

# Socio-Spatial Resilience Strategic Planning Through Understanding Strategic Perspectives on Tehran and Bath

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**Abstract**—Planning community has been long discussing emerging paradigms within the planning theory in the face of the changing conditions of the world order. The paradigm shift concept was introduced by Thomas Kuhn, in 1960, who claimed the necessity of shifting within scientific knowledge boundaries; and following him in 1970 Imre Lakatos also gave priority to the emergence of multi-paradigm societies [24]. Multi-paradigm is changing our predetermined lifeworld through uncertainties. Those uncertainties are reflected in two sides, the first one is uncertainty as a concept of possibility and creativity in public sphere and the second one is uncertainty as a risk. Therefore, it is necessary to apply a resilience planning approach to be more dynamic in controlling uncertainties which have the potential to transfigure present time and space definitions. In this way, stability of system can be achieved. Uncertainty is not only an outcome of worldwide changes but also a place-specific issue, i.e. it changes from continent to continent, a country to country; a region to region. Therefore, applying strategic spatial planning with respect to resilience principle contributes to: control, grasp and internalize uncertainties through place-specific strategies. In today's fast changing world, planning system should follow strategic spatial projects to control multi-paradigm societies with adaptability capacities. Here, we have selected two alternatives to demonstrate; these are; 1.Tehran (Iran) from the Middle East 2.Bath (United Kingdom) from Europe. The study elaborates uncertainties and particularities in their strategic spatial planning processes in a comparative manner. Through the comparison, the study aims at assessing place-specific priorities in strategic planning. The approach is to a two-way stream, where the case cities from the extreme end of the spectrum can learn from each other. The structure of this paper is to firstly compare semi-periphery (Tehran) and core-periphery (Bath) cities, with the focus to reveal how they equip to face with uncertainties according to their geographical locations and local particularities. Secondly, the key message to address is "Each locality requires its own strategic planning approach to be resilient."

**Keywords**—Adaptation, Relational Network, Socio-Spatial Strategic Resiliency, Uncertainty.

## I. INTRODUCTION

THERE is macro, micro level of socio-space. To control socio-space in multi-paradigm world with its complexity, there should be a bridge between micro and macro level of socio-space. This relation can be achieved by developing meso level networking capacity. When making a relation between socio-space levels to control uncertainties, relational complex network with its self-organizing capacity contributes to control uncertainties and converting them to socio-space

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opportunity. Complex relational network is critical strategic planning with its weak and strong ties interacting with each other. Weak ties support flexibility and adaptability of relational network. Otherwise, strong ties in long term lead to imprisoning relational network in own group-sharing. And by producing routine knowledge without experiencing new learning cannot undergo uncertainties. Weak ties are easily ready to new relations by new adapting and learning. Coherence relational network without structural holes cannot be resilient. Totally complex relational network as cobweb on socio-space is protective factor. Complex relational networks dismantle vertically in multi-layers structure of socio-space with feedback control mechanism among layers. Relational network with absorbing uncertainties is resilience strategic planning. Briefly, strategic planning is resilient, transformative and regenerative (Fig.1).

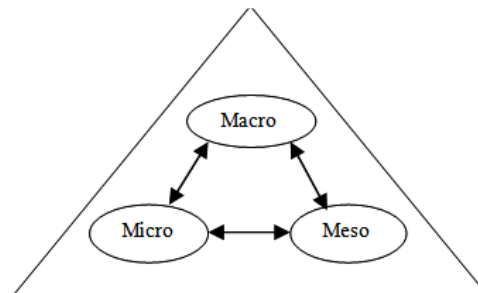


Fig.1 Micro-Meso-Macro scales in reciprocal relations with each other and emphasizing is on relational behavior of meso scale to control uncertainties

By internal socio-space relational network, socio-space stands in global network with self-consciousness, self-confidence. And even, socio-space can exchange capital with different localities through internal self-organized relational network rather than be only receiver of capital and knowledge.

