alford, 2015). This interdependency and complexity make solutions to sometimes create or reveal unexpected problems. For example, most of the solutions to wicked problems generate chains of consequences (Burge and McCall, 2014).

e.   *Every solution to a wicked problem is a ''one –shot operation'' because there is no opportunity to learn by trial-and-error, every attempt counts significantly.* A solution to a wicked problem is not possible to change, the answer of that problem (solution) is like irreversible; thus, choosing between solutions or as Burge and McCall argued; trial-and-error is not ethically defensible.

f.   *Wicked problems do not have an enumerable (or an exhaustively describable) set of potential solutions, nor is there a well-described set of permissible operations that may be incorporated into the plan.* Stakeholders and policymakers cannot make clear that their solutions are perfect, and the problem (s) are solved. They need to be prepared to try new solutions for the consequences of their solutions.

g.   *Every wicked problem is essentially unique.* Even if it seems that one wicked problem is similar to a previous one; it is most likely that the two problems have their different characteristics, and therefore need their different solutions. Every wicked problem is unique and different than the other.

h.   *Every wicked problem can be considered to be a symptom of another problem.* In a way, wicked problems are socially ambiguous, not stable, with no exact boundaries. For instance, solutions of such problems show more serious of another problem. Hence, there is always two ways of solving. Firstly, it is important to solve the them directly, while at the same time considering the very same problem – a symptom of another resolved or unresolved problem. Finding such a solution to every wicked problem is not an easy thing, especially when they are unclear to define, and the solution of these problems are contested, because of different stakeholders.

i.   *The existence of a discrepancy representing a wicked problem can be explained in numerous ways.* The initial explanation of the wicked problems often results the type of solutions in which policymakers choose in order to solve. Nevertheless, the involving multiple stakeholders to wicked problems as well as the policymakers themselves have different rationalities, or believe different ideologies about the causes of the problem. Therefore, resolving the problems and getting similar solutions to the problem is highly unlikely.

j.   *The choice of explanation determines the nature of the problem's resolution; the planner has no right to be wrong.* As Burge and McCall explained Rittel and Webber's last characteristics of wicked problems ''designers are legally and morally responsible for the consequences of their design decisions, because those consequences take the form of irreversible effects on people'' (Burge and McCall, 2014).

Wicked problems have no quick fix as stakeholders have different understanding of the problem definition as well as its solution. To effectively address them, most of the concrete literature suggests advocating collaborative approach. However, there are also some researchers who suggest different approaches to address wicked problems in order to mitigate the consequences and come up with better solutions (APS, 2007). For example, the three strategies of Nancy Roberts are good to reference; Nancy illustrated the authoritative strategy where Professor Robert suggests that stakeholders assign the problem to a group. Therefore, the assigned group will come up with its problem-solving mechanism, while the rest of the stakeholders will agree and abide the solutions. The second strategy in which Nancy suggested is the competitive strategy. These strategies are win-lose strategy where stakeholders search ''power influence and market share''. The key advantages of these strategies include, the competition between stakeholders will mostly be spent on problem-solving – not to block each other but try to get ''enough power to achieve their agenda''. The final strategy in which most the literature agreed-upon including Roberts is the collaborative strategy (Robert, 2000 cited in APS, 2007). This strategy suggests that the stakeholders' power is dispersed. Most of the literature of tackling wicked problems advocate that the collaborative strategies are somehow effective when dealing wicked problems (Robert, 2000; APS, 2007; Head and Alford, 2015).

Furthermore, the basis of collaborative strategies are win-win view solutions. The strategy recognises the main interrelated factors that causing the problem, while the strategy also, at the same time, recognises how important interrelated factors that caused the problem is needed to resolve it effectively. The key advantage of the strategy is that it never over-simplifies a problem – for instance, collaborative strategies avoid narrowing the problem into one cause (Loosemore, 2016). it is more behavioural, cultural and structural change. However, it can be argued that there are also key disadvantages when applying collaborative strategies to wicked problems. The key disadvantages include, on the one hand, an increase of transaction costs, whereas the skills are limited in supply. On the other hand, when solving problem with these strategies it is possible that solutions become ineffective. For, example, even though the stakeholders have the chance to collaborate and share information, the dialogue can easily turn in to conflict, some groups will insist their positions, therefore flexibility and changing positions might be difficult (APS, 2007). But this view is not a strong argument because there are numerous interrelated parts and it is difficult to recognise casual relations (Bueren, et.al, 2003), thus it is always important that different stakeholders have the chance to engage and discuss with each other in order to fix the problem and reduce its consequences at same time.

