



NARRATION OF SUSTAINABLE DEVELOPMENT IN BIOSPHERE RESERVES AND ECOSYSTEM SERVICES FROM ECOLINGUISTICS AND ECOSOPHY STANDPOINTS

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ABSTRACT

Narration of sustainable development in this paper will be explored in understanding the construction of *verum factum*, what man understands as true and what he has made of himself, regarding the construction of discourses of situatedness, sequencing, world-making/world disrupting, and the reality of biosphere reserves and ecosystem services in general and Indonesia in particular. When the words narratives and sketch notes are applied to the contexts of the sustainable development of the biosphere reserves as well as the storylines of the ecosystem services in exposing the global orchestration, regionalized or orchestrated world, mosaic ecosystem management, and techno garden, what do the dominant discourses expose? As narratives, storylines, and sketch notes involve ideology framing metaphor identity erasure or salience, how do they expose the dominant discourses? How do the conditions of *verum factum* expose human subjectivity, the various semiotic resources, and social conditions? The data in exploring the narration in this study were taken from UNESCO's Man and Biosphere Reserves documents (2020), Millenium Ecosystem Assessment Findings (2005), and Blue Communities International Research Collaboration (Blue Communities, 2021). This paper will try to show the dynamism of the narration of biosphere reserves and ecosystem services in planning, practicing, mitigating, and building the capacity for a sustainable development period.

Keywords: Narration, Sustainable Development, Biosphere Reserves, Ecolinguistics, Ecosophy

1. INTRODUCTION

Narrations of Sustainable Development Goals (SDGs) in relation to UNESCO's Man Biosphere Reserve program (MAB), Millenium Ecosystem Assessment (MEA), and the Blue Communities Research Project (BCRP) reflect a trajectory of planning and action in the Anthropocene world with discursive and intertextual articulations based on a syntactic phase of how man is continuously constructing his world and in return, on the semantic phase, is continuously being reconstructed as a result of facing the realities and challenges posed by the evolution of the ecosystem, triggered by nature and human beings dynamic relationships. The concepts of narration or narrative or storyline or sketch note used in some research and documents related to the SDGs have been among others framed as a narrative model (Obura, 2019), a new narrative for transformation (UNESCO MAB, 2020), a scenario storyline of reactive or proactive approaches in positioning ecosystem services (Reid, Mooney, Cropper,

et.al. 2005), and a sketch note in understanding the marine environment and the role of research in it while developing among others capacity building (Blue Communities, 2021).

In one of UNESCO MAB's documents, narration is connected to the *why*, *the how*, and *the what* in the planning of achieving *transformation* as part of its global communication strategy. Besides the use of the word narration, the word *story* is also used to communicate *facts* in such statements as *less data sharing, and more storytelling*. The storytelling is to boost the implementation of SDGs in finding solutions to the biodiversity loss and ecosystem crisis (UNESCO MAB, 2018, 2020). The context of the use of the *new narration*, in the document then is the emphasis that as an inter-governmental scientific program, it is working to solve the problems and improve the relationships between nature and humans. It is also improving people's livelihood, strengthening capacity-building, safeguarding the ecosystems and rich biodiversity, managing sustainable living, and promoting

breakthroughs to economic development that are socially and culturally appropriate and environmentally sustainable. Through the works of the communities and the local governments, the MAB's projects are aiming towards the SDGs agenda in 2030 which among others are 'protecting, restoring, and promoting sustainable use of terrestrial ecosystems, managing sustainable forests, combating desertification, halting and reversing land degradation and biodiversity loss' (UNESCO, 2018, p.10).

Then in one of MEA's documents on the other hand, there is the *scenario storylines*. They are firstly connected to society in what is termed as the *Global Orchestration*, focusing on trade and liberalization of economy, ecosystem, reduce poverty and inequality, and investment in infrastructure and education. Secondly, *Order from Strength*, they are connected to address the regionalized and fragmented world with security and protection towards the ecosystem, and pushing regional markets. Thirdly, in *Adapting Mosaic*, particularly in the context of involving political and economic activities, they are aiming at strengthening the strategies of ecosystem management. Lastly, in the *TechnoGarden*, their approach is to connect the world to environmentally strong technology and engineered or managed the ecosystem services by relying on political, scientific, credible, and utility legitimacies. (Reid, Mooney, Cropper, et.al. 2005). The context of the use of *scenario storyline* in the MEA document is not that they are predictive scenarios. They are used to describe world environment management development that resulted in *reactive* and *proactive* conditions and trends. The task of the *Global Orchestration* which is being categorized as reactive is to address environmental policies to lower the population and habitat loss and to support higher economic growth and Green House Emissions (GHG) emissions. The *Order from Strength* which is also categorized as reactive is needed in facing emergency and to back up economic problem. Eventually, the *TechnoGarden* and *Adapting Mosaic*, considered as proactives, are to produce best GHG, Nitrogen, and water; support economic growth and be aware of the risks if the reliability of the ecosystem services decreased and problems from new technologies arise (Reid, Mooney, Cropper, et.al. 2005).

