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Keywords: adaptation pattern, transformation, value, worldview, culture, psychological processes, lagos.

I. INTRODUCTION

The literature highlights three components as essential in shaping adaptation outcomes; these are critical conscientiousness, social contract and leadership (Pelling et al. 2015; Adger et al. 2013; Kates et al. 2012; O'Brien et al. 2009; Olsson et al. 2006). The interaction of these components manifests in the psychological processes like sense-making, assignment of responsibility, motivations, appraisal of impacts that inform responses and effectiveness of adaptation activities (Swim et al. 2011; Ayal et al. 2021). The responses and effectiveness shape the pattern of adaptation as incremental adjustment, transitional or transformational (Pelling, 2011). However, underpinning these psychological processes are intangibles like culture, values and worldviews (Swim et al. 2011). These intangibles influence the decisions and activities considered

London Journal of Research in Humanities and Social Sciences

necessary and prioritised and therefore influence the adaptation process (Thomalla et al. 2015; Graham et al. 2013; O'Brien and Wolf 2010; Schipper and Dekens 2009; Grothmann and Pratt, 2005). A lack of cognisance to the influence of these intangibles have implication for policy because they could foster maladaptation in the adaptation process (Graham et al. 2013; Schipper and Dekens 2009). Despite this importance, empirical analysis on how these intangibles influence the psychological processes and shape adaptation outcomes are few (O'Brien 2009; Grothmann and Pratt 2005). This paper addresses this gap through an analysis of the influence of values, worldview and culture on the psychological processes of attributions, responsibility reposition and motivation in raising critical conscientiousness, challenging social contracts, and prompting leadership in adaptation to flooding. The discussion is an empirical finding on one of the objectives of a broader research that examined the vulnerability and adaptation to flooding of two informal communities, Owode-Ajegunle and Iwaya in Lagos, Nigeria. First, the paper gives the theoretical underpinnings of the analysis; it highlights the conceptual understanding of culture, value and worldview and explains the adaptation patterns, with a detailed focus on transformational adaptation and the components of critical conscientiousness, social contract and leadership. Next, the research context and data collection method is provided. This is followed by an analysis of the influence of culture, values and worldview in aiding the attributions, reposition of responsibilities, and motivations that shaped the interaction between the raising of critical conscientiousness, facilitating social contract change, and prompting leadership activities. The conclusion highlight a summary of the analysis and the need for cognisance to the influence of the mentioned intangibles in shaping adaptation patterns.

II. THEORETICAL AND ANALYTICAL CONTEXT

2.1 The drivers of psychological processes in adaptation: culture, worldview and values

Culture, worldview and values are psychological drivers with inescapable linkages that influence people's action and decisions. Despite the linkages, the concepts are conceptually different and therefore needs defining. McEwan and Daya (2016) define culture as "systems of shared meaning that people who belong to the same community, group or nation use to help them interpret and make sense of the world and reproduce themselves" (p. 262). It is contextual and socially embedded because of its dependence on custom, belief, identity of place, person and language. Culture is vital in adaptation analysis because it determines risk identification, offers alternative rational explanation for inhabiting risk prone areas, explains differences in response by groups exposed to similar risks (Adger et al. 2012; Gaillard and Textier 2010; Thomalls et al. 2015), and could manifest in organisational and institutional responses based on the development vision and prevailing worldview (Pelling 2011). Hence, culture is intrinsically linked with worldview and value. Worldview describes the basic assumptions and beliefs that influence people's behaviour, decisions and perceptions of the world (O'Brien 2009). In the context of the environment, it constitutes inescapable meaning making that define people's interpretation, enactment and co-creation of reality (Hedlund-de-Witt 2013), the resulting perceptions on the human-environment relationship then determine decisions/choices and action pathways on responsibilities and solutions (Hedlund-de-Witt 2012). In analysing worldview, the Integrated Worldview Framework identifies four overviews i.e. traditional, modern, postmodern and integrative and five aspects for operationalising it. These operational aspects are ontology, epistemology, axiology, anthropology and societal vision (Hedlund-de-Witt 2014), with a subgrouping of ontology, epistemology, and axiology as primary aspects, and anthropology and societal vision as secondary aspects (Hedlund-de-Witt 2013). These aspects in

worldview inform human behaviour in relationships and social interactions because of a strong influence on shared and individual desires, perceptions, motivation and values (Schlitz et al. 2010). Embedded within worldview are values and attitudes (Hedlund-de-Witt 2012; Schlitz et al. 2010). Values underlay the four overview of worldview, i.e. traditional, modern, post-modern and integrative. Despite the disciplinary difference (i.e. sociological, anthropological and political) in the definition of value, there is a general concordance on its importance as a predictor of behaviour and attitude, its context specificity and intergenerational transmission (O'Brien 2009). Values are structured important life goals (Hedlund-de-Witt 2013), influenced by its cultural, social and environmental context. They are dynamic psychological investments that could change and be reprioritised andtherefore exert subjective influence on adaptation (O'Brien 2009).

Although values are context dependent, Schwartz (1994), identifies ten values that are universal to all culture but distinguishable by their motivational goals. The first three are security, tradition, and conformity embedded in traditional worldview with a motivational goal of conservation. The next three values are power, achievement, and hedonism, embedded in modern worldview, with motivational goals of self- enhancement. Stimulation and self-direction are integrative values that bridge modern and post-modern worldviews, with motivational goals of openness to change. The last two values are universalism and benevolence embedded in post-modern worldview with motivational goals of self-transcendence. As highlighted earlier values are dynamic and subject to prioritisation. Prioritising specific values facilitates adaptation activities attuned to such prioritisation. For instance, prioritising postmodern worlview values with motivational goal of self-transcendence promotes adaptation activities focused on well-being, equity and cognisance to the poor. Therefore, values as standards could rationalise the selection of actions, could aid attribution for causality, could offer psychological defence for choices, and could facilitate claims and the invocation of social sanctions (O'Brien 2009). This indicates the interconnectedness of values, worldview and culture because whether expressed at the personal or societal levels, they underpin, sense making, attribution for causality, appraisal and motivational processes that shape risk management and determine adaptation responses to climate change (Adger et al. 2013; Swim et al. 2011). The risk management and adaptation responses result in different adaptation pattern of persistence, transition, and transformation to climate change that could occur concurrently and in combination within a given context (Béné et al. 2014, Pelling 2011). However, differences in assumptions and worldview on risk and the people affected by risk underpin the different adaptation pattern as subsequently examined.

