



تأثيرات شحة المياه على المزارعين العراقيين في تقارير وسائل التواصل الاجتماعي: تحليل ناقد للخطاب
**Water Scarcity Effects on Iraqi Farmers in Social Media Reports: A
Critical Discourse Analysis**

Shahad Saad Eidan

Prof. Nawal Fadhil Abbas (Ph.D)

**College of Education for Women, University of Baghdad, Baghdad,
Iraq**

Abstract

Water scarcity is an escalating crisis in Iraq, severely affecting farmers who rely on the Tigris and Euphrates rivers for their livelihoods. Although previous studies have examined water scarcity from an economic perspective, notably the effects of water scarcity on Iraqi farmers have not been studied linguistically in social media reports. This study addresses this gap by analysing how Iraqi farmers construct narratives of struggle and urgency in social media discourse. Using a qualitative design, the study applies Fairclough's (1995) Three-Dimensional Model of Critical Discourse Analysis (CDA) to examine the linguistic, discursive, and social practices within selected report in social media. The findings reveal that farmers predominantly use material processes to express their struggle and urgency, emphasising displacement, livelihood loss, lack of institutional support. Contextually, their discourse highlights the broader socio-economic impacts of water scarcity, portraying them as victims of climate change, ineffective mismanagement, and transboundary water tensions. The analysis also uncovers a significant power imbalance, as farmers have limited control over water resources and are subject to decisions made by more influential actors. Rather than being presented solely as an environmental issue, water scarcity is ideologically constructed as a crisis of equity, justice, and survival. Although this study is based on a single news report, it offers valuable sociolinguistic insights into how water scarcity is represented through discourse, and it lays a foundation for future research into the narratives of other stakeholders, such as decision-makers and environmental advocates

Email:

nawal.fadhil@coeduw.uobaghdad.edu.iq
d.edu.iqshahad.saad2303@coeduw.uobaghdad.edu.iq

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المخلص

شحة المياه هي أزمة متصاعدة في العراق، تؤثر بشدة على المزارعين الذين يعتمدون على نهري دجلة والفرات في سبل عيشهم. وعلى الرغم من أن الدراسات السابقة تناولت شحة المياه من منظور اقتصادي، إلا أن الآثار التي تخلفها هذه الشحة على المزارعين العراقيين لم تدرس من الناحية اللغوية في تقارير وسائل التواصل الاجتماعي. تهدف هذه الدراسة إلى سد هذه الفجوة من خلال تحليل كيفية تصوير المزارعين العراقيين لسرديات المعاناة والإلحاح في تقارير وسائل التواصل الاجتماعي. وباستخدام تصميم نوعي، تطبق الدراسة نموذج فركلاف (1995) ثلاثي الأبعاد لتحليل الخطاب النقدي (CDA) لفحص الممارسات اللغوية والخطابية والاجتماعية ضمن التقرير المختار من وسائل التواصل الاجتماعي. تكشف النتائج أن المزارعين يستخدمون بشكل أساسي العمليات المادية للتعبير عن معاناتهم وإحساسهم بالإلحاح، مع التركيز على التهجير وفقدان سبل العيش وغياب الدعم المؤسسي. من الناحية السياقية، تبرز خطاباتهم الآثار الاجتماعية والاقتصادية الواسعة لشح المياه، حيث يصورون أنفسهم كضحايا لتغير المناخ، وسوء الإدارة، والتوترات المائية العابرة للحدود. كما يكشف التحليل عن وجود اختلال كبير في ميزان القوى، حيث لا يملك المزارعون سيطرة تُذكر على الموارد المائية، ويخضعون لقرارات تتخذها جهات أكثر نفوذاً. ومن الناحية الأيديولوجية، لا يتم تصوير شح المياه على أنه مجرد قضية بيئية، بل يتم بناؤه كأزمة تتعلق بالعدالة، والإنصاف، والبقاء. وعلى الرغم من أن الدراسة تقتصر على تقرير إخباري واحد، فإنها تقدّم رؤى اجتماعية-لغوية قيمة حول كيفية بناء شحة المياه في تحليل الخطاب، وتضع أساساً لأبحاث مستقبلية حول سرديات أصحاب المصلحة الآخرين، بما في ذلك صانعو السياسات والمدافعون عن البيئة.

1. Introduction

The Middle East is an arid to semi-arid region, with average annual rainfall not exceeding 166 mm (Al-Ansari, 2011). A significant portion of agricultural land depends on rainfall, while irrigated agriculture accounts for approximately 66% of total water consumption. Projections indicate that the issue of water scarcity will become increasingly severe in the future. Consequently, access to fresh potable water is essential for sustaining life, promoting socioeconomic development, and ensuring regional political stability (Bazzaz, 1993). Iraq is situated in the northeastern part of the Middle East and is currently facing a severe water scarcity problem that has not been experienced before. This crisis can be attributed to three primary factors. The first is climate change, which has led to diminishing rainfall and undeniably adversely affects water availability. The second factor involves dam construction by upstream riparian states, where large-scale water infrastructure has been built along the Tigris and Euphrates rivers and some of their tributaries. The third factor relates to institutional challenges in managing water resources. These overlapping pressures highlight the urgent need for sustainable water management and enhanced regional cooperation to mitigate the impacts of social and economic instability (Hassan et al., 2018).

Fairclough's (1995) three-dimensional discourse analysis framework is utilised to analyse the data. Unlike interpretive approaches, Critical Discourse Analysis (CDA) aligns more closely with qualitative designs and is highly applicable to the context of Water Scarcity. CDA, as noted by Gee (2017), is an interdisciplinary approach to the examination of discourse that views language as a social practice. It seeks to explore how social power dynamics are constructed and reproduced through language use. Therefore, CDA does not solely analyse text structure or linguistic features and meanings; it also examines the critical social or historical context in which social variation is expressed, established, and legitimised through discourse.