3.   TACKLING CRISIS IN PUBLIC POLICYMAKING

Crisis is a difficult concept, and it is hard to define with in the fields of the social sciences and public policy frameworks. The term has a wide usage inside the organisations, public and private institutions. The broad usage of the term results that the term itself ''lacks the precision and specificity'' therefore, the term crisis has no definitive meaning (Eastham, et.al, 1970). In the crisis literature, there is no universally accepted definition in which the term sits. The term crisis is complex, therefore, academics and organisations have not universally agreed-upon its definition (Coombs, 2010). However, according Oxford English Dictionary, there is a concept in which the term ''crisis'' go through; any event that leads or can lead to instability and have negative change and impact to societal wellbeing, the economy, the political life and the environment could be stated as crisis. Moreover, crisis are exceptional situations (Roux-Dufort, 2007). For example, Hermann argued that ''the crisis situation is a threatening phenomenon, surprising because non-planned"… A crisis is a situation which created an abrupt change on one or more variable(s) key(s) of the system" (Hermann, 1972). Others argued that crisis are unstable, dynamic situation and a triggering event where the system is confronted, and the consequence are going to develop very fast (Rogalski 1996; Faulkner 2001; Fink, 1986, cited in Anceaux and Morel, 2012).

Nevertheless, the vast array of crisis definition is best understood ''when to consider the term as a product of language used to make sense of and influence crisis phenomenon'' (Drennan, L.T. et.al, 2015). This refers anything that we consider as a ''crisis phenomenon'' become self-evident when we experience certain assumptions of difficulty such as war, storms, economic difficulties and other disasters (Drennan, L.T. et.al, 2015). Although, the definition of the term is not agreed-upon; because of its wide usage, nonetheless organisations and public and private institutions address all assumptions of crisis phenomenon. During crisis, a high-risk professionals act to respond crisis, especially during the onset and duration/interval of crisis – eruption of manmade and natural disasters i.e. before, during and after problems have occurred (Fraher, 2011). There is crisis toolkit in which organisations and stakeholders use in order to deal with disruptive and unexpected events. The toolkit includes the crisis management, a process, which is significant to public

policy relations. According to Venette "crisis is a process of transformation where the old system can no longer be maintained" (Venette, 2003). The reason why crisis management is introduced during the 1980s was to manage the common characteristics of crisis such as the stress and pressure of the sudden outbreak as well as the absence of clear information.

Moreover, there are certain perception of crisis. For instance, crisis is a threat to organisations, they are often sudden and come as a surprise, thus quick and accurate decisions, or quick fixes to crisis are almost impossible. Moreover, the research in the field of crisis management is contradictory when it comes to how this element resolve problems during crisis. The core conclusion of the literature from scholars is difficult for conclusion (Bundy, et.al, 2016). This does not mean that – in our contemporary world, there is a less intelligence or lack of crisis intelligence. But crisis a differ – structurally - just like wicked problems (Lagadec, 2008). Crisis in the 21st century is complex to resolve easily. Yes, recently a wide range of expertise and knowledge are available to deal with the problems crisis such as the careful watchers of surveillance, early-warning-systems, mobilizations, crisis centres, mitigation and recovery crisis, plans and communications and crisis team (Lagadec, 2008).

However, the contemporary crisis is more dynamic and occasionally it transforms in seconds. Crisis evolves quickly as Lagadec argued ''the problem we face is that crisis have evolved past the bounds of compartmentalized emergency, into the vastness of unstable and chaotic terrae incognitae'' (Lagadec, 2008). Therefore, addressing crisis and finding a prompt solution to fix the problems of crisis is testing and require creative solution from all stakeholders. Because traditional approaches of crisis and problem-solving are not applicable. Therefore, to resolve these intractable, complex and open-ended problems needs to engage new mechanism of crisis management – similar to that of the wicked problems (Rittel and Webber, 1973).