Eventually, in the form of *sketchnotes* applied by the Blue Communities International Research Collaboration (BCIRC) that is not connected only to Indonesia's marine MAB project in Taman Nasional Taka Bonerate (TNBNR) from 2017-2021, but also to other Southeast Asian countries, Malaysia, the Phillipines, and Vietnam represented by their universities and universites and research groups in the UK. (BCIRC, 2021). The *sketchnotes* are addressing 6 key areas, supporting health and well-being, improving governance and management, ecosystem services and resource management, modelling and understanding future scenarios, and capacity building and research techniques which are addressing SDG 1 (no poverty), SDG 2 (Zero hunger), SDG 3 (Good health and well-being), and SDG 4 (life below water)

(Blue Communities, 2021). The focus of the sketchnotes in Indonesia is marine MAB TNBNR, one of the four marine MABs in Indonesia, out of the 19 Biosphere Reserves (MAB Report, 2020). TNBNR covering an area of 530,765 hectares was first designated as TNTBR by the Decree of the Minister of Forestry Number 92/KPTS-II/2001 dated March 15 2001. It consists of 18 small islands, 5 *bungin* (a sand dune that doesn't sink when the sea level rises) and 30 *taka* (sand dune that will be sink somewhat when the sea level rises) which are spread out to form a ring/ atoll. There are 7 inhabited islands, namely Tarupa Island, Rajuni Kecil Island, Rajuni Besar Island, Latondu Besar Island, Jinato Island, Central Pasitallu Island, and East Pasitallu Island inhabited by the majority of Bugis and Bajo tribes. Taka Bonerate during the Dutch presence in Indonesia was previously called *Tijger Eilanden* or in Indonesian *Macan Islands* (Map 1901 - KITLV Leiden). Then, after being designated as a conservation area, the name changed to Taka Bonerate (TBR) which is taken from the local language (Taka: Coral, Bone: Sand, Rate: Above), literally means "Coral Expanse above the Sand". (<https://kepulauanselayarkab.go.id/tag-bpr-tanadoang.html>).

In describing the preliminary data through the narration entry and its variations as narratives, storylines, and sketchnotes, this study intends to explore the variety of dominant discourses triggered by the narrations used in UNESCO's MAB, MEA, and BCIRC documents. What are the dominant discourses reflected in the narratives, storylines, and sketchnotes? The aims of this study then is firstly to identify the discourses through the actantial schemes of each documents, and then to identify the isotopes; secondly to use the isotopes in the analysis of the framing of the narration from an ecolinguistic standpoint. Eventually, considering the dynamism of the data, this study will explore the narration from an ecosophical standpoint of nature and human beings. The analyzes are to understand the dynamism of planning, practicing, mitigating, and building capacity in the MAB for sustainable development and sustainable living.

2. LITERATURE REVIEW

Based on the variety of data, the use of the term narrative, storyline, and sketchnote, the first step here is to identify what narration is. The word narration is part of a narrative structure covering spatial and time (Prince, 1982, p.26, 27). Story meanwhile is the *cognitive structure in the minds of individuals which influences how they perceive the world. ... Types of story include ideologies, metaphors, framings, identities, evaluations, convictions, erasure and salience* (Stibbe, 2021, p.207). Storyline meanwhile is referring to the connotation being projected in temporal or spatial of experience and sketchnote is *multimodal complexes ... utilizing combinations of language, image, graphs, ... and other visual resources* (Fernández-Fonrecha, Almudena, Kay L.O'Halloran, Sabine Tan, and Peter Wignell (2019, 7). Narration,

narrative, storyline, and sketch more than are all becoming important in addressing environmental issues, particularly in the context of our anthropocene world which is

... the planetary impact of human activities, through various processes including the production of non-biodegradable materials and the release of greenhouse gases into the atmosphere. ... These processes disrupt the balance of many ecosystems, triggering large-scale species extinction, they jeopardize the environment in which our species has flourished. Human history shapes, and at the same time is shaped by, geological and climatological phenomena. This is the fundamental interrelation that the concept of Anthropocene brings into view, and captures by way of a metaphor, that of the human-nonhuman "mesh." If one seeks to understand how narrative engages with and conveys this interconnection, the notion of character – a key concept of narrative theory, and a bulwark of anthropomorphism – would seem to be an obvious and perhaps inevitable starting point. Broadly speaking, narrative tends to place human characters in the agentive position, while nonhuman realities (including nonhuman animals and natural landscapes or processes) are relegated to the position of objects: tools to further human ends, or a backdrop to human-centered events. This is a general trend and does not apply to the same extent to all narratives, of course. Appreciating the narratives that do put pressure on this anthropocentric set-up involves reconceptualizing the notion of character and opening it up to nonhuman realities (Caracciolo, 2018, p.174).