2.2 Adaptation patterns

In the literature, the conceptual distinction of adaptation as persistence or system maintenance, transition or system adjustment, and transformation or fundamental change to the system (Pelling 2011, Béné et al. 2014) emanates from the biases in disaster reduction, vulnerability and resilience perspective respectively. The fundamental differences between these multiple perspective centres on the positioning of risk based on assumptions on people's actions and decisions, which exhibit different aspects of worldview. Notably, the evaluative belief on people in relation to hazard that aids attribution and the assignment of responsibility, displays the primary aspect of worldview, while the proscriptive belief on modality for addressing risk displays the secondary aspects as further expounded. In the disaster reduction perspective, there is an assumption that people take rational decisions to occupy areas exposed to natural disaster, hence, responsibility for hazards is reposed on the people and its management can be achieved with the right technology (Basset and Fogelman 2013). The overplay of agency in this worldview prioritises risk and promotes interventions that support coping with the impacts of hazards resulting in technical and infrastructural supports that aid absorptive capacity and enhance societal resistance while maintaining existing status-quo (Bulkeley and

Tuts 2013, Canon and Müller-Mahn 2010). Moreover, the focus on the 'who' of vulnerability facilitates welfare support, that de-emphasises socio-political influences on vulnerability (Friend and Moench 2013). Thus, activities under adaptation as system maintenance envision a continual system functioning that facilitate the maintenance of unsustainable or socially unjust societal activities within society (Pelling 2011). The vulnerability perspective underpins adaptation as transition or system adjustment, it argues vulnerability as a social construct beyond specific risk, mediated by rights and entitlements in social and institutional relations, and tied to the socio-economic and historical conditions that support risk (Heinrich et al. 2013; Basset and Fogelman 2013). In this perspective, the close attention to the socio-political and economic production of marginality facilitates a deeper insight to the multiple causes and 'why' of vulnerability for targeted actions (Ribot 2011). The reposition of responsibility for risk is on societal relations with a portrayal of the people as passive victims that underplays agency (Ribot 2014). However, opportunities for building adaptive capacities beyond a technocratic top-down intervention to a more inclusive approach for structural change is fostered (Bulkeley and Tuts 2013). The spaces for inclusion and participation provided permit activities that enable incremental changes to the socio-economic, political and cultural relations and is therefore described as transitional (Pelling 2011).

However, frames of inclusion weaken the ability to question the assumptions, values, discourses, and interest that created the structure of social vulnerability in the first instance (Basset and Fogelman 2013). Furthermore, because spaces of inclusions are social products (Brock et al 2001), an emphasis on inclusion can constrict spaces for alternative socio-political changes. This fixate adaptation activities as intermediary ensuring an increase in the usual activities but maintaining the prevailing socio- economic and political relations (Khan and Roberts 2013). The resilience perspective in adaptation as transition gives cognisance to the social relations of power, existing inequalities and injustice that underlay causes of risk and shapes the ability to adapt (Friend and Moench 2013). Unlike the vulnerability perspective that centres analysis on vulnerability reduction, the resilience perspective centres analysis on vulnerability prevention (Pelling 2011). Moreover, its focus on the system's adaptive capacity aids attention to lived experiences and contextual production of marginality, which gives an active view of agency, and rejects any deterministic interpretations (Basset and Fogelman 2013). Furthermore, a focus on the development of resources required for the system's flexibility rather than only actor's flexibility to respond to change provides a platform for analysis of a shift in the balance of political and cultural power. The approach therefore prioritises power argued as central to the development/adaptation nexus (Canon and Müller-Mahn 2010) and to adaptation that is transformational (Pelling 2011). The prioritisation of power politicises adaptation (Eriksen et al. 2015) and unveils the embedded ideas/assumptions that entrench power relations and circumscribe structural changes (Gillard et al. 2016). Hence, the premise of adaptation as transformation is the interrelatedness of climate risks that necessitates a radical challenge to existing social and economic structures (Pelling 2011, O'Brien 2012), either through deliberate action (Nelson et al. 2007) or the occurrence of tipping points (Pelling and Dill 2010). Although there is a consensus in literature that complexities of systems with ruptures and thresholds in its cycles and structural changes characterize transformation (Feola 2015), debates exist on features that make a change transformational, its forms, and the process involved (Feola 2015; Tschakert et al. 2013). In view of which there are calls to give conceptual and ideological clarity on the meaning of transformation and its outcomes i.e. what transforms, and who benefits, when the concept is utilized (Feola 2015, Fazey et al. 2018). This necessitates clarification on the conceptualization of transformation in the research.

2.3 Transformation

Few et al (2017) explain that transformation in the adaptation literature has different connotations that challenges its utilisation in practice, and therefore framed a set of typologies to assist researchers and practitioners assess the extent to which adaptation actions are constitutive of transformation. The typologies include mechanism of change, target outcomes, and the object of change, and they were framed based on questions around the type of envisioned or occurring change process; the relationship of the change to the drivers of risk; and the effect of the change beyond climate change adaptation respectively. The primary question on the existence of an inherent fundamental change in adaptation activities underpin the typologies and they can exist as independent dimensions, or intersect and interact (Few et al. 2017). Mechanism of change include four categories, 'innovation', 'expansion', 'reorganisation' and 'reorientation'. Target outcome include 'instrumental' changes that address climate risk as an environmental problem, 'progressive' change focused on reducing social vulnerability and empowerment, and 'radical' change that addresses the social structures and power relations that facilitate vulnerability. In terms of the object of change typology, two non- exclusive categories identified include transformational adaptation i.e. when adaptation practices are transformed and transformative adaptation that enables the adaptation activity to bring about transformation in broader aspects of development beyond climate change. Few et al. (2017) explained that though the use of the terms transformational and transformative overlaps in the literature, the subtle difference manifests by highlighting the object of change. Key linkages could exist between these typologies, for instance, innovation and expansion adaptation activities often link with instrumental, sometimes progressive changes and are usually transformational. Reorganisation and reorientation associates with progressive and radical categories are often transformative in outcome. Notably, the categorisation of instrumental, progressive and radical changes align with the conceptualisation of adaptation as stability, incremental adjustment and transformation based on three dimensions of absorptive, adaptive and transformative capacities (Béné et al. 2014) that inform the conceptual separation of adaptation as persistence, transitional and transformational (Pelling, 2011). These conceptual separation of adaptation highlights the interaction between adaptation and development and is useful for indicating a more desirable pattern, necessary for a successful adaptation to climate change and for a more equitable and sustainable development (Gillard et al. 2016).

Although the discussion acknowledges the highlighted differences in transformational and transformative adaptation it situates transformation as a process that uses tipping points to challenge power relations through forced, deliberate or progressive actions. It therefore conceptualises transformation as both transformational and transformative and straddles the dual usage of transformation in development as an analytical concept to highlight the adaptation pattern and as a process for challenging power relations and maldistribution (Godfrey-Wood and Naess 2015). Underpinning this conceptualisation of transformation is the concept of resilience. Defined as the "ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner" (IPCC 2012 p5), resilience highlights capability and cognisance to agency. This capability could be innate, developed or ruptured during systems disruptions (Béné et al. 2014). It also enables an analysis of the effects of actors' actions, decisions and negotiations i.e. individual shifts on other components of the system e.g. social structures, and an understanding of the uptake or resistance to change in the adaptation process (Pelling 2011) that could disrupt the power relations as canvassed in transformative adaptation (Few et al. 2017; Pelling 2011). However, shifts in individual values and capabilities or critical consciousness is a critical component for a shift in social structures of power and therefore important for adaptation that is transformative (Bahadur and Tanner 2014:

O'Brien 2012; Pelling, 2011). Furthermore, because shifts in individual values act as catalyst for tipping points and for weakening hysteresis in public attitude towards a problem, it shape societal response to environmental problems (Scheffer et al. 2003) expressed through the social contract. In addition, because individual variation and social pressure influence shifts in individual values, it is power imbued. Social pressure could result in collaborative action, mobilise people for change, and foster change in an individual's value and attitude (Scheffer et al. 2003), thus, social pressure exerts 'power with', a form of power in the power cube that refers to synergistic relationships through collective action and alliance (Gaventa 2006). Influenced by the seriousness/complexity of the problems and effectiveness of pushing for regulation, individual variation indicates agency and aligns with 'power within' and 'power to' in the power cube. However, leaders that are able to precipitate opinion shift and mobilise people for change can facilitate shifts in individual values (Kates et al. 2012; Scheffer et al. 2003) and enhance 'power within' and 'power to'. An indication of the criticality of leadership. Consequently, social contract, critical conscientiousness and leadership resonate in the literature as underlying transformational adaptation (Pelling et al. 2015; Adger et al. 2013; Kates et al. 2012; O'Brien et ai.2009; Olsson et al. 2006). These components as further expounded in the next section provide the platform for addressing the questions of what and who transforms in the adaptation process and for analysisng the occurrence of change beyond climate change adpatation.

