

5. Uluslararası Sürdürülebilir Kalkınma ve Uzay Arařtırmaları Kongresi Tam Metinleri

كتاب أبحاث المؤتمر الدولي الخامس للتنمية المستدامة والمجال

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Ön Söz - مقدمة - Preface

يواجه العالم تحديات كبيرة في أقامه توازن بين التنمية المستدامة والحفاظ على البيئة من جهة ومن جهة أخرى تحقيق الأمن الغذائي والذي أصبح من أولويات الدول بفعل الاحتكار واختلال التوازن بين الطلب والإنتاج، ففي الوقت الذي يواصل فيه الاعتماد على الطرق التقليدية في الزراعة المعتمدة أساساً على تساقط الأمطار والاستهلاك المفرط للمياه الجوفية غير المتجددة، فإن هذا له أثراً كبيراً على نضوب الموارد الاقتصادية غير المتجددة واستقرار الأمن الغذائي بالعالم. ولذلك يتجه العالم إلى مصادر الطاقة المتجددة والبحث عن بدائل تضمن احتياجات السكان وفق مبدأ التنمية المستدامة.

وتعد الطاقة المتجددة بأنها الحل الأخير لمشاكل الطاقة والبيئة في العالم، مما يتيح إمكانية الطاقة الرخيصة وغير المحدودة تقريباً الخالية من التلوث، حيث نجد بأن العالم يستهلك الطاقة من مصادر عديدة، فمنها المصادر التي تأتي من خامات الوقود الأحفوري مثل الفحم والنفط والغاز الطبيعي، ومنها الطاقة التي تأتي من مصادر صناعية مثل الطاقة النووية. كما يحصل على الطاقة أيضاً من مصادر طبيعية مثل الطاقة الشمسية والطاقة المستخلصة من الرياح ومساقط المياه والتي تسمى بمصادر الطاقة المتجددة.

إن المشاكل المتفاقمة من خلال أزمات الطاقة والتخوف من احتلال الأمن الغذائي ولاسيما في الدول الأكثر فقراً، يستوجب إعادة التفكير بشكل جوهري على المستوى الدولي وفق استراتيجيات مستدامة تحقق الاستقرار على مستوى العالم وتجنباً الوقوع في أزمات دولية تتركز أساساً على الاستغلال العقلاني للموارد الطبيعة واعتماد طاقات متجددة وأساليب جديدة في الزراعة لضمان تحقيق استدامة في الأمن الغذائي والحفاظ على حقوق الأجيال القادمة.

د. صيد احمد سفيان

رئيس اللجنة العلمية

Ön Söz - مقدمة - Preface

5. Uluslararası Sürdürülebilir Kalkınma ve Uzay Araştırmaları Kongresi, 02-06 Kasım 2023 tarihlerinde Antalya’da gerçekleşti. Bu kongre, Saygın Bilim Derneği’nin (Saybilder) organizasyonunda ve başta Mardin Artuklu Üniversitesi olmak üzere çeşitli kurumların ilmi desteği ile düzenlenmektedir. Kongreye 5 farklı ülkeden davetli konuşmacı davet edilmiştir. Aynı zamanda Türkçe, İngilizce ve Arapça duyurular yapılarak bilim insanlarına çağrıda bulunulmuştur. Bu çağrılar sonrasında 10 civarında ülkeden sözlü bildiri başvuruları alınmıştır. Tüm bildiriler üç hakemin onayına sunulmuştur. Hakemlerin en az iki tanesinden olur alan bildiriler kabul edilmiştir. Aksi takdirde bir görüş bildirildiğinde ise bildiriler ret edilerek başvuruları iptal edilmiştir. Bu süreç içerisinde bildirilerin önemli bir kısmına hakemlerden düzeltme talebi gelmiştir. Hakemler tarafından talep edilen düzeltmelerin yapıp yapılmadığı da özenle kontrol edilmiş ve düzeltilerden sonra kabul mektupları düzenlenerek yazarlarına gönderilmiştir.

Başvuru süreci sonucunda 5’i Türkiye’deki üniversitelerinde ve 58’i de farklı ülkelerdeki üniversitelerde (Algeria, China, Egypt, Tunis, Morocco, vb.) çalışan bilim insanlarına ait toplam 63 bildiri sözlü sunuma uygun bulunmuştur. Bu kitapta kongrede sunulan ve hakem sürecinden geçirilip tamamlanmış tam metinler yer almaktadır.

Kongrenin bilim insanları arasındaki iletişimi kuvvetlendirmesini, bilgi alışverişini arttırmasını, ortak çalışma zeminlerini oluşturmasını, milletimize, insanlığa ve bilgiyle amel edenlere faydalı olmasını diliyorum.