Narration or narrative then involves a wholeness that men have created themselves, where they are the subjects, the world of civil society, and their principles which are to be found in their minds. So men constructed their social institutions. The structure has a *wholeness* in the sense that it has internal coherence (Hawkes, 2003, p.13-14). Narrative is understood as the *representation of real or fictive events and situations in a time sequence ... a collection of signs* (Prince, 1982, p.1,8). Then in the study on narratology and semiotics, it is defined as *the irruption of discontinuity into the discursive permanence of a life, a history, an individual, culture, disarticulates it into discrete states between which situates transformations* (Schleifer, 1987, p.131-132). From the tradition of structuralism and semiotics, the concept of narration is captured in the binary system through Saussure's *langue* and *parole*, diachronic and synchronic, syntagmatic and paradigmatic, signifier and signified; N. Chomsky's competence and performance; R.Jakobson's metonymy and metaphor, C.Levi-Strauss's syntagmatic and paradigmatic; T.Todorov's *in-*

praesentia and *in-absentia*; R.Barthes' writerly and readerly involving the codes: hermeneutic, semic, symbolic, proairetic, and the cultural; and eventually A.J. Greimas' trajectory actantial scheme involving sender-receiver, subject-object, and helper-opponent (Durant and Fabb, 1990; Jakobson, 1987; Levi-Strauss, 1980; Scholes; 1974; Selden and Widdowson, 1993; Hawkes, 2003).

Then, there is the econarratology works on narration that among the thinkers sees how Greimas trajectory actantial scheme is still relevant with some modifications (Caracciolo, 2018, p.175). Considering the nature of interconnectivity between language and other field, Greimas is one of the theorists besides Derrida and Lacan to ... *emphasize the intertextuality of scientific and humanistic discourses ... [and therefore] a semantic model of social and cultural relations* (Schleifer, 1987, p.xvii, xviii). Greimas actantial scheme ... *goes beyond distinctions between human and nonhuman or animate and inanimate types of agency* (Heisse in James and Morel, 2020, 207). However, considering the complexity of the survival of the ecosystem in the Anthropocene world, as it is certainly not a matter of a binary construction, the understanding of the transitivity, although the understanding of it still is relevant, other additional strategy is needed. Goatly (in Caracciolo, 2018, p.175, 178-179) pointed at ergative system, the 'it' and 'there,' the reciprocal verbs, promotion of place and environment, and nominalization to be considered in addition to the transitivity.

Greimas, the structuralist-semioticians believes that linguistic and nonlinguistic elements are producing significations with double articulation where the units of narrative syntax are on the same level as the narrative semantics which form an actualization or actants. The condition which he termed trajectory of discourse thus creates the 'signification on the level of narrative discourse' (Schleifer, 1987, p. 85-86). In the structural tradition of Saussure, Chomsky, Levi-Strauss, Propp, Greimas's theory of narratives produce virtuality as well as double articulation of actualization and realization. In his narrative theory, therefore the categories of the syntactic and semantic structures of the actants are the dynamic desire- knowledge-power relationship. Firstly, between the subject vs object, which emphasizes the teleological relationship, a matter of desire. Secondly, between sender vs receiver, which is characterized by an etiological relationship or knowledge. As an entity that transforms, an axiology, the sender is on the level of anthropomorphic of the universe of values. Last, the opponent vs helper, the circumstantial participants, the aspectual relationship, the power (p.103-107). It is through this binarism of syntactic and semantic structures that Greimas added the concept of isotropy or the sense of wholeness beyond the sentence, always open, and therefore also polysemic and has the sense of discourse which in itself is understood as the superimposing structure, conceived through the dynamics of the spatial terms (p. 76, p.93).

Narration then as stated by James and Morel (2020, p.2), in relation to econarratology is a *touchstone in environmental humanities*. Furthermore, the interest of narratologist is *the place of human in a broader ecological contexts*. (Herman in James and Morel, 2020, 7). In such context, story or the *storyworld*

... better captures what might be called the ecology of narrative interpretation. In trying to make sense of a narrative, interpreters attempt to reconstruct not just what happened but also the surrounding context or environment embedding storyworld existents, their attributes, and the actions and events in which they are involved. Indeed, the grounding of stories in storyworlds goes a long way toward explaining narratives' immersiveness, their ability to "transport" interpreters into places and times that they must occupy for narrative comprehension. Interpreters do not merely reconstruct a sequence of events and a set of existents, but imaginatively (emotionally, viscerally) inhabit a world in which things matter, agitate, exalt, repulse, provide grounds for laughter and grief, and so on—both for narrative participants and for interpreters of the story. More than reconstructed timelines and inventories of existents, then, storyworlds are mentally and emotionally projected environments in which interpreters are called upon to live out complex blends of cognitive and imaginative response. (Herman in James and Morel, 2020, p. 152).