2.4 Analytical platform- Social contract, Critical Conscientiousness, and Leadership

Access to resources, a supportive context, and local leadership are important for initiating and sustaining transformational adaptation (Kates et al. 2012). However, a supportive context and access to resources are contingent on the social contract that embodies entitlements and obligations and defines the spaces of inclusion (O'Brien et al 2009). Two issues are dominant in the multiple conceptualisation on social contract, first is an awareness of involvement in an association and its terms through a pact. Second is the embodiment of tension between individual and collective freedom in associations, usually between citizens and sovereign states. However, Blackburn and Pelling (2018) argue that such positioning limits the ability of the concept to capture the diversity and multiple sites of interdependent relationships that embody association. This is because an assumption of a single hold and unidirectional flow of authority in such positioning ignorse other asymmetric power relations like non-state actors and sub-social level relationships like family, community etc. that are governance players. Besides, situating social contract as solely between government and the citizens promotes a focus on the shape rather than the mechanism of production of social contract i.e. its resistance, rejection, reproduction and evolution. This veils an understanding of the juncture of crises of state legitimacy and the utilisation of the moment by actors (political and social) for socio- institutional change important in the development/adaptation nexus for transformation. In view of which they propose the concept as 'social contracts' to engage with the multiple sites of its component relationships, to make visible its analytical prowess, and to politicise adaptation by problematizing development issues of empowerment, risk perceptions, leverage, representation and people's agency. Blackburn and Pelling (2018) defined "social contracts as fluid, multiple, and fundamentally political constructs, that are shaped concurrently by the expectations and aspirations of the citizenry, the degree and means of fulfilment of those expectations, and the conditions for the legitimacy of formal security provisions."(p.6).

Consequent on this definition, Blackburn and Pelling propose three analytical lens for social contracts for interrogating the political dimension of adaptation i.e. Legal-Institutional Social Contract (LSC), Imagined Social Contract (ISC), and Practical Social Contract (PSC). The LSC are products of constructed but entrenched values, culture, rights and social relations that shapes right and obligation distribution between actors in a context based on legally and constitutionally

defined frameworks. The ISC, are subjective (perceptions, expectations or hoped) visions of the social order, underpinned by beliefs and values that facilitate a differentiation between individuals and groups within a society. The PSC are the prevailing realities of the distribution of rights and responsibilities claimed and performed between actors in everyday relations. It is underpinned by culture, value, beliefs and assumptions because it is a product of the interaction between the multiple ISC and LSC within a society. An analysis of the interactions between these contracts enables an understanding of the assignment of responsibilities and rights; illuminate on the evolving adaptation pathway as transitional or transformational and the evolved social contracts; and the ability of actors at different levels to promote local adaptation priorities. For instance, the ability of ISCs to describe perceived entitlements, boundaries of social acceptance and expectations, facilitates an understanding of the influence of risk in rationalising resistance and rights claim towards specific adaptive strategies. Equally, differences between LSC and ISCs can show the complacency of citizens emanating from invisibility of rights, political suppression/apathy or passive dependency that debilitate right claims (Blackburn and Pelling 2018). However, the expressed behavioural response i.e. complacency, activism or in-betweens are outcomes of the interaction between attributions, affective, and motivational processes (Gifford et al 2011) and these responses are dependent on people's evolution or mollification of critical conscientiousness.

Pelling (2011) describes critical conscientiousness as an alteration of consciousness. It is a critical factor in response to change and for the initiation of action towards environmental change (Pelling et al. 2015; Scheffer et al. 2003). Critical conscientiousness is contingent on shift in value at the individual level (Pelling, 2011) but fostered at the community level through information sharing and education (Bahadur and Tanner 2014). However, it differs between individuals because of differences in values, worldview, and socio-cultural contexts. Values are dynamic and argued to influence policy acceptance, personal norms and intentions (Steg et al. 2011; Stern et al. 1999) and to influence attributions for causality and responsibilities that informs people's threat appraisal and motivational response (Gifford et al, 2011; Stern et al. 1999). Hedlund-de-Witt (2014) argues the profound effect of worldview on attributions and assignment of responsibility, since values belie worldviews and can be reprioritised, a shift in worldview indicates a reprioritisation of values that occurs in relation to the stages in Maslow's hierarchy of need (O'Brien 2009). Furthermore, because value change depend on psychological needs and societal demand, individual shifts in value differs because of the differences in defining, tolerating and accepting risk (Dow et al. 2013). This observed differences result from an appraisal of individual capabilities and constraints (Gifford et al 2011); akin to the concept of 'power to' and 'power within' in the power cube (Gaventa 2006). These are related because power within shapes self-awareness, identity, and confidence, and 'power to', an individual's capacity to act, is the necessary precondition for value change (Brock et al. 2001).

Brock et al (2001) describe power within as invisible power and most insidious among the three dimensions of power (i.e. power to, power within and power with) because it defines psychological and ideological boundaries that shape participation and determine the acceptance or rejection of existing social and political situations. Furthermore, power within define the boundaries of inclusion and exclusion that result in social differentiation because socialisation, ideology, and culture determine risk acceptance as normal and safe within a context (Brock et al 2001). An indication of a vital linkage between power and social differentiation captured in social theory as subjectivity that links the process in individuals' lives to the societal process in their context. This linkage or relationship is expressed in the resistance or internalisation of dominant discourses, societal disciplinary practices and cultural code (Eriksen et al. 2015). Supporting the assertion that cultural traditions imprint on and interact with change or shift in value

((Hedlund-de-Witt 2014). Similarly, because socialisation, ideology, and culture define the rules of engagement, responsibility, and expectations between the individual and the collective, they underpin social contracts. Hence, congruency between prioritises personal value and social values legitimizes social contracts at different level of association, i.e. an alignment of LSC, ISC and PSC (Blackburn and Pelling 2018), and facilitates support by individuals for associations or movement with similar prioritised values and threats (Steg et al 2011; Stern et al. 1999). However, where the values conflict, for instance, where there are difference in values between legal-institutional social contract and imagined social contract, it could facilitate self-conscientiousness to query existing societal structures and facilitate change. However, such mobilisation for change needs leaders that are able to precipitate opinions for change (Scheffer et al. 2003).