Prof. Dr. Sid Ahmed Soufiane - Annaba University, Algeria

Düzenleme Kurulu Başkanı

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**Mise en valeur et conservation de la végétation du littoral de la région de Tlemcen
(Algérie occidentale) (cas des Juniperaies)**

Belaout Amal

Doctorant - Abou Bakr Belkaid University, SNV/STU Faculty, Tlemcen.

Haciba Meziane- Stambouli

Professor - Abou Bakr Belkaid University, SNV/STU Faculty, Tlemcen.

Brahim Babali

Abou Bakr Belkaid University, SNV/STU Faculty, Tlemcen.

Résumé

Dans le but de faire ressortir les espèces dites accompagnatrice de *Juniperus Phoenicea* subsp *turbinata* et *Juniperus oxycedrus* subsp *macrocarpa* ; des relevés floristiques ont été effectués sur des stations choisies dans le littoral de la région de Tlemcen.

L'analyse factorielle des correspondances permet de mettre en évidence les relations entre les différents groupements végétaux et les facteurs écologiques stationnels et faire ressortir les associations et les groupements d'espèces liées à *Juniperus phoenicea* subsp *turbinata* et *Juniperus oxycedrus* subsp *macrocarpa* du littoral de la région de Tlemcen.

Des résultats ont été obtenus sur les groupements d'espèces caractéristiques en général, notamment les aspects biologiques et phytosociologiques.

Juniperus phoenicea subsp *turbinata* et *Juniperus oxycedrus* subsp *macrocarpa* caractérisent les communautés permanentes de rochers et falaises calcaires, depuis le littoral jusqu'à des zones très éloignées de celui-ci, dans l'étage bioclimatique semi-arides à secs, de préférence dans le domaine du *Teucrio fruticantis* - *Juniperetum phoeniceae* ; *Thymelaeo hirsutae* - *Asteriscetum maritimi* et *Junipero phoeniceae* subsp. *turbinatae* - *Quercetum cocciferae* **pour la plage de Sidi Safi.**

A l'alliance *Juniperion phoeniceae* subsp. *turbinatae* et l'association *Juniperetum oxycedri* subsp. *macrocarpo* - *phoeniceae* subsp. *turbinatae* ; *Spartio juncei* - *Juniperetum oxycedri* subsp. *macrocarpae* et *Rhamno rotundifolii*-*Juniperetum turbinatae* **pour la station de Rechgoune.**

Des groupements ; des associations et des sous-associations halo-psammophile en relation avec *Juniperus Phoenicea* subsp *turbinata* pour la **station de Marsat Ben M'hidi.**

Et enfin des associations se rapportant généralement à la classe des *Therobrachypodietea* et/ou *Stellarietea mediae*. C'est le cas de la **station de Sidi Safi (Beni Saf)**

Mots clé : Littoral, *Juniperus phoenicea*, *Juniperus oxycedrus*, accompagnatrice, ouest-Algérie.

Introduction

Les plantes de la famille des Cupressacées présentent une écorce filandreuse ou écaillée avec un feuillage disposé en spirales avec des feuilles persistantes et simples, sessiles et pétiolées. Ces plantes ont une inflorescence en grappe terminale ou solitaire avec des fleurs unisexuées et qui produisent un fruit pouvant mettre jusqu'à deux ans pour murir appelé cônes.