Herman's views on narration, apparently is used as reference to one of the definitions of narration in ecolinguistics as *stories in people's minds which involve a sequence of logically connected events* (Stibbe, 2015, p. 152). Stories can be the traditional tales that shape cultural knowledge, or the generally accepted. Stibbe stated that in the traditional sense the word story refers to narrative which has clear beginning, middle and end. So, narration itself is connected to stories which he defined as *mental models that influence behaviour and lie at the heart of the ecological challenges we are facing*. Such challenges are connected to *economic growth, about technological progress, about nature as an object to be used or conquered, about profit and success* (Stibbe, 2015, p.2,5). He argued that humans have contributed to the human experiencing alienation and environmental damages as reflected in the prosperity, biblical, security, and secular stories with metaphors of *'individualism, progress, economism, and anthropocentrism [that have] have merged into a powerful process of conceptual and moral legitimation.'*

In developing his theory of ecolinguistics, Stibbe complemented his analysis with narration besides the eight types of stories about cognition as reflected in people's minds. The first is ideology with elements of linguistics used by a certain group of people; second is

framing triggered by words that reflect the works of minds; third is metaphor with special or different way of thinking triggered by words; fourth is evaluation with positive or negative ways of thinking that represent certain field of life; fifth is identity with certain language formation to identify certain character; sixth is believe with variety of forms that represent what is right, in doubt, and wrong; seventh is erasure with forms that cannot represent certain life; and eight salience with the forms of language to represent life. Narrative in this context is related to continuous structural, logical, and temporal in the represented language (Stibbe, 2021, p. 28).

In the meantime, considering that narration is used for *transformative change* (Obura, 2019) particularly in the contexts of protecting the rich biodiversity that is continuously shrinking, the ever-changing social upheavals, and what Stibbe's called the *ego-vs-eco* and clearly stated in the MAB's document on values, supported by the semantic scheme involving the knowledge-desire-power relation, a frame of ecosophy needs to be used in addressing the nature-human beings positioning. The tradition of ecosophy begins with Arne Ness and Felix Guattari. Ness with his deep ecology is urging researchers to address the facts that have important priorities. His principles to the priorities as well as the environmental conflicts raised the issue of human-non human, diversity of life, human is not the ruler of nature, the development of human and human culture, human involvement in all, the change of policies, the change of ideology, and responsibility to implement change directly or indirectly (Naess, 1999; Naess, Mosquin, Carson, 2013). Meanwhile, Guattari emphasized human subjectivity, social and ecosophy relation semiotically, and environmental ecosophy. The understanding of human subjectivity, in his context is the capitalistic subjectivity which is a *'terminal' for processes that involve human groups, socio-economic ensembles, data-processing machines, etc* (Guattari, 2000, p.36) Subjectivity is used then to understand the human positioning in particular time and space and context, in history, including the understanding of the four capitalistic powerful regimes in the world, economic, legal, scientific technicalities, and subjective context of group of people. The last, understanding widely the environmental issues to articulate new ecological plannings (Guattari, p. 47-48). According to Guattari, ecosophy is *... the practical and speculative model, ethical-political and aesthetic, ... [it is] rather a simple and efficient renewal of the old ways of conception of the human being, of society and the environment* (Guattari in Cavalcante, 2018, p.25). One of the important concepts from Deleuze and Guattari in the ecosophy context is *rhizomatic* which is often related to the subjectivity in Guattari's theory. It is defined as *it [the mind] has no beginning or end; it is always in the middle, between things, interbeing, intermezzo ... the rhizome is alliance, uniquely alliance ... Where are you going? Where are you coming from? What are you heading for? These are useless questions ... proceeding from the*

middle, through the middle, coming and going rather than starting and finishing (Deleuze-Guattari in Brailaz, 2020, p.25). Thus, in approaching Guattari's ecosophy it is to understand the rhizome of the human subjectivity is an approach to understand sustainable development and living.

3. METHOD

This study of narration of sustainable development is qualitative. The first step taken is to select the data to be used for analysis, the first one is the *New Narrative* of the UNESCO's MAB, which covers why transformation is needed, how the positive transformation happens, and what is the practical transformation action. Then in the MEA *Scenario Storylines* consisting of four storylines, the *Global Orchestration*, *Order of Strength*, *Adapting Mosaic*, and *Technogarden*. With the Sketchnotes, the sketchnote data used in the *Global Challenges* of BCIRC. All the data will be analyzed using Greimas narrative actantial scheme, the subject-object; the sender-receiver, and the opponent-helper. The second step is as each pair in the documents represents three relationships, desire, knowledge, and power, the relationship between the documents will also be analyzed by identifying the isotopes.