Leadership is argued as necessary for the occurrence of transformation in adaptation to climate change (Carmin et al. 2013; Kates et al. 2012). In particular, local leadership and shadow networks are significant for the initiation and sustenance of transformational adaptation (Kates et al. 2012; Olsson, et al. 2006). Although, in the adaptation literature, leadership roles are often presented as positive, a negative effect of mollifying the transformation process is possible and the ability to mollify or foster transformational change is dependent on leadership vision as shown by Olsson et al. (2006). Transformational leadership has been shown to aid opinion shift towards change by mobilising and crystallizing shadow networks (Scheffer et al. 2003) through 'tipping point leaders' who are able to transverse cognitive, political, resources, motivational and social barriers that prevents change (Kim and Mauborgne, 2003). These 'tipping point leaders' or 'champions' are argued to appear during crisis, and to foster changes in institutional arrangements, norms and priorities through shadow networks (Leck and Roberts, 2015; Pelling et al. 2015; Pelling et al. 2008; Olsson et al. 2006). These leaders foster hysteresis[1] weakening, which bridges the gap between problem and solution (Scheffer et al. 2003). Moreover, as Olsson et al. (2006) argue alternative means for socio-ecological management could lie within shadow networks and they can occur in both formal and informal spaces. Dodman and Satterthwaite (2008) explain that the usefulness of such networks, e.g. community based organisations, as channels for information transfer between governments, could assist with the implementation of adaptation and relief actions during extreme events. Through these activities, leaders within shadow networks could facilitate the examination of PSC, inspire self-conscientiousness i.e. people's shifts in value at institutional, community, and individual levels, for an alignment between LSC and ISC or mollify changes through values prioritised. This reiterates the position that changes in the environment affects rules of engagement, responsibility and expectation of actors (Adger et al, 2013a). The ability of leaders to entrench values or promote value shift and influence adaptation outcome is attributable to social learning and creative thinking on solutions to emerging problems (Pelling et al. 2008), depending on extent of freedom from the scrutiny of formal agencies (Olsson et al. 2006) and social structures like cultural codes. Hence, the effects of broader socio-economic and political structures mediate leader and leadership in a given context (Leck and Roberts 2015). In the development/adaptation nexus, the conceptual interaction between the three adaptation components of social contract, critical conscientiousness and leadership provides a viable platform for utilising transformation as an analytical tool in the adaptation process and as a means for challenging unequal power relations (Feola 2015; Godfrey-Wood and Naess 2015). Through these components, societal change, and what, how and who transforms in the adaptation process is made visible (Fazey et al. 2018). First, a brief description of the context of the adaptation analysis is given.

[1] Tendency to remain passive in spite of environmental changes (Scheffer et al. 2003)

III. RESEARCH CONTEXT AND DATA COLLECTION METHOD

3.1 Context

Lagos, a coastal city-state located in the southwest region of Nigeria is its commercial and economic hub vulnerable to storms, surges and flooding (UNIDO 2010; Mehrotra et al. 2009). Fostered by the conjecture of rapid urbanisation, economic positioning and close proximity to water bodies, and wetlands that make up 40% of the state (Ogunleye and Alo 2011), the vulnerability of Lagos to flooding events is further heightened by its infrastructural deficit (Ajibade and McBean 2014). For instance, of its huge population of about 24.7 million inhabitants in the metropolis (Olorunnimbe et al. 2022), a greater proportion live in places deemed informal and lacking in basic infrastructure (Olajide et al. 2018). Many of these areas are mostly swamps and silts in tidewaters vulnerable to storms and sea level rise (Adelekan 2010; Kelly and Adger 2000). This characterisation describes Owode-Ajegunle and Iwaya, the sites of the research that are domicile under Kosofe and Lagos Mainland local government areas (LGA) at the national level and Yaba and Agboyi-Ketu local council development authority (LCDA) respectively. Iwaya is a swamp within the city in close proximity with the Lagos lagoon, while Owode-Ajegunle is a wetland, located on the fringe of the city along the discharge channel of River Ogun into the Lagoon. However, the lack of basic infrastructure and close proximity to water bodies expose the mostly low-income residents of the communities to the tidal effects of the lagoon and risks of extreme water levels. They thus provide a viable context for examining the adaptation activities and analysing the psychological dimension that shape the adaptation processes and outcomes.

IV. DATA COLLECTION METHODS AND ANALYSIS

The research was qualitatively driven and utilised various qualitative data collection tools of semi-structured interviews with elites/key informants and individual/households, focus groups discussions, and review of documents. The review of documents in the public and private domains served the multiple purposes of context, evidence and comparison with on-ground reality. Semi-structured interviews gave insight into social reality and everyday experiences of flooding from the perspective of the people involved. The interview with key-informants/elites at the bureaucratic and community levels totalled twenty-seven (27) and their influence and role in policy and the community respectively informed selection. At the community and household levels, interviews conducted totalled thirty–seven (37) with significant attention to residents of more vulnerable areas. The eleven (11) focus group discussions conducted include discussions with community leaders, women, children, the elderly, and mixed groups in both communities. The discussion with different groups provided a collective response and co-creation of meaning that aided triangulation with other methods and facilitated a deeper insight on adaptation to flooding. Collected data were transcribed, reflexively read, triangulated and first manually coded. The ascribed codes were subsequently validated using a computer assisted analytical software, Nvivo, to identify themes, structural meanings and explanations relevant to the research interest, theory and the literature. The next section gives an analysis of the findings relevant to the objective of the paper.

V. FINDINGS AND DISCUSSION

5.1 Analysing the adaptation process- the what, who and how of transformation

The analytical platform of social contract, critical conscientiousness and leadership are used to examine the influence of values, worldview and culture on psychological processes of sense-making, attributions for causality, assignment of responsibility, appraisals of impacts, and motivational processes that inform responses to and effectiveness of adaptation activities and the outcome of adaptation. In using these components, the paper first give a discussion on the components in relation to the context before highlighting the influence of values, worldview

and culture on the psychological process and implication on the outcome.

5.2 Social contract

The promotion of social rights, reciprocity and facilitation of citizen's capacity are the ethos of social pact, which in a society is contingent on engendered trust and trustworthiness between the states, state actors and citizens (Levi 1998). Expectation i.e. an act reliant on trust that expresses believe or faith in an action or intention underpins social pact (Möllering 2001). A social contract is favourable when expectation is met, when unmet, trust is destroyed and the social contract is undermined (Levi 1998). In relation to risk, expectations are among the web of conditions in which lived experiences of risk occur (Hewitt 2013), i.e. expectations, whether favourable or unfavourable, shape people's experience of risk. In Iwaya and Owode-Ajegunle communities, the people indicated a lack of trust in the state and state actors, and highlighted a breach of contract through unmet expectations of reciprocity, promise, and recognition that exacerbate their vulnerability to flooding events. Reciprocity, a key tenet of social contract, is a mutual and contingent consent by different parties to play the game by the rule and depends on the moral and social ethics of entitlements and citizenship (Sparke 2004). Hence, when the stability and support provided by the state and state actors is absent or limited, trust and social contract is undermined, and reciprocal citizenship is circumscribed (Ellis 2006). Breaches in social contract on reciprocity manifested on two fronts, first in terms of their financial obligations and secondly, in terms of their political obligation, through which there were expectations of reciprocal development of infrastructures, critical for building resilience to climate extremes (Yengoh et al. 2016; Satterthwaite 2013). The statement of Mary, a resident of Owode-Ajegunle is typical.

The land use charge is every year, despite my being a widow, I pay it every year, what is the benefit of paying land use when we are paying tenement rate we expect that they will use same to develop our neighbourhood, but what did they do? [Mary, Owode-Ajegunle]

Mary's statement highlights issues of 'contingent consent' on the part of the citizen that is being eroded by a lack of 'credible commitment' from state actors, which undermined trust, necessary for credible governance (Levi, 1998). The second basis for expectation of reciprocity emanates from the people's participation in voting and a perception of insensitivity and exploitative relations on the part of the state actors, exemplified in the narrative of Anjola, a Chief of Owode-Ajegunle and Debo, an Iwaya resident.