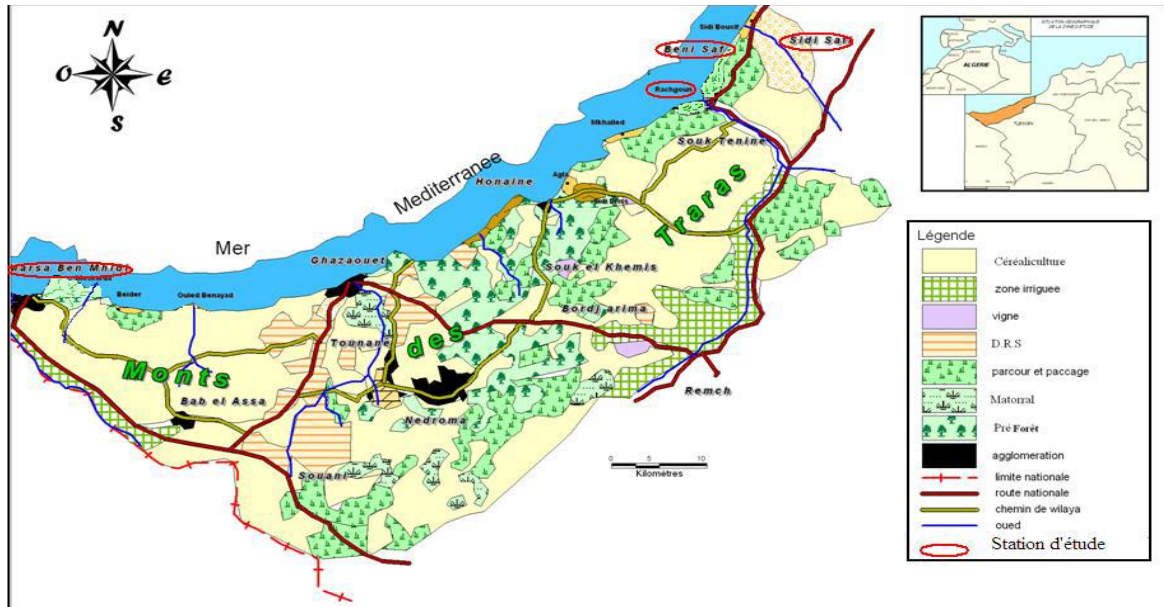
Juniperus L. est largement répandu en Algérie, comme l'ont souligné **Maire (1952)** et **Quézel et Santa (1962)**. On y retrouve **cinq** espèces, parmi lesquelles deux sont considérées comme très rares (*J. thurifera* L. et *J. sabina* L.), une est classée comme rare (*J. communis* L.), tandis que les deux dernières subissent une dégradation sévère dans les régions semi-arides et arides (*J. oxycedrus* L. et *J. phoenicea* L.).

L'objectif principal de notre travail est de réaliser une étude phytoécologique et phytosociologique des espèces *Juniperus phoenicea* subsp *turbinata* et *Juniperus oxycedrus* subsp *macrocarpa* dans le littoral de la région de Tlemcen.

Matériels et Méthodes

Le choix des stations est une étape cruciale qui doit être orientée par les objectifs de l'étude. Dans notre cas, nous avons sélectionné les stations en se basant sur la présence et l'abondance du genre (*Juniperus*) à travers le littoral.

Pour cette étude, nous avons retenu quatre stations essentielles situées sur le littoral de la région de Tlemcen, plus précisément les monts de Traras, notamment station de Rechgoun (Siga), la plage de Sid Safi, Beni saf et Marsa Ben M'Hidi (**Carte 1**).



Carte 1: situation géographique des stations d'étude.

mixte (stratifié, subjectif) qui prend en compte la variabilité des formations végétales rencontrées au sein *Juniperus phoenicea* subsp *turbinata* et *Juniperus oxycedrus* subsp *macrocarpa*. Conformément à la méthode stigmatise, ces relevés ont été effectués sur des zones écologiquement homogènes (**Gounot., 1961**) (**Daget & Poissonet., 1971**) (**Long., 1974**).

Cette étude l'identification et la nomenclature des espèces a été basée sur la nouvelle flore d'Algérie (**Quézel & Santa, 1962**), et l'index synonyme et bibliographique de la flore Nord-africaine (**Dobignard & Châtelain, 2010-2013**).

Nous avons adopté, d'une part une aire minimale de 100 m² préconisée par **Djebaili (1978)** et **Bouazza & Benabadji (2002)** pour les formations d'ouest littorale Algérienne.

Dans notre cas, nous avons une aire de 100 m² avec la présence des deux espèces de *Juniperus* en considérant chaque 100 m² comme un relevé floristique réalisé sur deux stations choisis au niveau du littoral de la région de Tlemcen.

Station 1 : Rechgoun (SIGA)

SIGA est situé dans la région de Takembrit, dans la daïra d'Oulhaça El Gheraba, wilaya d'Aïn Témouchent, en Algérie. Il se trouve sur la rive gauche de la Tafna, à quelques kilomètres de son embouchure, et ses ruines s'étendent le long des berges de l'oued ainsi que sur les collines de Beni Zehana et Ras Dchour¹. Cet établissement antique est situé à environ 12 km au sud-ouest de Béni Saf.

Station 2 : Marsat Ben M'hidi

Elle se trouve au nord-ouest de la wilaya de Tlemcen, en Algérie. C'est une charmante ville côtière qui borde la mer Méditerranée et partage une frontière avec la ville marocaine de SAÏDIA. Elle est située à environ 120 km au nord-ouest de Tlemcen, à 58 km à l'ouest de GHAZAOUET et à 66 km au nord-ouest de MAGHNIA.

Résultats et discussions :

Parmi les analyses multi-variées qui ont fait leurs preuves dans le domaine d'étude de la végétation ; c'est l'analyse factorielle des correspondances (A.F.C).

