CLIMATE CHANGE ADAPTATION PLAN

Do we really need to adapt or act for climate change ?

Is it all about implementation? Let's find out…..

"Climate Change is a global problem and it's solution are within our own niche"

Adapt, Act and Accelerate Climate Change Action

- Vocal in climate action
- Resilient in Climate change adaptation

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Nations across have come with national adaptation plan (NAPs). The inclination towards mitigation i.e.; to reduce emissions have taken a back step and adaptation has come to forefront as even with advanced frameworks, innovation, methodological tool kits, technology and capacity building, we except nations to adapt, acclimatize, adjust and bear the consequences of climate change. Adaptation plans are focused on making the stakeholders including the entities per se to make them used to impacts rather than nudging the ways and means or processes to future proof the entire supply chain and stakeholders day to day living and functioning. Adaptation is a climate intensive attribute for not just 1.5 degrees and or NDCs targets planning, but it's a preparedness planning fudge function. Why adapt when we can do away with just mitigation? Is what, debate is on with in the scientific think tank. However, answer to this question, is an emphatic no…..we cannot do away with just mitigation, as national support system are not uniform and so does their lack of fund allocation, technical and capacity building attributes. Adaptation, shall seize to fail if all these attributes are not brought into preview of the plan and projects scoping, screening, monitoring, management, implementation, verification, validation and issuance. To a question do we, really need to adapt or act for climate action, the answer is an emphatic yes……actions lead to countable adaptation tools. This playbook briefer on ***"Climate Change Adaptation Plan"*** shall focus on activities of priority areas with focus on urban setting or cities per se, forest dynamics and adaptation and energy and emission dynamics.

Open consultation - As adaptation measure :

We cannot have national adaptation plans, if we do not have open ended consultation with the stakeholders. Questionnaire based, role play based, narratives and digital story telling are the most resounding ways of interacting with the stakeholders. Deep dives for multi-stakeholder approach are the way forward for climate action. We are witnessing a global problem and it's solution is plan as per specificities of country specific emission intensity and not as per the targets fix at the negotiation table. The pragmatic methodological approach of aligning, applying and implementing adaptation is risk driven. Risk driven facets, apportionment, abatement policies, radiative forcing, climate repulsion, strained dynamics with equivocal coefficient of variance in computation of climate change scenario equation used for building future trajectories – are main workouts for future proofing climate compliant policies and plan of action. Clean Development Mechanism was a huge market for adaptation and its failure after Kyoto Protocol falling flat on its aforesaid commitments.

What has Urban Adaptation Plan Workouts got to say ?

The development of climate-resilient infrastructure is central to urban adaptation responses, as explained in the Global Commission on Adaptation with reference to urban adaptation briefing by British Academy. The briefing also mentions, mitigation measures support adaptation because they are a means to prevent the root causes of climate change, thereby reducing the need for future adaptation and avoiding extreme scenarios where adaptation becomes impossible. Moreover, addressing mitigation and adaptation in tandem may facilitate the generation of co-benefits. For example, renewable micro grids enable energy access, support the development of jobs and technical capacity, promote low carbon infrastructure,

and build resilience, for example, by facilitating access to communication infrastructure, based on these off-grid electricity systems may be easier to protect from disasters.

Vulnerabilities and Climate Change Adaptation:

What conditions exacerbate vulnerabilities to climate change, and to what extent are those conditions recognized? Growing levels of inequality and exclusion have gone hand in hand with rapid urbanization (UN Habitat Report, 2020). These inequalities are reflected in spatial patterns in urban environments that mark divides between privileged and disadvantaged communities. One symptom of such urban inequality is the growth of informal settlements where the gap in urban services and housing quality coupled with lack of formal recognition by the state impacts people's lives and livelihoods. Informality is difficult to define (let alone measure), but one such attempt, the Atlas of Informality, points out that informal settlements account for one-third of all the urbanized areas (Atlas of informality: https://www.atlasofinformality.com. A common statistic mentioned is that 1 in 7 people live in informal settlements. Outside informal settlements, many people also suffer from a lack of access to services — because of institutional barriers, affordability, or the material conditions of living. Lack of services compounds the impact of climate change and limits the possibilities for recovery. Inclusive adaptation is what strategies need to be set for. Pandemic COVID-19, and climate change together also are the cause to exacerbate or elevate the problem and it's aligned processes further.