Everybody is sitting down in his office taking air-condition, it (flooding) does not concern them, when it is time for election now they will start coming and say vote for me. Take your permanent voters card, it is after the elections are over, they enter, finish until another four or five years...[Anjola, Owode-Ajegunle]

Yes, once they are elected and are sworn in that is the end, we will no longer hear from them. When you go to the council to see the chairman, you will be told to fill forms to see him. You might even be there for hours and still end up not seeing him because they will keep telling you he is busy, he is busy, but when he came, he said he would do this and do that before being elected [Debo, Iwaya]

A perception of exploitation, insensitivity and lack of concern displayed in these statements recurred in the discussions of many residents in the two communities, as were the issues of unfulfilled promises, gated access and distancing. While 'gated-access' and 'distancing' were prominent in the discussions of participants from Iwaya, distancing rather than 'gated access' was more of an issue for Owode-Ajegunle residents. The inability and limited access to state actors hampered an effective communication of flooding problems to the state actors and hindered the people's capacity to negotiate, a key tenet of citizen's capacity (Ellis 2006). A sense of exclusion resulted from the distancing circumscribed the people's social rights and positions their existence as subjects rather than citizens (Rebotier 2012). Furthermore, unmet

expectation of recognition recurred in the people's narrative in both communities. The people complained of state actors' lack of recognition, a key component of association as member of a society (Fraser 2001; Ribot 2007), which excludes them from accessing infrastructure, and when provided, excludes them from project planning and implementation. The extract below of the group discussion with community development association (CDA) chairpersons at Iwaya is indicative.

Cornelius: in addition, and in line with what he has said, I am sick and tired of the governance system, before becoming a CDA chairman, I had no experience with governance and often believe that the people were the problem, but now I know better. Take for instance where we are now, as big as it is, when they want to bring in their contractor no one will be informed or aware, you will just wake up to find someone in the community doing something.

Facilitator: Are you saying that they do not consult with the people on projects assigned for their community?

Cornelius: Nothing, nothing

Anthony: Except we challenge the contractor.

Biyi: You will just wake up one morning to find something happening within your community.

Cornelius: They do not regard us or take us to be anything, if you want to execute a project within a community that is inhabited by people you need to inform the community and let us be involved so that you will execute the project to our taste. When carrying out such projects, they connect with neither the CDC nor the CDA so that people will be aware.

Biyi: They will not even involve the Baales (traditional chiefs) within the community; it is only when the Baales challenge the contractor about their presence in the community that explanations are now offered.

Cornelius: This is the reason why most of their projects have a short life span.

[Focus Group Discussion with CDA Chairmen, Iwaya]

As with Iwaya, residents of Owode-Ajegunle indicated that the government's refusal to listen to their advice exacerbated their flooding experience. They claimed that a lack of recognition and exclusion resulted in the poor management of the Oyan dam on the river Ogun, which aided flooding experiences in the community. The perception of a lack of recognition aiding the people's exclusion has implication for the people's participation parity and citizenship status (Fraser 2001). A hindered participation parity debilitates the people's 'citizen capacity' through an estrangement from political negotiations and truncated reciprocal citizenship, thus the perception of a breach in social contract by the people emanates from a gap between the ISC and PSC. Underlying the people's ISC is a traditional worldview that emphasises values of security, social order, and where actors paly by the rule of the game, a dissonance with which aided an attribution of the responsibility for a hampered adaptive capacity on the state actors. In the context of adaptation, the people exhibited a prioritisation of adaptation strategy that emphasises the need for belonging, identity and the acknowledgement of local knowledge (O'Brien 2009). However, the people's worldview differed significantly from state actor's modernist worldview; typified by the explanation of a Lagos State policy maker that:

Let me say one thing, like I said, without serious encroachment on some of these channels, Lagos has no problem with flooding,...people are just building without any control, without any institutional approval, without permit, ...these things just go on and you have the concrete jungle that we are having. Not only is it affecting flood control, or flood management, it's affecting our transportation system, traffic system, everything, economic activities, so it's an issue and as a matter of fact, if we really have to limit them, we need to have to be looking at the way of planning of Lagos [*Rasaq, State Policy Maker*].

Encased in this statement is a modernist worldview that primes values associated with city

development and aesthetics, and economic growth. Such tropes endure in policies and publications as shown below in the publication on the seventy-two hours demolition notice issued by the Lagos state government to neighbouring settlement to Iwaya.

The state government noted that the shanties violated the designs of its megacity project and that the residents have continued to….develop these unwholesome structures… without authority, thereby constituting environmental nuisance, security risks and impediments to the economic/gainful utilisation of the waterfront… The Governor noted that pilling sawdust in the lagoon, discharging waste in it and blocking the discharge points for storm water had contributed to the flooding in places like Bariga, Shomolu, Ebute-Metta, Ogudu, Owode-Ajegunle and Ikorodu. Therefore, the demolition of the houses and cleaning up of the lagoon would allow the free flow of the water during heavy downpour. [Thistle Praxis Consulting 2012].

In these statements based on a modernist worldview that sees the communities as problematic to the values of city modernisation and economic growth, encroachment provides a causal explanation for the vulnerability of the communities to flooding and reposes responsibility on the people (Fayombo 2021). In the climate change/development nexus, specifically, in the context of southern urbanism and adaptation, a worldview that sees urbanization and informality as intrinsically linked and problematic permeates (McGranahan et al. 2016; Satterthwaite 2016). An ontological positioning and assumptions on urban informal residents as rural migrants and encroachers that places informal areas in a logos worldview[2] (Wisner 1998) operationalises this worldview. It also aids attribution for causality and reposition of responsibilities, for climate change and for development challenges. The epistemic understanding of the issue hinges on this constructed reality because of the linkage between the validation of our source of knowledge and our construction of reality (Buehl and Alexander 2001). Furthermore, the ethical/aesthetic evaluative belief that aids societal judgement on responsibility reflects the axiological aspects. The primary aspects that attribute responsibility for hazard experience and development challenges on informal areas reinforce and influence the secondary aspects. The anthropological aspect centred on the people's role reiterates the ontological positioning of informal areas and aids a societal vision of a closed city that views non-conformity as a challenge to the set order (Sennett 2018). The consequence of which is the reinforcement of growth regimentation and a support for incremental adaptation. Besides, constructions on residents as encroachers emanating from assumptions on residents as rural migrants raises questions on their statues as city citizens and their ability to be as par with others in the society (Fayombo 2021). This is because perception of responsibility and attribution for causality ascribed to vulnerability to climate change impacts has implication for the social contract in a given context (Adger et al. 2013), and judgment on responsibility influences political attitudes, decisions and actions (Sahar 2014; Weiner et al. 2011). Hence, the characterisation of the people as encroachers affects motivation for action because it provides a moral evaluation of responsibility on deservedness (i.e. the judgement to assist or punish) (Weiner et al. 2011), which underlines victim blaming as enabling attributional justification/legitimisation and acceptance of existing social structures (Weiner et al. 2011). As with the worldview on adaptation as persistence, frames of encroachment facilitate policy responses of technical enforcement and coping as the national policy guideline on flooding indicates, *"Urban growth including drainages shall be enforced"* (*FME 2005, p. 28)*. Similarly, a Lagos state document on flood management indicates *"pre-rain maintenance dredging of primary channels… and (II) mid-rain maintenance of secondary collector drains as well as tertiary/road drains" (LASG-MoE 2012, p. 133)* as strategies to manage flooding. This sets the political attitudes, decisions and actions on damage limitation and incremental adjustment focused on drainage clearance and urban

[2] An order in which humans play a distinctive role, in the evolution and effects.

development control in conformity with the findings of others on actions used by the government to addresss flooding (Nkwunonwo et al. 2015; Soneye 2014). Undertaken occasionally are transitional activities of humanitarian support, typified below by the statement of the head of a government agency