To argue complexity of world-life and necessity of resilient strategy, it is prominent to pen scenario from what resilient self is. Resilience strategy is to improve human life quality in uncertainties. Therefore, by understanding "what resilient self is" contributes to expand resilient self in resilient strategy of meso and macro scales. Second challenging is on highlighting complexity concept and its relational and self-organizing potentials. On third part, by explaining distributed control mechanism, it emphasizes on importance of relational network on controlling uncertainties. Likewise, by "context

dependency” of relational network will indicate efficiency of distributed relational control mechanism. Then briefly, what resiliency is and strategic resiliency surveys on Tehran in Middle East and Bath in UK.

## II. SELF-RESILIENCY

Socio-spatial strategic planning is an important concept in the planning era because the world changes every day with emergences and uncertainties. Adaptation to uncertainties with relational network has become an important issue. In order to cope with and control those uncertainties, resilience has been started to be included in socio-spatial strategic planning. Socio-spatial resiliency can be explained by defining resilient self because self is a part of one society. In other words, selves come together and constitute the society. Therefore we should firstly define who is self. Self is spatially extending through interaction with others and environment. Self consists of unification of brain and body. What is brain? That is in interaction of neurons (Fig.2). Here “the interaction” is important because self/ human also gets consciousness about surrounding environment in interaction. Humans do not understand world with alienation from own nature.

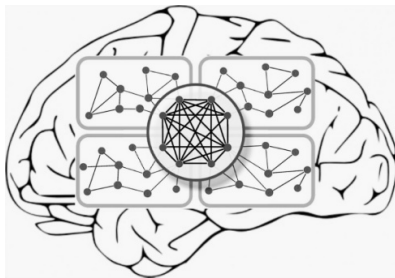


Fig. 2 Neural brain function

By inspiring from brain neural function, what is human society? Human society should be relational cobweb [18]. In order to provide resilience socio-spatial society to uncertainties, there should be interactive society. To resiliency of socio space, it is necessary to provide attendance of self in society.

Self through interacting policy can face with emergences and internalize them. Self in itself is self-organized system and interested in transformative learning rather than imprison in itself. Heraclitus says that “all things go and nothing stays, and comparing existents to the flow of a river, he says self could not step twice into the same river”[25]. The river and water are in mutual transforming. It means the world is dynamic, everything is changing. And self has a capacity to cope with those changes or uncertainties with resiliency of space.

Therefore, what is socio-space resiliency? Socio-space resiliency is not something far from us. To reach to resilient strategy, necessity is on understanding complexity of self rather than reducing it to immobile object to control uncertainties [4].

## III. RELATIONAL COMPLEX NETWORK, SELF-ORGANIZING

What “Complexity” meaning is? Latin root is complexus, which means “entwined” or “embraced”. We can interpret complexity with requiring at least two variables to interacting. Variables are not separating from each other in analyzing. Changing in one variable will disseminate to other variable through interaction. Total attitudes of complexity: 1- There is self-organization and emergences in complex systems. 2- Complex system is not organized centrally, totally that is with distributed manner. 3- It is hard to predict future behavior of system [11].

Then what relational complex means? Relational complex network is not a new phenomenon. That is a trend; human/self understands her/his environment consciously or unconsciously. That is by understanding what self is. Relational network definition will be a reflection of self. Relational complex network includes negative and positive feedback loops. Negative feedback loop keeps stability of socio-space and positive feedback loop refresh socio-space structure through internalizing uncertainties.

Complex relational network is internalizing uncertainties through its flexible structure. To detail, complex relational network includes hierarchical socio-space organization (Causal relation) and in parallel it is with horizontal and free relations (Circular relation). Hierarchical organization keeps system stability. This is for system stability, but its weak ties and free relations (structural holes) underpin flexibility of relational network to new learning and opportunities.

Uncertainties are protective factor to keep socio-space self-organizing. Otherwise, self-organizing capacity of system is disappearing [1]. Moreover, without uncertainties, socio-space is enslaving in its own stereotypes and decaying. Because of that socio-space should fluctuate in between order and disorder [14]. Complex System is continuously facing with bifurcation point. It is essential to continuously observe behavior of system to direct system in bifurcation point (Fig.3).