Furthermore, based on the isotopes, the narratives or storylines or sketchnotes will be discussed to understand what frame of sustainable development is exposed (Stibbe, p.47-48) from the ecolinguistic standpoint. Then the narrative actantial scheme will eventually be analyzed to understand the rhizomatic-ecosophical standpoint of the narration of sustainable development represented in the data.

4. FINDINGS AND DISCUSSION

Findings

1. UNESCO MAB: NEW NARRATION

UNESCO MAB *New Narrative* in the *Inspired Positive Future by Connecting People and Nature Today* (UNESCO MAB, 2020) is the document used in this study. It tells the story about how the world is at a crossroad concerning the challenges facing the relationships between nature and human beings. Therefore, anything is possible, economically, socially, and environmentally. There is the urge to look for examples, stories, and practices to demonstrate that transformation is possible. All networks aiming at solutions with the adopted common values will be able to make the biosphere reserves area of practicing efforts to solve problems, turning every crisis into possibilities, and by building capacities for the communities. The Actantial scheme applied is to understand the play of desire, knowledge, and power discourses in the transformation effort.



Figure 1: UNESCO MAB New Narrative (MAB, 2018)

1.1 UNESCO MAB New Narrative: *This is a time of transformation, which brings both challenge and opportunity (WHY)*

The first new narrative of UNESCO MAB begins with the subject of the scheme *we*, MAB, who understands the challenges and opportunities of the realities of MAB and therefore address the object of the narration with *transformation*. The sender of the scheme, the global epidemic of *Covid 19*, that causes a global halt to the SDGs, has a receiver of the *shifting of relationship between nature and human beings*. Then UNESCO MAB uses its thriving *networks* and *inspirations* to help the movement for transformation, while being aware of the global challenges, the opponents, such as *climate change*, *species loss*, *overexploitation of natural resources*, *pollution*, and the *effects of urbanization*. Thus, MAB and its transformation movement in the scheme reflects the desire of the discourse of the 'why' of the transformation; the *Covid 19* and the shift in nature and human being reflect the knowledge that will be used to focus on the problems in MAB sites; and eventually the networks and inspiration and the global challenges reflect the power at play through the whole transformation process. Based on the actantial scheme, the isotopes of the words *transformation* and *network* are the representations of desire, knowledge, and power of discourses in the structures of the new narrative.

1.2 UNESCO MAB New Narrative *Biosphere reserves represent a beacon for sustainable development globally and locally (HOW)*

The second new narrative begins again with the subject of the scheme *we*, UNESCO MAB, who promotes itself, as the *Beacon* or referred to as a metaphor of the *City upon a Hill*, thus making biosphere reserves as a model to achieve *positive transformation*, the object. The sender of the scheme, the *networks in 700 places* referring to the 738 biosphere reserves in 134 countries covering 250 million people practicing sustainable development in action, is working on the positive transformation to bring *sustainable development*, *sustainable living*, *celebrate life*, *empower people*. The effort of UNESCO MAB is supported by *model solutions connecting people across disciplines, cultures, and borders*, while being aware of the *global challenges*. Thus, MAB and its positive transformation are again

present in the scheme, except that in this second new narrative the word beacon has a strong intersubjectivity to the presence of the superpower, thus the assurance. The desire reflected in the subject-object relations is therefore implying the MAB is not just a global organization, but the organization with powerful supports. The sender's networks as the value of achieving sustainable development, sustainable living, celebrate life and empower people show how knowledge can and will work for the people. The power is then maintained through the model solutions while continuously being aware of the global challenges. Based on the actantial scheme, the isotopes of the *positive transformation* and *sustainable* are the representations of the desire, knowledge, and power discourses in the structures of the new narrative.

1.3 UNESCO MAB: *We inspire with real stories of practical transformative action (WHAT)*

The third new narrative begins with the subject of the scheme *we, the UNESCO MAB*, who with the assurance of a strong back up understands its destination, the object i.e. the *tangible, practical transformation action*. The sender-receiver of the scheme *real stories* are to provide the *communities* with *inspiration, restoration, conservation, and amplification*. Then MAB with its *network agenda* assists the practical transformation being aware of the challenges of *diversity of knowledge*. Thus, MAB with its practical transformation action reflect the desire of the scheme. The use of real stories to inspire the communities by restoring, conserving, and amplifying their lives reflect the knowledge and wisdom, considering the values MAB is representing; The network agenda and diversity of knowledge show how dynamic of power is at work surrounding MAB agenda. Based on the actantial scheme, the the isotopes of *practical transformation action* and *network* are the representation of the desire, knowledge, and power discourses in the structures of the new narrative.