...when the flood disaster occurred, '...' we camp them, in a camp, at Agbowa relief camp ...we try to cushion the effect both physically, psychologically and socially. These are the things that we put in place. (*Head, Government Agency*)

Similar to the observation of Oshodi (2013), the statement highlights a welfare stance of provision of safety net, indicating inclusion. However, such inclusion limits a focus on the structural factors and weakens a focus on the assumptions, values and worldviews underpinnings of risk generation, and exclusion (O'Brien 2012), aiding a maintenance of the status quo in resources distribution. Besides, inclusion could become 'immunological' by aiding patterns that enable people and the environment to absorb future increases in doses of inequality and environmental degradation (Kaika 2017). Hence, attention to the underpinning values and worldview highlight the difference in the attribution for causality and responsibility and motivation for action that informed the divergence in the perception on the social contract in the adaptation process. The findings reiterate the position that attribution for causality and responsibility, appraisal of impacts, and motivational processes inform decisions and adaptation activities undertaken by different actors to address climate change impacts (Swim et al. 2011). However, such dissonance in perception of social contract between actors could aid a crisis of legitimacy with the social contract, facilitate a shift in value among marginalised groups, and aid the development of counter hegemonic accounts and social pressure towards transformation (O'Brien et al. 2009). This underlines the role of social contract in the development of critical conscientiousness, a significant factor in response to change and for the initiation of action (Pelling et al. 2015; Scheffer et al. 2003).

5.3 Critical Conscientiousness

Critical conscientiousness results from the ability to develop self-authoring minds based on reflections on prior assumptions that influence views on structure and social relations and define actions (Pelling 2011). Self-authoring minds emanate from the transformation of ideological beliefs and the rejection of prescribed identities or reinforcement of projected identities (Pelling et al. 2015). In facilitating a shift in consciousness, both communities utilise such simultaneous identity rejection and reinforcement to challenge the adaptation process. In both communities at the individual and household level, people mobilised powerful symbols that rest on cultural and historical key sites of social values and meanings, for instance, the use of autochthony to claim spaces and to reassert self. Notably, autochthony, a claim of belonging is a principal trope for asserting citizenship in Nigeria because of the prominence of indigeneity and ties to specific groups and locations and a decimated national identity (Adebanwi 2009; Kraxberger 2005).

Autochthony was utilised in two ways; to reject ascribed identities as 'encroachers', and positioning as outsiders. First, some assert they are 'sons of the soil', while others claimed they are the first settlers in the area. Although tropes of autochthony in the face of uncertainty could offer a sense of primal security and certainty (Dunn 2009), a lack of substance within formal rights and recognition in citizenship discourse makes such offers unstable and transient (Dunn 2009; Geschiere and Jackson 2006). The use of autochthony tropes project a traditional worldview with intersecting values of security, social order and identity through which the people developed their interpretive frames and attributed causality that shaped action. Attribution as a causal explanation for a behaviour or event facilitates overcoming the challenges of environmental changes (Harvey and Martinko 2009) depending on the conception of the frustration as justified or unjustified (Dill and Anderson 1995), and can possibly affect reactions to a thwarting of goals/frustration resulting in restraining or instigating processes (Berkowitz 1998). In this context, for Iwaya community,

residents linked flooding events to 'natural' ocean surges, hence, accepted it as a tolerable risk with the resulting frustration considered justified. The situation differed for Owode-Ajegunle community, where based on values of social justice flooding was attributed to the conspiracy between nature i.e. River Ogun and the poor management of the Oyan dam, resulting in a consideration of the frustration as unjustified. The different worldviews that informed the appraisal and interpretative frames determine the choice of an intra-psychic strategy of stress reduction as observed for Iwaya or a collective action toward activism to alter condition that aided vulnerability to flooding, displayed in the establishment of the Lagos Wetland Community Stakeholder's Forum (LWCSF) at Owode-Ajegunle. However, despite the interpretative frame of a natural phenomenon and justified frustration, residents of Ago-Egun and Isale-Iwaya areas of Iwaya community were instigated to act after state actors shot one of the local chiefs dead during a move to evict the community, reiterating that even in situations of perceived justified frustration overt aggression is possible (Dill and Anderson 1995).

Tolerable limits in flooding experience provided the tipping points for reflecting on the dissonance in the perception of social contract arising from the difference in the values and worldviews of actors at the state and community levels. It enabled engagements with the spaces of citizenship through formal and informal politics that define the formal limits and informal practices of citizenship as it exists in law or in practice i.e. *de jure* or *de facto* (Painter and Jeffery 2009). These forms of citizenship are dependent on people's entitlements to civil, political and social right regardless of identity and interest (Ribot et al. 2008), they are social and political objects through which struggles are pursued (Painter and Jeffery 2009). In this context, flooding and modernisation induced threats of eviction became the means to shape the polity and adaptation pattern through shifts in existing values. Achieved by challenging the dichotomy between *de-jure* citizenship i.e. through residency in the areas but positioned as outsider and de-facto citizenship i.e. recognised citizen, an insider that actively benefits from civil, political and social rights. Although the shifts in value resulted in activism for the two communities, the spaces of engagements i.e. invited or invented utilised in challenging the dichotomy differed for the two communities and resulted in different adaptation pathways. Invited spaces of engagement involve the use of official meetings, lobbying etc. to challenge the social barriers to entitlements, while invented spaces involve the use of insurgent actions (Cornwall 2002). However, underlying the engagements were shifts in values and reflective thoughts that aided motivation and social cohesion towards action to addressing impacts. In Owode-Ajegunle, the residents' narratives highlight a questioning of the prevailing social contract (PSC) against their expectations i.e. ISC and LSC, i.e. an alteration of consciousness that facilitated the mobilisation of action towards activism. Mary's statement above highlights such questioning; however, Jibola's narrative in the excerpt below captures the extent to which this serves as a means of political struggle.

Jibola: ...the government comes in with the interest of picking income, revenue, we have so many businesses, shops, all these artisans here and there, but when government comes in here, their primary interest is income generation that is to charge them for various licence, permit for this, permit of that.

Interviewer: Who charges them?

Jibola: The local government, it starts from the local government, all the schools the local government comes in and gives permit, all the tailors, carpenter workshops, the local government comes in they want to take income, people believe it's the government's right, they hardly oppose. They [state actors] even use force to bulldoze them [residents] to collect this money, but we, we [people] expect the same government that comes and collects this money to now turn back and return some of the money collected as revenue back to the community no matter how low the percentages, but these do not happen. Government takes it back to the centre, from the local to the state to the federal; I do not know

how they share their formula. Now the only thing we gain as taxpayers now is like if your child now has to go to a public school in that same community if there is one, then the state government, local government are in charge…So that is where you can say we have gotten a little bit back… The little bit that streams back to the community, people might not even know that it is part of the money we let out…we've been paying so much that so little come back to the community. We now have what they call the associations the Landlord Association, the CDAs those are the one that now agitate back to the council and say come and do our road for us, so once in a while, out of our 70-80 loaded options they can push in one or two. In the whole term of a chairman that is in the whole three years of a tenure, maybe he will do two streets, may be put two lampposts, maybe two small health care centre that might not even accommodate a fraction of the community. That's what we've been getting, but because thereis no state laws that binds the community and the government it is even hard to fight, and most pe ople don't even know what rights they have. That is still why we [LWCSF] have to come into existence to make things better because the government keeps taking their [residents] money and give nothing back. [Interview with Jibola, Owode-Ajegunle community leader].