Social media has emerged as a distinct domain within the media landscape. Given the expansive and profound nature of the Internet, it has become deeply ingrained in daily life. It is a powerful tool for influencing individuals and transforming how they access information. Social media changes how individuals acquire knowledge on various topics, including choosing university professors, purchasing e-commerce platforms, and sourcing news and current affairs (Walther et al., 2010). According to Tutent (2008), social media platforms are

defined as interactive, dynamic, and participatory online communities. These communities empower users to publish, curate, evaluate, create, and engage with online content.

News media is the main channel for the government's foreign-oriented publicity. It is used to spread real events to the public, which can satisfy the public's need to know about what is happening and guide the trend of public opinion at the same time. Accordingly, news reports serve as a reliable source of information by showing recently occurring facts, as they can be seen as the outcome of social practice and have become a research interest in the field of discourse analysis (Guo, 2011).

The current study aims to address the following questions:

- What are the types of transitivity processes that Iraqi farmers use in their utterances to construct narratives of urgency and suffering?
- How can the utterances of Iraqi farmers be interpreted in relation to their contextual situation?
- How can the utterances of Iraqi farmers be explained in relation to ideology and power dynamics?

To address these questions, the researchers will adopt Fairclough's (1995) three-dimensional framework of discourse analysis, as it offers an appropriate approach for examining the linguistic, discursive, and social practices within social media discourse regarding water scarcity in Iraq.

2. Literature Review

2.1 What is Water Scarcity

Water scarcity encompasses various definitions, yet they all share a common element, which is a water demand that exceeds the available supply (Damkjaer & Taylor, 2017). The United Nations Water provides a concise definition, describing it as a situation in which the cumulative impact of all users affects the supply or quality of water within existing institutional frameworks to the extent that the demands of all sectors, including environmental needs, cannot be fully met. This concept is relative and can manifest at any level of supply or demand (United Nations Water, 2006). Moreover, water scarcity is a complex issue that indicates an insufficient supply of water to fulfil the needs of all users, including environmental flows. This phenomenon is generally classified into two types: physical water scarcity and economic water scarcity. Physical water scarcity arises in regions where both surface and groundwater resources are insufficient to satisfy local water demands, often manifesting as a seasonal challenge rather than a constant one. The most recent World Water Development Report emphasises that climate change is expected to cause fluctuations in seasonal water availability (physical scarcity) across various regions throughout the year (UNESCO & UN-Water, 2020). Regarding economic water scarcity, water resources may be abundant in certain regions; however, scarcity arises from the mismanagement of these optimally available supplies. In many countries, economic water scarcity is more prevalent than physical water scarcity, primarily due to inadequate management of existing resources and the overexploitation of water across various sectors, including industrial, urban, recreational, and agricultural activities (Ali et al., 2014).

Iraq faces significant challenges regarding the quantity and quality of its water resources. For decades, the water sector has suffered from poor management, neglected and deteriorating infrastructure, ineffective policies, and using water as a tool for conflict. Additionally, over 30 years of violent conflicts and wars have further intensified these issues. Iraq is also one of the countries most vulnerable to the impacts of climate change, facing rising temperatures, altered precipitation patterns, extended heatwaves, and droughts, all of

which are expected to exacerbate water scarcity in the coming years (Medan, 2008). Many farmers in Iraq rely on the Tigris and Euphrates rivers, as these waterways are integral to the region's agricultural, economic, and trade systems. They provide essential water resources for irrigation, which supports the cultivation of staple crops such as wheat and barley. These crops are fundamental to food security and the sustenance of rural livelihoods, thereby establishing agriculture as a foundational element of the regional economy (Al-Ansari et al., 2021). In addition to their agricultural significance, the Tigris and Euphrates Rivers are crucial for hydropower generation, serving as a renewable energy source that fosters industrial growth and supports economic development (Chibani, 2023). Furthermore, the rivers historically served as trade routes, linking Mesopotamian cities with distant regions and facilitating the exchange of grains, textiles, and metals with neighbouring areas (Altun, 2015).

2.2 Critical Discourse Analysis

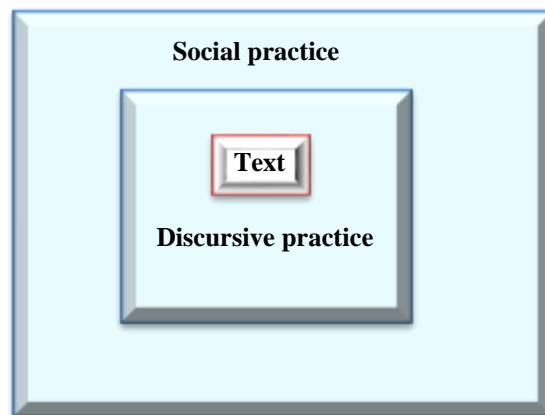
CDA represents a comprehensive approach that transcends specific discourses, topics, or mediums. Although it encompasses a variety of methodologies, analysts may prefer certain approaches that align with their particular interests or research objectives. Typically, critical discourse analysts concentrate on how power dynamics are reproduced through discourse and how these power relations can be contested. They focus on the discursive (re)production of power abuse and the resistance against such domination. They collectively emphasise the exploration of how language is employed to support, reinforce, and promote the interests, perspectives, and values of those in positions of power (Van Dijk, 2009, as cited in Khalil & Ali, 2023). According to Wodak (2009, p. 140), "CDA examines the relationship between text structures and their function within societal interactions."

Fairclough (1992, p. 312) highlights that CDA serves several practical functions, including investigating the social roles of language, analysing linguistic processes within their social contexts, and uncovering underlying ideological and political influences. As a result, CDA aims to reveal the implicit and concealed power dynamics, subordination, inequality, and other ideological constructs present in texts. This analytical framework encourages readers to perceive reality through a specific, shaped, or biased lens conveyed by the discourse (Nasser & Khalil, 2020).

2.3 Fairclough's Framework of CDA: Dialectal Relational Approach

Fairclough (1995, as cited in Farhan, 2024) introduces a framework known as the three-dimensional analytical approach, which emphasises the understanding of language as both discourse and social practice, along with the relationships between language, ideology, and identity. This framework comprises three dimensions of discourse, which can be defined as follows: (i) text analysis, which encompasses both spoken and written forms; (ii) discursive practice, which relates to the production and interpretation of texts; and (iii) social practice. The following figure describes Fairclough's (1995) model.