2. MEA: SCENARIO STORYLINES

The *MEA Overview Finding* (Reid, Mooney, Cropper, 2015) is the document used in this study that propose the *Scenarios of Storylines* which emphasizes the work of the ecosystem services into *provisioning* (goods from the ecosystem, genetic resources, biochemicals, and fresh water); *regulating* (regulations on air quality, climate, erosion, water, disease, pest, pollination, and natural hazard); and *cultural* (spiritual and religious values, knowledge, education, inspiration, aesthetic, social, sense of place, and recreation and ecotourism).



Figure 2: MEA (2005)

2.1 *Reactive Scenario of Global Orchestration Storyline*

The first regionalization storyline of *Global Orchestration* of MEA begins with the subject of the scheme *ecosystem problems* with the object, i.e. the need for *reactive approach*. The word reactive means among others ... to *reacting to events or situations rather than acting first to change or prevent something*. (Cambridge Dictionary, 2023). The Sender of this scheme is *globally connected society* whose receiver is the *global trade and economic liberalization*. In overcoming the ecosystem problems in the scheme, the *investment in public goods particularly the infrastructure and education* is the

helper, the supporter, while being aware of the opponents, challenges *to reduce poverty and inequality*. Thus, the ecosystem problems and reactive approach are interrelated in the sense that there is the desire to overcome the problems. Then the global connectivism and trade and economic liberalization needs reflect how those that are already globally connected react as a source of knowledge. Then the need for investment in infrastructure and education is important in solving the ecosystem problems, while being reactive to effort for poverty reduction and inequality. Based on the actantial scheme, the isotope of *reactive* in the context of ecosystem services how desire, knowledge, and power discourses work on the structures of orchestrating the global solution.

2.2 Reactive Scenario of Order of Strength Storyline

The second regionalization storyline of *Order of Strength* of MEA starts with similar subject and object in the scheme, the *ecosystem problems* and the *reactive approach*. Then, the Sender of this scheme is the *regionalized and fragmented world* is concerned for the hope of *security and protection*. In overcoming the ecosystem problems, the helper is setting up more *regional markets* while the opponent is *little attention to public goods*. The contradiction with the first storyline related to put investment in public goods, in the previous scenario related to infrastructure and education, is due to the many engagements that arise due to the adjustment of demands in developing the regional market. Thus, the ecosystem problems and reactive approach are interrelated in the sense that there is the desire, strong needs, to address the ecosystem problems. However, the knowledge protection for security appears to be supported more on a regional base solution. It is clear then that here the power of the regional markets is more important when the reactive solution for the ecosystem problems is needed. Based on the actantial scheme, the isotope of *reactive* in the context of ecosystem services is in connecting the desire, knowledge, and power discourses in the structures in the order of strength storyline.

2.3 Proactive Scenario of TechnoGarden Storyline

The third global storyline of the *TechnoGarden* of MEA begins with the subject of the scheme is *ecosystem services* with the object, the need for *proactive approach*. The word proactive refers to *taking action by causing change and not only reacting to change when it happens* (Cambridge Dictionary, 2023). The Sender of this scheme is *global connected world* whose receiver is the *management of the ecosystem*. In overcoming the ecosystem problems, the *highly managed/engineered environmentally sound technology* is the helper, the supporter, while being aware of the opponents, challenges, the *problems*, which can be in connection

technology, global as well as management interests. Thus, the scheme of the ecosystem problems and proactive approach are interrelated in the sense that there is the desire to overcome the problems. The knowledge of global connectivity is needed in the management of the ecosystems. Eventually, the environmental technology can be the solutions, giving powerful solutions to back the ecosystem services. Based on the actantial scheme, the isotope of *proactive* in the context of ecosystem services is in connecting the desire, knowledge, and power discourses on the structures in the technogarden storyline.

2.4 Proactive Scenario of Adapting Mosaic Storyline

The fourth global storyline of *Adapting Mosaic* of MEA's subject-object scheme is *ecosystem services* and the need for *proactive approach*. The Sender of this scheme is *political economy activity* whose receiver is the *local institutions*. In supporting the ecosystem services, the helper is the *local ecosystem management strategies*, while the opponent is might be the implied 'weak local institution.' Thus, the ecosystem services and reactive approach are interrelated in the sense that there is the desire to overcome the problems. The advantages of political economy are considered to know to support the local government. Then ecosystem management strategies appear to give power to address the ecosystem services. Based on the actantial scheme, the isotope of *proactive* in the context of ecosystem services is again the key in connecting the desire, knowledge, and power discourses in the structures on the implementation of a mosaic adaptation.