4. CLIMATE CHANGE AS A WICKED PROBLEM

The issue of climate change illustrates the meaning of wicked problem more clearly. There is a high-level of disagreement ''about the nature of the climate change problem and the best way to address and tackle it (APS 2007). Levin and others argue the existing social science literature and the policy-relevant work on climate change either examined the benefits and costs of particular policy problem in detail, nor tried to understand by describing the successes and failures (Levin et.al. 2012). The issue of climate change is a complex policy issue, because it involves multiple casual factors (Bueren, et.al, 2003). However, the issue of climate change science is very consistent in terms of methodology and theoretical framework (Levin et.al. 2012). The scientist and researchers in the field of climate change science know in-depth about the negative impact of climate change – mainly in the aspect of global warming. Therefore, analyzing and measuring climate change phenomenon has its rich literature (Levin et.al. 2012). However, the climate change debate concerning the causes and the problem-solving, which is more recent, lacks both the coherence and consensus on how to define the causes and effects of the problem as well as the solutions (APS, 2007; Levin et.al. 2012). To elaborate bit more about the causes and solutions to the debate of climate change – it is important to consider the Thompson and Verweij (2004) stories of climate change. The three competing stories stresses the different angles of climate change issue. Furthermore, the stories conflict the causes and solutions of the climate change problem, and each story has its own realities and explanations – none of the stories are wrong or right (APS, 2007).

The first story states the ''structural inequalities'' between nations as the main cause and impact of climate change. This is because, the structural inequalities led the ''the increasing unsustainable patterns of consumption and production''. In this story, the causes of climate change problem are the structural inequalities between countries. Therefore, the story comes up with this solution; there is a need of urgent political institutional reform – decentralization of decision-making in order to control the citizens' lifestyles and to conserve the earth's resources. The second story of this episode states the ''lack of global governance'' as the fundamental problem of the global environment. The definition of the problem from this story focus on that both the households and firms cannot reduce emissions alone – unless the countries of the world agree to work together to create common policies in order to cut the future emissions. This story argues that climate change is an international problem, therefore it needs an international definition of its causes as well as its solutions. The third and the final story of Thompson and Verweij points out that the problem of climate change has twofold. Firstly, the whole debate of the issue of climate change is ''scaremongering debate by naïve idealists'' who think that the world can always do the best. The naïve idealists never consider the consequences of inequalities as well the differences of the world nations in the issue of climate change. Secondly, the stories state that there is always a reason of the scaremongering

debate. It states that there is a concept to create ''international bureaucrats'' similar to the international NGOs or the inter-governmental organisatons, who want to expand their budgets and horizon their global influences. The first fold of the scaremongering view is disbelieving about the environmental scientists' diagnosis of climate change. Whilst, the second fold of the budget expansion and broadening horizons of influence believe that nothing will change even if the debate of the climate change is correct (Thompson and Verweij, 2004, cited in APS, 2007).

This shows that the issue of climate is a wicked problem, and it is difficult to understand both nationally and internationally. This is because of the involvement of the different parts of stakeholders (Radfold 1977; Rittel and Webber 1973). And to address such an intractable problem - there is a need for policymakers to seek the best possible solutions for a problem in which its causes and effects are unknown. The issue of climate change is interrelated and hard to recognise its causes and solutions (Head, 2014). On many countries of the world, policymakers seek to understand the problem of climate change, in order to respond. However, the disagreement of climate change opened up deep divisions within the world's nations. According to Head ''the framing of climate change as a key policy issue for governments and citizens has been fraught with controversy, and often characterized by avoidance and non-decision'' (Head, 2014). For example, Head stated that Western European countries, including community sectors, businesses and different stakeholders have widely accepted the debate of climate change phenomenon.