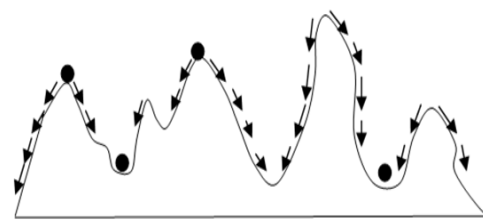


Fig. 3 Circle (Socio-space) in stable and bifurcation points [15]

## IV. DISTRIBUTED CONTROL, CONTEXT DEPENDENCY

Distributed control can be explained as controlling uncertainties with different responsible bodies/actors. Control in socio-space is relational control at meso scale in between micro (Individual) and macro (Global) stages. Relational control is elastic cobweb in front of uncertainties. In locality relational control, actors should practice to be open to learning, change and adaptation. And relational network is emergence-led. By emergency-led of locality relational network continuously learnt in itself to internalize emergences producing in it between relational ties. In this sense,

uncertainties can easily internalizing by continuously socio-space self-criticize and self-discipline itself. Relational network has culture of distribution of control among actors through their interaction and cultivated its self-organizing capacity. And distribution control mechanism manifests elasticity of network. In Fig.4, it is assumed that there is society layers with interaction making 3-D volume but in reality nodes and arcs are working as elastic control network. And resiliency is in socio-space elasticity far from plasticity (Fig.4).

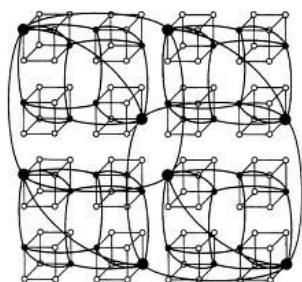


Fig. 4 Socio-space elasticity (Resilient relational socio-space in multi actors and layers socio-space)

Relational control mechanism efficiency is going over by “Context dependency “of relational network. When context dependency of relational network is high, socio-space behaves more resilient in internalizing uncertainties. Fig.5 indicates three context dependency relational cases which their context dependency explains by arrow thickness. In other words, Fig. shows that how much there is high friction in between relational network and context, socio-space equips with resiliency and uncertainties hardly intervene in micro scale and disturb inhabitants’ life.

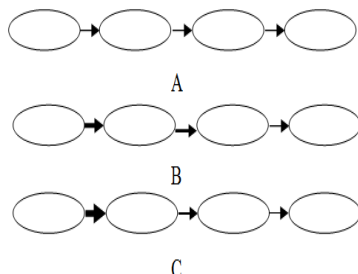


Fig. 5 Context dependency high, friction is high then controlling is high; A) Zero Friction (Simple and complicated society) B) Semi Friction C) Relational context dependent (High Friction)

In short, what is important to control uncertainty and conversion it to socio-spatial potential is context dependent relational complex system. That is distribution of control among multi actors in multi-layer society.

V. RESILIENCE

How does socio-spatial system cope with difficulties/uncertainties/emergences? Socio-space copes with emergences by developing capacity of learning and adapting. Charles Darwin states “it is not the strongest or most intelligent that survive, it is the most adaptable to change.”

Resilience is not immediate response to events. Resiliency is process. To develop, when socio-space is inside of resilience process, sharp collapsing of that is rare even though system is not still perfect resilience. In fact, there is not something as perfect resilience. Only there should be challenges to stay in resilience process by strengthening relational network, open to learning and change, adaptation. And to change and learn, selves/actors need to be familiar with culture of interaction because developing of learning environment leads to shaping locus of control and self-organizing socio-space [21]. Learning environment is articulating by relational network. Strengthening socio-space resiliency is by referring on self-consciousness of socio-space. How much does socio-space have consciousness about its accumulated cultural, social, environmental and economic capital? Self-consciousness is reachable by articulating relational network in different layers of socio-space. In fact, resiliency is complex relational network.

Resilience as learning process shapes trajectory of change by people hands. Learning capacities of space witness to socio-space adaptability capacity. In fact, socio-spatial system is not static system, in contrary that is capable of continual adaptation, learning and innovation which is generating new “meaning”.

Other socio-space resiliency criterion is context dependency. To socio-space resiliency needs to decrease alienation from context. Alienation with society causes to break down morality and to feel powerlessness in uncertainties [3]. Totally resilience society is moral society. And all our discussion has emphasized on importance of relational culture in shaping human society.