Inequalities : Urban adaptation is most often linked to actions that challenge the structural drivers of inequalities. Planning strategies for a spatially just city in ways that reflect and represent the diversity of the urban population may work. Still, it cannot be the sole proposition to deliver climate justice. Actions that actively challenge entrenched forms of institutional and cultural discrimination may also be central to advance climate justice, from facilitating work place diversity to questioning the historical and cultural basis of clichés and prejudices that enable the reproduction of discriminatory practices in everyday life (as mentioned in British Academy Briefing).

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Sustainable Development Goals and Climate Adaptation :

Climate Change adaptation can be best driven by sustainable development goals for multi-stakeholder cobenefitting

- UN SDG – Goal 7: Clean and affordable energy
- UN SDG – Goal 9: Industry, Innovation and Infrastructure
- UN SDG – Goal 11: Sustainable Cities and Communities
- UN SDG – Goal 12: Sustainable production and consumption
- UN SDG – Goal 13: Climate change action
- UN SDG – Goal 14 : Life below water
- UN SDG – Goal 15 :Life on land
- UN SDG – Goal 16: Peace, Justice and Institutions
- UN SDG – 17: Partnerships for goals

Vulnerability and the decisional attributes:

Closely related to the need of adaptation is the concept of vulnerability. This is the case, because factors like adaptive capacity or sensitivity have effects on vulnerability and adaptation mainly seeks to reduce vulnerability. The concept of vulnerability is used in many scientific disciplines with slightly different interpretations. In social sciences, however, vulnerability is defined as the predisposition of people, wealth and landscape to be adversely affected. Vulnerability is determined by the two components exposure and sensitivity, translated into potential climate impacts, and by adaptive capacity. While climate impacts increase the vulnerability of a region or system, an increase in adaptive capacity can reduce vulnerability. Moreover, a system that is highly exposed and sensitive to climate change, but has a high adaptive capacity might be less vulnerable than a system that is less capable to adapt (EU Climate Change Policy). Adaptation measures are undertaken both by public and private actors through policies, investments in infrastructure and technologies and behavioural change4. Public action is required, for example, when the government acts as the landowner (roads, bridges etc.) or if significant social organization is needed (flood control barriers or irrigation channels) or because adaptation undertaken by private actors need to be facilitated by the provision of public goods (e.g. adjustment to regulatory framework, information provision)5. Adaptation is considered rather private, however, if private individuals act individually to minimize losses from climate change. Another way to distinguish between adaptation types is based on the timing, goal and motive of its implementation1. Anticipatory adaptation refers to action that is taken in advance of impacts becoming observable, whereas reactive adaptation is applied after observing initial impacts of climate change. Adaptation in natural systems is reactive by nature; in human systems, however, it can be both anticipatory and reactive. Since public and private actors are involved in the implementation of adaptation measures, decision-making barriers may reduce the desired level of adaptation. From an economic point of view, there are several barriers that prevent governments from adaptation decision-making, such as transaction costs. Other barriers emerge due to market failures such as externalities, information asymmetries, and moral hazards. The 5th Assessment Report of the International Panel on Climate Change (IPCC) (2014) provides a comprehensive literature survey identifying the following economic barriers to adaptation decision-making.