Figure. 1 Fairclough's (1995) Model



Text Analysis (description): In the description stage, the researcher must focus on the formal characteristics of the text. This stage involves a thorough and systematic analysis of linguistic features, including vocabulary choices (diction), grammatical elements (passivation and transitivity), and the text's overall structure. Fairclough provides key questions that concentrate on vocabulary, grammar, and text structure to enhance understanding of this stage. The vocabulary section examines the selection of different words; the grammar section pertains to grammatical characteristics related to Halliday's systemic-functional grammar; and the textual structures section addresses the overall structure of the discourse (Fairclough, 1989).

Discursive practice (interpretation): Interpretation is understood as a process in which the features of an utterance (such as words, structures, and context) are matched with mental images or representations stored in an individual's memory. These stored images reflect the ideologies and social influences that shape how discourse is constructed and comprehended. In other words, interpretation encompasses both the text being analysed and the interpreter's prior knowledge and experiences, referred to as members' resources (MR) (Fairclough, 1989). According to Fairclough (1989, p. 11), an MR includes both linguistic knowledge (e.g., rules of language) and non-linguistic knowledge (e.g., cultural or ideological frameworks), which are influenced by social factors and shaped by ideology. These resources enable the interpreter to grasp the relationships between language, power, and ideology within a text.

Social practice (explanation): This dimension emphasises the social analysis of the institutional and organisational context surrounding the discursive event. It examines discourse in relation to ideology and power, situating discourse within the framework of power as hegemony (Fairclough, 2001).

2.4 Previous Studies

In 2016, Hussein published a study titled *Understanding Water Scarcity in Arid Regions: A Critical Discourse Analysis of Water Scarcity in the Case of Jordan*. The study aims to analyse the discourse surrounding water scarcity in Jordan by identifying the key actors, interests, and contested framing that influence this discourse. The main findings reveal two competing narratives: one of physical water scarcity, which attributes the issue to limited natural water resources, and the other of socio-economic water scarcity, which links it to mismanagement. These narratives shape policy solutions, with the former favouring large-scale engineering projects and the latter advocating for market-orientated or conservation-based approaches. This study contributes to the literature on social transboundary water management in the Arab region. While the study employed CDA, its scope was limited to the Jordanian context, without extending its insights to the Iraqi context or the experiences of farmers. Another study titled *The Impact of Water Scarcity on Food Security in Iraq*, conducted by Sissakian et al. (2023), aims to investigate how the diminishing availability of water in Iraq, driven by climate change and geopolitical factors, influences food security. The findings indicate that water scarcity has significantly affected agricultural production, resulting in food shortages and heightened poverty levels. The study attributes these challenges to climate change, inadequate water management, and inequitable water-sharing policies implemented by neighbouring countries. However, this study adopts an economic perspective and does not consider how affected individuals, such as Iraqi farmers, discursively construct or respond to these conditions. Consequently, it lacks a sociolinguistic and discourse-based exploration of the lived experiences of farmers. Ali et al. (2024) conducted a study titled *Measuring the Impact of Water Scarcity on Agricultural Economic Development in Iraq*. By utilising a quantitative econometric approach, the study employs a recursive model with simultaneous equations to analyse the effects of water scarcity on agricultural economic development from 1990 to 2022. It examines key factors such as cultivated areas, agricultural output, and gross domestic product (GDP). The findings reveal that increased water availability leads to an expansion of cultivated land, while water scarcity reduces agricultural output and negatively impacts GDP. The study also identifies an inverse relationship between agricultural labour and output. The study concludes that water scarcity diminishes cultivated land, ultimately hindering agricultural production and economic growth. However, this study does not engage with the farmers, who are among those most directly affected by the crisis, nor does it examine how they construct and communicate their experiences. This omission reinforces a gap in understanding how language reflects and shapes their perceptions of the crisis.

Water scarcity has been examined from both linguistic and non-linguistic perspectives. Linguistically, it has been analysed using CDA, particularly in studies focused on the Jordan River. In Iraq, however, water scarcity has primarily been explored economically without focusing on its linguistic aspects. Notably, the effects of water scarcity on Iraqi farmers has not been specifically studied through a linguistic lens, especially using CDA. This study addresses the gap by applying CDA and adopting Fairclough's (1995) model to analyse the linguistic, discursive, and social practices within social media discourse regarding water scarcity in Iraq.

3. Methodology

3.1 Research Design

This study utilises a qualitative research design. According to Creswell (2014, as cited in Abed Al-Hussein & Al-Saaidi, 2022), qualitative research design is a method for studying and understanding the meanings that individuals or communities assign to social or human

issues. Denzin and Lincoln (1994, as cited in Abbas et al., 2024) describe qualitative research as an inquiry method aimed at understanding phenomena within their natural contexts. It seeks to interpret the meanings individuals assign to objects and experiences, highlighting the importance of context and participants' subjective viewpoints. Qualitative research is considered "situationally constrained" because social context significantly influences the meaning of social actions (Neuman, 2014, as cited in Najem & Abbas, 2024).

3.2 Data Selected and Descriptive

To achieve the research objectives, it is essential that the selection of the data must align with the study objectives (Abbas, 2020). According to Mohammed and Abbas (2016), one of the main challenges researchers encounter when conducting a study is the selection of appropriate data. In this study, the researchers purposefully selected a single report titled "*Twilight of the Tigris: Iraq's mighty river is drying up*", published on Facebook, a social media platform. This report was chosen because it meets specific criteria aligned with the study's focus, ensuring a representative and relevant dataset. It highlights the struggles of Iraqi farmers in a region heavily reliant on agriculture, particularly in the context of water scarcity. Consequently, their livelihoods and daily lives are severely affected, given their dependence on farming. Iraq faces acute water shortages due to climate change and dam construction, resulting in decreased agricultural productivity. This, in turn, threatens the livelihoods of many Iraqi farmers who rely on farming for their survival. For more information, visit the link below <https://arab.news/4j7pa>.