L'objet de cette méthodes est de résumer l'information d'un tableau de données en lui donnant une écriture simplifiée sous forme graphique tout en utilisant les calculs d'ajustement qui font appel à l'algèbre linéaire. Elles permettent de traiter en un minimum de temps un nombre important de relevés floristiques

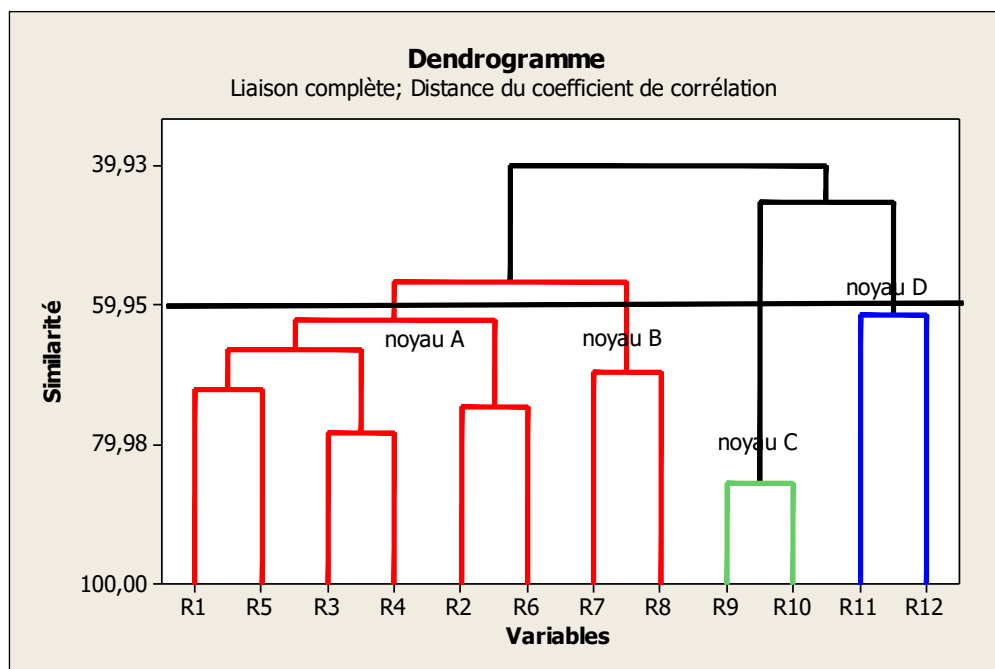


Figure 1 : dendrogramme de la station de Rechgoun/SIGA

Nous avons pu sélectionner des relevés à partir du dendrogramme en prenant la similarité de 50% en quatre noyau (A B C et D), ensuite nous avons regroupé ces relevés de chaque noyau et nous avons déterminé le taux de présence et la contribution relative de chaque espèce bien sûr avec la présence du Genre *Juniperus*,

En se basant sur la présence la plus élevée et la forte contribution des espèces, nous avons pu déterminer les groupes d'espèces qui accompagnent *Juniperus* avec les différentes espèces et sous espèces (**Figure1 ; Figure 2**),

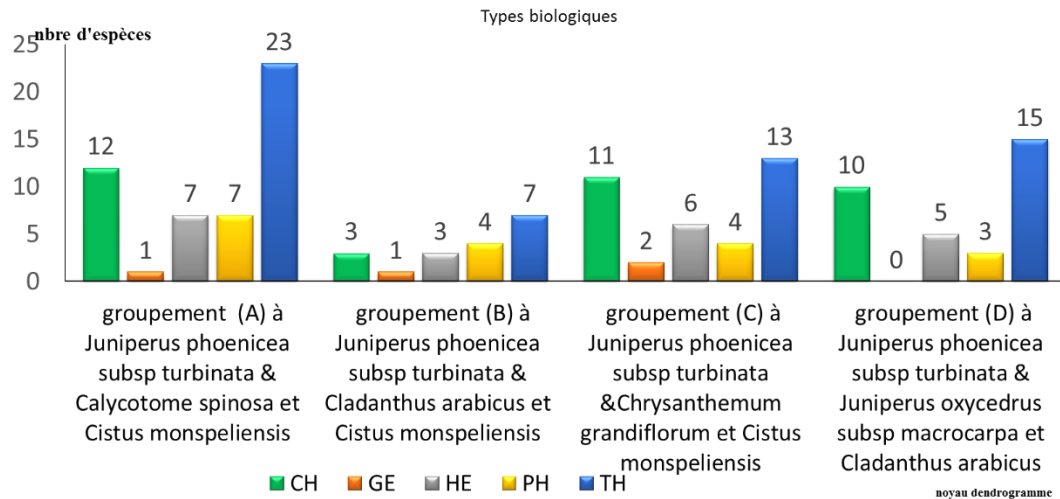


Figure 2 : les groupements du dendrogramme de la station de Rechgoune

Les groupements (A) et (C) montrent la dominance des types biologiques par le schéma suivant : TH> CH> HE >PH >GE.