3. BLUE COMMUNITIES: SKETCHNOTES

Blue Communities International Research Collaboration (BCIRC) is connected to Indonesia's marine MAB project in Taman Nasional Taka Bonerate (TNBNR) from 2017-2021. However, the *sketchnotes* are not solely about Indonesia, but also to other Southeast Asian countries, Malaysia, the Phillipines, and Vietnam. (BCRP, 2021). The *sketchnotes* are addressing 6 challenges observed to be related to countries involved and therefore the project is supporting health and well-being, improving governance and management, ecosystem services and resource management, modelling and understanding future scenarios, and capacity building and research techniques. The regionalized challenges apparently are addressing the global challenges of the SDG 1 (no poverty), SDG 2 (Zero hunger), SDG 3 (Good health and well-being), and SDG 4 (life below water) (Blue Communities, 2021, Garniati, 2018).



Figure 3: Blue Communities (2021)

3.1 Sketchnotes: Interconnections

The clockwise sketchnote appears to show three movements. The first the outer part of the clockwise is the interconnections. The subject-object of this scheme is the BCIRC, the subject, whose object is *understanding complex interconnectivity*. This is supported by the sender which is *the sustainable management to support the development of resources/decision making* in addressing the *UN SDGs international and interdisciplinary collaboration*, the receiver. The support or the helper to BCIRC is the *marine planning* as each partner has knowledge of its own MAB area. However, the challenges might arise related to the *different scientific disciplines*. Thus, desire part of the scheme is BCIRC's need to understand the complex interconnectivity, the knowledge of sustainable management can guide the international and interdisciplinary collaboration; and the expertise of marine planning can indeed support BCIRC to overcome the interdisciplinary differences. The isotopes of *understanding, collaborating, marine planning* are reflecting the drive in the desire, knowledge, and power discourses of the scheme in the structures of the sketchnote.

3.2 Sketchnotes: Key areas

The second part of the clockwise is the key areas. The subject of the scheme is BCIRC and the object is the *local community involvement* in its services in 4 MAB areas in South East Asia. In Indonesia, it will be in TNTBR. This is supported by the sender addressing the *fragile marine environments* with its receiver, the need for *food, livelihood, employment, and health and well-being*. The support or the helper to BCIRC is the *changes in resources*, the sketchnote shows the *wind turbine generator* for renewable energy that might support the reduction of electricity and with an understanding of the challenges or opponents, *impact of fishing, climate change, livelihood, and employment*. Thus, the challenges that BCIRC took and its services represent the desire stage in the scheme; then the marine environment's fragile condition and the communities' needs represent the working of knowledge; and lastly the on-going search to improve services, e.g. in renewable energy will help solve problems, for example in impact

of fishing. Based on the actantial scheme, the isotope of *fragile marine environments* is reflecting the desire, knowledge, and power of the discourses in the structures, in addressing the key areas of research in the sketchnote.

3.3 Sketchnotes: Nature and human life

The third part, the inner part, of the clockwise is nature and human life. Here, subject of the scheme is *human life – fragile environment* with object *health and well-being and marine ecosystems*. The sender in scheme meanwhile BCIRC with the receiver believe in *interdependency*, between BCIRC and local community. The helper to the fragile environment is the *marine planning* as each partner has knowledge of its own MAB area although there is the challenge of from *climate change, pollution, urbanization, health and well-being*. Thus, desire part of the scheme is how the issue of nature and human life can be addressed. Then with the knowledge part that comes from BCIRC in working out the interdependency of all involved. Eventually, the overall marine planning is a powerful step in facing the challenges. Thus, based on the actantial scheme, the isotope of *marine planning* reflecting the desire, knowledge, and power of the discourses in the structures, in working on nature and human's life coexistence in the sketchnote.

Discussion

Thus, through the actantial scheme the isotopes are exposed. There are around 21 isotopes interjected through the actantial scheme in the narratives, storylines, and sketchnote, in the context of desire-knowledge and power discourses, they are words and phrases, such as *transformation* (3), *network* (3), *sustainable* (3); *reactive* (2), *proactive* (2), *global* (3x), *regional* (2x), *understanding* (2), *collaborating* (2), *marine planning* (2), and *fragile environment* (2). All these can be categorized as isotopes as process covering transformation, network, sustainable, reactive, proactive, and fragile and project covering such as understanding, collaboration, marine planning, and global and regional. The isotopes of process and project of sustainable development of MAB, MEA, and BCIRC then are posing as the enhancer, the process or the syntactic scheme, and nuancers, the project or the semantic scheme in the narratives, storylines, and sketchnotes (Dalvi, 2015, p.57). Referring to the actantial schemes, both the process as well as the project are representing the three motives of desire, knowledge, and power discourses reflect, reflecting a dynamism that *everything changes* and thus a dynamic process, a *dynamic semiotic* (Zlatev 2012, 16). The process and projects of sustainable development seen from the three narratives, storylines, and sketchnotes are then dynamics, even though there are opponents, challenges, in planning, practicing, mitigating, and building capacity of sustainable development and sustainable living.