3.3 Procedures of Data Collection

The researcher takes the following steps to collect the data:

- The researchers start by using an online search engine to collect reports concerning water scarcity and its impact on Iraqi farmers.
- After reviewing multiple reports, the researchers narrow their focus to a single report that best aligns with the study's objectives.
- The researchers investigate whether the selected report has been disseminated on social media platforms, confirming its presence on Facebook.
- Multiple comprehensive reviews of the reports are conducted to ensure a thorough understanding of both the content and context.
- The researchers focus on specific utterances within the report, examining how the struggles of farmers are framed linguistically.

3.4 Modal of Analysis

The researchers employ Fairclough's (1995) three-dimensional model of discourse analysis. This model is chosen as it is the most appropriate for addressing the research questions and achieving the study's aims by analysing the linguistic, discursive, and social practices within social media discourse regarding water scarcity in Iraq.

In the description stage (textual analysis), the three components, vocabulary, grammar, and textual structure, are typically examined. However, this study will focus exclusively on the grammatical level. To conduct this analysis, the researchers adopt Fairclough's approach, which draws upon Halliday and Matthiessen's (2014) Systemic Functional Grammar (SFG). In the interpretation stage (discursive practice), several aspects connect a text to its broader social context: situational context, Grice Maxims, implicatures, presuppositions, intertextuality, speech acts, and schemata. In this study, the researchers concentrate solely on analysing the situational context, which involves examining what is going on, who is involved, in what relation, and what is the role of language. In the

explanation stage (social practice), this study uncovers the ideologies represented in each text and the power dynamics reflected.

3.3.1 Grammar

Halliday (2014) states that the grammatical level encompasses transitivity and modality. This study will concentrate solely on transitivity, utilising Halliday's (2014) SFG framework. As emphasised by Halliday's Systemic Functional Linguistics (SFL), transitivity analysis is crucial in discourse. Within this framework, grammar is defined as "a way of understanding the functions that language performs and the choices people make when they speak or write to exchange meaning with readers or listeners (Young & Fitzgerald, 2006, p. 16). Thompson (2009) describes SFG as a method for analysing lexical and grammatical choices within the wording system, providing insights into language use in specific contexts. This framework establishes connections between social contexts (including cultural and situational aspects), meaning, lexico-grammar, and the resulting text.

According to Halliday and Matthiessen (2014), the transitivity structure of a clause consists of three experiential components: participant (who and whom), process (what), and circumstance (under what conditions). Participants play a crucial role in any process, with each experiential clause typically involving one to three participants. In contrast, circumstances are generally optional elements of the clause. While participant and process are fundamental, circumstance is considered peripheral. The roles of participants can vary depending on the type of process in which they are involved. To illustrate this, Halliday and Matthiessen (2014) provide a table outlining the different processes and the associated participant roles. The process types, as described by Halliday and Matthiessen (2014, p. 300), consist of six categories, which are further divided into two types: principal and subsidiary. The principal processes include 'material,' 'mental,' and 'relational,' while the subsidiary processes encompass 'behavioural,' 'verbal,' and 'existential.' This is further illustrated in Table 1.

Table (1) Process Types, Their Meanings, and Characteristic Participants

Process Types	Category Meaning	Participants, Directly Involved	Participants, Obliquely Involved
Material: Action Event	Doing Doing Happening	Actor, Goal	Beneficiary: (Recipient/Client) Scope/ Range
Behavioral	Behaving	Behave	Behavioral
Mental: Perception Cognition Desideration Emotion	Sensing Seeing Thinking Wanting Feeling	Senser, Phenomenon	Inducer
Verbal	Saying	Sayer, Target	Receiver, Verbiage
Relational: Attribution Identification	Being Attributing Identifying	Carrier, Attribute Identified, Identifier Token, Value	Attributor, Beneficiary Assigner
Existential	Existing	Existent	

(Halliday & Matthiessen's, 2014, p. 311: classification of transitivity)

3.3.2 Situational context

The first aspect of the interpretation stage is the situational context, which can be analysed through four questions proposed by Fairclough (1989, p. 147), each corresponding to different types of discourse. The first question, "What's going on?" pertains to the situation's specifics, including its topic, purpose, and activities. The second question, "Who's involved?" addresses the participants in the situation. The third question, "In what relations?" explores the relationships among the participants, particularly focusing on power dynamics that emerge within a specific speech event. Finally, "What's the role of language in what is going on?" examines how language connects a text to its situational context.

3.3.3 Power and Ideology

Ideology and power are fundamental concepts in CDA and have been extensively explored within this field. Ideology refers to a set of beliefs, ideas, and goals shared by a group of people. Fairclough (1992, p. 87) defines ideologies as "constructions of reality that are embedded in various dimensions of the forms and meanings of discursive practices, contributing to the production, reproduction, or transformation of relations of domination." On the other hand, power is commonly understood as the unequal authority among members of society engaged in power relations within a given discursive event. It encompasses how individuals access, control, and influence discourses, including their production, disruption, and consumption (Fairclough, 1995). Fairclough (1989) emphasises the interrelationship between ideology and power, arguing that ideology is a key mode of power, while power itself is ideologically rooted. He introduces the concept of "ideological power," which refers to the ability of dominant individuals or groups to implicitly or explicitly instill their social and political ideologies through discourse.

4. Analysis and discussion

This section focuses on analysing the utterances of Iraqi farmers in four purposefully selected extracts from a news report entitled "*Twilight of the Tigris: Iraq's mighty river is drying up*".

Extract 1: Dolmassa's Utterance "Our life depends on the Tigris, all our work, our agriculture, depends on it." He added "the water was pouring in torrents, but over the last two or three years, there is less water every day."