Les groupements (B) et (D) montrés respectivement les schémas suivants :

Groupement (B) : TH>PH>HE=CH>GE

Groupement (D) : TH> CH >PH>HE >GE=0.

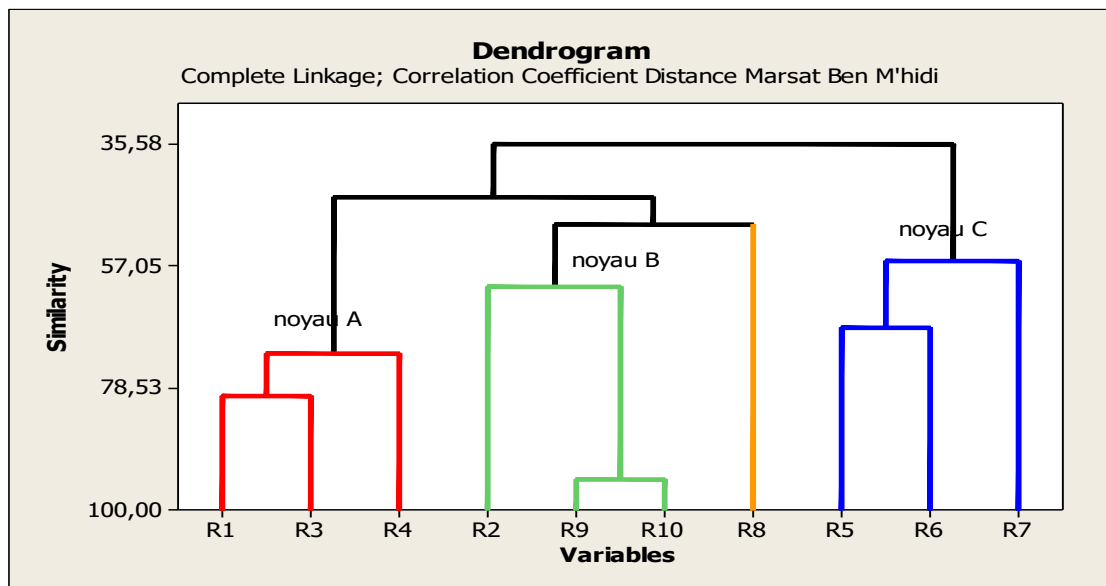


Figure 3 : Dendrogramme de la station de Marsat ben M'hidi

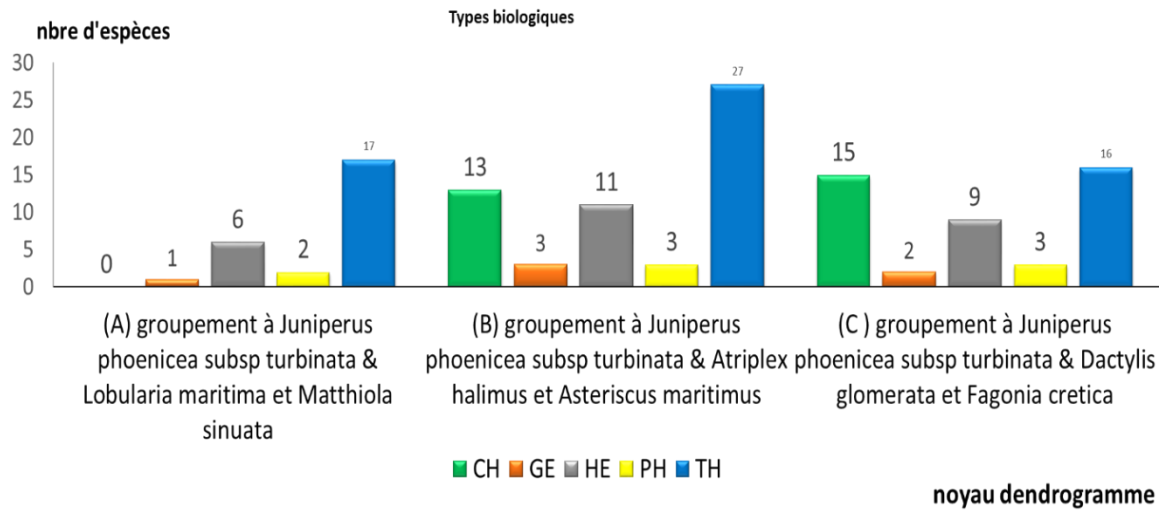


Figure 4 : du dendrogramme de la station de Marsat Ben M'hidi

Pour la station de Marsat ben M'hidi ; Nous avons pu sélectionner des relevés à partir du dendrogramme en prenant la similarité de 50% en trois noyau (AB C) , ensuite nous avons regroupé ces relevés de chaque noyau et nous avons déterminé le taux de présence et la contribution relative de chaque espèce bien sûr avec la présence du Genre *Juniperus*,

En se basant sur la présence la plus élevée et la forte contribution des espèces, nous avons pu déterminer les groupes d'espèces qui accompagnent *Juniperus* avec les différentes espèces et sous espèces (**Figure 3 ; Figure 4**).

