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Prof. Dr. Bob Barrett Prof. Dr. Natasa Stojan





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FARUK HADŽIĆ

TABLE OF CONTENTS

TOWARDS A MORE COMPREHENSIVE TUNING MODEL IN PROJECT MANAGEMENT 1
REMCO MAURITS EMILE VAN DER SCHOOT
ANALYSIS OF ELEMENTAL COMPOSITION, FABRICATION TEXTURE AND INCLUSIONS IN POTTERY SAMPLES FROM VASHTEMIA, SITE OF THE EARLY NEOLITHIC PERIOD IN ALBANIA
Erinda Ndreçka
CHALLENGES OF WINTER TOURISM IN ALBANIA: A REVIEW
Elton Spahiu ¹ Entela Kushta ²
SCIENTIFIC METHODS AND APPLICATIONS TO ARCHAEOLOGICAL PROVENANCE STUDIES OF POTTERY FROM PODGORIA, SITE OF THE EARLY NEOLITHIC PERIOD IN ALBANIA
Erinda Ndreçka
THE ROLE OF THE EUROPEAN UNION AND THE PROCEDURE OF CONCLUSION OF INTERNATIONAL AGREEMENTS AFTER THE LISBON TREATY
Blerina Muskaj
THE EUROPEAN OMBUDSMAN. FRONTEX AND FUNDAMENTAL RIGHTS
Blerina Muskaj
WHAT IS IT TO BE A BAD TEACHER? BELIEFS OF FUTURE SECONDARY SCHOOL TEACHERS IN THEIR INITIAL TRAINING IN SPAIN
Juan García Rubio
CDA OF NEWS HEADLINES ON COVID-19 PANDEMIC IN THE NEW YORK TIMES
Natasa Stojan
GLOBAL ECOLOGICAL CRISIS AND CLIMATE CHANGE INEQUITIES, DISADVANTAGES, AND VULNERABILITIES; GLOBAL NORTH GEOPOLITICAL DOMINANCE AND CRITICAL INCLUSION OF GLOBAL SOUTH

Towards a More Comprehensive Tuning Model in Project Management

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Abstract

The increasing prominence of modern 'wicked' problems has highlighted the importance of effective tuning and coordination (Kettl, 2003; Pietrewicz, 2019; Hjelum & Lægreid, 2019; Peter, 2015). However, the unresolved managerial challenges associated with achieving effective tuning pose a significant obstacle (Christensen, Lægreid, & Rykkja, 2013; 2016). Thus, this study aims to develop a comprehensive tuning model for project management by creating and testing a novel tuning model. Drawing upon Mintzberg's (1991; 1992) theories and Espinosa, Lerch, and Kraut's (2004) 'integrated Framework of team coordination and performance' a novel tuning model is proposed. To evaluate the tuning model, a test case was used, employing design research within the framework of critical realism. The test case analysis revealed three key design criteria for an effective tuning solution: interdependence, hours intensity, and user-friendliness. Additionally, the test case produced an effectivity-matrix and selection-matrix for selecting the optimal tuning solution and finally a method to standardize within a dynamic context. In conclusion, the newly developed tuning model along with the effectivity-matrix, design criteria, and selection-matrix, offer practical assistance and insight for project managers seeking to understand, enhance, and evaluate tuning and coordination within their organization and projects. However, further testing and cross-validation of the tuning model is necessary.

Keywords: Tuning, Coordination, Project management, coordination mechanisms, coordination strategy, interdependence, Explicit coordination mechanisms, agile, tuning model, coordination model

Introduction

The surge in coordination and tuning issues can be traced back to the advent of the new public management paradigm, characterized by a decentralized, single-purpose,

and fragmented government. This approach aimed to establish a more efficient, responsive, and accountable system. However, as public issues grow increasingly complex and multidisciplinary, challenges in coordination and tuning arise (Cejudo & Michel, 2017; Musdah, Fattah, & Narwis, 2022). This can be accounted to the rise in what are commonly referred to as "modern wicked" problems (Head, 2022).

"Wicked problems often span a long time period, operate at multiple levels, have multiple conflicting solution directions, and involve multiple actors and stakeholders with conflicting positions."

(Universiteit van Amsterdam, z.d.).

The growing complexity and need for multidisciplinary action stemming from these so-called "wicked" problems, necessitates enhanced tuning and coordination within and across projects and organizations (Kettl, 2003; Pietrewicz, 2019; Hjelum & Lægreid, 2019; Peter, 2015). Meanwhile tuning and coordination have been understudied within the scientific community, with the bulk of the research focusing on competition and cooperation, and, more recently, on coopetition (Pietrewicz, 2019). This is evident, since the managerial challenges of effective tuning continue to be unresolved (Christensen, Lægreid, & Rykkja, 2013; 2016).

Therefore, this study aims to develop a more comprehensive tuning model for project management by creating and testing a novel tuning model. The research objective of this study is to develop a tool that enables project managers and organizations to effectively enhance tuning within their projects or organizations. For the study, a conceptual model has been created (see Figure 1: Conceptual model; collaboration, tuning and performance).

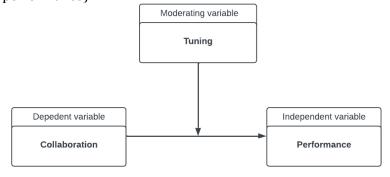


Figure 1: Conceptual model; collaboration, tuning and performance

This conceptual model is based on the 'integrated framework of team coordination and performance introduced by Espinosa, Lerch, and Kraut (2004). They state that tuning has a direct relation with performance. However, in this study tuning is seen as a moderating variable between collaboration and performance.

Theoretical framework

Definition of tuning

Tuning finds its origin in the music world. Instruments had to be tuned to each other, that way the same note would have the same pitch. The goal of tuning is not to do the same thing, but rather to create a unified whole (Van Beuzekom & Van Berkel, 2020). Since then, the concept of tuning and subsequent coordination has found its place in a wide array of disciplines (Shamim, 2022). Pietrewicz's (2019) research provides one of the most recent overviews of the concept of tuning within literature (see Table 1: 'Definitions of tuning').

Author	Definition
Blau and Scott (1962)	Organization of individuals' efforts toward achieving common and explicitly recognized goals.
Thompson (1967)	The combination of parts to achieve the most effective or harmonious results.
Van de Ven, Delbecq, and Koenig (1976)	The integration or linking together of different parts of an organization to accomplish a collective set of tasks.
Malone and Crowston (1990)	The act of working together harmoniously.
Curtis (1989)	Activities required to maintain consistency within a work product or to manage dependencies within the workflow.
Frances, Levacié, Mitchell, and Thompson (1991)	Bring into a relationship otherwise separate activities or events, typically with the goal of increasing efficiency.
Malone and Crowston (1994)	Managing dependencies among independent activities.

Table 1: 'Definitions of tuning'

The definitions from Table 1: 'Definitions of tuning' can all be traced back to their origin from the music world. The best example of this is the definition by Malone and Crowston from 1990. According to Pietrewicz (2019), the successive definition by Malone and Crowston from 1994 is also the most used, but generally in an economic context (Boella & Van der Torre, 2006). However, the study is conducted within an organizational context. Within the field of management and organizational sciences, tuning is divided into two components (Van de Ven, Delbecq, & Koenig, 1976):

- A. Organizing individual activities, and.
- B. Achieving a general, collective, or mutually beneficial goal or interest.

In other words, it involves integrating and connecting dependencies within an organization to accomplish a collective set of tasks (Van de Ven, Delbecq, & Koenig, 1976). Bakker and Hardjono (2014, p. 157) provide a more comprehensive definition of tuning in their book "Horizontaal organiseren" (Horizontal organizing), which is used during the study and test case:

"The ability to align the different business units, processes, and employees that are interdependent and jointly responsible for value creation, without unnecessarily compromising flexibility and autonomy."*

*Translated from Dutch.

The above definition will be used during the research and test case because it is more encompassing than the definition by Van de Ven, Delbecq, and Koenig (1976).

Management of interdependence

The management of dependency, or interdependence, is done through coordination strategies based on coordination mechanisms (Pietrewicz, 2019). Interdependence can be defined as the extent to which the outcomes of one team are directly influenced by or dependent on the actions of another team (Victor & Blackburn, 1987).

Patterns of interdependence and coordination mechanisms can be interpreted differently. Classical organization theory focuses on managing task dependencies. This is the basis for the work of Thompson (1967), Van de Ven, Delbecq, and Koenig (1976), and Malone and Crowston (1990; 1994). This literature suggests that task dependencies can be managed through two coordination mechanisms: (task) programming or feedback. These are referred to as explicit coordination mechanisms (Espinosa, Lerch, & Kraut, 2004).

In contrast to classical organization theory, Espinosa, Lerch, and Kraut (2004) also focus on the context in which the task is performed when it comes to interdependence. They weigh task, team, and contextual variables, stating that "One size does not fit all" (Espinosa, Lerch, & Kraut, 2004, p. 17). They examine both explicit and implicit coordination mechanisms. Implicit coordination mechanisms are described by Wittenbaum and Stasser (1996) as the synchronization of team members' actions based on unspoken assumptions about what others in the team are likely to do. Espinosa, Lerch, and Kraut (2004, p. 10) add to the definition from Wittenbaum and Stasser (1996):

"Those mechanisms that are available to team members from shared cognition, which enable them to explain and anticipate task states and member actions, thus helping them manage task dependencies."

Implicit coordination mechanisms develop based on team cognition. Team cognition evolves through the way the organization utilizes explicit coordination mechanisms (Espinosa, Lerch, & Kraut, 2004).

Therefore, the focus was put on visualizing explicit coordination mechanisms. Espinosa, Lerch, and Kraut (2004) have visualized these two approaches in a framework (see Figure 2: Integrated Framework of Team Coordination and Performance from Espinosa, Lerch, and Kraut, 2004).

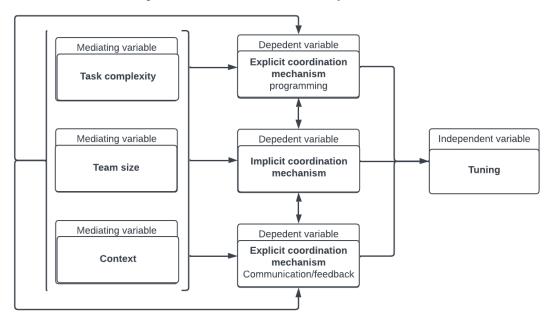


Figure 2: Integrated Framework of Team Coordination and Performance from Espinosa, Lerch, and Kraut, 2004

Mintzberg's (1991; 1992) 'typologies of organizations' align with the 'integrated Framework of team coordination and performance'. First off, Mintzberg adopts the same division for his explicit coordination mechanisms: feedback and programming. Coordination through feedback is based on the exchange of information to make necessary adjustments. Programming refers to coordination through formalization, where tasks and procedures are defined and planned. Mintzberg has added six coordination strategies to these two coordination mechanisms (see Table 2: 'Coordination mechanisms and the six coordination strategies (Kapteyn, 2001)').

Coordination mechanism based on feedback	Coordination mechanism based on programming
Mutual adjustment	Standardization of the work processes
Direct supervision	Standardization of results
	Standardization of knowledge and skills
	Standardization of norms

Table 2: 'Coordination mechanisms and the six coordination strategies (Kapteyn, 2001)'

Secondly, Mintzberg considers the same input variables as Espinosa, Lerch, and Kraut (2004). Based on task complexity, team size, and context of the project, the project can best use certain coordination strategies (see Figure 3: 'Effectivity-matrix; Coordination strategies and when they're effective').

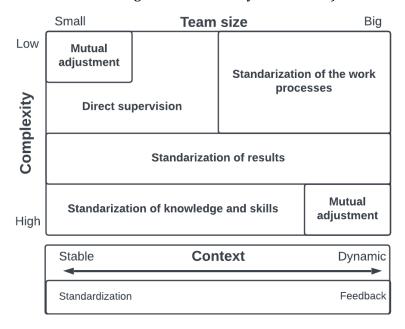


Figure 3: 'Effectivity-matrix; Coordination strategies and when they're effective'

The effectivity-matrix helps with deciding which coordination mechanisms and strategies are most useful within the context of an organization or project. The factors 'complexity' and 'team size' are visualized in the top matrix and the factor 'context' is visualized in the bottom matrix (see Figure 3: 'Effectivity-matrix; Coordination strategies and when they're effective').

When the theories of Mintzberg (1991; 1992) and the 'integrated Framework of team coordination and performance' by Espinosa, Lerch, and Kraut (2004) are combined, the following tuning model can be created (see Figure 4: Tuning model).

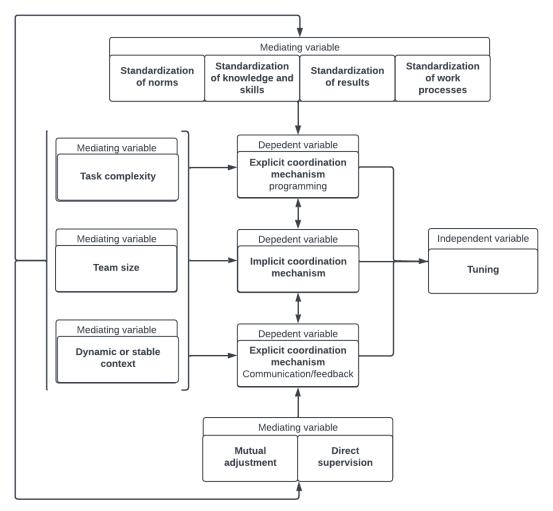


Figure 4: Tuning model

In contrast to the original model by Espinosa, Lerch, and Kraut (2004), the tuning model provides more practical guidance for project managers and the design research.

Research Design

To evaluate the effectiveness of the tuning model, a test case was conducted within the framework of critical realism, using design research (see Appendix A: 'Test case explained'). This approach allowed for the evaluation and improvement of the tuning model. The choice for design research was made because it is well-suited for solving wicked problems (Buchanan, 1992; Lub, 2022; Plomp & Nieveen, 2009). Secondly, design research is explicitly useful for understanding the deeper needs and ambitions of the end user (Lub, 2022). Finally, the formulation of the research question within the test case suggested a design research approach (Andriessen & van Turnhout, 2023).

Test case

To give substance to the design research, Heijnen's (2018) 'cycles of design research' were utilized, as it offers the flexibility to independently shape the design process (Figure 5: 'Cycles of design research visualized during the test case').

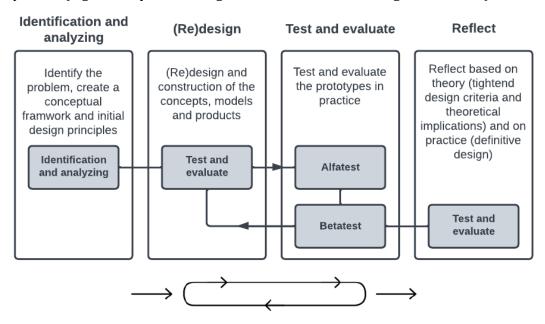


Figure 5: 'Cycles of design research visualized during the test case'

Phase one is the identification and analysis phase, where the practical problem is determined within the theoretical context, and the needs of stakeholders are identified (Dam & Siang, 2019; Heijnen, 2018; Smit, 2018). Phase two is the (re)design phase, where different solutions are developed in the form of artifacts. The design process is guided by design principles identified in phase one (Heijnen, 2018). The 1-10-100 approach is used. The 1-10-100 approach works through a funnel principle, progressing from as many ideas as possible to a final artifact in three steps (Stompff, 2018). Phase three is the testing and evaluation phase, where the chosen artifact is tested and evaluated (see Figure 6: Alfa and beta tests).

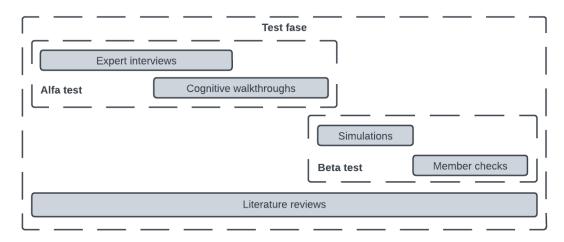


Figure 6: Alfa and beta tests

Phase four is the reflective phase, where the design research is concluded, and both practical and theoretical reflections take place (Heijnen, 2018).

Research methods

Within the design research, various research methods were employed to collect data (see Table 3: 'Overview of research methods used in the four different phases'). More than two independent data collection methods were applied, which contributes to triangulation (Saunders, Lewis, & Thornhill, 2019). This enhances the internal validity and reliability of the research (Heijnen, 2018).

Research methods	Identification and analyzing	(Re)design	Test and evaluation	Reflection
Literature	X	X	X	
Individual interviews	X	X	X	
Group Interviews	X	X		
Member checks	X	X	X	X
Observations	X	X		
Cognitive walkthroughs			X	
Simulations			X	

Table 3: 'Overview of research methods used in the four different phases'

Literature Review

A literature review was conducted using primary, secondary, tertiary, and gray literature from the test case and scientific community. By establishing an explicit theoretical framework, an attempt was made to enhance external validity within the test case(Heijnen, 2018).

Individual And Group Interviews

Ten individual semi-structured interviews and five group interviews were conducted (see Appendix B: 'Respondent Overview'). The choice for individual semi-structured interviews is based on the importance of the respondents' experiences, the context in which it takes place, and the suitability for explanatory research (Saunders, Lewis, & Thornhill, 2019; Verhoeven, 2018). Cases, group, and individual interviews were chosen through purposive sampling, based on the insights of the researcher and stakeholders. Choices were made based on typical and critical cases. Typical cases were selected to provide an understanding of a typical situation, and critical cases were selected for their specific expertise (Saunders, Lewis, & Thornhill, 2019) Afterward, snowball sampling was employed to reach saturation. Saturation was reached after six individual and three group interviews.

Member Checks

Member checks were used to enhance internal validity (Heijnen, 2018). At least once every two weeks, member checks were conducted with the stakeholders. This also contributes to the reliability of the design research (Verhoeven, 2018). The collected data were also reviewed and verified by the stakeholders, supervising teachers, and end-users (four-eyes principle).

Observations

Observations were conducted based on primary and secondary observations. For the primary observations, the "observer as participant" approach was applied. Observations were recorded in the research logbook. For the secondary observations, information was obtained through the stakeholders. This data was recorded as primary observations in the research logbook.

Cognitive Walkthroughs

Cognitive walkthroughs were performed on the prototypes. A cognitive walkthrough is an evaluation technique in which the tester uses the prototype to perform representative tasks and identify potential issues (General Services Administration, z.d.). This method was used to test the artifact against the design criteria without involving end-users.

Simulations

Simulations were conducted using the different prototypes, including testing microinteractions. The simulations were performed with end-users and served as a beta test. Micro-interactions are an evaluation technique that zooms in on specific interactions during the simulation (Shum, et al., z.d.). Both the simulation and microsimulation were used to identify limitations and issues within the artifact.

Interpretation

Tuning model & key design criteria

The tuning model offered significant insight into which coordination mechanisms and strategies were utilized within the test case (see

Appendix C: 'Example insight tuning model test **case**'). The test case also revealed three key design criteria for designing a matching tuning strategy based on the insights of the tuning model. The three key design criteria are interdependence, hours intensity, and user-friendliness.

Interdependence

The artifact should provide insight into interdependence. All the respondents indicated that they had an insufficient understanding of the interdependency between the various district and regional teams. This aligns with the literature and the proposition by Malone and Crowston (1990), that without interdependence, there is nothing to coordinate and subsequently tune.

Hours Intensity

The artifact should have low hours of intensity. All the respondents mentioned that they had insufficient time. A respondent states: "It simply requires extra effort [tuning]. [...] Time is always [too] scarce, to fully engage in all kinds of tuning and coordination". This aligns with the emotionally perceived infinite consultation - 'you can fill your week with meetings' - and tuning within the test case and the wider playing field in which they operate (Gestel, et al., 2021; Kapteyn, 2001; Nelen, Van Wingerde, Bisschop, & Moerland, 2023). This can be attributed to the following impasse. To maintain an overview and encourage coordination among (sub)projects, a significant amount of tuning needs to take place. However, this leaves little time for executing the discussed actions (Flight, Bogaerts, Korf, & Siegel, 2010; Nelen, Van Wingerde, Bisschop, & Moerland, 2023).

User-Friendliness

When designing an artifact, user-friendliness, and acceptance are crucial. User-friendliness determines whether a product can be used and acceptance of the way it is used (Bevanan, Kirakowskib, & Maissela, 1991). Additionally, all respondents indicate that they consider user-friendliness important.

Estimating effectiveness

To estimate the effectiveness of the possible tuning solutions, a matrix was used to grade the solutions on three levels: good, neutral, and bad (see Table 4: 'Selection-matrix; estimation of the effectiveness of the possible tuning solutions').

Tuning solution	Interdependence	Hour's intensity	User-friendliness
Solution #1	Bad	Neutral	Good
Solution #2	Bad	Neutral	Good
Solution #3	Bad	Neutral	Good

Table 4: 'Selection-matrix; estimation of the effectiveness of the possible tuning solutions'

The matrix offers the possibility to easily weigh solutions based on the effectiveness of the tuning solutions. Other variables can be added to the matrix according to the needs of the organization or projects (see

Appendix D: 'Example selection-matrix; test case').