Contextualisation

Water scarcity has become a critical issue for Iraqi farmers, profoundly impacting their agricultural activities and daily lives. This crisis is exemplified in the discourse of Dolmassa, an Iraqi farmer whose statements illustrate the socio-economic and environmental challenges posed by decreasing water levels in the Tigris River. From a textual analysis perspective, examining transitivity in Dolmassa's statements reveals how linguistic choices shape meaning. The relational process *depends on* signifies *our life, all our work, and our agriculture* as the carrier, and *on the Tigris* as the attribute, emphasising the river's central role not only in farming but also in shaping an entire way of life. The material process in *was pouring* introduces an action, positioning *the water* as the actor and *in torrents* as the goal. This conveys an image of past abundance, where water availability was not a concern. In contrast, the existential process *there is* shifts the discourse to the present, positioning *less water* as existent, thereby reinforcing the reality of scarcity and the gradual depletion of resources. From a discursive practice perspective, the contextual situation revolves around the ongoing water scarcity in Iraq, which significantly affects farming communities. The purpose of his utterance is to emphasise the severity of the water scarcity and its consequences for the local population's reliance on the river for their survival and livelihoods. The activity involves reporting on and raising awareness about the issue of water

scarcity. Dolmassa, as a direct stakeholder, shares his experiences, reflecting the broader struggles of farmers facing water scarcity. The relationship between his utterance and the context of water scarcity constructs a narrative of decline, contrasting past abundance with present hardship and emphasising the issue's urgency. In his context, the role of language is to evoke concern, raise awareness, and influence public discourse. From a social practice perspective, Dolmassa's utterance reflects the underlying power dynamics and systemic inequalities in resource management. His reliance on the Tigris River underscores the essential role of water in sustaining agricultural livelihoods; however, the transition from abundance to scarcity suggests the influence of external factors. This decline may be linked to upstream dam constructions, or broader climate change impacts—factors largely beyond the control of local farmers. The framing of water as both a necessity and a contested resource highlights an imbalance of power, where those most dependent on water resources often have the least influence over their distribution. This reflects an ideology of environmental injustice, in which marginalised communities bear the brunt of resource depletion while structural factors perpetuate their vulnerability.

Extract 2: Abu Mehdi's Utterance "We will be forced to give up farming and sell our animals, we were displaced in the past due to conflict, and now we are going to be displaced because of water. Without water, we can't live in these areas at all." He also said "We sold everything, but it was a failure."

Contextualisation

Abu Mehdi's utterance encapsulates the escalating crisis of water scarcity in Iraq and its devastating impact on farmers. Through textual analysis, the material processes in his utterance, such as *will be forced*, *give up*, *sell*, *were displaced*, *are going to be displaced*, *can't live*, and *sold*, consistently position *we* as the actor, while *farming*, *our animals*, *the war*, *everything*, and *because of water* serve as the goals of these actions. These linguistic choices highlight the inevitability of loss, emphasising the forced nature of displacement and the impossibility of survival in water-scarce regions. The relational process *was* in the phrase *It was a failure* positions *It* as the carrier and *a failure* as the attribute. This process further underscores the futility of their efforts, reinforcing a narrative of despair. The linguistic structure of the statement foregrounds powerlessness, portraying farmers as passive recipients of external forces, whether war or environmental crisis, rather than as agents of change. From a discursive practice perspective, the situational context revolves around the ongoing crisis of water scarcity, with the purpose of the discourse being to highlight the devastating consequences for farmers who depend on agriculture and livestock. The activity involved is a discussion of forced displacement, where water scarcity is presented as a factor driving farmers from their land, much like previous conflicts have done. Abu Mehdi, as a direct stakeholder, represents Iraqi farmers. The relation of his statement reveals a power imbalance, where farmers lack control over essential resources and are vulnerable to decisions made by more powerful entities. His utterance serves as a tool for expressing frustration, urgency, and appeal for recognition, illustrating how water scarcity is not merely an environmental issue but a humanitarian crisis that forces people out of their homes and livelihoods. From a social practice perspective, Abu Mehdi's utterance reveals the power dynamics underlying Iraq's water crisis. His utterance reflects an ideology of marginalisation, where farmers, historically affected by displacement, now face a new form of forced mobility driven by environmental factors beyond their control. The phrase "We will be forced" signifies a lack of agency, portraying farmers as victims rather than active participants. His reference to failure suggests systemic shortcomings, including inadequate

support structures, unequal access to water, and ineffective responses that reinforce existing socioeconomic inequalities. This discourse challenges dominant narratives that may downplay the struggles of farming communities, instead emphasising the urgent need for equitable resource management and recognition of the existential risks posed by water scarcity.

Extract 3: Al Rached's Utterance You see these palm trees? They are thirsty. " He said "They need water! Should I try to irrigate them with a glass of water or with a bottle?" He also said "There is no fresh water, there is no more life. " He added "Water is not provided to me. I want water, I want to live. I want to plant, like my ancestors."

Contextualisation

Al-Rached's utterance encapsulates the reality lived by Iraqi farmers who struggle to sustain their crops due to a lack of water. Through textual analysis, it is evident that Al-Rached employs various linguistic processes to construct a narrative of urgency and suffering. The mental process is illustrated by the verb *see*, which conveys perception rather than action, positioning *you* as the senser and *these palm trees* as the phenomenon. This process encourages the listener to witness the condition of the trees, fostering empathy. The relational process (Attributive) is evident in *are*, which expresses a state or condition, positioning *they* as the carrier and *thirsty* as the attribute, thereby personifying the palm trees as suffering beings rather than mere plants. The material process is exemplified by the verb *need*, which signifies necessity and survival, with *they* (the palm trees) functioning as the actor and *water* as the goal. This framing positions water as essential for life, reinforcing a sense of urgency and dependency. The material process is also evident in the phrase *try to irrigate*, which represents an action affecting an object, with *I* as the actor and *them* (the palm trees) as the goal. The use of this process carries an ironic tone, exposing the inadequacy of the water supply and critiquing the severity of water scarcity. Similarly, the material process is illustrated in the verb *provided*, where *relevant authorities* act as an implicit actor, *me* as the recipient, and *the water* as the goal of the action. This implicit structure reflects a perceived lack of support and reinforces the farmer's position as a victim of broader systemic conditions. The existential process is evident in the phrase *There is no*, which conveys the absence of essential resources. Expressions such as *no fresh water* and *no more life* position *water and life* as existents, emphasising their non-existence and equating water scarcity as a condition of absence. The mental process (desire) is illustrated by the verb *want*, where *I* serves as the senser, and *water*, *to live*, and *to plant* are the phenomena. The repetition of this mental process highlights desperation and survival instincts. From a discursive practice perspective, the situational context centers on the lack of fresh water and its direct consequences for farming. The purpose of the discourse is to express frustration and desperation over the inability to irrigate crops. The activity involved is a critique of water shortages and their effect on both nature and human life. The main participant, Al-Rached, represents Iraqi farmers, while the discourse also implicates the relevant authorities and water management members who are responsible for ensuring access to water. The relation of his utterances to the context is to highlight a power imbalance, where farmers are left helpless and dependent on external decisions regarding water distribution. This is emphasised in his statement, *Water is not provided to me*. His rhetorical question, *Should I try to irrigate them with a glass of water or with a bottle?* underscores the situation's absurdity, illustrating the extreme water scarcity. In his context, language serves as a tool for voicing urgency, appealing for action, and expressing a deep connection to ancestral traditions, as seen in his appeal, *I want water, I want to live. I want to plant, like my*