VI. RESILIENCE STRATEGY TEHRAN VS. BATH

What Tehran is. Tehran is scenes of paradoxes in between modernism and post modernism. Tehran, capital of Iran, places in Third World and it is conceptualized in terms of crisis and uncertainties -“Big but not powerful”.

With economic changes, erosion of nation-state, knowledge based society and post modernism concepts in world, Tehran faces with important events in its own territory orderly; 1- 1979 revolution 2- 1982-1988 Iran-Iraq war 3- 2009 green movement. Those events have effectual roles in future city evolving and city vision is founding on these events. However 1979 revolution is more effective than other events in formulating city vision.

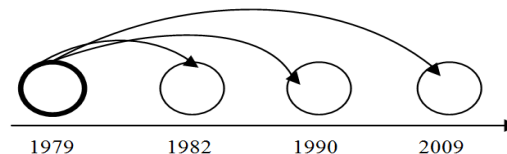


Fig. 6 1979 event impacts on following socio-space evolution and determines city vision

Tehran mega city how much closes its gates to flowing capitalist system, capitalism finds its own way to intervene society which is observable in Tehran city life, such as pluralism, western life style, weak local identity, consumer culture, universalism local culture and more critic is

challenging for planning global city. But planning global city stays in superficial level when city management is hierarchical and there is not relational culture and interaction among political, economic and social actors. Tehran city rather than merely applying strategic vocabulary as a fashion to demonstrate its updated world knowledge and instead of re-organization of comprehensive planning, it should concentrate on strategic spatial planning. Problem is in existed (positivism) paradigm and legal system. Otherwise, there are capable planners to plan according to time spirit.

Tehran mega city can confront with serious uncertainties; 1- environmental uncertainties (Earthquake), 2- Values (Grassroots Movement, Global Culture) 3- Political and economic instabilities. Uncertainties cannot resolve without formulate relational network in locality. Till now Tehran city planning emphasized on keeping wholeness of society by classical mechanistic understanding. It looks at city problems in framework of organic theory by over-determination of actors' functions independently. And with weak theoretical framework can't dismantle planning according to human preferences and cannot get successes in planning global city. Because theory is freezing in previous 20 years but human knowledge and values are continuously is changing. Today is not simple form of past. Peirce states about world of surprises and how they change human expectations about the world. Only when humans get consciousness about their limitations they embark to develop new belief/ thoughts. Therefore, theory is developing in process, in practice by self-criticizing itself through its deficiencies. Of course, Tehran recent grassroots movements express culture of togetherness and that is symbol of relational network. But that stays as temporary perturbation to system when that is not legitimizing by political power.

Tehran city tries to keep its wholeness by classic mechanistic system understanding while wholeness achieves by interaction among components. To explain the importance of interaction in everyday life, particularity of all matters such as beauty, life, status, intelligence... are in result of variables interaction.

Tehran mega city is composed of 22 districts. Those subunits with cultivating internal relational network can connect to global network and catalyze existed legal system change. In this sense, each district produces own knowledge. Here, each districts with internal relational network makes correlation with other districts and in meso stage, there is another relational network (Fig.7). Internal relational network inside of Tehran districts is experiencing in some districts. However, only district 22 gets successes in making relation with "World Health Organization (WHO)" and trying to program strategic plan based on WHO criteria. Successes in District 22 encourage other Tehran districts municipalities to join WHO. This is good challenging to changing legal system by showing plurality of life. Even if districts face with implementation problem and they do not operate according to strategic vision.

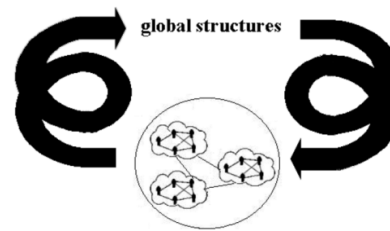


Fig. 7 Tehran three locality (Districts) sample, internal relational network in each district and correlation between them and connecting with global [9]

In Tehran mega city, political powers in studying their relation with society actors should apply synthetic dialogue rather than analytical method; otherwise they can't see invisible dangers. They should see problems in relational complex network.