Newly found insights

Agile coordination strategy

During the test case, a discovery was made. The coordination mechanisms 'feedback' and 'programming' and the coordination strategies 'mutual adjustment' and 'standardization of knowledge and skills' are applied within the test case but are insufficient to achieve the desired level of tuning within the test case. However, according to Mintzberg, these are the ways to coordinate in the case of a large team size, high complexity, and dynamic context. Standardization of norms, outputs, or work processes is not feasible within the test case, due to the same complexity and dynamic environment. The research 'Predictive, adaptive and hybrid approaches in projects; consequences for project management' by Silvius-Zuchi and Silvius (2023) provided a possible design direction for the test case. They suggested that a predictive, traditional approach (waterfall) is less useful in a dynamic environment than an adaptive approach (Agile).

In conclusion, an agile coordination strategy for the work processes based on the coordination mechanism standardization can be used in a dynamic context with high complexity and a big team size (see Figure 7: 'Effectivity-matrix; Coordination strategies and when they are effective; revised').

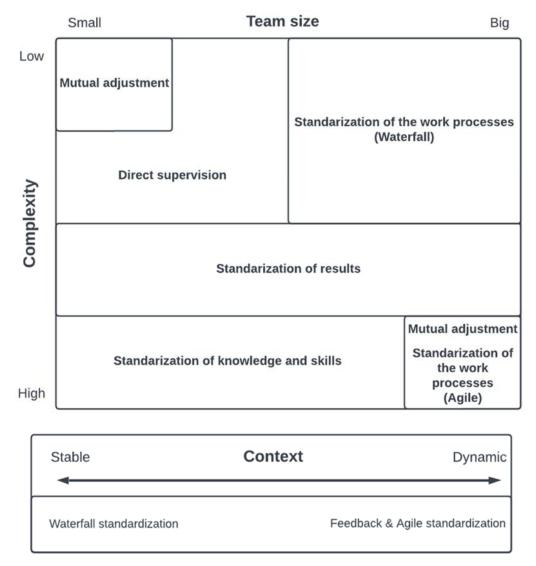


Figure 7: 'Effectivity-matrix; Coordination strategies and when they are effective; revised'

Conclusion & discussions

Conclusion

This study aimed to develop a more comprehensive tuning model for project management, providing project managers and organizations with an effective tool to enhance tuning within their projects or organizations. To evaluate and improve the effectiveness of the tuning model, a specific test case was conducted within the framework of critical realism, using design research.

The tuning model serves as a valuable tool for gaining an overview of the available coordination mechanisms and strategies. It enables project managers to understand which coordination mechanisms and strategies are currently being utilized within the organization and which ones are not (see Figure 4: Tuning model). This understanding empowers project managers and organizations to make informed decisions on enhancing the existing coordination mechanisms and strategies or incorporating new ones, based on the effectiveness of certain coordination strategies (see Figure 7: 'Effectivity-matrix; Coordination strategies and when they are effective; revised'). To give more substance to these new coordination strategies, the three key design criteria - interdependence, hours intensity, and user-friendliness - can be utilized. These design criteria provide guidance for implementing and designing a matching tuning strategy (see paragraph

Tuning model & key design criteria). Additionally, the matrix presented in Table 4: 'Selection-matrix; estimation of the effectiveness of the possible tuning solutions' aids in determining which coordination strategy aligns best with the organization's needs.

In conclusion, the newly developed tuning model, along with the effectivity-matrix, design criteria, and selection-matrix, offer practical assistance in understanding, implementing, and evaluating coordination mechanisms and strategies within projects and organizations.

Discussion

First step & suggestions for future research

Firstly, this research is pioneering in nature and represents an early stage of research. Sudman (1983) argues that in the initial stages of design research, lower quality of respondents can be justified when developing hypotheses and measurement procedures for the first time. This study should be considered an initial step toward a broader understanding of tuning. Consequently, further testing and cross-validation of the tuning model is necessary to ensure its robustness and validity.

Mutual adjustment & Agile standardization

According to Mintzberg (1991; 1992), 'mutual adjustment' is the right coordination strategy for situations within a high complexity, big team size, and dynamic context. However, in the test case, it has been found that relying solely on mutual adjustment is not sufficient. One possible explanation for this result is that if the coordination strategy of 'mutual adjustment' lacks support, it can become incapacitating.

The research findings suggest that standardization of the work processes through agile provides the possibility of standardizing the work processes within a high complexity, big team size, and dynamic context. Consequently, agile standardization of the work processes can offer appropriate support for the coordination strategy of 'mutual adjustment.' This finding contradicts Mintzberg's (1991; 1992) organizational typologies. Nonetheless, this aligns with the researcher's expectations and the study conducted by Silvius-Zuchi en Silvius (2023) on predictable, adaptive, and hybrid approaches in project management.

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Appendix

Appendix A: 'Test case explained'

The tuning model is tested within an organization in the Netherlands whose main objective is to establish a unified government against organized crime. This organization is split geographically (district teams) and based on knowledge (regional teams). The organization is visualized in Figure 8: 'Organizational chart – test case'.

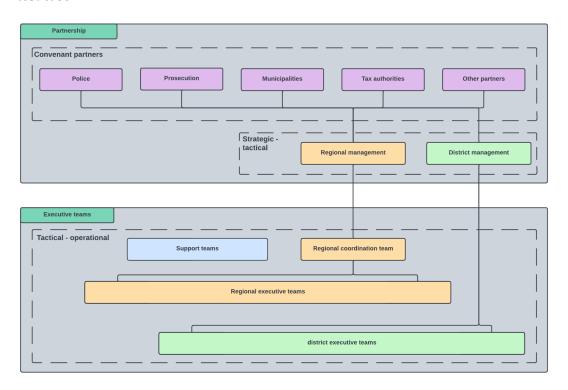


Figure 8: 'Organizational chart - test case'

The organization operates with a large and growing team size, encounters high complexity, and operates within a dynamic context. Consequently, the organization faces challenges in tuning and coordinating its work internally and externally.

Appendix B: 'Respondent Overview'

#	Function and corresponding team
1	Employee support team
2	District project leader
3a	Operations Coordinator
3b	
4	Regional project leader
5	Employee support team
6a	District program leader
6b	
7	Regional program manager
8	Regional project leader

Table 5: 'Respondent overview individual interview'

#	Date	Representative for
99	DPM-meeting	District project leaders
	(18/1/2023)	- Eight regional project leaders
98	Focus group	District and regional project leaders
	tuning	24 Birtist and anti-order to the day
	(21/2/2023)	- 24 District and regional project leaders

97	DPM-overleg (21/3/2023)	Regional project leaders - Eight regional project leaders
96	Quarterly meeting (11-5- 2023)	Simulation
95	Quarterly meeting (15-5- 2023)	Simulation
XX	Member checks	District project leader and regional program leader

Table 6: 'Respondent overview group interview and simulations'

Appendix C: 'Example insight tuning model test case'

The coordination mechanisms 'feedback' and 'programming' and the coordination strategies 'mutual adjustment' and 'standardization of knowledge and skills' are applied within the test case but are insufficient to achieve the desired level (circled in blue in Figure 9).

At the same time, according to Mintzberg, these are the right coordination strategies for situations with a high complexity, big team size, and dynamic context. Standardization of norms, outputs, or work processes is not yet used within the test case (circled in red in Figure 9). Because standardization of norms, outputs, or work processes as coordination strategies is not feasible within the test case due to the same complexity and dynamic environment.

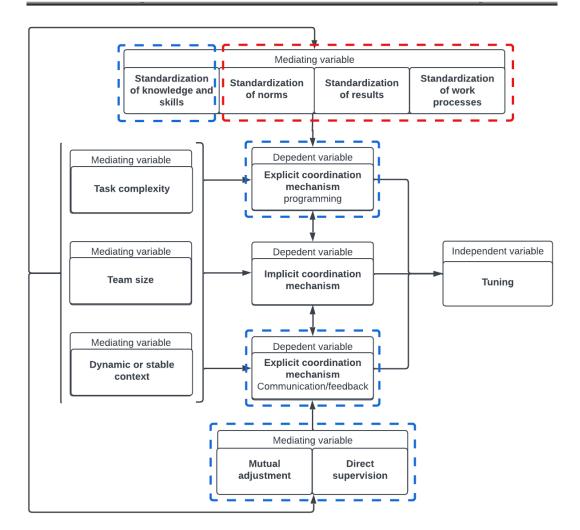


Figure 9: 'Tuning model with used coordination mechanisms and strategies circled blue and used red'

Based on Figure 9, it becomes apparent that standardization of norms, outcomes, or work processes emerges as the sole alternative with a high complexity, big team size, and dynamic context. This presents a creative gap, as standardizing work in a dynamic and complex environment proves challenging.

The research by Silvius-Zuchi and Silvius (2023) provides a potential design direction. They argue that in dynamic environments, an adaptive approach is more effective than a predictive approach. Consequently, it is crucial to develop an Agile coordination strategy based on the coordination mechanism of standardization.

Appendix D: 'Example selection-matrix; test case'

Ideas	Interdependenc	Hour's	User-	Dev0ps
	e	intensity	friendliness	& Agile
Internal agreements	В	G	N	G
Buddy system	В	G	G	G
Social map	N	G	G	N
Tuning meetings	N	В	N	G
DTO-Dashboards	G	N	G	G
Portfolio management	N	N	N	N
Commanders' intent	В	G	G	N
Decision tree	В	G	G	N
Manual	В	N	N	В
Checklist	В	N	N	В
Daily podcast	N	В	G	G
Quarterly meetings	N	G	G	G

Table 7: 'Example selection-matrix; test case'

Analysis of elemental composition, fabrication texture and inclusions in pottery samples from Vashtemia, site of the Early Neolithic period in Albania

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Absctract

A necessary expansion of the study on human behaviour and social organization in prehistoric periods leads us to study in more detail the elemental composition of the materials the products of human activity, such as ceramics, were made of. It takes the main place in the production of this period and its analysis helps us to know more about the advancement of production technologies and shed light on the origin of clay sources.

From the Vashtemia site, a number of samples have been selected for analysis, by means of different techniques, in order to identify the raw materials used for the production of ceramic vessels, the technique of surface processing, the style of decoration and also to understand the construction of the furnaces used for clay firing, starting from the characterization of the mineral phases of the ceramics that we studied.

Keywords: Vashtemia, prehistoric periods, ceramics, raw materials, spectrometry analysis.

Introduction

Due to the stages of internal development of the Albanian territory as well as geographical, economic and cultural factors, based on the comparative studies of the cultures found in the Early Neolithic in Albania, this era is characterized by significant regional changes (Prendi&Bunguri, 2013, pp. 49-54).

Aiming to present the differences of the basic features of the development of the Neolithic culture in Albania according to the geographical divisions of the territory, we must determine the place that this part of the eastern Adriatic occupies in the chronology of the development of the Balkan peninsula. (Prendi&Bunguri, 2013, pp. 49-54).

In the Balkan region, there are two main cultural complexes that stand out in the Early Neolithic era. The first is the Balkan-Anatolian group, within which there are several groups with cultural differences, with barbotine, impressed, monochrome and painted ceramics. The second group is the Adriatic-Mediterranean one developed with impressocardium ceramics. (Benac, A., 1971, pp. 97-108).

As part of this region, the territory of Albania, located geographically in the corridor of the intersection of these two main Neolithic cultures, developed in a differentiated way under the influence of the culture of the Adriatic-Mediterranean complex as much as it is influenced by the special groups of the Balkan-Anatolian complex making the Neolithic settlements in Albania develop and evolve differently according to the cultural groups they belong to.

The Neolithic settlement of Vashtemia, which is taken as a case study in this article, is part of the cultural group called "Podgorie-Vashtemia Group" located in the Southeast of Albania with its epicenter in the Korce basin. This settlement lies in a flat alluvial field and the first data on the discovery of this settlement belong to 1972, which were followed by other archaeological excavations in 1973 and 1974. (Korkuti, M., 1982, pp. 91 -146). In this site, what stands out is the considerable depth of the cultural layer, which varies from 0.75-1.60m. Ceramics are among the most numerous archaeological materials throughout the depth of the layer and are presented in several categories such as: monochrome ceramics, bright red ceramics, painted ceramics, monochrome gray and black ceramics and more limited Barbotine ceramics (Prendi&Bunguri, 2013, pp. 49-54). Gjipali, I., 2012, pp. 205-243). (E. Allen, S., & Gipli, I. (2015), pp. 41-51)

Typological analysis of the samples taken in the study

We have tried to divide the samples that we have selected to analyze from the Vashtemia site into several main categories in which the following stand out:

- painted ceramics (which also occupies the main spot, so it appears in a larger number of samples)
- monochrome ceramics with red color
- dark gray monochrome ceramics (which has more limited use)

The group of samples selected from the Vashtemia site includes 31 samples, of which 14 belong to thin-walled vessels and the other 17 to thick-walled vessels. The main place in these samples is occupied by fragments with light red color, usually with weak luster and a smaller part of them have remnants of decorations on the surface.

Dark gray monochrome pottery is represented by some fragments of thick-walled vessels. What is worth mentioning in this case, is that the clay is less selected and often the thick grains of sand are visible on the surface.

In the group of samples from Vashtemia, although in a limited number, the mixture of clay with sand and straw is evident.

If we focus on the decorative elements, painting decorations occupy the main place compared to other decorative techniques. In most cases, the fragments are painted with white paint on the polished surface of the vessel, and are more often evident in the ceramic samples that belong to thin-walled vessels.



Figure 1. View from a part of the group of ceramic samples from the Vashtemia site. In the samples from the Vashtemia site, it can be easily understood that the baking is not complete, a fact that is also evidenced by the non-uniform color of the cross-section of the samples. In almost all the samples, the presence of a dark layer can be observed between the two side bands with red color (Fig 2). Many authors explain this phenomenon with the baking conditions of the clay dough. (Heimann, R. B.& Maggett, M. 2001, pp. 924) (Correns, C.W., 1968, pp. A199-A200) (Hardmeyer et al., 1995, pp. 30) (Maggetti, M. 1995) Tite & Kilikoglou, V. et al, 2002, pp. 1-5).

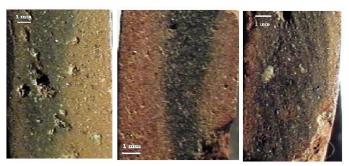


Figure 2. Photo of the cross-section of some ceramics from Vashtemia taken with μ -FRX.

Analyzing the elemental composition

Tables 1 and 2 present the results of the analysis of the elemental composition of the samples selected for analysis from the Vashtemia site. Also, in addition to the samples of ceramic vessels, we have also included in the study some samples of clays collected by archaeologists around the settlement of Vashtemia, which belong to the soils collected in different layers during excavation.

The analysis of the elemental composition of the major elements shows that a group of samples have similar compositions (Tab 1 and 2, Fig 3). The content of potassium oxide K_2O varies between 1.3 - 2.5%, that of calcium oxide CaO between 1.7 - 3.7%, titanium dioxide TiO_2 0.6 - 1% and iron oxide Fe_2O_3 6.3 - 10.9%. Three of the clay samples have content of major elements similar to that of ceramic vessels, while the other two are apparently of a different composition, especially with a high percentage of calcium oxide.

Based on the analysis of the results of the percentage of calcium oxide CaO in the ceramic samples of the Vashtemia site, they result in values lower than 5%, so they are ceramics with low calcium (non-calcareous).

If we try to make a comparison between the samples of vessels with thick walls compared to those of vessels with thin walls, it is noticed that the raw materials used in each case are similar.

Table 1. Content of major elements (%) in ceramic samples of thick-walled vessels from the Vashtemia site.

Sample Code	K ₂ O	CaO	TiO ₂	Fe ₂ O ₃
KVt-1	2.24	3.07	0.72	10.86
KVt-2	1.89	2.57	0.65	7.67
KVt-3	1.80	2.06	0.69	8.14
KVt-4	2.14	2.26	0.91	7.72
KVt-5	2.30	3.16	0.90	8.36
KVt-6	2.39	1.89	0.79	7.37
KVt-7	1.96	2.48	0.74	7.54
KVt-8	1.83	1.98	0.74	8.13
KVt-9	1.84	2.00	0.65	7.90
KVt-10	2.26	2.23	0.99	7.54
KVt-11	2.14	2.07	0.92	7.24
KVt-12	2.21	2.01	0.93	7.03
KVt-13	1.28	1.98	0.89	6.94
KVt-14	2.21	3.08	0.90	8.10

KVt-15	2.14	3.73	0.74	7.52
KVt-16	2.04	2.20	0.85	7.94
KVt-17	2.36	2.07	0.99	7.42

^{*}KV-Ceramic sample from the Vashtemia site, thick-walled vessel, the number represents the inventory code in the fund of the Institute of Archaeology, Center of Albanological Studies, Tirana.

Table 2. Content of major elements (%) in ceramic samples of thin-walled vessels from the Vashtemia site.

Sample Code	K ₂ O	CaO	TiO ₂	Fe ₂ O ₃
KVh-1	2.55	1.72	0.90	7.57
KVh-2	2.13	2.10	0.85	6.86
KVh-3	2.30	2.53	0.80	7.76
KVh-4	2.41	3.11	0.94	8.14
KVh-5	2.11	1.98	0.93	7.59
KVh-6	1.97	2.56	0.69	7.33
KVh-7	2.32	2.64	0.85	8.34
KVh-8	2.13	3.16	0.72	8.52
KVh-9	2.07	3.25	0.74	9.57
KVh-10	2.08	2.13	0.83	6.29
KVh-11	2.09	2.29	0.94	7.42
KVh-12	2.53	2.22	0.94	8.23
KVh-13	2.42	2.28	0.97	8.52
KVh-14	2.14	2.41	0.84	7.99

^{*}KV-Ceramic sample from the Vashtemia site, thin-walled, the number represents the inventory code in the fund of the Institute of Archaeology, Center of Albanological Studies, Tirana.

Table 3. Content of major elements (%) in clay samples from the Vashtemia site.

Sample Code	K ₂ O	CaO	TiO ₂	Fe_2O_3
V. clay sample Nr. 1	2.66	1.41	0.84	5.77
V. clay sample Nr.500	3.12	14.07	0.64	5.17
V. clay sample Nr. 501	2.31	1.04	0.79	8.26
V. clay sample Nr. 502	2.42	12.87	0.61	6.03
V. clay sample Nr. 503	2.13	0.61	0.82	6.22

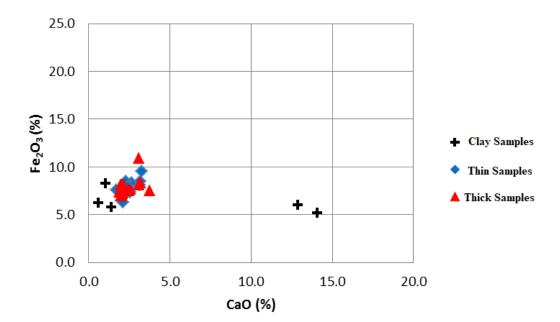


Figure 3. CaO – Fe2O3 graph for Vashtemia ceramics and clays

Table 4. The content of minor elements (%) in the ceramic samples of thick-walled vessels from the Vashtemia site.

Sam																	
ple																	
Cod			M		C	Z	G	R				P	T		L	C	N
е	V	Cr	n	Ni	u	n	a	b	Sr	Y	Zr	b	h	Ba	a	е	d
KVt-	1			1		1		1	1		1						
1	8	20	80	3	3	4	1	0	8	3	6	1	1	88	2	6	2
	4	4	1	0	2	6	5	1	0	4	7	3	4	4	2	0	9
KVt-	1			1					1		1						
2	6	16	91	3	2	9	2	8	9	5	2	1	1	81	2	6	3
	6	9	8	4	9	5	0	5	9	1	0	2	7	9	5	5	4
KVt-	1			4		1			1		1						
3	6	12	10	7	3	0	1	7	7	2	7	4		84	1	4	1
	0	26	23	6	6	9	6	5	8	3	6	3	6	0	1	6	4
KVt-	2			1		1		1	1		2						
4	2	15	70	1	2	1	2	1	8	3	2	3	1	92	2	6	1
	4	8	4	3	1	0	3	9	5	4	9	1	7	8	2	0	9
KVt-	2			1		1		1	2		3						
5	2	16	96	1	3	0	2	0	0	4	0	4	1	88	2	6	1
	3	0	2	7	2	5	0	8	5	4	2	2	2	0	6	7	8
KVt-	2			1		1		1	1		2						
6	6	13	91	2	3	2	2	0	9	3	3	2		95	1	5	2
	1	4	6	3	6	4	6	9	0	1	4	3	9	4	7	7	2
KVt-	2			2		1			2		1						
7	1	48	85	1	2	1	1	8	1	3	6	1	1	10	1	5	2
	7	2	8	4	5	0	4	1	3	4	0	9	5	01	9	3	5
KVt-	1			2					1		1						
8	6	45	95	2	2	9	2	8	7	3	7	2	1	70	1	5	2
	6	2	9	5	9	7	0	1	0	8	5	3	5	2	9	4	7

KVt-	2			4	1	1	1		1	l	1	1	1		1	1	
9	4	13	10	5	3	1		7	8	2	6	1	1	85	1	4	1
	6	51	37	7	6	2	7	5	0	4	8	0	4	3	1	5	9
KVt-	2			1		1		1	2		3						
10	1	64	10	2	2	2	2	2	1	3	0	3	1	94	2	7	2
	3	8	62	2	2	6	3	1	2	2	0	1	5	5	4	3	1
KVt-	2			1		1		1	1		2						
11	6	13	73	1	3	0	2	0	9	3	6	3	1	10	1	6	2
	9	9	1	6	0	1	5	6	6	3	2	6	5	32	7	1	4
KVt-	1			1		1		1	1		2						
12	6	30	70	1	2	0	1	0	8	3	5	4	1	10	2	5	2
	1	8	4	2	1	7	8	2	2	0	6	7	5	29	0	8	3
KVt-	1			1		1		1	1		2						
13	9	19	69	0	1	0	1	0	8	2	7	1	2	10	2	6	2
	3	6	4	5	3	2	7	5	2	9	6	8	0	34	3	2	5
KVt-	1			1		1		1	2		2						
14	3	18	99	1	2	0	2	0	0	4	5	4	1	87	2	7	3
	8	9	8	0	2	3	0	8	5	0	8	0	9	6	8	2	3
KVt-	2			1					2		1						
15	3	21	95	1	2	9	2	9	2	3	7	1	1	89	2	6	2
	6	0	2	3	1	9	0	6	3	6	4	6	6	0	5	4	5
KVt-	1			1		1		1	1		2						
16	5	33	74	2	2	1	2	1	8	3	3	2	1	90	2	6	2
	1	5	8	8	4	3	5	8	7	6	7	9	5	5	8	6	7
KVt-	2			1		1		1	2		3						
17	3	31	10	2	2	2	2	1	1	3	0	3	1	94	2	7	2
	0	6	38	3	0	2	3	6	3	4	9	4	5	5	2	5	8

Table 5. The content of minor elements (%) in the ceramic samples of thin-walled vessels from the Vashtemia site.