ancestors. His utterance presents water scarcity as an economic or agricultural issue and a threat to heritage, identity, and survival. From a social practice perspective, Al-Rached's utterance reveals the ideological and power struggles surrounding water scarcity in Iraq. His rhetorical question, *Should I try to irrigate them with a glass of water or with a bottle?* highlights the situation's absurdity, emphasising the inadequacy of water resources. The imagery of "*thirsty*" palm trees personifies nature's suffering, reinforcing the profound connection between water, agriculture, and life. The ideology embedded in his utterance reflects a sense of disenfranchisement and historical continuity as he invokes his ancestors, suggesting that access to water was once secure but is now threatened. This discourse underscores a power imbalance, where farmers, despite their essential role in food production, find themselves powerless against the decisions that dictate their survival.

Extract 4: Haddad's Utterance "From father to son, we have dedicated our lives to fishing, in the summer, we have salt water. The seawater rises and comes here." He added "If the water goes, the fishing goes. And so does our livelihood."

Contextualisation

Haddad's utterance encapsulates the lived experiences of Iraqi fishing communities, revealing their intergenerational dependence on water resources and the existential threats posed by environmental changes. Through textual analysis, Haddad employs multiple material processes to narrate the relationship between people, water, and livelihood. The verb *have dedicated* positions *we* as the actor, *our lives* as the goal, and *to fishing* as the range, underscoring a lifelong commitment to fishing. The verb *have* positions *we* as the actor and *salt water* as the goal, emphasising the increasing presence of seawater in areas that were once freshwater. The verbs *rises* and *comes* position *the seawater* as the actor and our fishing grounds as an implicit goal, portraying the encroachment of seawater as an inevitable force altering the landscape. In his warning, *If the water goes, the fishing goes. And so does our livelihood*; the verb *goes* functions as a material process, positioning *the water* as the actor, while the goal remains implied, representing its disappearance. Similarly, the phrases *the fishing goes* and *our livelihood does [go]* utilise material processes that impact the actors (fishing and livelihood), thereby reinforcing the themes of loss and irreversible change, while the goals of these actions remain implied. From a discursive practice perspective, the situational context focuses on the effects of water scarcity and salinity intrusion on fishing communities. The purpose of this discourse is to express concern about the deterioration of water quality and its consequences for both the environment and the economic survival of these communities. The activity involved is a discussion of the challenges posed by seawater intrusion, which threatens freshwater ecosystems and, in turn, the sustainability of fishing. Haddad is the main participant, positioned as a representative of fishing community, sharing personal and generational knowledge. The relation of his utterance to the context highlights an implicit power dynamic; Haddad advocates for the preservation of his livelihood, while the responsible authorities may hold institutional or societal power to address or ignore the issues he raises. In his context, language serves as a tool for expressing urgency and loss, reinforcing the idea that the depletion of natural resources is not just an environmental crisis but also a cultural and economic catastrophe for the communities that depend on them. From a social practice perspective, Haddad's utterance reflects the ideological and power dynamics that shape the struggles of Iraqi fishers amid environmental and political challenges. His assertion, *From father to son, we have dedicated our lives to fishing*, signifies a deep-rooted cultural and economic identity tied to water, emphasising generational continuity. However, the intrusion of seawater into freshwater areas disrupts this tradition, illustrating the impact

of larger systemic forces such as climate change, dam construction, and poor water management on local livelihoods. The phrase, *If the water goes, the fishing goes. And so does our livelihood*, underscores the power imbalance, where decisions made at governmental or regional levels directly threaten his community's survival. This discourse conveys an ideology of loss and displacement, highlighting how environmental degradation, influenced by political and economic policies, erodes economic stability and cultural heritage, leaving fishers powerless in the face of change.

The overall mentions of the processes and participants are presented in the table and figure below to illustrate the frequencies and percentages of each.

Table 2: Process Types and Participant Types in News Reports

Types of process	Freq.	Per.	Participant Types (directly & obliquely)	Freq.	Per.
Material process	16	61.54%	Actor	16	30.77%
			Goal	16	30.77%
			Recipient	1	1.92%
			Range	1	1.92%
Mental process	4	15.38%	Senser	4	7.69%
			Phenomenon	4	7.69%
Relational attribution process	4	15.38%	Carrier	4	7.69%
			Attributive	4	7.69%
Existential process	2	7.69%	Existent	2	3.85%
Total	26	100%		52	100%