Briefly, Tehran city planning experiences strategic challenges named as "Tehran 2000"; strategic vision was to create multifaceted city: 1- a clean city 2- a moving city 3- a green city 4- a cultural city 5- a modern city amidst a traditional city. Tehran 2000 need to cooperation of academics, public officials, neighborhood residents and ordinary citizens to be heard during the drafting process to minimize discord and technocratic arrogance. Second Tehran strategic challenging calls "Tehran 2007"; strategic vision was; 1- Iranian-Islamic identity and authenticity 2- knowledge base and intelligent 3- Green and lush with wide and diverse public spaces 4- Safe and sustainability 5- Stable and coherent structure for living, 6- Working and leisure promise. In short, Tehran is without strategic plan, when legal system is not in consistency with strategic plan function. Without Strategic spatial planning, reaching to socio-space resiliency is impossible. In Tehran political power should learn to partnership with private sphere. To increase quality of life, togetherness of political public sphere and civil public sphere keep system to resiliency.

In contrary to Tehran placed in Third world, there is Bath located in Somerset district of south west England. There is a strategic plan for this district called as Bath and North East Somerset District Core Strategy which aims to define a strategic planning framework to guide change and development in the district over the twenty years. This plan uses information, statistics, studies, and community involvement to define main social, physical, and economic characteristics' of district. For the future, this plan identifies spatial vision and strategic objectives, how district and its localities will change and develop and also identify how to deliver the vision and objectives. There are general policies about district in addition to local-specific policies.

It can be said that Bath historic city has a strategic project with implementing relational planning culture in own locality with local and global vision. Bath city can be successful sample in dismantling strategic planning by social coordination among multi-actors and multi-dimensional strategies. The actors involved in planning process can be summarized as local residents, organizations, local businesses and national organizations. It means that socio-space complexity is observable and soluble by public-private partnership. Those actors enhances the participatory approach

during planning process, especially public participation is an important issue. Planning community published some comment forms in order to get reflections from public. In this comment forms, suggested issues of the plan explained, then asked what they think about plan. This shows distributed control in relational complex network to be resilient socio-space with get reflections from local people living there. Bath strategic vision is abbreviating in; maintaining and enhances the Outstanding Universal Value of the Bath, World Heritage Site in addition to being strategic spatial plan. All decisions taken during planning process supports the conservation, resiliency and development of the city. Bath city also confronts with uncertainties with different dimensions: 1- environmental uncertainties (flood risk) 2- destruction of historical resources 3- Global uncertainties. To these uncertainties Bath city planned strategic spatial plans with articulating relational network among sectors and actors. It is clear, strategic spatial planning has potential to be resilient and in constant motion continuous its way. Strategic spatial planning makes the planning system resilient in order to manage change and uncertainties. There is not fear for strategic planning in facing with uncertainties since it develops relational network in locality as elastic cobweb. Bath city can formulate resilient strategic planning when there is relational mechanism in society. Relational mechanism indicates culture of change and learning in that locality not only from political side but also from civil activities. In fact, one of important item to program and implement strategic planning is training virtuous citizens who are not indifferent about their own locality and all worlds. Citizens think universally but do locally.

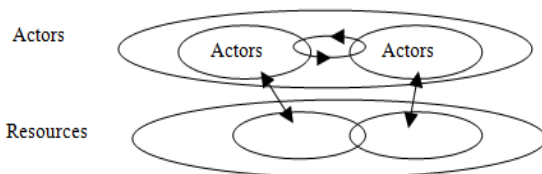


Fig. 8 Bath city simulation

Local particularities message resilience particularity in different context. Each socio-space to cope with uncertainties requires particular resilience strategy. Each locality has own problems. Resilience strategy is a control process. That is control process with respect on uncertainties and opportunities. That does not work as flawless rational control mechanisms with over determination.

In fact, control process is accumulation of control mechanisms. They are informative, descriptive, Indicative, simulative, competitive, normative and imperative control mechanisms [25]. Utilizing control mechanism is depending on political regime and level of economic development of locality. In Tehran planning control mechanism is normative-imperative. And Bath is competitive- simulative. Tehran control mechanism is to provide homogenous society under state suppression. But even with rigid regulation, Tehran cannot be successful to control today actor mobility. How much state is ignoring socio-cultural changes will confront with strong wave of civil disobedience. Instead of increasing

internal tension, it is essential to cultivate relational public space for participating inhabitants, private and public institutes and re-establishing actors' demands. Tehran planning system should be inter-disciplinary and problem-solver knowledge rather than disciplinary and investigate-initiator. Tehran with relational culture deficiency requires education mechanisms to empower actors with relational culture.