Sam																	
ple																	
cod			M		С	Z	G	R				P	Т		L	С	N
e	v	Cr	n	Ni	u	n	a	b	Sr	Y	Zr	b	h	Ва	a	e	d
										_							
KVh-	1 8	2 3	92	1 3	2	1 3	1	1 3	1 7	4	3	2	1	87	3	7	2
1	6	9	92	7	7	6	8	0	0	0	0	8	1 5	2	0	4	7
							0			Ü		0	,		Ů	1	,
KVh-	1	1	50	1	2	1	1	1	1	2	2	2	1	07	2	,	1
2	6 7	8	59 2	1 0	2	0 3	1 9	1 8	9	3	4 7	2 7	1 3	97 8	2	4 9	2 2
			2		U		9			U			3	0	U	9	۷
KVh-	1	3	0.6	1		1	_	1	1		2		_				
3	8	0 3	86 7	5	2	3	1	0	9	3	4 2	2 7	1	11	2	6	2
	9		/	6	6	0	8	4	9	8		/	8	53	1	3	4
KVh-	1	2		1		1		1	2		2						
4	3	3	12	2	3	3	2	1	2	3	6	2	1	10	2	7	2
	4	8	33	0	2	2	6	1	2	8	7	8	3	21	6	3	6
KVh-	2	1		1		1		1	1		2						
5	0	5	79	2	2	1	2	1	7	2	6	2	1	97	1	6	2
	1	6	4	1	7	0	1	3	8	8	0	8	6	0	7	4	2
KVh-	2	1		1					2		1						
6	3	5	86	2	2	9	1	8	0	5	4	1	1	10	2	6	3
	7	1	2	9	2	8	6	7	6	4	2	6	6	60	8	4	4
KVh-		2		1		1		1	2		2						
7	9	1	10	3	3	3	2	1	4	4	6	4	1	10	2	7	2
	6	8	44	5	5	4	3	2	8	3	9	9	2	38	8	6	8
KVh-	1	2		1		1		1	2		1						
8	6	3	66	5	2	2	1	0	0	3	8	4	1	89	2	7	2
	3	5	6	3	4	1	7	6	3	9	6	1	2	6	8	0	4
KVh-	3	1		1		1			2		1						
9	0	4	76	2	2	2	1	8	7	4	2	1	1	11	2	6	3
	0	9	0	3	0	5	8	6	8	2	3	3	5	07	6	1	1

KVh-	2	4		1		1		1	2		2						
10	0	0	89	5	2	2	1	1	1	3	0	1	1	10	1	5	1
	9	9	9	1	6	3	5	6	1	0	2	4	8	78	7	7	5
			,	1	Ü		3		1	U		1	Ü	70	,	,	3
KVh-	2	2				1		1	2		2						
11	8	6	10	9	1	0	1	0	2	3	6	1	1	10	2	6	2
	5	8	32	6	7	0	9	1	4	8	1	6	8	86	8	8	3
KVh-	2	3		1		1		1	2		2						
12	2	0	12	5	2	3	2	2	0	4	7	3	1	92	2	7	2
	2	2	19	6	9	9	1	2	0	6	7	4	8	7	9	8	3
KVh-	2	2		1		1		1	2		2						
13	7	8	11	3	1	3	1	2	0	4	5	1	2	92	3	8	2
	4	0	96	9	5	2	9	1	1	3	0	8	2	4	2	0	5
KVh-	2	2		1		1		1	2		2						
14	2	5	84	1	2	2	2	1	0	3	4	2	1	97	3	6	2
	8	5	4	4	2	4	0	6	2	6	3	3	9	6	0	6	5

Table 6. Content of minor elements (%) in clay samples from the Vashtemia site

	C	M		C	Z	G	R			Z	P	T	В	L	С	N
7	r	n	Ni	u	n	a	b	Sr	Y	r	b	h	a	a	e	d
	5 9	9 5	1 1	1	9		1 2	9	3	2 7	3		5	3	7	3
}	7	8	8	3	0	4	3	1	1	9	9	8	1	8	8	7
	2 5	5 4	1 0	1	1 0		1 2	2 7	2	2	4	1	6 2	3	5	2
	5	6	6	6	6	5	9	7	7	2	1	1	1	4	5	8
	9 2 6	9 9 5	5 8 6	1 7	7	8	1 1 9	5	3	1 9 8	4	1 0	3 4 3	3 0	6	3 0
		5 9 7 2 5 5	5 9 9 5 7 8 2 5 5 4 5 6	5 9 1 9 5 1 7 8 8 2 5 1 5 4 0 5 6 6 9 9 5 2 9 8	5 9 1 9 5 1 1 7 8 8 3 2 5 1 5 4 0 1 5 6 6 6 9 9 5 2 9 8 1	5 9 1 9 9 5 1 1 9 7 8 8 3 0 2 5 1 1 1 5 4 0 1 0 5 6 6 6 6 9 9 5 2 9 2 9 8 1 7	5 9 1 9 5 1 1 9 4 2 5 1 1 9 4 2 5 1 1 0 1 0 5 6 6 6 6 5 9 9 5 0 <td>5 9 1 1 9 2 7 8 8 3 0 4 3 2 5 1 1 1 1 5 4 0 1 0 2 5 6 6 6 6 5 9 9 9 5 1 7 1 2 9 8 1 7 1</td> <td>5 9 1 1 9 1 2 9 7 8 8 3 0 4 3 1 2 5 1 1 1 2 9 5 4 0 1 0 2 7 5 6 6 6 6 5 9 7 9 9 5 1 7 1 5 2 9 8 1 7 1 5</td> <td>5 9 1 1 9 2 9 3 7 8 8 3 0 4 3 1 1 2 5 1 1 1 1 2 7 2 5 4 0 1 0 2 7 2 5 6 6 6 6 5 9 7 7 9 9 5 1 7 1 5 3</td> <td>5 9 1 1 9 2 9 3 7 7 8 8 3 0 4 3 1 1 9 2 5 1 1 1 1 2 2 2 5 4 0 1 0 2 7 2 3 5 6 6 6 6 5 9 7 7 2 9 9 5 1 7 1 5 3 9</td> <td>5 9 1 1 9 2 9 3 7 3 7 8 8 3 0 4 3 1 1 9 9 2 5 1 1 1 1 2 2 2 5 4 0 1 0 2 7 2 3 4 5 6 6 6 6 5 9 7 7 2 1 9 9 5 1 7 1 5 3 9 4</td> <td>5 9 1 1 9 1 2 9 3 7 3 3 7 3 7 3 7 3 7 3 7 3 9 8 8 3 0 4 3 1 1 9 9 8 2 5 1 1 1 1 2 2 2 2 1 1 1 2 7 2 3 4 1</td> <td>5 9 1 1 9 2 9 3 7 3 3 3 3 3 7 3 4 1 2 2 2 2 2 2 4 1 2 2 2 3 4 1 2 2 3 4 1 2 2 3 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 3 3 3 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1</td> <td>5 9 1 1 9 1 2 9 3 7 3 4 1 8 1 8 1 1 2 2 2 2 2 2 2 3 4 1 1 4 4 3 3 3 3 7 2 3</td> <td>5 9 1 1 9 1 1 2 9 3 7 3 3 3 3 7 7 8 8 3 0 4 3 1 1 9 9 8 1 8 8 2 5 1 1 1 2 2 2 2 6 3 5 5 4 0 1 0 2 7 2 3 4 1 2 3 5 5 6 6 6 6 5 9 7 7 2 1 1 1 4 5 9 9 5 1 7 1 5 3 9 4 1 4 3 6</td>	5 9 1 1 9 2 7 8 8 3 0 4 3 2 5 1 1 1 1 5 4 0 1 0 2 5 6 6 6 6 5 9 9 9 5 1 7 1 2 9 8 1 7 1	5 9 1 1 9 1 2 9 7 8 8 3 0 4 3 1 2 5 1 1 1 2 9 5 4 0 1 0 2 7 5 6 6 6 6 5 9 7 9 9 5 1 7 1 5 2 9 8 1 7 1 5	5 9 1 1 9 2 9 3 7 8 8 3 0 4 3 1 1 2 5 1 1 1 1 2 7 2 5 4 0 1 0 2 7 2 5 6 6 6 6 5 9 7 7 9 9 5 1 7 1 5 3	5 9 1 1 9 2 9 3 7 7 8 8 3 0 4 3 1 1 9 2 5 1 1 1 1 2 2 2 5 4 0 1 0 2 7 2 3 5 6 6 6 6 5 9 7 7 2 9 9 5 1 7 1 5 3 9	5 9 1 1 9 2 9 3 7 3 7 8 8 3 0 4 3 1 1 9 9 2 5 1 1 1 1 2 2 2 5 4 0 1 0 2 7 2 3 4 5 6 6 6 6 5 9 7 7 2 1 9 9 5 1 7 1 5 3 9 4	5 9 1 1 9 1 2 9 3 7 3 3 7 3 7 3 7 3 7 3 7 3 9 8 8 3 0 4 3 1 1 9 9 8 2 5 1 1 1 1 2 2 2 2 1 1 1 2 7 2 3 4 1	5 9 1 1 9 2 9 3 7 3 3 3 3 3 7 3 4 1 2 2 2 2 2 2 4 1 2 2 2 3 4 1 2 2 3 4 1 2 2 3 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 3 3 3 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5 9 1 1 9 1 2 9 3 7 3 4 1 8 1 8 1 1 2 2 2 2 2 2 2 3 4 1 1 4 4 3 3 3 3 7 2 3	5 9 1 1 9 1 1 2 9 3 7 3 3 3 3 7 7 8 8 3 0 4 3 1 1 9 9 8 1 8 8 2 5 1 1 1 2 2 2 2 6 3 5 5 4 0 1 0 2 7 2 3 4 1 2 3 5 5 6 6 6 6 5 9 7 7 2 1 1 1 4 5 9 9 5 1 7 1 5 3 9 4 1 4 3 6

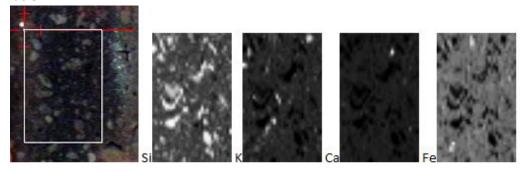
V.clay sample Nr. 502	2 0 9	5 7 5	7 1 1	3 9 1	1 1	7 1	3	9 2	1 7 3	2 4	1 8 4	3 0	8	2 6 3	3 0	4 9	2 2
V.clay sample Nr. 503	3 2 7	5 0 6	7 9 2	1 6 0	1 2	6 8	4	1 1 5	6 2	3 4	2 6 4	4 0	1 0	3 3 5	3 8	7 0	3 6

Mineralogical characterization

In our study, the mineralogical characterization of the ceramic samples analyzed is mainly based on the petrographic study and X-ray diffraction of a selected number of samples. We have also used the μ -XRF method, for the partial characterization of the inclusions that can be observed with the eyes in the clay samples, always bearing in mind that this information is partial due to the limited spatial resolution (0.1 x 0.1 mm) of spectrometer.

The figures below show the distribution maps of the major chemical elements in the inclusions observed in some of the ceramic samples from the Vashtemia site. What stands out is that in the inclusions analyzed, those rich in Silicon predominate, which must be quartz particles. Other elements that are noticed, although in smaller quantities, are particles rich in potassium (K), calcium (Ca), iron (Fe) and manganese (Mn). Based on the size and shape of these particles, they were most likely added as a temper to the clay dough.

KVt-5



KVh-8

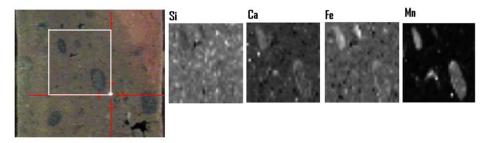


Figure 4. Distribution of major elements in the form of maps in the inclusions of three samples of ceramic fragments from the Vashtemia site.

Petrographic analysis

From the group of samples from the Vashtemia site, we have selected two of them, which belong to vessels with thick walls, respectively, with the designations KVt-2 and KVt-11. These two samples were subjected to petrographic and X-ray diffraction studies.

Sample KVt-11. The matrix (without analyzer) is presented with a reddish color, which is more intense in the center and paler in the periphery, a fact that speaks of a "sandwich" type structure, with good sorting, anisotropic. Aplastic material is represented by minerals such as granular quartz, plagioclase and mica (biotite muscovite) as well as rock fragments (lithoclasts) such as metamorphosed quartzites, serpentinites, amphibolic schists, biomicrites and hematitic pellets. Aplastic material ranges from highly angular (abrasive) to poorly rounded.

Gaps: lens-shaped gaps.

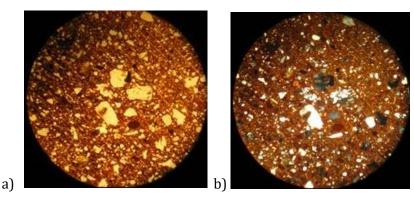


Figure 5. Analysis of the KVt-11 sample with a polarized light microscope (x10) a) (parallel polars=PPL, and b) crossed polars (=+PL).

<u>Sample KVt-2.</u> The matrix (without analyzer) is presented with a reddish color, which is more intense in the center and paler in the periphery, a fact that speaks of a "sandwich" type structure, with very good sorting, anisotropic. Aplastic material is represented by minerals such as granular quartz, plagioclase and mica (biotite muscovite) as well as rock fragments (lithoclasts) such as polygranular quartz, amphibolic schists, biomicrites and hematitic pellets. Aplastic material ranges from highly angular (abrasive) to poorly rounded, grainy. Carbonate recrystallization material is evidenced.

Voids: lenticular voids, but also cavities.

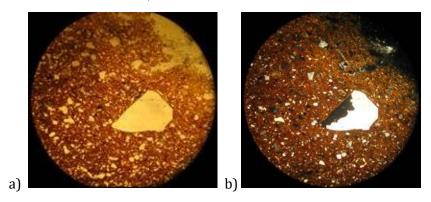
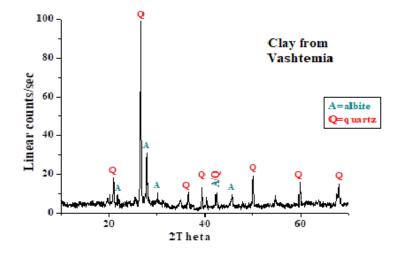


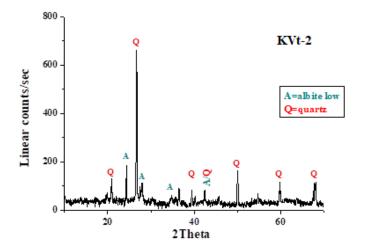
Figure 6. Analysis of the KVt-2 sample with a polarized light microscope (x10)

a) (parallel polars=PPL, and b) crossed polars (=+PL).

X-ray diffractometry analyses

In the samples of ceramic vessels and clays from the Vashtemia site selected to be analyzed by X-ray diffraction, the main phases identified are quartz (SiO_2) and albite (NaAlSi₃O₈). We think that the low sensitivity of the XRD method does not allow the identification of some minor minerals that have been observed by the petrographic study.





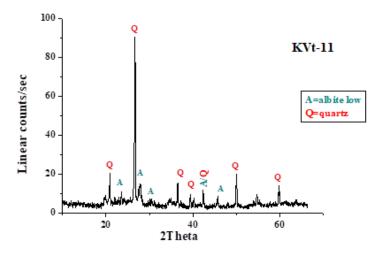


Figure 7. XRD spectra of clay and two samples from the Vashtemia site.

Conclusions

- Since the CaO content in the ceramic samples from the Vashtemia site is lower than 5%, it follows that the clays used are of the low-calcium (non-calcareous) type.
- Comparing the composition of thin-walled ceramics with those with thick walls, testifies to similar raw materials used for each group.
- Thus, both the average values of the groups and the variation of the values do not show any significant difference.
- Petrographic analysis shows low degree of vitrification and presence of recrystallized carbonates. These data suggest baking in an oxidizing environment (open oven or closed oven with final oxidizing stage) and moderate temperature for a short time.
- The presence of the same main phases, quartz and albite, with similar intensities both in the samples and in the clay suggest low reactivity of the mineral phases due to low temperatures in the range of 700 750°C.

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Challenges of Winter Tourism in Albania: A Review

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Abstract

Albania is known for its unique and stunning natural beauty. Mountains and hills cover a large portion of the region, almost two-thirds of the total surface. The outstanding terrain, with its many cracks and microforms make this country an ideal setting for a variety of outdoor tourism activities, especially during the winter season attracting both domestic and foreign visitors. The current research aims at looking into some of the challenges that Albania's booming winter tourism industry is facing. The first concern identified is scarce and sometimes completely absent infrastructure in remote mountainous areas, which strongly impacts accessibility and guest accommodation. Even though in some areas snow cover is above 100 days, seasonality is still another aspect that highlights the importance of diversifying tourism offer to attract tourists all year. Environmental issues pose a threat for the delicate alpine ecosystems, thus making the implementation of eco-friendly practices and laws for sustainable tourism a must. In addition, the review underscores the vital role of sustainable development, which balances economic growth with environmental preservation. Albania can develop a robust and profitable winter tourism sector by tackling these difficulties through joint efforts and the implementation of evidence-based policies, which will in turn benefit the country's economy, biodiversity, and cultural heritage.

Keywords: outdoor activities, infrastructure, seasonality, sustainability

Introduction

Tourism has proved to be a critical component of global economic development and an important source of revenue for both developed and emerging economies, since it provides a variety of cultural, social, technical, experiential, and natural items for leisure and business. This is also the case with Albania which is experiencing a growth in tourism sector, despite being a small country with a vulnerable economy. According to the 2019-2023 National Strategy for Sustainable Tourism Development, the tourism sector is anticipated to contribute 9.3% of the GDP by 2028, a considerable increase in the sector's economic impact. As a result, it is predicted that by 2028, the direct and indirect effects of the tourist sector would account for around one-third of Albania's overall GDP (Republic of Albania, 2019). According to estimates from the World Tourism and Travel Council [WTTC], in 2019 travel and tourism served as a significant economic engine and job creator, contributing 20% to the Albanian economy and creating 244,000 jobs, or one in every five jobs in Albania (WTTC, 2022).

Albania's law system places a strong emphasis on preserving the nation's extensive natural and cultural heritage in order to capitalize on the potential for tourist expansion. The Republic of Albania (2015) defines steps to protect historical buildings, traditional architecture, and ecologically significant places in the Law on Tourism (No. 93/2015). This dedication to maintaining Albania's cultural identity and natural diversity guarantees that tourism development is carried out ethically, enabling travelers to immerse themselves in the country's true essence while preserving its distinctive history for future generations.

In addition, Albanian tourism legislation emphasizes the promotion of environmentally and socially responsible tourist strategies. The 2019 National Strategy for Sustainable Tourism Development outlines policies to strike a balance between economic development, environmental protection, and social well-being. Albania wants to develop a resilient and sustainable tourism business that benefits both visitors and host communities by sticking to this plan.

Albania's terrain may be most notable for its multiple succeeding mountain ranges, which have an average elevation of more than 700 meters. The majority of the mountains, including the Albanian Alps, are located to the west's lowlands' north, east, and south. The Korab Mountains, with peaks that may exceed 2,500 meters, dominate the east of the nation and stretch 40 kilometers along its eastern border. A rich biodiversity and mountainous terrain with glacial lakes, caves, river valleys with clear waters, and mountain saddles draw both domestic and international visitors who engage in ecotourism activities like hiking, mountaineering, biking, snow skiing, and snowshoeing, among others.