Figure 2: Types of process in news reports

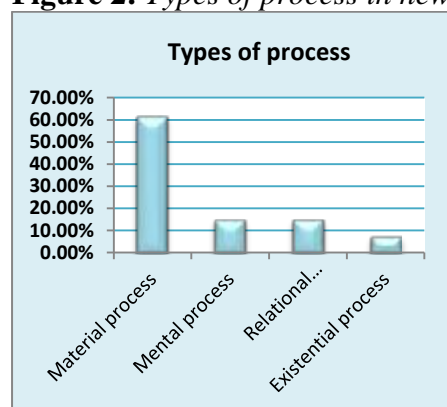
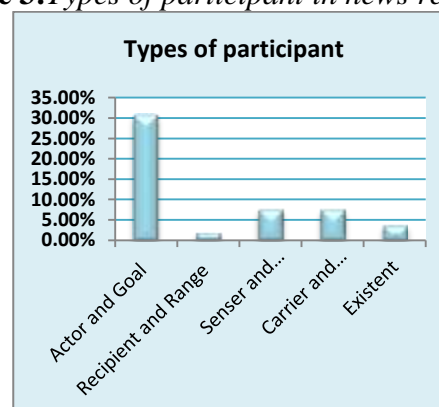


Figure 3: Types of participant in news reports



5. Findings

Depending on Fairclough's (1995) three-dimensional relational model, the researchers identify that Iraqi farmers' utterances primarily emphasise material processes, highlighting the tangible consequences of water scarcity. The analysis of this report indicates that the highest frequency of processes is observed in the material process category, with a total of 16

occurrences, accounting for 61.54% of all identified processes. This suggests that the discourse of Iraqi farmers primarily focuses on actions, struggles, and tangible consequences of water scarcity, such as abandoning farming, selling livestock, and facing displacement. Such an emphasis reflects water shortages' immediate and severe impact on their livelihoods. In contrast, average frequent processes include the mental process, which totals 4 occurrences (15.38%), indicating that while emotions and perceptions are present, they are secondary to the description of real-world actions and struggles. Similarly, the relational attribution process occurred 4 times, also accounting for 15.38%, and is used to assign responsibility, often highlighting external contributors to the crisis. The existential process is regarded as the least prevalent, appearing only twice in the discourse of Iraqi farmers, which accounts for 7.69% of all identified processes. This least frequent indicates that the farmers' discourse is primarily centered on concrete actions and consequences rather than just stating the existence or absence. This observation underscores that the farmers' experiences are action-orientated, emphasising tangible struggles and outcomes rather than abstract states of existence. A total of 52 instances of participants have been identified and categorised into various roles. The most frequent participants are the Actor and Goal, each occurring 16 times (30.77%). This reflects an action-orientated discourse in which Iraqi farmers emphasise their struggle against water scarcity and its consequences. This high frequency aligns with the predominance of material processes, as farmers narrate their experiences of taking action or being affected by external forces. In contrast, the average frequently includes the Senser and Phenomenon participants, who appear 4 times (7.69%). This indicates that while farmers express thoughts and emotions, their discourse primarily focuses on tangible realities rather than internal states. Similarly, the Carrier and Attributive participants, also occurring 4 times (7.69%), highlight how farmers describe environmental deterioration rather than defining their identities. The Existent participant appears twice (3.85%), emphasising the presence or absence of crucial resources, such as water, and reinforcing the severity of scarcity. The least frequent participants in the discourse are Recipient and Range participants appear only once each (1.85%), indicating that Iraqi farmers' discourse rarely involves actions directed toward beneficiaries or specifies the scope of their activities. The low occurrence of Recipients suggests that their discourse does not often highlight individuals or entities receiving an action, which aligns with a broader narrative of helplessness and a lack of external support. Likewise, the rare use of Range implies that farmers concentrate on direct actions and their immediate effects rather than specifying the extent or scope of those actions.

6. Conclusion

This study investigates the impact of water scarcity on Iraqi farmers by analysing social media reports through CDA, utilising Fairclough's (1995) three-dimensional model. The findings indicate that farmers predominantly employ material processes to construct narratives of struggle and urgency, emphasising displacement, loss of livelihood, and lack of institutional support. Within their contextual reality, their discourse underscores the severe socio-economic consequences of water scarcity, framing them as victims of climate change, ineffective mismanagement, and transboundary water tensions. The analysis reveals a significant power imbalance, wherein farmers have limited control over water resources and must endure the repercussions of decisions made by more powerful entities. Ideologically, water scarcity is depicted not only as an environmental crisis but also as a crisis of equity, survival, and justice. While this study provides linguistic insights into the discourse surrounding water scarcity, it is constrained to a single news report that conveys the suffering of Iraqi farmers. Future research could expand the scope by examining how various

stakeholders, such as policymakers and environmental activists, construct their discourses on water scarcity.