Particularities of localities such as Tehran particularities as socio-political movement, changes and Bath historical priorities should embed in resilient strategic plan. Resilient strategic plan is multi-dimensional plan and parallel to socio-political changes in Tehran, historical and natural resources also should consider in city strategic project especially Tehran with over two century historical background. But pillar importance to achieve resilience strategic plan of Tehran is by understanding pain of collective events (Civil movements) in its socio-space. Bath context is silent socio-space and with planning mechanisms and skills can quickly reach to resilient project. Bath is an example of integrating strategic spatial planning with resiliency. Bath can be stable in out of equilibrium and control itself in liquid modernity when new changes happen in weeks or less. With strong elastic relational network, Bath is internalizing uncertainties easily and even converts them to locality opportunity. In addition, uncertainty is broad. There is not any exact definition what uncertainty is. Everything in life when that is not pre-determined can be uncertain, even uncertain is uncertain. Uncertainties are good to present learning opportunities (Peirce, Davidson, McDowell; Error concept). Because the world may not tell us when we are right but it often tells us when we are error.

## VII. CONCLUSION

Uncertainties are always in our life. Only differences are in planning mechanisms considering uncertainties or ignoring them. In fact, when human is multi-dimensional, planning mechanism should program relied on multi dimension capacity of human. Human life and self is not simple to represent that in a single over-determined and pre-occupied tableau. Human becomes human in practice in relation with environment and others. And signs in a system do not have meaning on their own, but through the relationships amongst all the signs in the system.

Planning is only mechanisms to reply human preferences and enhances quality of life. And resiliency is not an external mechanism; we implement that to reaching resiliency. Socio-spatial resiliency is reachable when we understand what society (Selves) is and what society needs. Resilience Strategy is founding on relational society.

Resilient socio-space is always attracting to unknown. It is stable in facing with diversities. Socio-space mind is stock of alternatives to solve problem. It has dialectical synthesis capacity. Resilient behavior in system analysis also tries to select suitable action to compensate perturbation destruction and re-organize itself. Resilient socio-space does not control perturbation by negative feedback but it is by positive feedback striving to develop itself.

The resilience strategic plan is dynamic and context-dependent: the ways in which these processes occur will vary between communities and even within the same community in

response to different types of change. Socio-space resiliency is as a process rooted in cultural values and practices [17].

In short, resilience strategy model has been explained in Fig.9; there are three micro-meso-macro levels reciprocally adapting, controlling each other and developing horizontally. In this paper, emphasizing was on meso level, how it behaves as relational complex network to control uncertainties. Relational network is context-driven. Tehran and Bath localities' relational networks are particular according to their context specialties.

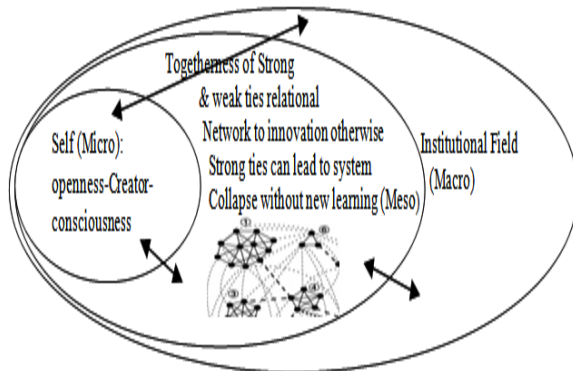


Fig. 9 Socio-space resilience strategy model

And it can be said that every locality should have their own socio-spatial strategic resiliency plan in order to cope with uncertainties and emergences since each locality has their own value, problem and solves. In order to succeed socio-spatial strategic resiliency plan should start to discover and know what resilient self is due to the fact that self is a complex relational system. Also, multi-actors should be involved in planning process for distribution control in context dependent relational complex network. With those issues, socio-spatial strategic resiliency is achieved.

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