Given that the majority of the country is mountainous, it is not surprising that Albania's winter tourism industry has recently gained attention from both local and foreign tourists. But like any expanding business sector, it confronts a number of difficulties that call for meticulous planning and thought. The main obstacles to winter tourism in Albania are examined in this scientific review, with an emphasis on infrastructural constraints, seasonality problems, environmental difficulties, and the

need for sustainable growth. Albania can encourage a vibrant and robust winter tourist business by being aware of and addressing these issues.

Methodology

For the purpose of this study, we undertook a systematic and thorough investigation of the academic database, which included journals, academic articles, and pertinent government publications on tourism in Albania. The terms "Albania mountain tourism challenges," "Albania winter tourism issues," and others of a similar nature were used as keywords. The review's contributors chose the articles and papers based on how pertinent they were to the subject. Included sources were necessary to examine the issues and difficulties the Albanian winter tourism sector faced. The search included published works up to the present, with a focus on works from the previous two decades.

Key issues, trends, and insights relating to winter tourism in Albania were identified using information and data that was gathered from the sources included. Based on recurrent themes and issues, the data synthesis process involves categorizing and organizing findings. The value of each source was evaluated by taking into account elements like credibility, research methods (for empirical studies), and topical relevance. The analysis gave preference to credible, peer-reviewed sources. The findings extracted from the selected literature were subjected to a thematic analysis. Common problems and challenges faced by winter tourism in Albania were identified, and these findings were organized into structured sections for the review article. The analysis also considered potential solutions proposed in the literature.

As this review article is based solely on previously published literature, there are no ethical concerns related to human subjects. Proper citation and referencing practices are strictly followed to ensure academic integrity and give credit to the original authors.

While this review article aims to provide an in-depth analysis of the problems of winter tourism in Albania based on existing literature, it is important to acknowledge potential limitations. These limitations may include publication biases, changes in the tourism landscape beyond the literature review's cutoff date, and the quality of the available sources.

Infrastructure Limitations

One of the major obstacles for winter tourism in Albania is the lack of infrastructure in mountainous areas. The absence of effective transportation links and lodging amenities limits travelers' mobility and ease of access. 80% of the hotels are located on the seaside area; 10% are in the capital; and just 10% are located in other parts of the country, including mountainous regions (Burlea-Schiopoiu & Ozuni, 2021).

One explanation for the modest number of hotels and guesthouses in the mountains might be that the profit margin on investment in expanding tourism in these places is relatively poor, despite the fact that agro-mountain tourism has become particularly appealing to visitors as a result of the COVID-19 pandemic. For example, in 2012, there were 150 guesthouses in the country's most popular mountain areas (Thethi, Kelmendi, and Valbona in northern Albania, Dardha and Voskopoja in the southeast), and by the beginning of 2016, their number had increased by 13 units to 163 (Burlea-Schiopoiu & Ozuni, 2021). And even when these facilities exist, they are mostly family run businesses rather than large professionally managed groups, which in turn affects the quality of service.

What adds more to the limited infrastructure in these areas is the absence of specialized facilities needed to practice activities typical for the winter season, such as skiing or other snow based activities. There are just a few unequipped ski areas, and the first surface lift was completed in 2012. Skiing regions are not resorts, but rather communities in the mountains where one may go skiing, comparable to the Alps a century ago. There are just ten ski areas, although none have five or more lifts, according to the 2022 International Report on Snow & Mountain Tourism (Vanat, 2022). Albanian skiers are limited in number, and for many years, the local environment did not encourage the growth of this sport, even if it was not an unknown recreational activity. Albanians would rather fly to other countries, mostly neighboring ones, which have a far better situation as regards skiing facilities. Backcountry skiing as a winter pastime is mostly practiced by foreigners.

All of this emphasizes the significance of investing in modern infrastructure to improve accessibility to key winter destinations and boost accommodation capacity. Collaboration between the government, commercial sector, and local communities is critical to overcoming these constraints and improving the overall visitor experience.

Seasonality Issues

The high frequency of tourist visits at specific times of year has a significant impact on sustainability. In reality, it not only substantially decreases the sustainability of businesses and their ability to provide year-round employment, but it may also put a strain on communities and natural resources at times, leaving an oversupply of capacity at other times of the year (Selmanaj, Gorica & Murati, 2018).

According to INSTAT data, tourist nights in August are three or four times more than those in the winter season in Albania as a whole. Patterns differ from country to country, with coastal countries seeing more seasonality. Mountain resorts that provide winter activities often have two seasons, although both are fairly limited, and seasonality has a significant impact on sustainability.

Winter tourism in Albania is primarily reliant on the brief and frequently unpredictable winter season. Seasonality difficulties cause changes in visitor arrivals

as well as economic insecurity for enterprises that rely on the winter tourism sector. The 2019-2023 National Tourism Strategy emphasizes the importance of diversifying tourist options to attract visitors all year. Creating additional activities during the shoulder seasons, such as winter festivals, cultural events, and nature-based experiences, might help to offset seasonality and lengthen the duration of visitor visits.

Environmental Concerns

It is part of the government's overall development strategy to ensure sensible use of the country's natural assets, as articulated in official relevant documents such as the General National Territorial Plan for Albania, 2015-2030, the National Draft-Strategy for Tourism 2014-2020, and Law No. 107/2014 "On Planning and Territorial Development," all of which prioritize the balance of natural, economic, and human needs, as well as public and private interests.

Despite the legal provisions and references to sustainable tourism, as well as a small number of initiatives undertaken by the government to initiate a discussion on sustainable tourism development in Albania, the Albanian government and tourism sector have limited notions of sustainable tourism development (Nientied, Porfido & Ciro, 2018).

The rapid growth of the tourism industry has also led to concerns about the preservation of Albania's natural and cultural heritage. There have been instances of overdevelopment in sensitive areas, as well as damage to historical and archaeological sites due to the influx of tourists (Ilollari & Kociaj, 2023). On the other hand, the fragile alpine ecosystems in Albania's mountain regions are vulnerable to the environmental impacts of winter tourism. Ski resort development, increased traffic, and improper waste management pose threats to the biodiversity and natural beauty of the areas.

Given the environmental risk that irresponsible tourism poses, particularly in vulnerable alpine locations, it is critical to apply eco-friendly practices and follow sustainable tourism principles. Enforcing legislation to protect sensitive regions, encouraging good tourist behavior, and supporting eco-certified hotels can help to maintain the environment and preserve the country's natural resources.

Need for Sustainable Development

Sustainability has long ago made its emergence in the tourism discourse. While it was not before the mid-1990s, that the concept of sustainability increasingly dominated the tourism sector (Weaver, 2011). However, on a global scale the debate about sustainability in tourism seems to disregard workforce considerations. Baum and colleagues (2016) consider this failure to include human resources in the debate as counter-intuitive, given that social, cultural and community-focused considerations are prominent in some (but not all) analyses of this area. Education is vital in

guaranteeing sustainability in tourism sector because as Deale and Barber (2012) point out it helps to produce graduates who have the knowledge of sustainability concepts, and their applications, to meet the challenges of the workplace.

In Albania, although the supply of human resources in tourism services is abundant, it lacks quality. This might be due to a lack of awareness on the importance of the services sector in tourism, as well as lack of training, contemporary curricula for tourism university system schools and university, as well as entrepreneurs or managers to maintain high level of services, to customer satisfaction and increase the value of the service (Prifti & Zenelaj, 2013).

Discussion

In Albania, nature based tourism as a recreational activity in the form of organized walks outside the cities have been known since the beginning of the XX century (Skëndo, 2021). For many years, the country has been regarded as a mainly summer destination, indicating that the Albanian tourism product is highly correlated to "sea, sand and sun". Approximately 68% of annual international arrivals happen between May and September (UNDP, 2022), and this for several reasons, such as better road infrastructure, reception and accommodation service, access and service in short time.

Despite the popularity of the country during the summer months, winter tourism in Albania holds immense potential for economic growth and cultural exchange. However, it faces several challenges that require careful attention and proactive measures. As all studies have noted, rural areas have many socio-economic problems, and few development alternatives, bypassing the tourism as a development opportunity, and more as a sustainable alternative, the tradition to these cities, the lack of knowledge for rural areas, etc. Winter tourism in Albania faces several challenges that must be addressed for the industry's sustainable growth. First, the limited infrastructure in the mountainous regions hinders accessibility and convenience for tourists, requiring investment in modern transportation networks and lodging facilities. Second, the heavy reliance on the short and unpredictable winter season creates seasonality issues, leading to fluctuations in tourist arrivals and economic instability. Additionally, the fragile alpine ecosystems are susceptible to the environmental impacts of ski resort development and increased traffic, necessitating eco-friendly practices and proper waste management to preserve the natural beauty of the areas. Addressing infrastructure limitations, diversifying tourism offerings, tackling environmental concerns, and fostering sustainable development are crucial steps towards building a resilient winter tourism industry in Albania. Collaborative efforts among stakeholders, guided by scientific research and evidence-based policies, will pave the way for a sustainable and thriving winter tourism sector in this enchanting Balkan destination.

Conclusion

Winter tourism in Albania, is undoubtedly a promising industry that has the potential to attract both local and international travelers. In order to take full advantage of this growing sector and to ensure continuity of this business, it is critical to balance economic growth with environmental conservation. By addressing the challenges identified in this review through collaborative efforts and evidence-based policies, Albania can foster a resilient and thriving winter tourism sector, ensuring a positive impact on the country's economy, environment, and cultural heritage.

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Scientific methods and applications to archaeological provenance studies of pottery from Podgoria, site of the Early Neolithic period in Albania

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Abstract

In this paper, we will summarize the results obtained from the examinations carried out on the ceramic dough from the Podgoria settlement, an Early Neolithic site in the Albanian territory, and we will try to point out the similarities and differences between them. The study of the composition of the materials these clay products were made of as part of human activity will help us understand more about the technological abilities of the communities, their behavior, social organization and on the other hand the testing of different hypotheses regarding the origin of the objects and their dating in historical periods. In the ceramics of the entire area of the south-east of Albania, what is to be distinguished is the high quality of the ceramic work and the predominance of ceramics with fine and medium textures against those with coarse textures. In this study, by applying some archaeometric methods such as Energy Dispersive X-ray Fluorescence (EDXRF), micro-X-ray Fluorescence, X-Ray diffraction and Optical Microscopy (OM), we will aim to characterize the elemental composition and structure of ceramic samples selected from the site of Podgoria.

Keywords: Early Neolithic peroid, ceramics, archaeometric methods, elemental composition

Introduction

In the territory of Albania, the Neolithic settlement of Podgoria is located at the northeastern end of the Korça plain, at the foot of Mount Dry, near the village of the same name. (Prendi&Bunguri, 2013, pp. 95-116). The first announcement on the discovery of the Podgoria culture, which would later turn out to be the most typical representative of the early Neolithic in the Korça basin and in the entire southeastern area of Albania, was given by P. Lera. In the informative article of 1971, on the new discoveries in the district of Korça, he drew attention to the discovery of the new Neolithic settlement of Podgoria, with numerous surface materials, referring to different chronological periods (Lera, P., 1971, pp. 191-194). Among the diverse categories of pottery, he mentions a type of painted pottery with white painting on a red background, which he rightly considers to be the earliest in that multi-layered settlement, which he originally dated as Late Neolithic period (Prendi, F., 1972, pp. 84-85) (Prendi, F., 1976, pp. 21-48)

The excavations of several campaigns undertaken in this archaeological site of special interest in the territory, have provided abundant materials and important data, which allow the interdisciplinary study of this Early Neolithic period of our country. These studies are related to the evidence of all the archaeological potential of the area, in various aspects of its historical and cultural development, including the problem of relative and absolute chronology as well as the periodization of the special cultures of this period. Trying to draw a parallel with the development of the region, it has been established that the site of Podgoria, as well as the other sites identified in the Albanian territory of the Neolithic period, have developed with significant regional changes influenced by the factors of internal economic and cultural development, but at the same time from the different geographical factors of the territory's positioning in the corridor of intersection of different cultures of the Neolithic development of the Balkans (Prendi&Bunguri, 2013, pp. 49-54).

In terms of geological development, the settlement of Podgorie is located in the quaternary formations of the Korca depression, which are filled with alluvial¹, proluvial² and swamp sediments which are usually placed on top of the old Pliocene formations.

Typological data

Table 1 summarize the results of the typological examination of thick-walled and thinwalled ceramics from the early Neolithic settlement of Podgoria studied in this article.

¹ alluvial =fluvial deposits

	Samples analyzed from thick-walled vessels	Samples analyzed from thin-walled vessels
Selection of clay	Coarse sand particles	Fine sand + limestone particles
Color	Red, rarely with a gray tint	Monochrome red
Surface	Smooth	Carefully polished, shiny
Firing	High quality but not complete	High quality, but not complete
Decoration	With printing, with nail biting, with stripes, rarely with ink, with spraying	With painting
Ornamental instrument	Matte paint	White ink on red background
Decorative motifs	Lines, triangles with different orientations	Matte and glossy paint

Tab.1. Typological examination of thick-walled and thin-walled ceramics from Podgoria

The study of elemental composition

Tables 2 and 3 present the results of the elemental composition of the samples analyzed by the X-ray Fluorescence method, as well as of a clay sample collected in the settlement of Podgoria. The clay sample was collected by archaeologists and represents soil from an excavation layer. Tables 2 and 3 also includes the results of the analysis of light elements Na – Si, performed for some of the samples at Gaz University, Faculty of Fine Arts, Department of Conservation and Restoration of Cultural Heritage, Ankara, Turkey, by the EDXRF method .

The data of the content of major elements show a group of samples with similar composition (table 2 and table 3, figure 3). Thus, the content of K_2O varies between 1.5 - 2.8%, that of CaO between 2 - 5.4%, TiO_2 between 0.6 - 1% and Fe_2O_3 between 5.2 - 9.1%. The clay sample appears to have a content of major elements similar to

that of ceramics. The content of light elements in the analyzed samples varies as follows: MgO 0.75 – 5.7%, Al_2O_3 13 – 16% and SiO2 50.3 – 55.9%. Comparing the composition of thin-walled and thick-walled ceramics indicate similar raw materials used for each group. Thus, both the average values of the groups and the variation of the values do not show any significant difference (figure 3). Even for the Podgoria samples we can say that the clays used are of the low calcium (non-calcareous) type, as the CaO content in the ceramic samples is generally lower than 5% with the exception of one sample with CaO – 5.1%.

The content of minor elements (table 4 and table 5) also supports the observations presented above.



Figure 1. Some of the ceramics selected for analysis from the Podgoria site

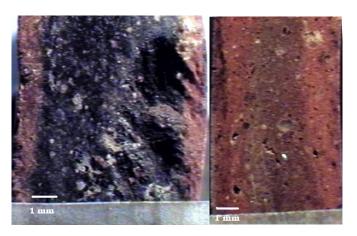


Figure 2. Cross-sectional view of some ceramics from Podgoria.

Table 2. The content of major elements (%) in the ceramics and clay of Podgoria

Sample Code	Na ₂ O	MgO	Al ₂ O ₃	SiO ₂	K ₂ O	Ca0	TiO ₂	Fe ₂ O ₃
KPh 1243					2.54	3.35	0.94	6.89
KPh 1137					1.82	3.08	0.75	5.59
KPh 1127					2.82	3.06	0.91	7.39
KPh 1212					1.68	1.95	0.78	5.93
KPh 1230					2.06	2.81	0.79	6.30
KPh 2	0.09	1.39	15.15	50.35	2.54	4.49	0.88	6.90
KPh 717	0.85	1,15	13.57	54.31	1.50	3.82	0.81	6.27
KPh 7	0.48	0.75	14.59	54.43	1.84	2.86	0.73	5.20

^{*}KP-Ceramic sample from Podgoria, h- thin-walled, the number represents the inventory code in the fund of the Institute of Archaeology, Academy of Albanological Studies, Tirana.

Analyzes of samples of thick-walled vessels

Table.3. The content of major elements (%) in the ceramics and clay of Podgoria

Sample Code	Na ₂ O	MgO	Al ₂ O ₃	SiO ₂	K ₂ O	Ca0	TiO ₂	Fe ₂ O ₃
KPt 777					2.26	2.12	0.80	6.89
KPt 1130					2.24	2.95	0.83	8.26
KPt 270					1.69	2.35	0.78	6.23
KPt 602					2.33	2.67	0.80	6.54
KPt 606c					1.88	2.32	0.75	6.47
KPt 700					2.37	2.53	0.86	8.72
KPt 700a					2.43	2.35	0.91	9.13
KPt 1011					1.63	5.14	1.05	7.14

KPt 1089					1.82	2.38	0.78	7.56
KPt 1193					2.07	2.20	0.83	6.12
KPt 2695	0.05	2.10	15.87	55.93	2.74	2.60	0.86	8.57
KPt 813	0.05	5.73	13.03	52.12	2.07	4.44	0.65	7.43
KPt 583	0.04	0.86	15.98	55.90	1.97	2.38	0.76	6.90
Clay from Podgoria					2.74	2.74	0.92	7.07

^{*}KP-Ceramic sample from Podgoria, t-thick-walled vessel, the number represents the inventory code in the fund of the Institute of Archaeology, Academy of Albanological Studies, Tirana.

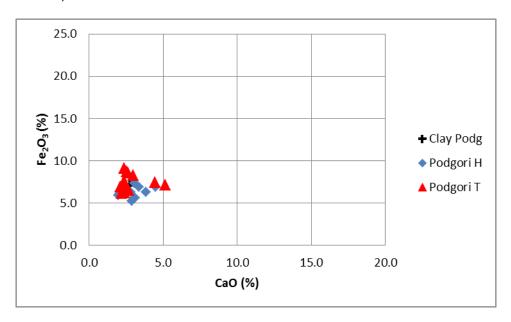


Figure 3. CaO-Fe2O3 graph for Podgoria clay and ceramics.

Table 4. The content of minor elements (mg/kg) in ceramics and clay from Podgoria.

Samp le			М		С	Z	G	R				P	Т	В	L	С	N
Code	v	Cr	n	Ni	u	n	a	b	Sr	Y	Zr	b	h	a	a	e	d
	2	2	6					1	3		2			8			
KPh	3	0	3	7	3	9	2	6	8	3	9	3	1	3	5	9	3
1243	4	0	3	3	3	8	8	6	2	8	2	7	7	8	2	8	8
	2	1	3					1	1		2			6			
KPh	0	5	6	4		6	1	0	6	3	2	3	1	1	2	5	2
1137	3	5	0	7	6	4	9	6	1	4	6	2	7	7	1	5	0
_	2	1	5					1	4		2			8			
KPh 1127	0	0 9	8	5 7	1 8	9	2	8	0 2	3	8	2	2	9 8	4	9	3
1127				/	0		1			1		1	3		1	O	3
KPh	1 2	2 1	4	7	2	0	1	1 1	1 1	3	2 5	2	1	6 9	2	7	2
1212	5	9	8	4	4	8 5	9	8	5	1	2	5	2	7	7	0	4
	2	2	7	1		1		1	1		2			9			
KPh	2	0	1	0	1	0	1	2	8	3	0		1	2	2	5	1
1230	8	7	5	4	6	0	8	6	5	0	2	9	5	4	5	6	9
	2	1	9					1	3		2			9			
	5	2	2	7	2	9	2	7	8	3	7	1	2	4	3	8	3
KPh 2	7	9	1	3	0	5	4	2	9	3	5	3	2	2	6	2	5
	1	1	8						2		2			7			
KPh	8	1	3	5	1	7	1	8	2	3	5	3	1	3	2	6	2
717	0	8	5	2	5	0	9	1	9	5	9	0	2	8	1	2	5
	1		3			1		1	1		2			6			
IZDL 7	1	8	0	5	1	0	2	0	5	3	6	3	1	4	1	4	1
KPh 7	7	1	5	5	6	0	0	8	0	3	9	5	4	6	7	9	7

The content of minor elements (mg/kg) in samples from Podgoria in thick-walled containers.