The isotopes of process and project in the narratives, storylines, and sketchnotes of MAB, MEA, and BCIRC then are the preliminary sources to further question how the three sources reflect the dynamism of practicing, mitigating, and building capacity of sustainable development. First, the isotopes of process and project have found a match in Stibbe's framing of sustainable development when he argued about how process has been turned into a goal, in other words projects in the negative sense. Stibbe's was building that argument in relation to how 'inclusive green growth' has turned sustainable development process into goal ... *inclusive green growth as the pathway to sustainable development ... [is just] ... a clever rhetorical move because it changes sustainable development from a process into a goal and then presents the new frame of inclusive green growth as the process to achieve that goal* (Stibbe, 58) MAB's new narratives are urging on the transformation in relation to sustainable development and sustainable living in the context of shifting relations between nature and human and going even further in looking for model solutions in this contexts. Meanwhile, in the context of MEA's storylines, the isotopes of process and project, particular the reactive and proactive discourses in framing global and connected society and the regionalized and fragmented world, also found the framing in Stibbe's framing. *This is a major semantic change, since it moves from sustainable development as an attempt to bring developing countries out of poverty without destroying the environment, to an attempt to increase economic growth in rich countries which are already over-consuming resource* (p.59). Stibbe argued strongly about such framing of sustainable development

In general, there seems to be a tendency for frames which originate in altruistic attempts to make the world a better place to be modified towards more extrinsic efforts towards self-enrichment and profit. This is partly through the reinterpretation of frames by powerful forces, for example, when 'sustainable development' is appropriated by rich countries and used to mean maximizing their economic growth. It also occurs when well-intentioned organizations reframe their activities in more extrinsic terms to win funding or support from powerful forces. While this may be justified as necessary to have more influence in the world, it is self-defeating if that influence becomes so distorted that it achieves the opposite of the original intention. It may be necessary, therefore, to be constantly aware of the tendency for frames to become corrupted by extrinsic forces, and, when necessary, promote new frames which refocus on the original intentions and goals (Stibbe, p.61).

However, observing the implication of the isotopes of process and project in the sketchnote of BCIRC, a question arises. Is such framing used for international-

based organizations, also applied in the research collaborations projects? It is, as stated in Stibbe's argument above, considering that research projects got funding from international organizations that might implement such framing, but probably also not in considerations that research projects in the area of sustainable development have dedicated researchers who have been working in MAB sites, conducting longitudinal research on capacity building to mitigate nature and human confrontations. In spite of Stibbe's framing in the background, it is commonly known that the problems in the MAB site continues, nature and human beings are working hard to work things out, but one project can not solve the core problem. It is in this context, that the bridge of understanding the dynamism is needed in the context of meaning. The perception of language to external process such as cultural presentations, then it is seen as dynamic process rather than static product (Zlatev, 2015, p. 57). From the study of the narratives, storylines, and sketchnote, the framing of the isotopes have shown a challenge in the process of understanding the narration. Desire, knowledge, and power reflected in the isotopes and seen in the challenging way of the framing of sustainable development then seen from ecosophical perspective is considered as the anthropocene's thinking which is focused solely from mostly human perspective (Stibbe, 2021, p.20). Such challenge then should be approached by understanding the subjectivity or the capitalist subjectivity which according to Guattari is protecting interests of groups without disrupting the public. Thus, by understanding such subjectivity, the narration of sustainable development in the biosphere reserves and ecosystem services is framed with the understanding that, according to Guattari (50-51), there are the homogeneity as well as the heterogeneity, in the subjectivity, involved in the planning, practicing, mitigating, and building of capacities of sustainable development.

4. CONCLUSION

Thus, this study has analyzed the discourses of MAB's new narratives regarding the communication strategy of the biosphere reserves, MEA's storylines, and BCIRC's sketchnotes through the actantial scheme of A.J. Greimas. Then, based on the discourses, the isotopes are identified. They are *transformation* (3), *network* (3), *sustainable* (3); *reactive* (2), *proactive* (2), *global* (3x), *regional* (2x), *understanding* (2), *collaboration* (2), *marine planning* (2), and *fragile* (2). All these are then categorized as isotopes of process covering transformation, network, sustainable, reactive, proactive, and fragile and project covering such as understanding, collaboration, planning, and global and regional. The isotopes of process and project of sustainable development reflecting the new narratives, storylines, and sketchnote of MAB, MEA, and BCIRC are then seen as enhancer, the process or the syntactic scheme, and nuancers, the project or the semantic scheme. Then the isotopes of process and project are

analyzed in the framing story discussed by Stibbe and it is concluded that the narratives, storylines, and sketchnotes might fall into the 'business as usual' trap but also not. The understanding of the homogeneity and heterogeneity of subjectivity discussed by Guattari might make a change.

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