Les types biologiques de la station de Marsat Ben M'hidi montrent la dominance des Thérophytes pour les trois groupements ; absence totale des Chamaephytes pour le groupement (A) et une égalité entre les Géophytes et Phanérophytes avec trois espèces pour le groupement (B)

Groupement (A) : TH > HE > PH > GE > CH=0.

Groupement (B) : TH > CH > HE > GE = PH

Groupement (C) : TH > CH > HE > PH > GE

Juniperus oxycedrus subsp *macrocarpa* est lié aux sables très peu mobiles et recevant peu d'eau de mer, projetée lors des tempêtes. Sans impact, la dissémination des graines, par les oiseaux (merles, grives) ou sous l'effet de la pesanteur, assurerait sans doute un comblement des vides. C'est le cas de la station **de Rechgoune/ Siga**.

Juniperus phoenicea subsp *turbinata* présente un cortège floristique avec la présence des espèces moyennement salées pour former un groupement halo-psammophile c'est le cas de la **station de Marsat Ben M'hidi**.

Juniperus phoenicea subsp *turbinata* et *Juniperus oxycedrus* subsp *macrocarpa* caractérisent les communautés permanentes de rochers et falaises calcaires, depuis le littoral jusqu'à des zones très éloignées de celui-ci, dans l'étage bioclimatique semi-arides à secs, de préférence dans le domaine du *Pistacio lentisci-Rhamnetalia alaterni* : *Asparago albi-Rhamnion oleoidis* et *Oleo-Ceratonion*. C'est le cas de la station **de Rechgoune/ Siga**.

Conclusion

Dans le but de faire ressortir les espèces dite accompagnatrice, des relevés ont été effectués dans des stations choisis dans le littoral de la région de Tlemcen et mettre en valeur les Juniperaies qui existent dans le littoral de la région de Tlemcen.

L'analyse factorielle des correspondances des relevés permet de mettre en évidence les relations entre les différents groupements végétaux et les facteurs écologiques : climatique et édaphiques et de faire ressortir les groupements d'espèces qui accompagnent *Juniperus phoenicea* subsp *turbinata* et *Juniperus oxycedrus* subsp *macrocarpa*.

Dans le domaine du *Pistacio lentisci-Rhamnetalia alaterni*, on peut observer les associations végétales de *l'Asparago albi-Rhamnion oleoidis* et de *l'Oleo-Ceratonion*. Cela est notamment le cas à la station de **Rechgoune/Siga**.

Juniperus phoenicea subsp *turbinata* présente un cortège floristique avec la présence des espèces moyennement salées pour former un groupement halo-psammophile c'est le cas de la **station de Marsat Ben M'hidi**.

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دور المجتمع المدني في تحقيق التنمية المستدامة في الجزائر