Samp le																	
Code	v	Cr	M n	Ni	C u	Z	G a	R b	Sr	Y	Zr	P b	T h	B a	L a	C e	N d
300.0	1	1		1		1		1	1		2			6			
KPt	4	6	23	3	2	1	1	0	4	3	4	1	1	8	2	8	2
777	4	8	27	6	2	0	3	0	0	2	1	4	6	9	5	2	5
KPt	1 9	4 9	13	2 2	3	1 3	2	1 2	1 3	3	2 2	1	1	6 7	2	6	2
1130	8	5	34	4	1	6	1	6	8	9	5	5	6	8	6	1	6
	1	1						1	1		2			7			
KPt 270	2 6	7 6	77 5	8 7	1 6	8 2	1 8	0 5	2 9	2 8	4	1 6	1 5	1 1	1 9	6 7	1 9
	1	1		1		1		1	1		2			5			
KPt 602	4 2	3	10 09	1 7	2 9	1 6	1 9	3 9	2	4 2	1 7	4	1 4	1 4	2 5	6 1	2 6
002	1	1	07	,	,	0	,	1	1		1	3	T	6	3	1	0
KPt	7	3	71	9	3	9	1	2	1	2	8		1	2	2	5	1
606c	2	0	6	7	1	8	8	5	1	8	0	4	2	4	2	4	9
KPt	1 7	4 3	94	2 2	2	1 2	2	1 2	1 1	4	2 0	1	1	5 4	3	7	3
700	2	2	4	3	8	3	2	6	9	7	8	9	9	5	5	4	1
	2	4						1	1		2			5			
KPt 1011	0 9	3	77 2	6 2	2	8 1	1 7	0 6	0 7	2 5	1 8	9	1 6	1 0	2	5 9	2 5
1011	,	3		1	U	1	,	1	1	3	2	,	0	6	0	,	
KPt	3	9	24	1	3	2	1	2	2	3	3	1	1	2	2	7	2
1089	5	1	41	7	0	9	6	3	4	4	6	0	5	7	7	2	4
KPt	1 7	2 5	54	7	1	9	1	1 2	1 1	3	2 4		1	5 0	2	6	2
1193	0	7	8	8	7	6	9	5	2	0	4	6	8	2	2	4	7
		4		2		1		1	1		2			5			
KPt 2695	8	4 1	10 20	6 4	3 7	4 8	2	7 8	1 6	3 7	0 5	4 5	1 5	9	2 2	5 9	2 4

KPt 813	1 2 6	4 8 5	60 9	4 7 7	2 8	1 2 7	1 4	1 2 7	1 1 3	2 3	1 2 9	5	1 4	4 3 9	1 4	4 8	1 9
KPt 583	1 5 8	1 0 7	66 5	6 9	2 2	9 6	2 3	1 2 0	1 5 0	3	1 9 7	2 8	1 2	7 1 3	2 0	5 7	2 0
Clay from																	
Podg oria	3 2 1	6 5 6	13 15	2 3 1	2 8	1 2 2	9	1 6 3	8 7	4	2 9 3	4 7	1 1	4 5 2	4	8 5	3 5

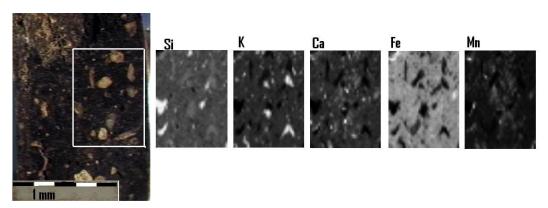
Mineralogical characterization

Figure 4 shows some analyzed samples from the Podgoria site and for each of them, the distribution of the major elements in the visible inclusions is given in the form of a map.

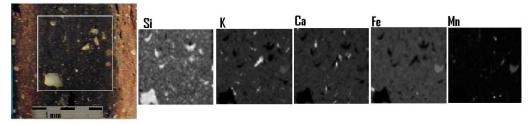
From the analysis, we notice that among the detected inclusions, those with a high Silicon (Si) content predominate, which are most likely quartz particles. The inclusions rich in potassium (K), calcium (Ca) and iron (Fe) are observed in smaller quantities.

The expected result of low amounts of calcium oxide (CaO) from the analysis of the elemental composition is also confirmed in these analyses, where it is again observed that the number of particles rich in Ca is relatively low, although we also have cases of exception in a number of limited samples where these particles have a larger surface area.

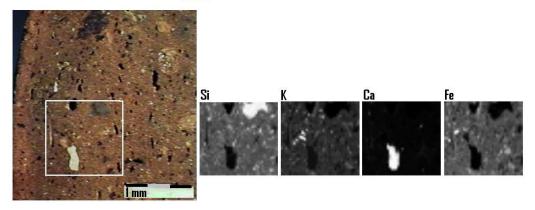
In the samples taken in the study, we noticed that the inclusions which can be interpreted as recycled ceramics are fewer in number and smaller in size. Under these conditions, we assume that particles with larger dimensions may have been added to the clay dough in the form of tempera.



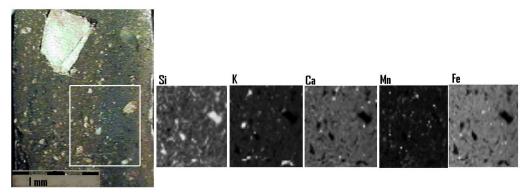
Sample from Podgoria, thin-walled vessel, No: 717



Sample from Podgoria, thick-walled vessel, No: 583



Sample from Podgoria, thick-walled vessel, No: 1089



Sample from Podgoria, thick-walled vessel, No: 1011

Figure 4. Presentation of μ -XRF results in the analysis of ceramic dough inclusions in some samples analyzed from the Podgoria site. The distribution of major elements in the form of chemical maps in the detected inclusions.

Petrographic analysis

For petrographic study, from the group of ceramics from the Podgoris site, we selected three of them. A sample with the inventory name KPh2 is part of the group of samples from thin-walled vessels, while the other two samples, respectively, with inventory designations KPt 813 and KPt 2695, are part of the group of samples from thick-walled vessels.

The analysis of the sections of the samples was carried out using an optical microscope (Leitz Laborlux 11 Pol S) in the Laboratory of the Department of Earth Sciences, Faculty of Geology and Mining, Polytechnic University of Tirana.

Sample KPh 2. From the petrographic analysis of the sample, it can be seen that the matrix has good sorting, is anisotropic and appears with a non-homogeneous reddish beige color. The mineralogical composition is represented by plagioclase, in some cases sericitized, microcline, quartz, mostly white mica, as well as opaque minerals represented by magnetite or hematite. Lithoclasts are represented by quartz-pl schists. The material has a poor degree of vitrification. It is worth emphasizing the recrystallization of lime, filling the voids and channels with recrystallization calcitic material.

Inclusions: Represented by recycled ceramics and hematitic pelitic concretions.

Gaps: They are evident in elliptical, closed spherical, cavity, open linear channels.

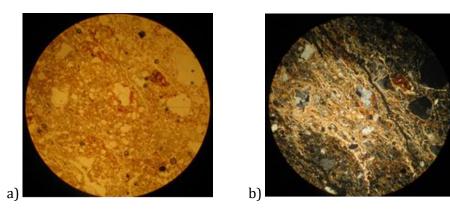


Figure 5. Analysis of the KPt 2 sample with a polarized light microscope (x10)

a) (parallel polars=PPL, and b) crossed polars (=+PL).

Sample KPt 813. From the petrographic analysis of the sample, it can be seen that the matrix is homogeneous and appears with a slightly red beige color, it has a very good sorting, it is anisotropic and fine. The mineralogical composition is represented by plagioclase, quartz, white and black mica, as well as opaque minerals represented by magnetite or hematite. The material has a poor degree of vitrification. It is noticed that the voids and channels are filled with gel from the recrystallization process.

Inclusions: They are represented by recycled ceramics, bioinclusions (vegetation) and hematitic pelitic concretions.

Gaps: They are evident in elliptical, closed spherical, cavity forms.

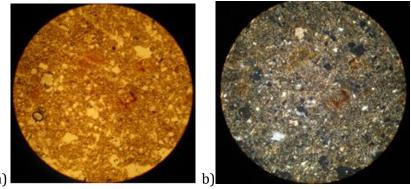


Figure 6. Analysis of sample KPt 813 with polarized light microscope (x10)

a) (parallel polars=PPL, and b) crossed polars (=+PL).

<u>Sample KPt 2695</u>. From the petrographic analysis of the sample, we notice that it is very similar to the above-mentioned sample KPt 813. The matrix is homogeneous, has a slightly reddish beige color, appears anisotropic, has a very good sorting and is very fine. The mineralogical composition is represented by plagioclase, quartz, white and black mica, as well as opaque minerals represented by magnetite or hematite. The material has a poor degree of vitrification. Recrystallization of lime is observed, filling voids and channels with recrystallization calcitic material.

Inclusions: Represented by recycled ceramics, bioinclusions (vegetation) and pelitic hematitic concretions.

Gaps: They are evident in elliptical, closed spherical, cavity forms.

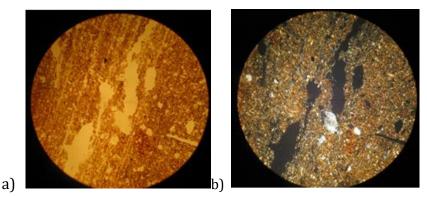


Figure 7. Analysis of sample KPt 2695 with a polarized light microscope (x10)

a) (parallel polars=PPL, and b) crossed polars (=+PL).

X-ray Diffractometry Analyses

For X-ray diffraction analysis, four samples were selected from the group of samples from the Podgoria site, respectively KPh 700, KPh 1230, KPh 1243 from the group of thin-walled vessels and KPt 1011 from the group of thick-walled vessels. A clay sample taken from the Podgoria site (P-Clay) was also analyzed with this technique.

Through X-ray diffraction analysis, the mineral phases in the ceramic samples analyzed have been identified. The main phases identified are quartz (SiO_2) and albite (NaAlSi₃O₈), while the calcite phase (CaCO₃) was also identified in the clay sample.

These results also agree with the results obtained from the petrographic study as well as those with μ -XRF, which have identified minerals in which these phases are

contained. The fact that some minerals with small amounts have not been identified by XRD, which were detected by petrographic analysis, we think is due to the low sensitivity of the XRD technique.

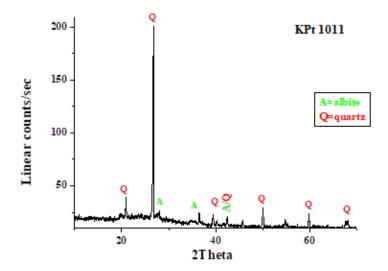


Figure 8. XRD spectrum of sample KPt 1011 from Podgoria

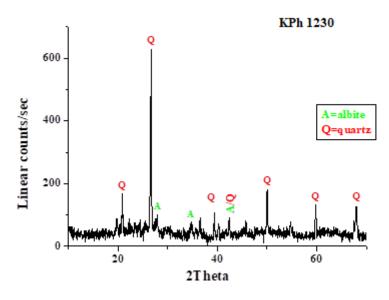


Figure 9. XRD spectrum of sample KPh 1230 from Podgoria

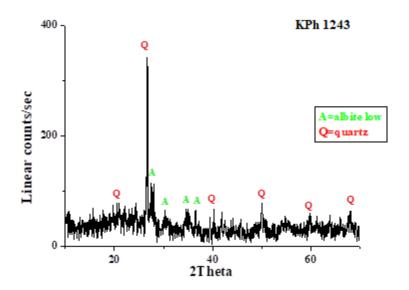


Figure 10. XRD spectrum of sample KPh 1243 from Podgoria

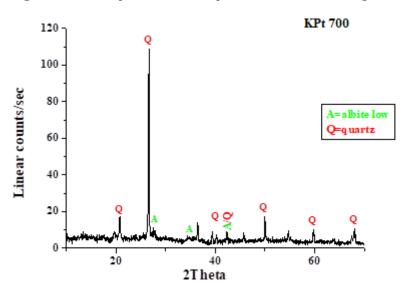


Figure 11. XRD spectrum of sample KPt 700 from Podgoria

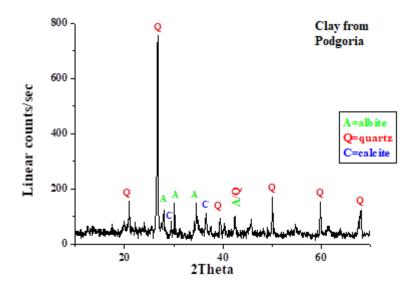


Figure 12. XRD spectrum of the clay sample from Podgoria

Conclusions

- Evidence shows that most ceramics from Podgoria were prepared from low calcium (non-calcareous) clay.
- The data prove that the clays used for ceramics from all Early Neolithic settlements in Albania belong to the category with high SiO₂ and Al₂O₃.
- Minerals rich in Si and Ca together with recycled ceramics have been used as tempers.
- Bioinclusions have been identified in some of the samples from each settlement.
- Ceramics are fired at low temperatures (700-800°C), with non-prolonged firing followed by rapid cooling.
- The results support the idea of local pottery production at the Podgoria site, although they do not exclude the possibility of exchanges between them.

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The Role of the European Union and the Procedure of Conclusion of International Agreements After the Lisbon Treaty

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Abstract

The Treaty on the Functioning of the European Union (TFEU) in Article 218 includes all the institutions involved in the legislative decision-making of the Union, the Court of Justice and the High Representative of the Union for Foreign Affairs and Security Policy (HR). The article deals with all the different stages of the life of an international agreement - i.e. negotiations, signature, conclusion, some aspects of implementation, together with the suspension of treaty obligations undertaken by Europe. Article 218 TFEU sets out the general procedure that the European Union (EU) must follow when concluding international agreements with third countries and international organizations and will apply to all EU policies, while still maintaining an intergovernmental approach to the Common Foreign and Security Policy (CFSP). The EU's primary law, profoundly revised by the Treaty of Lisbon, reflects the EU's increasingly important and widespread activity as a treatymaker. Article 218 TFEU makes an effort to promote and support a more transparent and democratic behavior of the EU's international relations, already providing important powers for the European Parliament in determining treaty instruments adopted by Europe.

Key words: European Parliament inter-institutional conflict conclusion of international agreements, international negotiations, international representation of the European Unio, provisional application of treaties, soft law.

Introduction

Article 218 of the Treaty on the Functioning of the European Union (TFEU), provides for the binding of international agreements between the European Union and third

countries, as well as international organizations, dealing with the different stages of the life of an international agreement, negotiations, signature, termination, some aspects of execution, as well as the suspension of contractual commitments signed by the European Union, which includes all the institutions of the legislative process of the Union, the Court of Justice and the High Representative for Foreign Affairs and Politics of Security.

The article establishes the discipline of a general nature, i.e. it applies to all policies of the Union, including the Common Foreign and Security Policy - in relation to which, however, the provision in question maintains a pronounced intergovernmental approach, focusing the negotiation and adoption of CFSP agreements on the High Representative and the Union Council.

The primary law already dedicated to the procedure of international agreements has been significantly expanded, compared to the original formulation of the Treaty of Rome of 1957, reflecting the increasingly important and wider activity of the Union as a treaty-maker, as well as the need to respond to various unresolved issues of a different political-institutional nature: in particular, it concerns in advance the role and determination of the major role of the European institutions, also to guarantee a clear representation of Union at the international level; and the need for greater involvement, for the democratic connotation of external relations, of the European Parliament.

Therefore, it seems more than appropriate to carry out an analysis of the primary law provision so significantly revised by the Treaty of Lisbon - which entered into force on December 1, 2009 - to verify its impact on the unitary representation of the Union in the special role of the Union in international relations and the dynamics of the European Parliament.(F. fincK, L'évolution de l'équilibre institutionnel de l'UE sous le prisme des relations extérieures depuis l'entrée en vigueur du Traité de Lisbonne, in RTD eur., 2012, pp. 594-I – 594-28)

Article 218 TFBE, provides for "international agreement". The Treaty of Lisbon, in fact, does not contain the definition of this source of international law. To fill this gap, we can undoubtedly refer to the jurisprudence of the Court of Justice: the latter, taking the notion of agreement expressed by international law, based on the principle of freedom of forms, provides that the constituent elements of the instrument of the

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¹ Giuffrè, The common commercial policy Milan, pp. 95-19

treaty are the presence of two or more international subjects, the fulfillment of their wills in the sense of taking the choice of the common obligations of the parties and submitting to the common obligations of the parties. the law. Therefore, according to the Luxembourg judges, art. 218 TFEU "uses the expression 'agreement' in a general sense, to define any commitment of a binding character, entered into by the subjects of international law, regardless of its form."(CJEU, opinion 1/75 of 11 November 1975, OECD Agreement on local charges rules, in Coll., 1975, p. 1355, section TO.)

Initiative to start the negotiation phase

Representatives of international entities interested in defining an agreement discuss and possibly agree on a text which is then signed and finalized - distributed by article. 218, par. 3 TFEU between the European Commission and the High Representative. The latter, in particular, is the only person competent to take action when the agreement to be negotiated relates exclusively or mainly to the CFSP. The subdivision provided for in the regulatory text seems to reflect the methodology of the Court of Justice for identifying the correct legal basis for EU acts, when it specifies that "[examination of a measure shows that it pursues a dual purpose or that it has a dual component and if one of them is identifiable as the main one, while the other on that basis should only be a legal act based on that single basis".(CJEU, judgment of 20 May 2008, case C-91/05, Commission v. Council (SALW), in Coll., 2008, p. I-3651, point 73)

The Commission or the High Representative for CFSP issues submit their recommendations for the opening of negotiations to the Union Council, which must take a decision on the matter, appointing at the same time, "depending on the subject of the envisaged agreement, the negotiator or the head of the Union's negotiating team." (Article 218, par. 3 TFEU) Thus, this new expression "Union negotiating text" appears in the Union negotiating text or Union chapter. Especially in the initial stage of art interpretation and implementation. 218 TFEU, there was no lack of confusion about this articulation, fearing that it would mean an erosion of the powers of the Commission in the delicate phase of negotiations of the Union's international commitments, which would have been preserved only by referring to the common commercial policy agreements, considering that the article. 207, par. 3 TFBE expressly reserves the initiative and conduct of negotiations to the Commission, demanding from this institution the commitment to "make every effort to ensure that the negotiated agreements are in accordance with the internal policies and rules of the Union." (Giuffrè, Milan, 2004, pp. 141-167)

However, the doctrinal reconstruction on the basis of which the lexical innovations of art. 218 TFEU should be considered as intended to allow only the joint indication of the Commission and the High Representative for the purpose of defining their functions in the conclusion of international agreements. In fact, from the general examination of the Treaties it is clear that the Council, called to show the "negotiator" of the Union, will be able to choose only the issue and the representative, from time to time the High Commission, while the High Commission will be able to choose, from time to time, its representative, the High Commission, based on art. 219 TFBE, the power to negotiate agreements on the monetary or exchange regime.

In fact, it should be considered that, based on the article. 17, par. 1 TEU, the European Commission is required to "[ensure] the external representation of the Union, with the exception of the common foreign and security policy and for other cases provided for by the treaties", with the consequence that the deviation from the representation of the Union at the negotiating table

must be expressly provided for by the primary law, which happens for agreements on monetaryor currency regimes for CF and currency regimes.

Moreover, it should also be taken into account that the international commitments undertaken by the Union must be consistent, and therefore fully applicable, within the broad framework of the acquis of the European Union: and this quality of the international agreements signed can only be effectively guaranteed by the participation of the Commission in the negotiations, given that this institution has the task of «[overseeing by the handlers] the implementation of the implementation of the institution. Union law", always "under the control of the Court of Justice of the European Union".(Article 17, par. 1 TEU)

Interpretation of art. 218, par. 3 TFEU leads to the conclusion that the Commission continues to be the main negotiator of the Union, with the exception of agreements on monetary and currency matters, in relation to which the Council "determines the methods for negotiation and conclusion" - although the Commission is "fully associated" with the negotiations - and agreements that concern exclusively or mainly the Supreme Council, due to the CF. It is this institutional figure that has the task of "representing the Union on issues pertaining to the common foreign and security policy" pursuant to Article. 27, par. 2 TEU.

Therefore, "depending on the scope of the envisaged agreement", the Council will have to choose between the Commission (for all agreements except the CFSP) and the High Representative (for contractual instruments dealing exclusively or mainly with foreign policy), while the negotiation of agreements related to PPSP matters and other than the CFSP, will have to be entrusted to the High Commission, not being a representative of the High Commission. Thus, it can be said that the identification of the negotiator, the representative of the Union at the consultation table, does not belong to a discretionary competence of the Council, but is directly directed by the primary law: the intergovernmental institution is called from time to time to verify the object of the agreement, from which the Lisbon Treaty automatically follows who will represent the Union in the negotiations.

The Council "can issue directives to the negotiator and designate a special committee which must be consulted in the conduct of the negotiations." The guidelines of the negotiations, which formally should be confidential, although they often enter the possession of the media, usually have a generic scope, and often their content is already anticipated at the time of the recommendation that the Commission or the High Representative address to the intergovernmental institution to start the discussion for the drafting of a new international agreement.

However, this does not mean that the negotiator – be it the Commission or the High Representative – actually has sufficient freedom in the conduct of the negotiations. On the contrary, above all following some highly contested aspects of the outcome of the Uruguay Round (on the part of France, the Blair House agreement of 1992 on the agricultural file; on the part of the Federal Republic of Germany, the framework agreement on bananas introduced at the extreme in the package of agreements), the Commission is constantly and Marrakesh¹

The Commission is continuously and – above all – actively supported by "special committees", which, as mentioned above, may be appointed by the Union Council and are composed of representatives of the Member States. It is emphasized that the negotiations in the field of the common commercial policy, as provided by the article. 207, par. 3 TFEU, see the continued presence of the consolidated, important and influential former "Committee 113" - now the Trade Policy Committee, or Trade Policy Committee - where the senior officials of the Ministries for foreign trade of the

¹ E. Baroncini, The treaty-making power of the European Commission, Scientific editorial, Naples, 2008, pp. 82-83

Member States sit, and which meets on a systematic and regular basis with the Commission to discuss the many issues related to the full composition of the Union, in the formula of the Union's economic relations. the representatives of the Member States are the general directors of the national ministers).

Of course, the special committees appointed by the Council cannot directly interfere in the conduct of the negotiations; however, they are working groups composed of officials and/or national experts, who, based on art. 218, par. 4 TFEU, "they must [constantly] be consulted" during the negotiation phase of Europe's international commitments. Therefore, the combination of special committees with the activity of the Union negotiator makes the latter a double negotiator, since in most cases he will find himself mediating and determining a point of balance both between the member states of the Union and with the negotiating counterpart.