Transaction costs. These are mainly divided into information and adjustment costs. The former referring to the costs that occur when acquiring information and the latter to the costs that come along with replacement decisions of long-lived capital. Market failures and missing markets. These include externalities, information asymmetries, and moral hazards. This is particularly the case when considering maladaptation if adaptation actions of one economic unit negatively affect the damages of one other unit (individual, firm, country, or sector). These market failures also include the problems that arise with insufficient incentive structure and therefore assign a major role to public authorities. Behavioural obstacles to adaptation. Includes all behavioural issues that lead to irrational decisions without using all the available information and are time inconsistent. Social norms and cultural factors also have an inadequate influence on adaptation-decision making. Ethics and distributional issues. These issues connect to the aforementioned differences in vulnerability and adaptive capacity. Usually economic approaches suggest choosing the most cost-effective projects, but ethical concerns imply that adaptation decision-making needs to account for both the net benefits and the impacts on equity. Coordination, government failures, and political economy. Even though public decision-makers are supposed to remove the barriers listed above, they themselves face similar barriers such as insufficient knowledge or resources. Moreover, most adaptation measures require high coordination between different governance levels. Uncertainty. This represents one of the largest barriers to adaptation since it is expands into different dimensions: future developments of demographics, technologies and economics, and future climate change. (IPCC, Synthesis Report). Climate change related adaptation is needed in complementarity with mitigation since mitigation alone is not enough to stave off the adverse effects of climate change. Greater rates and magnitudes of climate change increase the likelihood of exceeding the limits to adaptation. Also the opportunities to take advantage of positive synergies between adaptation and mitigation may decrease with time, particularly if adaptation limits are exceeded. Not only private, but also public actors are required to implement adaptation measures, because individuals are often confronted with barriers, and incentives are often not sufficient to reach the desired level of adaptation. However, strategies to expand the limits of adaptation reach from investing in research and development, increasing economic growth, to "simply" reducing the extent of climate change. The key for an efficient adaptation policy is to be aware of and to overcome these limitations, as well as the decision-making barriers (Mainstreaming adaptation in the EU market).

Built Environment - Climate Change Adaptation:

1. **Technology innovation and sustainability shall be key drivers for value :**

All buildings will need to have ‘newer sustainability’ ratings, while new developments and building codes should also include pandemic preparedness as the key criteria to public health and towards healthy buildings in lieu of recent COVID 19 pandemic surge. Technology will disrupt real estate sector making few real estate types obsolete.

2. **Collaborating with governments will become important**

Real estate managers, developers and the investment community will need to partner with the government to mitigate risks of schemes that might otherwise be uneconomic. In many emerging economies, governments will take the lead in developing a urban real estate and infrastructure. Competition for prime assets will intensify further. Newer range of risks will emerge - Climate change

risk, political risk (policy level and governance related risk), and physical, operational and transitional risks in lieu of climate change to built environment and real estate assets.

Building investment – influence in value creation should focus keeping in mind future proofing for legislative, regulatory and environmental changes. Of prime importance shall be marketing benefits as way towards positive valuation and negating negative exit effectively. For innovation to thrive capacity building and outreach will require resources and its pursuit and think tank allows co-creation, shared value and knowledge transfer with and between corporate entities and helps to address in resolving and innovating futuristic real estate asset and risk situations as built environment and real estate shall be the most sought out sector. Since most of the urban surge shall be in cities and for communities to strive and thrive healthy housing /dwellings with ease of living and smart technology shall be the key required. There is a need for more adequate enforcement of innovative governance tools; the need to embrace and respond to the multifaceted facility of the building sector which it offers; and, the new roles that governments, businesses and civil society need to take up if a meaningful transition towards urban sustainability, town planning and resilience is to be achieved. Due to multitude of environmental regulations and certifications – both mandatory and voluntary – the environmental dimension appears to be most measurable and most relevant in terms of sustainable real estate investments. Energy Performance Certificate (EPC) is one of the mandatory building certifications in measuring a building's promised energy performance. In addition, there are a multitude of voluntary building certifications such as the LEED (Leadership in Energy and Environmental Design), BREEAM (Building Research Establishment Environmental Assessment Methodology).

Way Forward:

Adaptation is a multifaceted problem resolving framework and incorporating Nature Based Solutions (NBS) is the best way forward to it, they can resolve the region specific climate change problem more specifically.

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