أ.د. مسعود دخالة

جامعة صالح بونيندر قسنطينة 3 كلية العلوم السياسية

الملخص

تهدف هذه المداخلة الى ابراز أهمية دور المجتمع المدني في تحقيق التنمية المستدامة في الجزائر ورصد مساهماته في المجالات السياسية و الاقتصادية و الاجتماعية و الثقافية و كذا البيئية، حيث تعمل مؤسسات المجتمع المدني في ميادينها المختلفة من اجل تحقيق و تلبية احتياجات المجتمعات المحلية وتحسين ظروفهم المعيشية مع الاخذ بعين الاعتبار الابعاد البيئية والاجتماعية و الاقتصادية وحسن استغلال الموارد المتاحة لتلبية حاجيات الأفراد و المجتمعات مع الاحتفاظ بحق الأجيال القادمة و يدخل هذا كله في اطار تحقيق التنمية المستدامة، وفي الحقيقة فان المجتمع المدني ومؤسساته هو مستقل نسبيا عن سلطة الدولة وهو يعمل من اجل ان يكون دوره مكتملا لأدوار الدولة المختلفة وفي كل لمجالات فالدولة على الرغم من أدوارها المختلفة والتي تقدمها للمجتمع من خلال برامجها في القطاعات المختلفة الا انها لا تستطيع ان تلبي كل الاحتياجات المجتمعية بمفردها، و المجتمع المدني الجزائري كغيره من المجتمعات المدنية الأخرى وخاصة بعد التعددية الحزبية وفتح المجال السياسي بعد دستور 1989 و اتباع النظام التعددي الديمقراطي والنهج الاقتصادي الرأسمالي يسعى من اجل ان يكون له دور ريادي من اجل تحقيق التنمية المستدامة في المجالات السياسية المتعلقة بمشاركة المجتمع في إدارة السلطة بطريقة ديمقراطية و بالانتقال من الديمقراطية الانتخابية الى الديمقراطية التشاركية، كما يسعى الى تحقيق تنمية اقتصادية في ظل نظام اقتصادي قائم على الحرية الاقتصادية والمنافسة الحرة مع وجود سياسيات اجتماعية تحافظ على الطابع الاجتماعي للدولة وتحقق حد ادنى للعيش الكريم لدى المواطن، كما المجتمع لمدني في الجزائر يسعى الى تحقيق استدامة بيئية تستغل كل الموارد المتاحة في البيئة وتحافظ على نظافة البيئة سواء في المجال المائي او في الجو او في التربة.

مقدمة:

يلعب المجتمع المدني دورا مهما في التنمية المستدامة لاي دولة وذلك نظرا للأدوار التي يساهم فيها من خلال نشاطاته داخل المجتمع، وفي الخفيفة فان المجتمع المدني هو حلقة الوصل بين المواطنين والنظام السياسي حيث يعمل على تحويل انشغالاتهم وتطلعاتهم الي السلطة كما يساهم في القيام بالأعمال التي لا تستطيع الدولة ان تغطيها.

وقد كان لدستور 1989 دور مهم في ظهور المجتمع المدني في الجزائر بكل مكوناته، وقد أصبح له أدوار مهمة في المجتمع خاصة مع أزمة جائحة كورونا كوفيد 19 والتي ابانت دور المجتمع المدني في الجزائر حيث كان له دور في تلك الأزمة الحادة من خيشم سادة المواطنين المرضى وكذا الطواقم الطبية.

ومن هنا يمكن طرح الإشكالية التالية: كيف يساهم المجتمع المدني في تحقيق التنمية المستدامة في الجزائر؟

اولا: الإطار المفاهيمي للمجتمع المدني والتنمية المستدامة:

1/ مفهوم المجتمع المدني:

لقد ظهر مصطلح المجتمع المدني مع تطور الفكر الغربي، فقد كان المفكر "توماس الاكويني" في تعليقه على كتاب السياسة لأرسطو يدافع عن المكون الجماعي للتجمع السياسي معتبرا المدينة مجالا للتواصل، وان الانسان حيوان سياسي واهلي بطبيعته، أي انه اجتماعي، كما لا ننسى بان الانسان اجتماعي بطبعه قد تكلم عنه المفكر العربي المسلم ابن خلدون كمفكر جاء في نهاية الحضارة العربية الاسلامية وضعفها وهذا ما أدى الى انه لم يكن تواصل معرفي في مفهوم الموضوع.

وقد تطور مفهوم المجتمع في الفكر الليبرالي الغربي في عصر النهضة و التنوير الأوروبية بالموازاة مع التطورات السياسية و الاقتصادية التي عرفها المجتمع الغربي ومع بروز نزعة الدفاع عن المصالح المشتركة للطبقة البورجوازية بدأ يتبلور المفهوم الحديث للمجتمع المدني من خلال ما كتبه "هيجل" في مؤلفه مبادئ فلسفة الحق الصادر سنة 1812 حيث اشار في ان المجتمع المدني يقع بين الأسرة و الدولة وانه يتكون من الافراد و الطبقات و الجماعات و المؤسسات وتتنظم كلها داخل القانون المدني، اما في الفكر الماركسي فان مفهوم المجتمع المدني ظل يستعمل كسلاح في مواجهة السلطة الشمولية و اعتبر كال ماركس ان المجتمع المدني هو ساحة الصراع الطبقي.

ومع اتساع دور المجتمع المدني وتزايد اهميته في المجتمعات الديمقراطية الغربية اصبح يحظى باهتمام مجموعة كبيرة من المفكرين والباحثين الغربيين في المجال السياسي والاجتماعي وحتى في العالم العربي، لذلك فقد كانت هناك مجموعة من التعريفات للمجتمع المدني من بينها تعريف Dominique colas والذي يعرف فيه المجتمع المدني بانه يعني الحياة الاجتماعية المنظمة انطلاقا من منطق خاص بها وبخاصة الحياة الجموعية التي تضمن ديناميكية اقتصادية وثقافية و سياسية، ويعرفه بيرتراند بادي بانه كل المؤسسات التي تنتج للأفراد التمكن من الخيرات و المنافع دون تدخل الدولة او وساطة من الدولة¹.