Signing and concluding agreements

When diplomats, usually in the person of the head of the delegation, consider the text drawn up during the negotiations to be satisfactory from their point of view, they add their initials (initials, or initials) to the text. Then we move to the signature phase which, in the solemn procedure for concluding international agreements, validates the text of the proposed agreement at the end of the negotiations, and shows the willingness of the signatory states to submit the text of the draft agreement to the competent national authorities for approval In these circumstances, the signing of the agreement does not constitute the manifestation of the signatory subject's consent to be bound by the international commitments provided for in the draft agreement, but implies the obligation not to remove the object and purpose of the treaty before its entry into force. This obligation represents an articulation of the principle of good faith in international relations, codified in Art, 18 of the Vienna Convention on the Law of Treaties of May 23, 1969, which the jurisprudence of the European Union has defined as "a consequence, in public international law, of the principle of protection of legitimate expectations, which (...) is part of the legal order of the Community", with the consequence of the impossibility of approving, but which have already entered into force with international agreements, which have already entered into force with international agreements. where the latter are likely to be directly effective.(CFI, judgment of 22 January 1997, case T-115/94, Opel Austria GmbH v. Council of the European Union, in Coll., 1997, p. II- 39, point 93) In the European Union system, the signature is decided by the negotiator appointed by the Council, who, by initialing each page of the negotiated document with his initials, indicates, under his personal

responsibility and without legal consequences for the Union, the text determined at the end of the negotiation discussions. The signing of the agreement, on the other hand, is authorized by a decision approved by the Council of the Union, with the proposal of the negotiator (art. 218, par. 5 TFEU.) In practice, the person authorized to sign representing the Union is the member of the Commission responsible for the policies covered by the agreement, or a Minister of the rotating Presidency of the Union; and, for CFSP agreements, the High Representative.

Of course, the joint reading of art. 218, par. 5 TFEU with Articles 17 and 27 TEU, which reserve the international representation of the Union to the Commission and the High Representative, may lead to the exclusion of the incoming Presidency from the signature phase, forcing the Council to choose whether to authorize the Commission, the High Representative (for CFSP agreements), or both, when an agreement has to be signed. However, the pre-Lisbon signature practice, to date, continues to find confirmation in the Council's decisions. Of course, when the signature concerns a mixed draft agreement, which is therefore within the competence of the member states, the latter will also show their representative to sign the text of the agreement.

EU law does not distinguish between the solemn procedure and the simplified procedure of international agreements, therefore it may happen that the Council approves the decision authorizing the signing and termination of the agreement at the same time (it is emphasized here that the term "conclusion" should be understood, in the European legal order, as an expression of the will of the Union to undertake the technical decision, as the author of the international agreement provides) where the binding of the agreement ends precisely with its signature. Therefore, the Council of the Union is always the competent European institution to approve, again on the negotiator's proposal, the decision to conclude a Union (art. 218, par. 6 TFEU) agreement. however, the discussion mechanism that the intergovernmental institution must adhere to varies.

In principle, "throughout the procedure" - that is, for the authorization of the opening of negotiations, the determination of negotiating directives, the signing and conclusion of agreements, and, as will be seen, the temporary implementation and suspension of agreements, and the determination of the positions to be presented on behalf of the Union (Article 218, par. 8, second sentence, TFEU) in the joint bodies created by the agreements, the Council must act unanimously "when the agreement concerns an area for which unanimity is required for the adoption of an act of the Union" - in practice, these are almost all CFSP agreements, the majority voting

hypothesis for acts of this policy of exceptional nature, and agreements that are included in sectors such as indirect taxation, energy, (art. 113 TFEU) discrimination, personal origin, age, origin, age and age. or sexual orientation, of which art. 19 TFBE. Also in the procedure related to the association agreements and the agreements referred to in the article. 212 TFBE with the candidate states for membership, i.e. for the so-called economic, financial and technical cooperation agreements with third countries, except developing countries, the Council must vote unanimously. Finally, unanimity for the intergovernmental institution is required "for the agreement on the accession of the Union to the European Convention for the Protection of Human Rights and Fundamental Freedoms." (article 218, par. 8, second sentence, TFEU)

The decision to join the ECHR, moreover, due to the delicacy in the political-institutional level that distinguishes it, must be preceded by its approval by the member states, "in accordance with the relevant constitutional provisions".

Suspension of an international agreement

It is always the Council, "on a proposal from the Commission or the High Representative", that adopts "a decision to suspend the implementation of an agreement" (Article 113 TFEU). The choice to suspend the effectiveness of an agreement is characterized by its highly political nature. In particular, for the European Union, it is a need that has often come to the fore in relation to the non-respect of a) basic rights by contracting third countries, as well as, b) in general, with the goals of cooperation based on the agreements that these countries have signed with the Union. Formally, the Treaty of Lisbon does not foresee a role for the European Parliament in the procedure of suspension of agreements, a clear sign of the constant reluctance of the Member States to ensure that the Assembly can "intervene" decisively and easily in matters that can be assessed as purely foreign policy, and this despite the fact that the issue of respecting and promoting the parliament has always been defended by the institution.

But even in this circumstance, the Assembly is not overlooked. In fact, as mentioned above, the framework agreement on relations between the Commission and the Parliament provides - in Annex III, par. 8- that "the Commission informs the Council and the Parliament at the same time and at the right time of its intention to propose to the Council the suspension of an international agreement", explaining the reasons for this.

Recently, following very serious human rights violations committed by the Syrian regime against its own population, the Council decided to partially suspend the cooperation agreement of 18 January 1977 between Syria and the then European Economic Community. (See Regulation (EEC) no. 2216/78 of the Council of 26 September 1978 concerning the conclusion of the cooperation agreement between the European Economic Community and the Syrian Arab Republic, in Official Journal L269/1 of 27 September 1978.) References, in the reasons for the two suspension decisions, in Art. 3, par. 5 TEU, according to which "in relations with the rest of the world the Union ... contributes to peace, security and the protection of human rights and to the strict respect and development of international law, in particular to the respect of the principles of the Charter of the United Nations"; to art. 21, par. 1 TEU, which requires the Union to base its action on the international scene "on the principles that have guided its creation, development and expansion", i.e. "democracy, the rule of law, the universality and indivisibility of fundamental human rights and freedoms, respect for human dignity, the principles of equality and solidarity and respect for the principles of the Charter of International Law of the United Nations" and, finally, for the purposes of the EU-Syria cooperation agreement "ba based on the mutual will of the parties to maintain and consolidate friendly relations in accordance with the principles of the United Nations Charter." (V.Council Decision of 2 September 2011 n. 2011/523/EU which partially suspends the application of the cooperation agreement between the European Economic Community and the Syrian Arab Republic, in Official Journal L228/19 of 3 September 2011, recital no. 2. See also Cooperation Agreement between the European Economic Community and the Syrian Arab Republic, cit., recital no.1)

The Council therefore suspended the agreement on imports, exports, transit and financial operations to support trade in crude oil, petroleum products, gold, diamonds and precious metals. These assets have been selected to pass the negative effects of the suspension on to the Syrian authorities - who benefit most from their availability, supporting the repressive policies of Bashar Al-Assad's regime thanks to them - thus avoiding inflicting further hardship on the Syrian people.

(Council Decision of 2 September 2011 n. 2011/523/EU cited; Council Decision of 27 February 2012 n. 2012/123/CFSP amending decision 2011/523/EU which partially suspends the application of the cooperation agreement between the European Economic Community and the Syrian Arab Republic, in OJ L54/18 of 28 February 2012.)

The delegation to the negotiator to approve changes to an international agreement on behalf of the Union

As has just been reported, the simplified decision-making mechanism for Council decisions on the common positions of the Union in the bodies set up by a given agreement cannot have as its object "acts that supplement or modify the institutional framework of the agreement." (Art. 218, par. 9 TFUE). In fact, in this case, since the measure to be adopted in a council or committee of an agreement involves new rules or revisions of the originally agreed contractual structure, it will be necessary to go back over the ordinary decision-making process, which, most of the time, involves the Parliament. Where, however, the amendment or integration of the text of the agreement concerns minor aspects, the art. 218, par. 7 TFEU contemplates a further simplified procedure, consisting of a delegation to the Commission or to the High Representative: therefore, «[a]nce the conclusion of an agreement, the Council, by way of derogation from par. 5, 6 and 9, may authorize the negotiator to approve the amendments to the agreement on behalf of the Union if the latter provides for their adoption with a simplified procedure or by a body set up by the agreement itself (...) possibly accompanying this authorization with specific conditions." It is one of the few legal bases of primary law that expressly delegates to the Commission - and, in this specific case, also to the High Representative - the treaty-making power of the European Union. An eloquent example of the valuable role that can clearly be entrusted to the Commission thanks to this legal basis is what is outlined in the proposal to the Council (This proposal has already obtained the favorable opinion of the parliamentary rapporteur Kovács: cf. A7-0275/2012, Recommendation concerning the draft Council Decision on the conclusion of the Agreement between the Government of the United States of America and the European Union for the coordination of energy efficiency labeling programs for office equipment, Rapporteur: Béla Kovács, 20 September 2012) concerning the conclusion of the agreement with the United States for the coordination of energy labeling and energy efficiency programs for office equipment. (OM(2012) 108 final, Proposal for a Council Decision on the conclusion of the Agreement between the Government of the United States of America and the European Union for the coordination of energy efficiency labeling programs for office equipment, 15 March 2012.) Given the rapid evolution that characterizes the office equipment market in terms of their energy efficiency, the proposal in question reserves to the Commission the power to contribute to the review and updating of the technical annexes of the agreement on the Energy Star program (therefore, the naming and the common Energy Star logo, the directives for

their correct use, the common specifications of the products that can boast the Energy Star logo), defining the position of the Union with regard to the decisions that the entities managing the agreement must adopt to amend the technical annexes in question. (Art. 4 of the proposed decision, in COM (2012) 108 final, cit.)

Conclusions

As illustrated in this paper, in the first years of the validity of Article 218 TFEU there was certainly no lack of uncertainty or even divergence, in relation to which the European system, in any case, has managed to produce compromise solutions, or awaits the decisions of the Court of Justice to clarify with authority the configuration of the new institutional balance desired by the Treaty of Lisbon for the external behavior of the Union.

By strengthening the powers of the European Parliament, art. 218 TFEU brings greater democracy, as well as transparency, to European international action. In particular, it was possible to ascertain how the Assembly, in order to protect its prerogatives, was so significantly strengthened by art. 218 TFBE The parliamentary institution promises to define the foreign policies of the Union, which, thanks to a greater involvement of the Assembly, manages to effectively follow the respect and promotion of the ambitious principles established by the Treaty of Lisbon for European action "in relations with the rest of the world" (Articles 3, paragraph 221, 5, TEU and paragraph 5).

In recent years, there has been a significant proliferation of soft law measures in defining the objectives and methods of international cooperation in which the Union is a protagonist. For example, there are over fifty structured dialogues between the European Commission and the Chinese government, through which the Union and the People's Republic have created a dense network of cooperation in the most diverse sectors, from competition to the fight against climate change¹, from the protection of intellectual property rights to labor and social policies, with numerous negotiations taking place (Memorandum of Understanding between the Ministry of Labour and Social Security of the People's Republic of China and the European Commission, 5 September 2005) The Assembly should promote a mandatory notification mechanism for all soft law acts through which the international action of the Union is expressed. Recognizing the possibility of informal measures for the timely, dynamic

¹ Terms of Reference of the EU-China Competition Policy Dialogue, 6 May 2004.

74

and effective management of international relations, however, it is necessary to organize the continuous control and monitoring of these measures, so that they do not end up in bypassing the demanding decision-making procedures already defined by the article. 218 TFBE for the conclusion of international agreements and to systematically verify whether these agreements, dialogues, memoranda and partnerships respond to the value orientation required by the Treaty of Lisbon for the international action of the Union.

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The European Ombudsman. Frontex and Fundamental Rights

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Abstract

The European Union system is characterized by the presence of the European Ombudsman (also known as the Ombudsman), a special figure, strengthened over time, which translates the will to prepare an ever wider protection of the rights recognized by European Union law, not only for European citizens, but also for residents of a member state, whether natural or legal persons. On 1 October 2013 Emily O'Reilly¹ took up the first position at the European Ombudsman and continued the path started by her predecessors in order to support the EU institutions to become more effective, transparent and accountable. This statement of purpose it is based on the binding legal value obtained from the Charter of Fundamental Rights with the entry into force of the Treaty of Lisbon. As far as it is important for our purposes, the extension of the right to good administration in the activities of the European institutions is being strengthened.

Keywords: European Parliament, Unione europea, European Ombudsman, clause of solidarity, Charter of Fundamental Rights, Frontex and fundamental rights.

1. Introduction

In art. 41 Card (The text says: "The right to good administration." 1. Everyone has the right to have issues that concern them dealt with in an impartial and fair manner and within a reasonable time by the institutions, bodies, offices and agencies of the Union.

¹ He was Ireland's Ombudsman and Irish National Information Commissioner (2003-2013), award-winning journalist political editor and television author.

2. This right includes in particular: a) the right of every person to be heard before an individual measure that causes harm is taken against him; b) the right of everyone to have access to the file that concerns him, subject to the legitimate interests of confidentiality and professional and commercial secrecy; c) the obligation of the administration to justify its decisions. 3. Everyone has the right to have the Union remedy any damage caused by its institutions or by its employees in the performance of their duties, in accordance with the general principles common to the laws of the Member States. 4. Any person can address the institutions of the Union in one of the languages of the Treaties and must receive an answer in the same language") the right to refer cases of maladministration to European Ombudsman, in the action of institutions, bodies and offices of the Union.

The Code of Good Administrative Conduct specifies that "we speak of maladministration when an institution does not perform a proper action, acts irregularly or acts illegally".(L.Cominelli, European Ombudsman, Union Ombudsman, 2005) Some examples may be: administrative irregularities, injustice, discrimination, abuse of power, lack or refusal of information and unjustified delay. Therefore, the violation of EU law is not necessary, but the opposition to the criteria of transparency, efficiency, justice and fairness in public relations is sufficient. For this reason, it is believed that the complaint to the European Ombudsman (E.Vinci 1992) is configured as a "means of protection of the person being administered", since the complaint may concern general profiles of the action of the European administration or widespread interests.(M. Condinanzi 2006)

Another feature is that the Ombudsman can conduct investigations on his own initiative. Thanks to this ability to act motu proprio, it can be concluded that the duty of the Ombudsman is not to provide the complainant with remedial or compensatory protection, but to exercise real control over all divisions of the European Union (with the exception of the Court of Justice in the functions of its judicial.) (C.Sanna ,Art 228, in F. Pocar, M.C. Baruffi , Short Commentary on the Treaties of the European Union, 2014) The activity of the Ombudsman gives security to this Union of ours, as it strengthens the sense of belonging to an increasingly complete organization, curbing the state of dissatisfaction with the European system, which sometimes remains in some of us. An implicit dependence of the Ombudsman on the European Parliament can be established since it is the EP itself that elects him and approves the Statute¹, in

 $^{\rm 1}$ See the articles 24, paragraph 3 and 228 TFEU; 204-206 reg. internal PE cit.

78

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the exercise of supervisory activity. The Treaty of Lisbon has underlined the elective nature of the appointment of the Ombudsman, previously appointed only by the European Parliament. (The Court of Justice ruled out that "it is for the Assembly to influence the activity of the Ombudsman" and specified that «the powers available to the European Parliament vis-à-vis the Ombudsman cannot be configured as powers of judicial review" (Court of Justice, 23 March 2004, C-234/02 P, Lamberts v. European Ombudsman and Parliament). This change is aimed at strengthening the independence and autonomy (P. Soave, Art. 228, in C. Curti Gialdino (directed by), European Union Operational Code, 2012) that should characterize the figure of the People's Advocate so that his activity is as effective as possible and close to the citizens. However, this consideration should not lead us to believe that this system cannot be perfected: precisely because, over time, the Ombudsman has proven to be a leading figure within the Union in ensuring the protection of citizens, it is necessary to continue looking for improvements.

2. An investigation by the Ombudsman: Frontex and fundamental rights

As part of an investigative procedure activated by the Ombudsman on his own initiative (this is case OI/5/2012/BEH-MHZ, opened by the previous Ombudsman P. Nikiforos Diamandouros, but closed by present), the respect of fundamental rights by the European Agency for the Management of International Cooperation at the External Borders of the Member States of the European Union, known as Frontex (B. NASCIMBENE, A. DI PASCALE, The exceptional influx of people from North Africa and the European Union), was verified. This Agency is responsible for coordinating joint operations with Member States at the external borders and assisting States in returning third-country nationals residing illegally in the territory of the Union.

In the exercise of its activities, Frontex is bound by the Charter of Fundamental Rights of the European Union (this is confirmed by the art. 1, par. 2, of the Regulation: «The Agency carries out its functions in full compliance with the relevant Union legislation, including the Charter of Fundamental Rights of the European Union ("Charter of Fundamental Rights"), the relevant international law, including the Convention Relating to the Status of Refugees signed at Geneva on 28 July 1951 ("Geneva Convention"), the obligations relating to access to international protection.) In particular, that fini dell'inchiesta, assume rilievo precipuo il principio di non respingimento come diritto fundamentale dei migranti sancito espressamente dall'art. 2, par. 1 bis del Regolamento, ma, più in generale, intrinsicamente correlato al divieto assoluto di tortura (Art. 4 Charter of Fundamental Rights of the European

Union: "No one shall be subjected to torture or to inhuman or degrading treatment or punishment". While it should be noted that this prohibition is part of customary law, it should be emphasized that it is enshrined in various conventions, including the 1951 Geneva Convention on the Status of Refugees, expressly referred to in the Regulation, the European Convention on Human Rights (art 3), the United Nations Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, the European Convention for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment.) In substance, the migrant is non possono essere in alcun caso respinti in uno Stato in cui rischiano di subire atti di tortura o trattamenti inumani o degradanti.

In this regard, we recall the judgment of the European Court of Human Rights in the case of Hirsi and others v. Italy. (ECtHR, Grand Chamber, 23 February 2012, Hirsi Jamaa and others v. Italy, application n. 27765/09. This punishment certainly did not come suddenly. In fact, there have been many warnings and warnings about Italy. Among them, we note the 2010 report of the European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment (Report to the Italian government on the visit to Italy carried out by the European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment (CPT) from 27 to 31 July 2009), which condemned the so-called "operations of maritime interception and detention" of migrants, aimed at their mass return to Algeria and Libya, in implementation of the Memoranda of Understanding between Italy and these two countries, without performed no examination of

asylum applications.) The applicants, citizens of the Horn of Africa, complained that they had been rejected on the high seas by the Italian navy and returned to Libya, from where they had left, without being given the opportunity to seek asylum. According to the Court, there was a violation of the article. 3 of the ECHR, as migrants risked suffering inhumane treatment or acts of torture in that state or being returned to their countries of origin, where the risk was even greater.

Next: The Investigation

The Regulation has equipped the Frontex Agency with a system aimed at ensuring respect for fundamental rights in the exercise of its functions.(According to authoritative doctrine, the purpose of the news was to make up for the numerous "critical issues that emerged from the early years of Frontex's operations": A. Liguori , N. Riccuiti 2012 , to which reference should be made for references to institutional

and non-governmental sources that had reported these shortcomings.) Just such a system has been subjected to be examined by the Ombudsman, with primary attention to its practical functioning. On the one hand, during the investigation procedure, a dialogue with various external organizations (the European Ombudsman had invited interested parties to comment on the matter.

The participation of numerous NGOs, such as Amnesty International and Human Rights Watch, should be noted) and with Frontex itself (In concrete terms, the procedure consisted of a debate that was always open to comments from the interested parties. In particular, considering the delicate area covered by the investigation, the Agency for Fundamental Rights of the European Union (FRA) was also involved , who sent a report on the case. This agency was established by Regulation (EC) n. 168/2007 of the Council of 15 February 2007 (GUCE L 53 of 22 February 2007, pp. 1-14). made it possible to bring out the existence and effective operation of a monitoring mechanism with preventive purposes. This consists, among others,(for an analysis of the instruments mentioned below, please refer to the Ombudsman's final decision: Decision of the European Ombudsman closing own-initiative inquiry OI/5/2012/BEH-MHZ.) of a Fundamental Rights Strategy (Article 26 bis of the Regulatio) and a corresponding Operational

Plan, Codes of Conduct (Article 2 bis of the Regulation) and thepossibility for the Executive Director to suspend or terminate joint operations and pilot projects in case of persistent or serious violations of fundamental rights. A mechanism for "reporting" any incident is also foreseen. An important contribution comes from the interaction between the Human Rights Officer and the Consultative Forum. Finally, personnel involved in the Agency's missions should receive specific training, including legal training, in terms of rights protection.

On the other hand, however, the Ombudsman, in the Special Report sent to Parliament (In summary, according to the Ombudsman, there would be at least three hypotheses in which Frontex should be at the forefront of knowing individual complaints: violations of human rights committed by its staff, in relation to which it should deal with the substance of the complaint; violations committed by different others, but identifiable by migrants as «Frontex», for which at least adequate support should be provided to identify the (national) authority competent authority; violations attributable to the coordination of joint operations), points out the lack of a system that can be activated ex post, complementary to the first, which allows migrants to propose individual complaints for violations actually suffered during the guided

operations. Contrary to what the Agency itself maintains, the task of creating such a mechanism cannot rest exclusively on the Member States.