As Jibola's narrative indicates, most residents of Owode-Ajegunle community's questioning of the prevailing social contract enabled a shift in their value. The unmet expectation of reciprocity for the provision of infrastructure that would facilitate adaptation to flooding event resulted in a critical evaluation and a shift in value. The bolded portion in the statement is indicative of a shift in values from conformity and obedience embedded in a traditional worldview to values of social justice and universalism embedded in a postmodernism worldview (Schwartz 1994). Hence, the conjecture of identity, the social contract, and unmet expectations through community cohesion facilitated a collective consciousness towards activism but differences in embedded values and worldviews resulted in differences in motivation and adaptive preferences between the two communities. In Owode-Ajegunle, based on values of social justice a 'heightened motivation of aggression' was used to access government institutions and relevant authorities to challenge the status-quo, to gain recognition, and to access entitlements that resulted in the formal granting of tenure rights to their space, published and gazetted in one of the national newspapers. Thus, through transformative activities, the adaptation process facilitated change in wider societal issues. However, for Iwaya, the lack of shift from traditional values of conformity and security, limited challenges to the social contract. Aided further by the attribution of flooding events to nature, putting the control of an undesirable situation beyond the community's reach (Teschl and Comim 2005). Furthermore, external barriers to success, e.g. gated access for Iwaya, promoted internal and frequently stable attribution for failure, while attribution to any success achieved is externalised (Harvey and Martinko 2009). A case in point is exhibited in accounts on the part provision and non-completion of infrastructure for Iwaya under a World Bank sponsored slum upgrade programme through a now defunct government agency Lagos Metropolitan Governance and Development Programme (LMGDP). The residents' accounts were corroborated in a handbook publication by the succeeding agency to LMGDP, Lagos State Urban Renewal Authority (LASURA 2013). The narrative of Akogun, an 80 years old community leader at Iwaya is exemplary .

"They [Government] often establish corporations or so to carry out this responsibility….It was the World Bank that assigned them [government] to do this job while the ministry was dealing with local something; those international bodies channel things through these corporations to get things done. For the last one it was LMGDP that was assigned with the works for Iwaya, perhaps here in Iwaya we are unfortunate, or I don't know how else to say it, all the school buildings that they were given to do for us, they did not do them well. … The structures are there for you to see if you care, you will see that they have been told to stop work, and in fact am doing a write

up to the governor that is this the way we will be quite and keep looking. … It was through this project that boreholes were dug in the community, unfortunately of the seven boreholes that were sunk in Iwaya, I understand that only one is still working, some never took off at all because of the shoddy job that did. Finally, on record we were told that fifteen roads were assigned to be rehabilitated or constructed for Iwaya under the World Bank projects, unfortunately none of the roads were touched up to this moment as I speak. (Akogun, community Leader Iwaya).

The narrative echoes a perception among residents of Iwaya community as having 'poor fortune' or 'bad luck', a display of uncontrollability that hampers any initial motivation towards addressing the unsatisfactory problem of flooding. This mollified the 'power within' and 'power to' for the residents and limited the weakening of hysteresis in people's attitude to action and highlights individual variation as resulting from the level of effectiveness of pushing for regulation (Gaventa 2006). Furthermore, perception of uncontrollability creates a contradictory motivation that leads to a 'cognitive dissonance', an attempt to ease this results in doing away with any motivation to address the unsatisfactory situations, a 'resigned adaptation' where people's aspirations are lost and incentives to take action are lacking, which facilitate an acceptance of the status-quo (Teschl and Comim 2005, p.238). The diminished motivation suggests a state of 'learned helplessness', i.e. situation in which individuals come to believe in the futility of effort due to the inevitability of failure (Harvey and Martinko 2009). For Iwaya, issues as this, even when tipping points occurred limited the ability to challenge the status-quo and prevailing social contract, thus enabling adaptation as persistence. Furthermore, citizens aspirations and mollified 'power within' necessary for shifts in value can be (de)motivated through leadership as subsequently discussed.

5.4 Leadership

The finding of the research echoes the position that leadership is critical for initiating and sustaining a transformative adaptation process (Kates et al. 2012) and that the influence of leadership in the adaptation process may not necessarily be positive (Olsson et al. 2006). Leadership influence in both communities occurred informally, through sub-social levels of shadow networks and social and cultural institutions i.e. chiefs, and formally, through government instituted community structure like the community development associations (CDA). In Owode-Ajegunle, the 2010 flooding event provided a platform for the emergence of tipping point leaders or champions, who established and utilised the shadow network of LWCSF to effect changes to institutional arrangements, priorities and norms, as Jibola highlights in the excerpt below.

Interviewer: Are you saying it was flooding incidence that led to the development of the LWCSF?

BS: That is correct, the issue of flooding is what pulled us together here, we now realise we are going nowhere, in fact, if we leave the flood to take over, we cannot afford to take a land in Lekki, or take a land in Ibafo, so we better stay here and fight it here.[Interview with Jibola]

These leaders, using the LWCSF as a platform, inspired a shift in worldview at the community and institutional and community levels. At the community level, through a querying of the prevailing social contract (PSC), the leaders facilitated a change in the people's norm and culturally influenced values of conformity, obedience and humility that position the collection of levies as rights without reciprocal entitlements, to values that call for fairness and equity. The leaders facilitated a coalescing of individual and social shifts in worldview and overcame initial resistance and reluctance to activism based on this prevailing traditional worldview as highlighted in the excerpt of the discussion with Jibola, a community leader below.

Interviewer: Okay for the faith based for instance, they help with health care as you said what about in relation to flooding.

Jibola: They don't because you see if it is community matter they will not do anything that has to do with government, their complaint can't be that people are dying, no, that is where we come in, it is us [LWCSF] that will now mobilise the faith based the ethnic based, the sector based to fuse them together.

Interviewer: What is their response?

Jibola: Well, we are just starting. It has been a slow coming that is why we put education to work, because our model is not local and we model ourselves as if we are international. We told other groups outside this community to be involve the way we want it to be, so we have to enlighten them make them aware of what we can do, the power we hold, we have to let them know and that is why it has been slow. The first two years they did not even want to hear about us, not to accept we even exist but now they see us as a saviour and a messiah to the community.

The activities of the network highlighted in the discussion gives credence to the explanation that tipping point leaders are able to transvers cognitive, resource, motivational and political barriers that prevent change (Kim and Mauborgne 2003). The weakening of hysteresis and bridging the gap between problem and solution was fostered through trust and confidence in the leadership as highlighted by a resident Teniola.

"...if they can give the stakeholders a chance our leaders even two of them so that the people who know about this area very well, especially our chairman [name]. He is very good, we trust him very well and other leaders, if the government can join him and these people, they want to use for this area, so that we will monitor what they [government] are doing, we will know maybe they are doing the right thing for us." (Teniola-Owode-Ajegunle)

Beyond trust at the community level, at the institutional level, the leaders used the 2010 flooding and the events emanating from it (e.g. school relocation from the community) as tipping point to open room for positive change. The leaders reclaimed rights through a contestation of the attribution for causality that emanates from the worldview of the state actors as shown in the account of Olamosu, a 73-year-old leader of the LWCSF, during a meeting with state actors at the state secretariat on the proposed eviction of the community after the 2011 floods.