Therefore, Western Europeans moved the second stage of developing policy frameworks to limit the differences of the involved stakeholders. However, other countries like Canada, Australia and USA, the scientific evidence of climate change is slightly unfocused. Because of the ideological politics and the economic interest that dominated everything else, and created partisan, and later undermined the ''possibility of consensus formation'' of climate change issue (Head, 2014). This shows that wicked problem is not only a social problem, or institutional problem in which policymakers are supposed to deal and address differently. It is also a cultural, political and economic problem that makes difficult and sometimes impossible to solve such an intractable problem of climate change (APS, 2007). Because of the involvement of the different stakeholders of different interests, the contradictory knowledge and the incompleteness of the problem definition, causes as well as its solutions, which creates a nature of problem interconnectedness (Head and Alford, 2015; Churchman, 1967; Rittel and Webber, 1973; Bueren, et.al, 2003).

5. POVERTY AS A WICKED PROBLEM

The complexity of a wicked problem is not only a natural phenomenon but also a human phenomenon. Poverty has multiple casual explanations as well as conflicting policy designs to multiple institutions and stakeholders (Peters, 2017). Poverty lacks a single definitive explanation; thus, it is hard to find a coherent solution to the underlying problem in the policy process (Peters, 2017). As Spicker stated poverty is complex in so many ways, it has many different features, its definitions are not obvious, hence it is difficult to address the problem – the reason is there is no specific problem to deal with (Spicker, 2016). It can be argued that the existing scholarship of poverty, or the answers and claims of the literature are somehow different, or not clear. For example, Charles Booth's poverty research focused on the experience of poor people, and the things in which this people describe inaccessible. However, the criticism of Booth's research on poverty line and household income led Rowntree to focus on the relationship of poverty and the standard of living to household budgets (Spicker, 2018). The technique of poverty measurement conducted by Booth and Rowntree – although the gathered information and data shows that quarter of Britain's population are living under the poverty line, however their findings are quite unconvincing (Veit-Wilson 2009; Brown, 1982).

Moreover, in our contemporary world, the measure of Booth and Rowntree is confusing when identifying poor (Veit-Wilson, 2009). Critically speaking, the analytical discussion in social science failed to define the problems of poverty. On the other hand, policymakers also failed to get the grips with poverty solutions (Spicker, 2016). The empirical evidences in the scholarship of poverty as a wicked problem indicate the deep-rooted disagreement about the causes and the nature of their significance as well as problem solutions ((Head and Alford, 2015). Poverty requires a robust evaluation framework. Though, such an evaluation is not always in good shape, in order to help public officials to solve the problems and understand the best way to address social problems. Policymakers try to mitigate interconnected problems in different ways – one of the effective ways of problem-solving include, the intellectual approach of process of design. This design is to evaluate every process of the way and then work multiple levels with a range of policy instruments (Head and Alford, 2015).

In other words, to effectively address such a wicked problem of poverty it is important to reassess some of the traditional ways of working and solving the previous poverty problems (APS, 2007; Spicker, 2016). One can argue, however, that in our contemporary world, social problems are not clearly explained, shown or described. Because modern social problems ''rely mostly on the ''political judgment rather than scientific certitudes. This is the reason why modern social problems differ from other problems – therefore, policymakers find very difficult when dealing such problems. As the public policy problems are wicked, resistant and there is no agreed clarity as it lacks clear definition (Rittel & Webber, 1973, p. 160, cited in Head and Alford, 2015). But although, the view of this argument shows that somehow wicked problems are unsolvable, the view is not too strong to put in this way. Wicked problems like poverty and climate change is difficult to understand, but to effectively address them and find solutions for them is not impossible. For example, poverty as a wicked problem is difficult to solve as it is incomplete, contradictory and the nature of its interconnectedness with other problems results unclear definition. Poverty is linked to education, culture, economy and many other problems. The problem of poverty is not a single problem – it has its circumstances and consequences; therefore, it is important to address such a difficult and intractable problem. The most effective way to address such a problem is to mitigate through the process of collaborative approach, which is an intellectual approach – an evolving art (APS, 2007).