Indeed, there are several areas in which Frontex has an effective responsibility, even when the latter has exercised a mere coordination activity. There is therefore an articulation between responsibilities. In this regard, it is certainly not reasonable to place the burden of knowing when an injury is attributable to the Member State rather than to the Agency itself, on migrants, who often find themselves in a particularly difficult situation. In the light of the considerations, for an effective protection of the fundamental rights of migrants, Frontex should provide, when the injury falls within its sphere of control, direct protection with respect to single individual complaints. In any event, it should at least help data subjects to obtain the possibility of an effective remedy before the competent national authorities

According to the Ombudsman, this role could be assigned to the Fundamental Rights Manager, an office already envisaged by the founding Regulation and which art. 26 bis par. 329 falls within the scope of operation of the monitoring mechanism, which was mentioned above. In reality, from the literal wording of this provision it does not emerge in detail what the functions of this office are: the provision, in fact, limits itself to requiring that it has the necessary competence and that its independence is ensured. On this specific aspect, Frontex did not provide an adequate response to the Ombudsman's recommendations, denying any responsibility: for this reason, the Ombudsman himself sent a Special Report to the Parliament indicating his concerns and the need to provide for a better protection of fundamental rights. At the end of this Special Report, the Ombudsman reiterates his recommendation to the Frontex Agency: «The Ombudsman therefore makes the following recommendation to Frontex: Frontex should establish a mechanism for dealing with complaints about infringements of fundamental rights in all Frontex-labelled joint operations. The mechanism should receive complaints from persons who claim to be individually affected, or who complain in the public interest. This role could be entrusted to the FRO, who should be resourced accordingly. The European Parliament could consider adopting a resolution accordingly»)

Ensuring that EU institutions respect fundamental rights is an integral part of the Ombudsman's mandate. It is precisely on this statement that Emily O'Reilly, in her mandate, opened another investigation on the activities of Frontex on October 20, 2014 (Case OI/9/2014/MHZ, on which see the press release). In this new case, the assessment she intends to make concerns the respect of the basic rights of migrants

who subject to forced return measures by an EU member state to their country of origin. The decision to continue monitoring the Agency's activity is necessary, given the public importance of return operations in the context of immigration policy. (The Ombudsman sent a letter initiating the inquiry to the Executive Director of Frontex, where, in addition to justifying the initiative, he raised, among others, a number of questions concerning compliance with the Code of Conduct, which includes the mechanism of individual complaints, highlighted in the previous investigation.)

Conclusions

It is believed that the Frontex agency is the daughter of a "security" policy, aimed more at guaranteeing the security of the European legal space than at regulating in a unitary way a reality that particularly affects the Mediterranean countries (A. Liguori, N. Riccuiti 2017). In the light of the Lisbon Treaty, the European Union would have the regulatory tools for create a common policy in this delicate sector¹, but the States still oppose resistance linked to national interests.

"Clause of solidarity", according to the article. 80 TFEU (the need to strengthen European solidarity in the management of migratory flows was reaffirmed in the Stockholm Program of the European Council, which outlined the Union's priorities for the creation of the area of freedom, security and justice for the period 2010 -2014 (OJEU C 115 of 4 May 2010). Based on this standard, in fact, even immigration policies, apart from those related to border controls and asylum, should be inspired "by the principle of solidarity and fair sharing of responsibilities of states, also for the financial plan" (B. Nascimbene A. Di Pascale 2018). An application of this principle can be found in Frontex's activity to help problematic countries for immigration, especially Italy, with operations Hermes and Aeneas for border control and migratory flows².

Requests for more substantial assistance and support have been made by state governments in recent years in the face of the large migratory flow. Moreover, for the above operations, such as the "Triton" operation, which is part of the activities in the central Mediterranean area, with the task of strengthening border surveillance and supporting humanitarian efforts³. It is precisely these Frontex interventions, for which the participation of other EU member states is required, which make the

¹ For an overall picture, see the summary sheet on the European Parliament website.

² For details on operations, as well as for updates, please refer to the Frontex website.

³ For further information, see the Memo of the European Commission of 7 October 2014.

aforementioned principle of solidarity a reality. Therefore, "Triton" can be a further step towards the creation of the European asylum municipality system¹

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What is it to be a bad teacher? Beliefs of future secondary school teachers in their initial training in Spain

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Abstract

The teacher is the fundamental element in the teaching-learning process, and is especially relevant for students who present more difficulties in the classroom. Initial teacher training is essential for the achievement of a more competent teacher who is capable of successfully facing the beginning of the teaching profession, and in this, the previous beliefs or conceptions that students have about what a bad teacher is are key. The prior ideas with which future teachers come to university classrooms determine their first teaching identity and the beginning of their professional practice. In this paper, the research focused on the beliefs of prospective secondary school teachers about what they consider to be a bad teacher. A qualitative, biographicaldescriptive methodology was used, in which the students' accounts were the starting point for establishing what characterizes a bad teacher. The results show that the future secondary school teachers place the bad relationship between the teacher and the students and their negative attitude in the exercise of their profession as the key factors for being a bad teacher, above any other, including aspects related to the way in which the curriculum is taught.

Keywords: beliefs, secondary education, initial teacher education, teacher identity, students with learning difficulties.

CDA of News Headlines on Covid-19 Pandemic in The New York Times

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Abstract

The Covid-19 pandemic has affected the whole world and had a huge impact on social and economic development of many countries. Various aspects of the world health crisis have been studied by different researchers in various fields od science. Our study analyses newspaper headlines published in *The* New York Times from January of 2020 till December of 2021. The aim of the paper is to analyse headlines that deal with various aspects of the Covid-19 pandemic. The methodological procedure applied in this qualitativequantitative study comprises two levels of analysis, linguistic and intertextual, based on the three-dimensional model of analysis, developed by Norman Fairclough, combined with Teun van Dijk's concept of microstructures and macrostructures. CDA is applied in the analysis since it offers the most appropriate theoretical and methodological framework for the analysis of language which cannot be separated from the social, political and economic contexts as well as power relations that are channelled through language within those contexts. Linguistic analysis comprises different levels: lexical, thematic and stylistic. Furthermore, the role of direct and indirect speech is also investigated within the framework of intertextuality, whereby reporting mode and sources are analyzed. Linguistic analysis of newspaper discourse shows that health topics are intertwined with political ones, which reflects the fact that situational context is imbued with politics. We can agree with Sacco and Muddiman (2015), who claim that The New York Times mostly uses traditional headlines that introduce the main topic of the article, and they are generally short, concise and unambiguous, however, the results of the analysis show that there are also examples of figurative language, which contributes to the linguistic diversity of newspaper headlines.

Keywords: Covid-19 pandemic, The New York Times, critical discourse analysis, news headlines.

Global Ecological Crisis and Climate Change Inequities, Disadvantages, and Vulnerabilities; Global North Geopolitical Dominance and Critical Inclusion of Global South

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Extended Abstract

Events and research data have clarified that no country can escape the global ecological crisis and climate change impacts. The Global North, the world's most affluent and privileged country, is responsible for around half of all emissions since the Industrial Revolution. The least developed countries, "Global South," have contributed far less to global warming. It also implies that least developed countries have had a less equal share in the direct benefits of fossil fuel use, including energy consumption. The data indicates that the poorest countries of the world, while registering the lowest industrial pollution levels, are most susceptible to the damage produced by climate change. Moreover, the initial inequities and inequalities experienced by countries of the Global South put them at a disadvantage, where they are particularly vulnerable to climate change impacts. Consequently, climate change widens existing global inequalities, undermining efforts for poverty reduction. A report from the World Bank estimates that the ecological crisis might drive up to 135 million people into poverty by 2030. Globally and nationally, climate change further deepens within-country inequalities by adversely affecting the poorest communities, including Indigenous and People of Colour communities, women, and children. These most vulnerable groups face the effects of global warming daily. At the same time, vulnerable groups are often the ones who are actively involved in the protection and conservation of natural habitats, as in the case of indigenous environmental defenders. Geopolitically, policies-wise- there is an urgent and critical need for more active inclusion of Global South actors. Rather than suffering the most from climate change, communities at the fore should be at the center of the world's fight against global warming and should be given way more space to raise their voices. Thus, to reduce global inequities, inequalities, and vulnerabilities, Global South actors and their voices need to be actively included in the decision-making of global action and partnerships, especially on climate-related issues. As with mitigation, crucial is action-research, satisfactory geopolitical approaches, and focus on the technological, social, psychological, and cultural aspects. The aim should be to get satisfactory climate change programs, commissions, governments, and various international expertise institutions dealing with the adjustment. During the approaching "climate change transition," in a socio-political sense, it is essential that everyone is more

actively involved in the policy-making process. The key is to ensure an appropriate geopolitical and financial focus, even budget resources through the Green Climate Fund (CCF), a Global South/North honest association, and a transformation of the Global North policies during the transition - aiming to assist the Global South and prevent the risk of violating international law and territorial and social rules. Thus, especially regarding Global South - regions and countries that will be most affected areas with fragile general security and critical human insecurity.

Keywords: Climate change, Environmental security, Climate Change policies, Global North, Global North, Global South, Inequities, Vulnerabilities, Inclusion

Introduction

According to the last report of the IPCC, scientists have established serious and longterm changes in the Earth's climate in every region and the entire climate system. Many changes have yet to be seen for hundreds, and some for thousands of years, such as the steady rise in sea level. The report shows that greenhouse gas emissions from human activities are responsible for warming the planet by approximately 1.1 °C from 1850 to 1900 and reveals that, on average, over the next 20 years, global temperatures will reach or exceed 1.5 °C of warming. UN Secretary-General António Guterres said the report was nothing more than "a code red for humanity. The alarm bells are ringing, and the evidence is irrefutable." According to this report, reporting climate crises should become a daily routine. Focusing on narratives about global warming, environmental disasters such as drought or floods, and the impact on life on planet Earth should become a more critical part of social sciences and mainstream journalism. The presentation of the climate crisis problem and the impact of reporting on the audience will largely depend on how these topics are approached and what resources are used to bring the problem closer to the audience and make it as straightforward as possible. The role of the media in this fight and reducing people's behavior will be one of the keys to change. It is a fact that when we represent visually, it is more apparent. (Intergovernmental Panel on Climate Change, 2021)

Furthermore, in its special 2018 report, the Intergovernmental Panel on Climate Change (IPCC) warned that preventing irreversible climate change, which threatens the sustainability of civilization on Earth, requires a 45% reduction in carbon dioxide (CO2) emissions by 2030 and their complete abolition by 2050. Climate change, which, without exaggeration, is a more precise albeit non-technical term, is the reality of today's world, and it is the most severe and complex crisis that humanity has ever been exposed to. Faced with the already galloping climate crisis and its consequences, it seems justified to call for a state of emergency declaration. During the last few decades, year after year, we have been noticing the consequences of climate change across the Earth, which we highlight here (from IPCC reports 2013 and on): record-breaking average global temperature, more frequent and intense occurrences of heat

waves during the summer and cold precipitation extremes during winter, destabilization of permafrost, loss of glaciers as essential sources of drinking water, global sea level rise, coral bleaching, large forest fires, longer dry periods, large-scale floods and increasingly frequent and intense droughts. As a result, we are witnessing significant changes in the environment, which causes increasing problems in food production, forced migration, and degradation of biodiversity, manifested in galloping extinction and migration of species, among which the most visible occurrences of tropical species in the temperate zone. (Intergovernmental Panel on Climate Change, 2018; Intergovernmental Panel on Climate Change, 2013)

The conformist refusal to accept the reality of the climate crisis has lost all rational basis. At the same time, we are witnessing action movements that we can consider as the beginning of a global ecological revolution, a new historical moment that humanity has not yet experienced. One of the main demands of those movements is a call to institutions to listen to scientists. True, scientists are often very modest in publicly communicating their results and implications, which can be attributed to strict adherence to the rules of the scientific method. One of the common refrains from decisive systemic action until now has been the position that climate changes are a problem but not a crisis. The challenges are evident when we communicate about the climate crisis, i.e., a change in communication approach is needed to be more effective. One of the tools that should be emphasized is the power of narrative through various tools and actors - how to spread the climate message through stories, which people digest much more efficiently, and can lead to broader awareness and action. Thus, Visualization of reported information has always been an excellent tool to present any topic more clearly. When we talk about climate crises and ecological fragility, environmental Security, and human security framework, it is undoubtedly one of the most effective methods of presenting more clearly what is happening. (Huremovic, 2021)

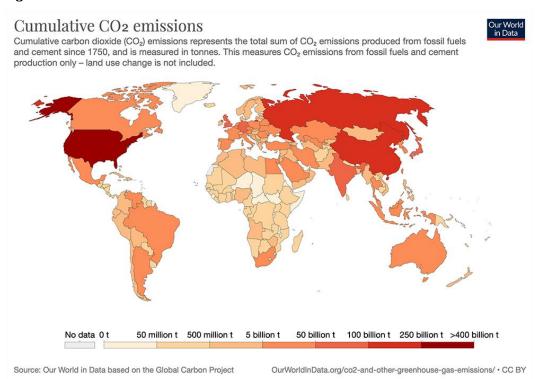
Climate change is not only a scientific phenomenon but also a cultural one. Individuals' opinions on climate change are often based on emotion (often by various forms of images) rather than scientific evidence. Therefore, research into the emotional characteristics of the imagery that the non-expert public finds relevant to climate change is essential to build a database of compelling climate change imagery, which can then be used by scientists, policymakers, and practitioners in mobilizing climate adaptation and resilience efforts. Consequently, Climate communication or climate change communication is a field of environmental communication, and science communication focused on the causes, nature, and effects of anthropogenic climate change. Thus, Climate change communication is a topical and relevant issue, and it is widely acknowledged that public communication about causes, impacts, and action alternatives is integral to addressing the challenges of the changing climate. Conversely, Climate visualization concerns communicating climate information and data through different information technologies and modes of visual representation.

In climate change communication, climate visualization is highlighted as a potential way of increasing public engagement with climate change. In particular, developments within information technology have provided significant advancements that are claimed to be transformative in engaging lay audiences with climate change mitigation and adaptation issues.

At the same time, according to Brock (2012), mainstreaming Climate Change - a Whole of Government Response with the number of people affected by climate change set to significantly increase in the next twenty years, potentially making it the most remarkable emerging humanitarian challenge of our time (BIPSS, 2009), the issue is fast becoming a significant security challenge. When the increased instability of this humanitarian challenge (such as food insecurity) is combined with persistent socioeconomic divisions, the potential for social unrest and political instability is considerable (Zala & Rogers, 2011). As well as generating new conflicts, climate change acts as a threat multiplier, exacerbating existing tensions and divisions, especially in fragile situations. Direct and secondary impacts will include increased extreme weather events, competition over natural resources, food and water insecurity, displacement and increased migration of peoples, destruction of infrastructure, and changing health risks. Such factors may all increase the likelihood of 'fragile states toppling over, becoming failed states' (Juma, 2010). It is just such situations when a government can no longer deliver services to its people that 'conditions are ripe for extremists (...) to fill the vacuum' (Patwary, 2011). The security implications of climate change need to be addressed locally and internationally through the United Nations, regional forums, national government, local administrations, and civil society. At the same time, the Importance of North-South Engagement is essential. These likely future drivers of insecurity need to respect national boundaries and will not be sustainably addressed by unilateral approaches. For example, as competition over energy resources increases with depleting supplies of fossil fuels, it will become more vital that positive collaboration between consumer nations in the West and resource-rich nations in the South occurs. In a globalized world in which no nation's Security is independent of their region or the wider international community, the opinions of the majority world can no longer be neglected by the major powers who seek to direct global security priorities. The sustainable security approach posits global justice and equity as critical requirements of any effective response to global insecurity. Voices from the Global South remain on the periphery of discussions around global political and security issues, particularly at international institutions negotiating tables. It must be addressed. Western organizations can contribute to building an egalitarian approach to international relations by adopting a close and meaningful engagement with majority world thinking. Security analysts and policymakers must also continue to engage and collaborate with counterparts in the Global South, ensuring that the sustainable security project puts into practice the idea of genuinely inclusive global politics. Many future security problems and solutions will be found in the Global South (given their

intimate and intuitive understanding of those problems and solutions) within populations whose marginalization has resulted in much contemporary insecurity. While climate change, for example, will hit the poorest communities hardest, it is with emerging economies like China, India, and Brazil that the West must engage if mitigating climate chaos is to succeed. Non-Western perspectives must be recognized and addressed in concrete policies in the powerful countries of the Global North. Such policies should be focused on transforming tensions at their root rather than solely attempting to control violent conflicts. Contribution towards "North-South" communication is needed, giving Western decision-makers more excellent reasons and resources to engage with their colleagues in the majority world to build a genuinely sustainable global system. (Brock, 2012)

Figure 1.



Source: Carnegie Europe, 2021

At their core, climate negotiations continue to be shaped by equity concerns between postindustrial countries in the Global North and emerging economies in the Global South. The debate is mainly over which countries have contributed most to greenhouse gas (GHG) emissions and how the costs of mitigating and adapting to

climate change should be shared. How effectively the principle of equity will be embodied in global efforts to combat climate change will help determine the scope and ambition of these efforts. Industrialized and post-industrialized nations are responsible for a significant share of the historical carbon dioxide (CO₂) emissions in the atmosphere today. The United States (US) has emitted more carbon than any other country and is responsible for 25 percent of historical emissions. Next in line are the twenty-seven countries of the EU (plus the UK), which are responsible for 22 percent of global CO₂ emissions. Meanwhile, China's historical contributions are estimated to be around 12.7 percent. By contrast, India (3 percent) and Brazil (0.9 percent) have historically not been significant contributors to global emissions. Similarly, the contributions of African countries (3 percent combined), relative to the continent's population size, have also been minimal. In addition, the Global North continues to have much higher per capita emissions than much of the world even today. The US ranked high among post-industrialized countries in 2019, with 16 tonnes of CO₂ emissions per capita, just behind Australia (16.3 tonnes per capita) and ahead of Canada (15.4 tonnes per capita). The figures for Europe generally fall between 5 and 10 tonnes per capita, depending on the country. Hydrocarbon-based economies like Russia and members of the Gulf Cooperation Council in the Persian Gulf like Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates also rank pretty high, some even higher than countries in the Global North. (Ulgen 2021)

The ecological crisis brings global inequalities to the surface. Events over the years have made it clear that no one can escape the impacts of climate change. However, at the global level, climate effects are not uniform. The Global Climate Risk Index 2021 indicates that the poorest countries of the world, whilst registering the lowest industrial pollution levels, are most susceptible to the damage produced by climate change. Evidence indicates that at a, where they are particularly vulnerable to climate change impacts. Consequently, climate change widens existing global inequalities, undermining efforts for poverty reduction. Estimates are that the ecological crisis might drive up to 135 million people into poverty by 2030. Looking at the national level, climate change further deepens within-country inequalities by hitting the poorest communities, including Black, Indigenous, and People of Colour communities (BIPOC), as well as women and children, hardest. These most vulnerable groups face the effects of global warming daily; Even though smallholder farmers in rural economic areas provide up to 75% of the food supply in many developing countries, droughts, and other natural undermined by floods, Notwithstanding, vulnerable groups are often the ones who are actively involved in the protection and conservation of natural habitats, as in the case of indigenous environmental defenders. In addition to being exposed to the most direct adverse effects of climate change and global warming, these groups are facing extreme violent attacks for defending their home and the planet. As reported by Global Witness, 227 environmental and land defenders were killed in 2020 in the Global South. (Strazzante et. al, 2021)

The Global South is the least responsible for greenhouse gas emissions but is currently the hardest hit by climate change. The Global South is a part of the world that abounds with tragedies similar to Joanna Sustento's. In that part of the world, we are witnessing the disappearance of the conditions on which people's lives and the normal functioning of society depend. Moreover, developing countries in the South and industrialized countries in the North have had a complicated relationship since World War II. On the other hand, modernization theorists claim that globalization and liberalization create new prospects for the South. Developing countries benefit from drawing in foreign investment, technology, and foreign knowledge. According to this article, it is essential to make fundamental adjustments to reverse this tendency resulting from globalization. Since the Cold War ended, South America's strategic relevance has been further weakened by competition for finance and investment and foreign aid from Eastern Europe and the former Soviet Union. (Mujrai & Rao, 2022)