References

- Abbas, N. F. (2020). Pragmatics of overlapping talk in therapy sessions. *Journal of Language and Linguistic Studies*, 16(3), 1251-1263. <https://doi.org/10.17263/jlls.803705>
- Abbas, N. F., Muslah, A. F., & Najem, A. S. (2024). Fallacy as a strategy of argumentation in political debates. *Theory and Practice in Language Studies*, 14(8), 2399-2407. <https://doi.org/10.17507/tpls.1408.12>
- Abed Al-Hussein, I. R. A., & Al-Saaidi, S. K. Z. (2022). Women's rape in Iraq between legislation and social norms: a critical discourse analysis. *Journal of the College of Education for Women*, 32(3), 1-13. <https://jcoeduw.uobaghdad.edu.iq/index.php/journal/article/view/1616/1395>
- AFP. (2022, September 20). *Twilight of the Tigris: Iraq's mighty river drying up*. Arab News. <https://arab.news/4j7pa>
- Al-Ansari, N. A., & Knutsson, S. (2011). Toward prudent management of water resources in Iraq. *Journal of Advanced Science and Engineering Research*, 1(1), 53-67.
- Al-Ansari, N., Abed, S. A., & Ewaid, S. H. (2021). Agriculture in Iraq. *Journal of Earth Sciences and Geotechnical Engineering*, 11(2), 223-241. <https://doi.org/10.47260/jesge/1126>
- Ali, A., Ali, Z., Quraishi, U. M., Kazi, A. V., Malik, R. F., Sher, H., & Mujeeb-Kazi, A. (2014). Chapter 14: Integrating physiological and genetic approaches for improving drought tolerance in crops. In P. Ahmad & S. Rasool (Eds.), *Emerging technologies and management of crop stress tolerance* (pp. 315-345). Academic Press. <https://doi.org/10.1016/B978-0-12-800875-1.00014-4>
- Ali, E. H., Bulqader, M. A., & Baker, Y. T. (2024). Measuring the impact of water scarcity on agricultural economic development in Iraq. *Stallion Journal for Multidisciplinary Associated Research Studies*, 3(3), 1-16. <https://doi.org/10.55544/sjmars.3.3.1>
- Altun, S. (2015). The reflection of the Mesopotamia water transportations in figurative arts. *International Journal of Environment and Geoinformatics*, 2(3), 57-60. <https://doi.org/10.30897/ijegeo.303563>
- Bazzaz, F. (1993). Global climatic changes and its consequences for water availability in the Arab world. In R. Roger & P. Lydon (Eds.), *Water in the Arab world: Perspectives and prognoses* (pp. 243-252). Harvard University Press.
- Chibani, A. (2023, May 30). *Water politics in the Tigris-Euphrates basin*. Arab Center Washington DC. <https://arabcenterdc.org/resource/water-politics-in-the-tigris-euphrates-basin/>
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th Edition). Los Angeles: SAGE.
- Damkjaer, S., & Taylor, R. (2017). The measurement of water scarcity: Defining a meaningful indicator. *Ambio*, 46(5), 513-531.
- Denzin, N. K., & Lincoln, Y. S. (1994). Introduction: Entering the field of qualitative research. In N. K. Denzin & Y. S. Lincoln(Eds.), *Handbook of qualitative research*. Sage Publication, Inc.
- Fairclough, N. (1989). *Language and power*. London: Longman.
- Fairclough, N. (1992). *Critical language awareness*. London: Longman.

- Fairclough, N. (1995). *Critical discourse analysis: The critical study of language*. London: Longman.
- Fairclough, N. (2001). *Language and power* (2nd ed.). Pearson Education.
- Farhan, M. A. (2024). A critical discourse analysis study of reduplication in some selected English newspapers headlines. *Al-Adab Journal*, 149(1), 1-10. <https://doi.org/10.31973/y6zep568>
- Gee, E. (2017). *Remixing multiliteracies: Theory and practice from New London to new times*. Teachers College Press.
- Guo, Q. G. (2011). *Course for communication studies*. China Renmin University Press.
- Halliday, M. A. K., & Matthiessen, C. M. I. M. (2014). *An introduction to functional grammar* (4th ed.). Routledge.
- Hassan, K., Born, C., & Nordqvist, P. (2018). *Iraq: Climate-related security risk assessment*. Expert Working Group on Climate-related Security Risks. <https://www.eastwest.ngo/sites/default/files/iraq-climate-related-security-risk-assessment.pdf>
- Hussein, H. (2016). Understanding water scarcity in arid regions: A critical discourse analysis of water scarcity in the case of Jordan. In *Proceedings of the 7th International Conference on Water Resources and Arid Environments (ICWRAE 7)* (pp. 204-213). Riyadh, Saudi Arabia.
- Khalil, H. H. & Ali, S. A. (2023). The Construction of the Iraqi Child in the UNICEF Reports during Covid19 Pandemic: A Critical Discourse Analysis. *Journal of the College of Education for Women*, 34(2), 1680-8738. <https://doi.org/10.36231/coedw.v34i2.1666The>
- Medany, M. (2008). Impact of climate change on Arab countries. In M. Tolba & N. Saab (Eds.), *Arab environment: Future challenges*. Arab Forum for Environment Development. <http://www.afedonline.org/afedreport/full%20english%20report.pdf>
- Mohammed, H. N. & Abbas, N. F. (2016). Impoliteness in Literary Discourse: A Pragmatic Study. *International Journal of Applied Linguistics & English Literature*, 5(2), 77-82. <https://doi.org/10.7575/aiac.ijalel.v.5n.2p.76>
- Najem, A. S., & Abbas, N. F. (2024). Emotional blackmail in Breaking Bad series: A pragma-stylistic study. *Journal of Language Teaching and Research*, 15(4), 1062-1071. <https://doi.org/10.17507/jltr.1504.04>
- Nasser, A. A. & Khalil, S (2021). A Critical Discourse Analysis of Martin Crimp's Piece "Advice to Iraqi Women". *Journal of the College of Education for Women*, 32(1), 1680-8738. <http://doi.org/10.36231/cnedw.v32i1.1476>
- Neuman, W.L. (2014). *Social research methods: Qualitative and quantitative approaches* (7th ed.). Pearson.
- Sissakian, V. K., Al-Ansari, N., Adamo, N., & Laue, J. (2023). The impact of water scarcity on food security in Iraq. *Journal of Civil Engineering and Architecture*, 17(9), 441-456. <https://doi.org/10.17265/1934-7359/2023.09.003>
- Thompson, G. (2009). *Key ideas in linguistics and the philosophy of language* (S. Chapman, Ed.). Edinburgh University Press.
- Tuten, T. L. (2008). *Advertising 2.0: Social media marketing in a Web 2.0 world*. Praeger.
- UNESCO, & UN-Water. (2020). *United Nations world water development report 2020: Water and climate change*. UNESCO.
- UN-Water. (2006). *The United Nations World Water Development Report 2: Water, a shared responsibility*. World Water Assessment Programme (WWAP). Doc. no. UN



- WATER/WWAP/2006/3. UNESCO/Berghahn Books.
<http://unesdoc.unesco.org/images/0014/001444/144409e.pdf>
- Van Dijk, T. A. (2009). Critical discourse studies: A sociocognitive approach. In R. Wodak and M. Meyer (Eds.) *Methods of Critical Discourse Analysis* (pp. 62-86). London: Sage.
- Walther, J., DeAndra, D., Kim, J., & Anthony, J. (2010). The influence of online comments on perceptions of antimarijuana public service announcements on YouTube. *Human Communication Research*, 36, 469-492.
- Wodak, R. (2009). *Critical discourse analysis*. Longman. |