We went to Ikeja to meet the governor to discuss our issue but on that day of our meeting the governor was not around, but he delegated his commissioner and secretary to discuss the issue. So that day we told them that we cannot relocate, they should leave us, instead of relocation they should come and assist us so they started asking questions from individuals. I now raised up my hand, I said I want to talk. They said Baba what do you want to say, I said well Fashola [the governor] may be telling us to relocate now, but he is not saying the right thing because I referred to the history of this area, say the early 60s, when this place was swamp. There were four tributaries that lead to the Lagoon, I told those commissioners, but you people, you blocked it at Ikeja, you blocked it and you have now forced the source from four to only two, and that is why we are having too much water in this Ajegunle. [Olamosu Owode-Ajegunle].

The narrative underlines the fact that environmental changes affects rules of engagement, and indicate the use of invited spaces of engagement i.e. meetings to contest the existing values and worldview of state actors that shaped the social contract. Furthermore, the activities of the leaders show that disasters and shocks can open political spaces through power contestation or constrict political spaces through power concentration for the redistribution of rights in the social contract (Pelling and Dill 2010). For Iwaya, although there was similar activities of contestation of the social contract by local leader as Adesanmi, a former CDA Chairman explains.

Speaking about Iwaya, a lot of times we hold meetings with officials from the local, state and federal governments, however, despite all these

meetings where we intimate them about the challenges in the community and which they often promise to address are never addressed till they leave office. [Adesanmi Iwaya].

However, the ineffectiveness of the use of the invited spaces resulted in the use of invented spaces of insurgency through a protest march to the seat of the state government secretariat to assert and reclaim their citizen rights. Although, the use of insurgent citizenship, "a concept of citizenship that involves claiming rights through direct action, where the divide between legal and illegal is put off and replaced with the discourse of social justice and human rights" (Painter and Jeffery 2009, p.86) gave temporary respite by stalling the planned eviction. The status-quo remained for the community in terms of access to land and the social contract on risk management due to a resigned adaptation, enhanced further by the influence of leadership structure, and the cultural values of the leadership. The leadership structure for addressing flooding and other developmental issue in Iwaya are government instituted i.e. the community development association (CDA). Although, other community development committee exist, they seem to be limited in pushing for transformative change because of the reliance on the leadership of the CDAs as shown below in the quote from Mesawa, a traditional ruler at Iwaya.

Secondly, on the issue, if not that we have a society such that when the flood happens we discuss, that is our CDA chairman over there, and others are around as well. When the flood happens we sensitise our people, the people themselves cry out to us as their leaders and we in turn inquire form our CDA chairmen about what the government is doing in respect of the problem. We talk and talk but we do not see anybody… [Mesawa, community Chief, Iwaya]

The quote shows the reliance of the local community leaders on the CDAs that are regarded in the governance structure of the country as the fourth level of government because they are an appendage of the local government. An indication of a lack of freedom from the scrutiny of formal agencies that limit the ability of the leaderships of the CDAs to think creatively as proposed by Olsson et al. (2006) with implication for sense making. An awareness of which perhaps facilitated the support for the shadow network in Owode-Ajegunle, highlighted below in the quote of Kareem, a traditional ruler at Owode-Ajegunle.

Well, we have the CDAs, the CDAs on the one hand work with political parties, there is a limit to the offices they can enter they can hardly go beyond the local government to Alausa. It is the Lagos Wetlands Stakeholders that takes our case to the federal level.

The awareness exhibited through this quote highlights the difference and change in values between the leaders in Owode-Ajegunle and Iwaya, and the influence on sense making. Owode-Ajegunle was able to move beyond the conservative and cultural values of conformity and obedience to values of equity and social justice through leadership, while the reinforcement of cultural values and traditional worldview of leaders in Iwaya appears to mollify transformative change and positioned the adaptation activity mostly as persistence. Such mollification is exemplified in the statement of Akogun on seeking redress with the World Bank on the circumscribed infrastructure provision by the LMGDP. He said.

It is never done, we do not do that as I discussed with him [another leader], this is a country and we are within the country there are areas of cooperation, we do not wash our dirty linens in public, rightly or wrongly. Even if you get information from the LMGDP, it is not for you to release this information to the World Bank. To me it counts as a form of espionage… [Akogun, community leader]

Exhibited here is the influence of cultural norms and expectations on sense making, based on a worldview of conservation and societal disciplinary practices that define what is normal and acceptable in a context. It highlights influence of subjectivities that manifest in the internalisation of cultural codes, which weakens societal pressure and promotes hysteresis towards environmental problems. It reiterates the position

that leadership influence in the adaptation process may not necessarily be positive (Olsson et al. 2006). Furthermore, based on a conservative worldview, the insurgent activism undertaken to protest government eviction, was ethnocentric, involving fisher folks with specific identity rather than the entire community. The key issue highlighted here is that while environmental changes can open up political spaces for challenging the rules of engagement, responsibilities and expectations of actors the ability to contest or concentrate power is aided by the values and worldviews of the leaders at multiple levels. Indicating the criticality of the values and worldview of leaders in defining the social contracts and inspiring critical conscientiousness necessary for enabling transformative activities and facilitating a transformational adaptation agenda.

VI. CONCLUSION

This paper discussed the influence of values, worldview and culture on the psychological issues of attribution for causality, assignment of responsibility and sense making in aiding a transformational adaptation process. It explored this influence through social contract, critical conscientiousness and leadership, indicated as critical for transformational adaptation. The paper highlights the influence of the modernist worldview of state actors in assigning responsibility for risk and hazards to both communities, which shaped the activities in the prevailing social contract and constricted spaces of engagements. The constricted engagement impeded the 'power with' necessary for a synergistic relation for adapting to flooding and other climate change issues. Furthermore, based on the modernist worldview, adaptation activities were positioned in the approach of disaster risk reduction that sets the adaptation pattern as mostly persistence but sometimes-transitional adaptation pattern as was the case with Iwaya.

The conservative values of conformity, acceptance of situation, obedience and social order aided the naturalisation of flooding events and its risk as tolerable, which limited the ability to develop critical conscientiousness to challenge the social contract. The values and worldview of the leaders further enhanced this limitation through a priming of conformity and upholding the social order that facilitated an acceptance of the status-quo and situated the adaptation pattern as maintaining stability. However, residents of Owode-Ajegunle were able to, through tipping point leaders, utilise the platform of flooding to develop a shadow network, the LWCSF. The leadership of the LWCSF, facilitated sensemaking through value shifts, and a change to the worldview from a traditional to a postmodern worldview that aided a review of the attribution for causality, and responsibility. The raised self and community consciousness was coalesced by the leadership, who through invited spaces of engagement queried the worldview of the state actors and reversed the attributions and reposition of responsibilities from the people to the state actors. These transformative activities enabled the adaptation activity to bring about transformation in broader aspects of development beyond climate change by transforming the land ownership status in the social contract. Hence, in terms of who is transformed, the affected residents of the community and state actors had shifts in worldviews. The changes to social relations and social contract that facilitate adaptation indicate what is transformed, the critical reflection on existing situation and contestation of the social contract facilitated by tipping points leaders exhibit how transformation occurred. This indicates that the cultural norms, values and worldview of leaders influence sense making, and facilitate a shift in the attributions and assignment of responsibilities that shape adaptation outcome. A knowledge of these issues underlines the position that adaptation outcomes are not predetermined biophysical issues but are political struggles dependent on individual, collective actions, leaders and institutions (O'Brien et al. 2009). However, these are underpinned by values, worldview and culture within the context, reiterating the need for an overt acknowledge- ment and greater cognisance to the psychological dimensions of adaptation because they exert as much or even more influence as the objective factors in the

assessment of climate change adaptation outcomes (O'Brien, 2009).

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