The concept of "just transition" has been around since the 1980s, when it was used in a movement by US trade unions to protect workers affected by new water and air pollution regulations. In recent years, the concept has gained traction concerning meeting climate goals by ensuring the whole of society – all communities, all workers, all social groups - are brought along in the pivot to a net-zero future. The International Labour Organization (ILO) defines it this way: "Greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind." While this provides a sound basis, perception does vary between countries and regions. What is essential, though, is that each country fosters ongoing dialogue to develop a shared vision for what a just transition means for their impacted workers, communities, and businesses. When discussing Climate transition, risks, and opportunities, the summer of 2022 saw record-breaking heatwaves and forest fires across Europe. Climate change makes such extreme weather events more likely and increases the hot and dry conditions that fuel wildfires. These events, like the floods seen in Europe last year, remind us of the need to take urgent action to transition towards a carbon-neutral economy. The war in Ukraine has also brought into sharp relief the need to accelerate the green transition and make Europe less reliant on Russian gas and oil, as confirmed by the Commission's REPowerEU Plan. The European Commission estimates that Europe will need around €520 billion in additional private and public investment annually until 2030 for the green transition globally; the International Energy Agency estimates that investments in clean energy of around USD 4 trillion annually will be required by 2030 to get the world on track to achieve net zero by 2050. The private sector will need to carry around 70% of that investment. Climate change is not just a risk for credit institutions but also a financing opportunity. At the same time, financial markets face pronounced economic and geopolitical uncertainty. Increasing transition investment might be a challenge for indebted governments and private firms. The most recent euro area bank lending survey by the European Central Bank

(ECB) showed a tightening of credit standards, a trend that banks expect to continue through the third quarter. (McCaul, 2022)

Critical security studies should not establish "objective truth" but enable a broader understanding of Security based on respect for specific theoretical and political starting points in its conceptualization. Environmental Security and environmental protection are issues of overall Security because they directly cause: open conflicts, have the potential to destabilize the regime, and can lead to the displacement of the population and the disintegration of the states. Regarding the geopolitical consequences of climate change (particularly in the Global South), climate change consequences, such as global warming, rising sea levels, droughts, melting glaciers, and many others, significantly impact world geopolitics. The level of conflict between states depends on how strong the ties and common interests of the entire region states and globally. Some states depend on what the atmosphere will be like in their environment. They will affect neighboring countries if they are stable and economically prosperous. When climate change has reduced living resources, the economic framework played a much more critical role than religion in joining terrorist organizations. There is a need for research initiatives on how modern technologies, on the one hand, and the involvement of the younger generations and minorities, on the other, can be used and increased as ways to strengthen communities' resilience to disasters and ensure an effective, comprehensive, and sustainable approach. Quality governance and leadership in climate change are crucial for environmental safety. (Hadzic, 2020)

Methodology

This research review incorporated a meta-analysis and included content analysis, a descriptive method, and an in-depth literature review, and examination of various forms of data. It aims to analyze concepts and notions of these highly actual scientific frameworks/areas, expanding social, political, and educational cognition. Thus, this research review adds important insight into; Environmental and Climate Change Policies, Global North, Global South, Inclusion, Inequalities, and Environmental security and ecological fragility

Discussion and Results

Climate change demands a whole-of-government response, with environmental change and degradation considered in an integrated effort from the Ministries of Environment, Defence, Energy, Development, Finance, Health, and Foreign Affairs. According to Brock (2022), it needs to amount to more than a 'greenwash,' characterized instead by bold and visible steps towards an economy not based on carbon (for example, through a massive scale-up of funding for research and development into renewable energy sources), which recognizes the joined-up nature of security threats, examining key determinants, e.g., water, land, agriculture, health, energy, disaster risk management and early warning systems, in concert (Campbell,

2010). With the defense policy community also 'on board,' it must also go further, and recognize the value in engaging with their counterparts in the South on this issue, giving civil society organizations and analysts from the Global South a more significant say in shaping security policies that will ultimately affect them. Initiatives such as the Cartagena Dialogue for Progressive Action - a grouping of around 30 developed and developing countries from all regions of the world that works to 'circumvent the north/south divide' (Independent Diplomat, 2011) - are crucial if progress is to be made. This group was instrumental in the Cancún Agreements at COP-16 in Mexico. Such engagement will help ensure that the issue of climate change is approached by security analysts using a human security framework; cooperation with development and human rights agencies, who work on climate change, should follow. A militarized response that relies on the control paradigm - attempting to 'keep the lid' on threats through military force and political containment without addressing the root causes - will be ineffective and likely exacerbate conflicts and insecurity. Instead, a shift in the security community towards strongly advocating for a rapid shift to a low-carbon society, as a precaution against future conflicts. Such voices can highlight that 'securitizing' a concept (making it the object of security analysis) does not necessarily mean militarising the response. Internationally, the security concerns associated with climate change will likely engage the military sooner rather than later. Adaptation to climate change has been labeled a 'powerful vehicle' for US military engagement in Latin America, for example (Ramirez & Butts, 2011). The undertaking of such operations must continue with the full engagement of national governments in Latin America, given the history of American intervention in the region and the negative associations this has. Mitigating conflicts around climate change can be achieved mainly through mitigating the effects of climate change itself. While there must be conflict-sensitive adaptation and diplomatic preparations for the impacts of climate change that we already know are likely to occur (such as migration and competition over natural resources), the most significant response to the security impacts of this issue should be action to reduce greenhouse gas emissions and protect existing 'carbon sinks' (such as rainforests); these steps will prevent the more catastrophic expected elements of climate change and thus prevent the most dangerous conflicts. (Brock, 2012)

Regarding discourse on the Climate transition, the demand for sustainable investments has remained relatively stable despite the macroeconomic uncertainty and challenging market environment. Sustainable investments continue to grow globally, driven by an increased volume of environmental, social, and corporate governance (ESG) funds and green bond issuances. While the bond market has suffered a significant slowdown in recent months, green bond issuances in the first half of 2022 were comparable to those in 2021, amounting to USD245 billion globally. During the COVID-19 market turmoil, investors in ESG funds were less sensitive to past negative performance. It suggests that ESG investors might constitute a relatively

stable source of financing to support the transition. ECB research has shown that investors are willing to pay a premium for green bonds.

Banks often have "financed emissions" from a few giant counterparties, increasing bank exposure to transition risks and pointing out portfolio vulnerabilities regarding physical and transition risks (and missed transition opportunities). Given the far from negligible income generated from financing carbon-intensive industries, banks must step up their long-term strategic planning. Banks need to gain insight into their clients' transition plans to understand their exposure to climate risks properly. To be clear, we are not asking banks to divest from carbon-intensive activities. Instead, we ask banks to fully grasp and manage transition risks to make their portfolios more resilient. It means that banks should evaluate what transition entails for their risk exposures to sectors that will continue to rely on carbon-intensive technologies for some time and reflect their evaluation in their overall risk management. Not all sectors will decarbonize overnight. The stress test results also confirmed that timely action pays off. In an orderly transition scenario, where climate policies are introduced early and gradually become more stringent, banks face considerably lower potential losses than in scenarios where transition policies are phased late. It is also in line with the ECB's economy-wide stress test last year, which showed that the advantages of early action outweigh the initial costs over the medium to longer term. Acting now is not only the right thing to do, but it also makes economic sense. Depth and breadth in capital markets are needed to complement bank lending and public investment to close the investment gap for the green transition. Research shows that economies with a higher share of equity funding tend to reduce their carbon footprint more rapidly. It is just one of the reasons why the ECB fully supports the European Commission's Capital Markets Union (CMU) Action Plan. Initiatives that improve the comparability and standardization of sustainable finance products or otherwise enhance the quality and availability of sustainability-related information will be essential to create a genuinely green CMU and address the risks of greenwashing. (McCaul, 2022)

The Intergovernmental Panel on Climate Change (IPCC) findings are clear: to avoid the most catastrophic effects of climate change, global temperature rise must be limited to 1.5°C or below. To reach this goal, greenhouse gas (GHG) emissions must be reduced by 50% by 2030 and net zero by 2050. Climate Transition Action Plans (CTAPs), also known as transition plans, can address the need for clarity on how companies are moving from setting goals to taking near-term action to achieve those goals in line with a 1.5°C pathway. They have emerged as a framework to equip corporate planning and share critical details of those plans with companies' stakeholders: investors, NGOs, governments, and the public. (We Mean Business Coalition, 2022)

One beneficiary of Climate change institutional awareness (mainly by the global North) could be the Horn of Africa, where the World Bank has committed \$1.88 billion

to help the region cope with severe drought and build resilience. With GFDRR and other partners in the effort, including Google, the World Food Program, and the National Aeronautics and Space Administration (NASA), the Bank met earlier this month to discuss sharing data. A new Horn of Africa data website will be accessible through the Climate Change Knowledge Portal and the Open Data site. "Because there is so much unknown and so much data out there, it is going to be important that the data is accessible," said Jason Kessler of NASA. "To be able to study and understand what is going on meaningfully, it will require as much information as people can get their hands on." (Reliefweb, 2011) Thus it is the fact that Climate Change Portal Helps Visualize World Climate, Expand Access to Data.

Nevertheless, equity concerns between Global North and Global South essentially stem from the asymmetry between countries' emissions and their respective burdens to respond to climate change (including the costs of emissions mitigation, adaptation, and other impacts and risks). Most human-driven GHG emissions in the atmosphere are from economic activities performed in or for affluent countries. Yet poorer nations weathering climate-induced environmental shocks carry a more significant burden of climate change impacts. A further dividing line in climate negotiations results from the contrast between past and future emissions. While industrialized and postindustrialized countries in the Global North are responsible for most past emissions, these countries led by the EU are implementing policies to reduce their GHG emissions. At the same time, the emissions of most developing nations (particularly China) remain on an upward trajectory. This second group of countries will not reach peak emissions for another decade at least. As a result, developing countries share the responsibility for reducing future emissions. These juxtaposed trends also create issues of generational justice. These differences, coupled with the immediacy of the effects of climate change, also shape the diplomatic groups engaging in multilateral climate negotiations. Subgroups among countries in the Global South and issue-based coalitions of countries in the Global North and South have emerged based on common concerns. Less developed economies and small island nations, already facing the existential threat of climate change, are demanding immediate answers from postindustrialized and developing countries. The Organization of the Petroleum Exporting Countries members are urging post-industrialized economies to embrace policies that reduce welfare losses in nations that rely on petroleum exports. (Ulgen, 2021)

Besides, the traditional knowledge of the world's indigenous peoples can be a vital tool in the fight to mitigate the growing climate crisis, the latest report of the Intergovernmental Panel on Climate Change (IPCC) has said. The Sixth Assessment Report of the Intergovernmental Panel on Climate Change was released in 2021. The report stated that indigenous and local knowledge had played an increasing role in historical climatology, especially in areas where instrumental observations were sparse. It cited several instances: Peruvian fishermen had first thought of the name 'El Niño' for the now well-known climate phenomenon in the tropical eastern Pacific

Ocean. Researchers later linked it to the Southern Oscillation, and both were now jointly known as ENSO (El Niño Southern Oscillation). (Ghai, 2021)

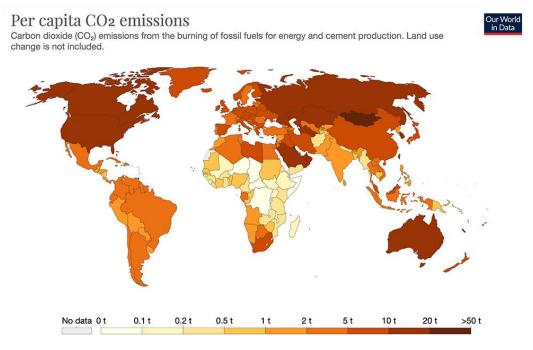
Figure 2.



Source: Downtoearth, 2021.

However, there might be only one "efficient" cooperation instrument between Global North and Global South: the Green Climate Fund (GCF). The Green Climate Fund (GCF) is a relatively new international organization established under the UNFCCC and is based in South Korea. Its purpose is to collect contributions from member countries and mobilize private capital to finance climate projects in the Global South. The Green Climate Fund (GCF) boasts some important institutional innovations that distinguish it from other international financial institutions, such as the IMF and the World Bank. Most importantly, in GCF decision-making, there is parity between donor countries in the Global North and recipient countries in the Global South. Taking on the responsibility to respond rapidly to climate-related disasters could bring changes that would speed up processes across the Green Climate Fund (GCF). This may seem overly optimistic, given the problems the Green Climate Fund (GCF) faces. Still, as a laboratory for equitable North-South relations, the GCF is the best option. (Kalinowski, 2022)

Figure 3.



Source: Our World in Data based on the Global Carbon Project Our World In Data.org/co2-and-other-greenhouse-gas-emissions/ \cdot CC BY Note: CO₂ emissions are measured on a production basis, meaning they do not correct for emissions embedded in traded goods.

Source: Carnegie Europe, 2021.

Simultaneously, the climate change terminology consists of various terms that could be more familiar to the general public. We often hear about greenhouse gas emissions, carbon dioxide, net zero, and other terms in the climate change discourse. In the most basic explanations, Greenhouse gas emissions represent the release of gases that cause climate change - through the greenhouse effect that traps the sun's heat in the atmosphere, which warms the atmosphere. Carbon dioxide (CO2), released by burning fossil fuels, is the most important greenhouse gas. Methane is another natural gas released using fertilizers; it is released in smaller quantities but has a more substantial warming effect. Net Zero is achieving zero, getting to the point where you are not adding to the amount of greenhouse gases in the atmosphere. It can be achieved by reducing greenhouse gas emissions as much as possible and balancing any remaining by removing an equivalent amount - either naturally, such as trees, which absorb CO2, or using technology. Many countries, such as the UK, have set targets to reach net zero by 2050. However, greenhouse gas emissions continue to rise, global temperatures continue to rise, and our planet is fast approaching a tipping point that will make climate chaos irreversible.

The fight against climate change will be win or lose in the next ten years unless we start with an action plan. The President of Egypt, Abdel Fattah El-Sisi, gave an opening speech at the COP27 summit. The city where the conference is being held, Sharm el-Sheik, was the first Egyptian city to undergo the beginnings of the green revolution. He noted that we all share one planet, one future, one goal, and one hope - but says the world is facing "one disaster after another" and "the planet has today become a world of suffering." According to Sisi, people worldwide want "quick, concrete implementation" of actions to reduce emissions to guarantee the financing of "developing countries that today suffer more than others from the consequences of these crises." Namely, one of the topics that appeared in the speeches of world leaders at this year's COP is the problem of the consequences suffered by developing countries, which are not even close to being responsible for the climate changes that are happening. The "Poor South" bears the responsibilities of the prosperous North and pays a high price, mainly in the great natural disasters that have befallen them over the years. He adds that despite all the challenges and difficulties, there are glimmers of hope. "Because humanity can certainly be fair to those who are not responsible for the consequences that produce so much suffering," says Sisi. He argues that each government must work to the extent capable of providing solutions. He says Egypt has set ambitious climate change targets and is "determined" to accelerate its use of green resources and a low-carbon economy. The main message of his speech was the imperative "Implementation!" It alludes to initiating actions to solve climate problems that should have been applied since the Paris Agreement 2015. "There is no time to retreat, no room for hesitation," Sisi said, adding that this is a "unique historical moment" in which countries worldwide can fulfill their obligations and achieve their goals. (N1, 2022)

Moreover, while the so-called Global North continues to emit greenhouse gases with undiminished intensity and enjoys the prosperity made possible by extravagance, the Global South suffers the consequences of such an unsustainable way of life. It reveals the fundamental injustice at the very core of climate change. The book "Petroleum Papers - Inside the Far-Right Conspiracy to Cover Up Climate Change" by the Canadian-American journalist and publicist Geoff Dembicki is not the story of Joanna Sustento. However, the story of her tragedy was taken as the narrative backbone for a highly detailed analysis of the origin and development of climate change denial by the fossil fuel industry and the closely related conservative right. The book "Petroleum Papers" is about how the tragedy of Joanna Sustento could have been avoided if the fossil industry had not chosen the path of actively creating and feeding lies on which the denial of climate change is based. (Biliskov, 2023)

Climate change threatens the future of human rights to undo development, health, and the fight against poverty and marginalization. As global warming, excessive rainfall, and severe droughts affect agriculture, food supplies will fall, increasing food prices and poverty. It leads to unmanageable economic, social, and political

conditions, and the opportunities for stable international and domestic policies will be significantly damaged. It impacts armed conflicts and mass migration. Critical security theory should be both a theoretical commitment and a political orientation, as a set of ideas that critically and continuously explore communities and emancipation. Addressing socioeconomic and other disparities within minorities, indigenous, non-indigenous populations, global impoverished, and community empowerment are crucial to increasing climate change resilience. Tackle persistent poverty, inequalities, natural disasters, depletion of natural resources, environmental destruction, and climate change requires joint action. The existence of a quality state apparatus, an efficient rule of law, and a welfare state can alleviate inequality. Migrations will require elaborate state tactics and a peaceful solution; otherwise, the catastrophe's scale is questionable. (Hadzic, 2021)

Geoff Dembicki, otherwise from the Canadian province of Alberta, in his words, "home of one of the largest deposits of bituminous sand in the world," dissects a conspiracy that exists, a conspiracy whose actors are the fossil industry and the closely related conservative right. The author chronologically follows and abundantly documents knowledge about the danger of climate change, which the fossil industry has been aware of for a long time. Namely, as early as the end of the fifties of the last century, scientists were warning about the ecological crisis that intensive use of fossil fuels could lead to. An ample space is devoted to the argumentation of the facts about the exhaustive climatological knowledge in the fossil industry's possession. Nevertheless, there are also the financial interests and greed of a small "elite" and the paranoid fear of the spread of communism by the conservative right and other influences. All this has led to the wealth of collected knowledge being kept in corporate drawers. Thus, reports from that time typically state that this report's central message is that there is still time to save the world's people from the catastrophic consequences of pollution, but time is running out. (Biliskoy, 2023)

More active inclusion of Global South actors and voices is critical. Rather than suffering the most from climate change, communities at the forefront should be at the center of the world's fight against global warming and should be given more space to raise their voices. This means that to reduce global inequalities, Global South actors must be actively involved in global action and partnerships, especially on climate-related issues. This also means that people in the Global North must support the more active inclusion of Global South actors. Today, the voices of the Global South remain too often unheard. A recent study points out that climate change academics from some of the worst-hit regions struggle to be published – a challenge that is even harder for female authors. The lack of diverse voices means that critical views are missing. Moreover, BIPOC communities of the Global South possess unique practical and ancestral knowledge about nature and ways to live harmoniously. Their inclusion can widen the knowledge of climate change and help shape policies. (Strazzante et. al, 2021)

The cleavages in international climate negotiations between the Global North and the Global South are driven by the need for an adequately ambitious global response to climate change. The current agenda of the Conference of Parties' (COP) gatherings under the UN Framework Convention on Climate Change may not be comprehensive enough to tackle this structural and critical challenge. Global discussions (COP meetings) need to be more open and ambitious and must account for the needs of developing countries, not just postindustrial ones. There are other important matters these deliberations cannot ignore. For instance, there is a need to address issues like climate-induced migrations and an overhaul of the international regime governing the treatment of refugees. These discussions should also include proposals to reform the intellectual property rights regime to incentivize a clean development agenda for the developing world. A fair settlement on the burdens of adjusting to the realities of climate change can only emerge if a broader policy agenda can be constructively promoted. (Ulgen, 2021)

In underdeveloped fragile societies (especially the Global South), the human security concept requires a comprehensive approach to diverse factors, such as the broader socioeconomic imbalances and external international synthesis contributing to health and socioeconomic insecurity. The critical human securitization approach should transform the inequitable realm. However, conforming to questionable ethical aspirations is not how humans can develop potential, advance society, and live without fear, want, and indignity. Sociopolitical activities in underdeveloped societies should focus on challenges such as poverty, inequality, climate change, environmental degradation, peace, and justice. Sustainable development programs are valuable for addressing health inequalities and the broader socioeconomic inequalities that lie at their roots. The specific level of inequality should encourage investment in human capital, contribute to mobility and encourage innovation. (Hadzic, 2021)

Conclusion

The solution lies in climate-resilient development and social and political awareness to adapt to climate change and effectively tackle climate transition. It involves integrating measures to adapt to climate change with actions to reduce or avoid greenhouse gas emissions in ways that provide more comprehensive benefits. Demand to fight against misconceptions and denial of the climate crisis and environmental fragility is essential because global warming will be consistent globally, North and South.

Climate change visualization and communication are critical and should be examined and comprehended more profoundly. In the near and distant future, the multidisciplinary and trans-disciplinary association between entirely different fields of science will bring more epistemological familiarity that will prevent complex challenges in the future. The effort that invests in mitigating climate change must be more remarkable, especially the general social and psychological awareness of

citizens. The reason is that, in addition to the consequences on the economy, society, and the environment, other inevitable consequences of climate change will appear (floods, droughts, heat waves, changes in the amount of rainfall, lack of natural resources, loss of biodiversity, migrations, wars and conflicts, terrorism, etc.).

Climate change will even more negatively and strongly affect the Global South, starting with potentially more harmful impacts on human health and already terrible conditions (especially for those who work in an increasingly hot environment), even greater migrations, and other related disorders. As with mitigation, crucial is actionresearch, satisfactory politics, and focus on the technological, social, psychological, and cultural aspects should also be involved to ensure adequate climate change programs, commissions, governments, and various international expertise institutions dealing with the adjustment. During the approaching "climate change transition," in a socio-political sense, it is essential that everyone is more actively involved in the policy-making process. The key is to ensure an appropriate geopolitical and financial focus, even budget resources through the Green Climate Fund (GCF), an Global South/North honest association, and a transformation of the Global North policies during the transition - aiming to assist the Global South and prevent the risk of violating international law and territorial and sociopolitical orders. Thus, especially regarding regions, countries, and sectors that will be most affected - areas with fragile general Security and critical human insecurity.

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