Policymakers firstly need to recognise and understand the nature and characteristics of wicked problems and crisis. Then address both wicked problems and crisis broadly until there are clear definition and quick solutions available (Lagadec, 2009). To effectively address such problems requires new tactics – it is an evolving art when solving wicked problems (APS, 2007). Considering the nature and characteristics of these problems, policymaker, governments and Cabinet Ministers need to collaborate to grasp broadly – not only the underlying visible problems but also the surrounding circumstances. Both wicked problems and crisis require more collaborative and innovative approaches (APS, 2007), because of the underlying casual factors. Wicked problems and crisis are difficult to be fixed because of their scale and indeterminate scope. Nevertheless, policymakers can still address and tackle the negative consequence. And to engage such a difficult and interrelated problems, policymakers and all other involved stakeholders should focus and think what is outside the box (Bueren, et. al, 2003; Robert, 2000; APS, 2007; Head and Alford, 2015).

6. ADDRESSING WICKED PROBLEMS

Wicked problems are acknowledgeable when policymakers and other stakeholders differ explanations of the problem itself. The design theorists of Rittel and Webber defined the term ''wicked problem'' difficult and inherently unresolvable problems. Wicked problems are usually pertained government social and policy planning (Cooper, 2017). Examples of wicked problems in which policymakers try to address internationally and nationally include the global climate change, poverty, education, obesity, natural resource policy, drugs and tobacco control. To deal and address such an intractable and complex problems that share a range of characteristics in which stakeholders and the involved organisation often have their disagreements about the causes of the problem as well as the solutions need collaborative approach (APS, 2007). The best way to tackle such a problem is to change the behaviour of stakeholders and groups involved. For example, when trying to define wicked problem in order to find its solution – it is to manage primarily the complexity of policy problems. The best tactic to resolve such a problem is to engage and successfully work with the different internal and external stakeholders; especially when defining, solving, addressing and implementing the wicked problem (Cooper, 2017). As to the Australian Public Service Commission '' Wicked problems require innovative, comprehensive solutions that can be modified in the light of experience and on-the-ground feedback. All of the above can pose challenges to traditional approaches to policy making and programme implementation'' (ASP, 2007). This refers that wicked problems are complex and ambiguous, since multiple stakeholders are always involved. Hence, to be able to define the problem, and tackle with the best solution, it is important to engage all stakeholders in a way outside of the box thinking (Weber and Khademian, 2008).

7. CONCLUSION

Primarily, the piece outlined the existing scholarship of wicked problems in the area of public policy. It explained how the existing literature addressed the nature of wicked problems regarding the definition of the term itself, the causes of the problems, and possibly how policymakers can tackle and find best possible solutions in order to mitigate the negative consequences of wicked problems (APS, 2007). It has made references to the specific works in the area of wicked problems. For example, the ten characteristics of Rittel and Webber (1973). It contextualized the disagreements between stakeholders such as policymakers, public and private institutions, interest groups, politicians and organisations (Robert,

2000 cited in APS, 2007). It referred the issue of climate change and how it illustrates the meaning of wicked problems more clearly. In the reference of climate change, it highlighted firstly the consistent rich literature of the climate change science in terms of methodology and theoretical framework (Levin et.al. 2012). Conversely, the piece focused and elaborated the high-level disagreement of climate change in the field of social science literature. For example, the causes, problem-solving, lack of coherence and consensus as well as solutions (APS, 2007; Levin et.al. 2012). The paper also referred poverty as a wicked problem and demonstrated the multiple casual explanations of its policy designs and how institutions and multiple stakeholders disagree its content (Peters, 2017). The paper explained both the dynamic situations and the triggering event of crisis (Rogalski 1996; Faulkner 2001; Fink, 1986), and the nature of crisis – similar to wicked problems (Lagadec, 2008). It demonstrated the best possible strategy in which policymakers and institutions could effectively address all assumptions of crisis phenomenon. Finally, it put forward the complexity of wicked problems and crisis. As the title suggests, it emphasized the best possible strategies in which policymakers can mitigate the consequences of wicked problems and crisis.

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