عربيا يطلق على المجتمع المدني اسن المجتمع الاهلي وأحيانا اسم القطاع الثالث الذي يقع بين القطاع العام والقطاع الخاص، وهناك من يسميه القطاع الخيري او المستقل او المعفى من الضرائب او تسمية المنظمات غير الحكومية او التطوعية غير الهادفة للربح، وهذه التسميات تصف شيئا واحدا وهو وجود مؤسسات غير حكومية غير ارثية تطوعية مستقلة عن الجهاز الحكومي تشكل قطاعا ثالثا بن الحكومي والخاص وهو ما يطلق عليه بالمجتمع المدني الذي في الاخير يشير الى الطبيعة المدنية التي تميز الدولة².

¹ محفوظ بن صغير، دور منظمات المجتمع المدني في حماية وترقية حقوق الانسان، مجلة القانون والمجتمع، العدد 1، ص 135

² لبلى بن بغيرة، دور منظمات المجتمع المدني في التحديث والتنمية السياسية في الجزائر، المعيار، العدد 35، 2014، ص 4.

ويرى محمد عابد الجابري بان الاختلاف في تعريف المجتمع المدني شيء بديهي وان المجتمع المدني قبل كل شيء هو مجتمع المدن وان مؤسساته هي تلك التي ينشئها المجتمع لتنظيم حياتهم الاجتماعية والاقتصادية والاجتماعية وبذلك فإنها مؤسسات ارادية ينشئها الناس وينخرطون فيها ثم يحلون بها او يستقبلون منها³.

وشير مفهوم المجتمع المدني كذلك الى مختلف التنظيمات والهيئات التطوعية التي تنشأ بمقتضى الارادة الحرة لأعضائها بقصد حماية مصالحهم والدفاع عنها ومنها على سبيل المثال الاحزاب السياسية والتنظيمات الثقافية والاتحادات العمالية والمهنية وجماعات المصالح والجمعيات الاهلية والمنظمات غير الحكومية⁴.

وكخلاصة لكل ما سبق فان عدة دراسات اكااديمية تتفق على ان المجتمع المدني هو مجموعة من التنظيمات التطوعية الحرة التي تملأ المجال العام بين الاسرة والدولة أي بين مؤسسات القرابة ومؤسسات الدولة التي لا مجال للاختيار في عضويتها، هذه التنظيمات التطوعية الحرة تنشأ لتحقيق مصالح افرادها، او لتقديم خدمات للمواطنين او ممارسة أنشطة انسانية متنوعة وتلتزم في وجودا ونشاطها بقيم ومعايير الاحترام والتواضع والتسامح والمشاركة والادارة السلمية والتنوع والاختلاف⁵.

2/ ادوار المجتمع المدني:

تقدم مؤسسات المجتمع المدني اسهامات في كافة المجالات كالتعليم والرعاية الصحية والبيئة حيث ان المواطنين ينشئون هـ\ه المنظمات في مجتمعاتهم انطلاقا من وعيهم بكونها الوسيلة الوحيدة وحلقة الوصل بين الحكومة والمواطن وتبرز ادوار المجتمع المدني في:

- ✓ صيانة الطابع التعاقدى للدولة وضبط العلاقة بين الدولة والمجتمع.
- ✓ التنشئة الاجتماعية والسياسية.
- ✓ تنظيم التعبير عن الراي العام والمشاركة الفردية والجماعية.
- ✓ الوساطة والتوفيق.
- ✓ ترسيخ السلوك الحضاري.
- ✓ ملء الفراغ في حالة غياب الدولة وانسابها.
- ✓ توفير الخدمات ومساعدة المحتاجين.
- ✓ التنمية الشاملة.

3/ مساهمة المجتمع المدني في التنمية المستدامة:

ان نجاح المجتمع المدني في التأثير ايجابيا على عملية التنمية يرتبط بطبيعة الاطار القانوني الذي تضعه الدولة لتنظيم وجود ونشأ منظمات المجتمع المدني بمعنى اخر هل هو اطار قانوني مفيد ، كما يرتبط الامر نفسه بمدى استجابة الدولة بمؤسساتها المختلفة للمطالب التي يتقدم بها المجتمع ومدى جدتها اصلا في التعامل معه ، فاذا كانت ثمة ارادة جادة للتعامل معه ايجابيا حصل تغير كبير على مستوى التنمية المستدامة بحكم ان المجتمع المدني اكثر قدرة على الوصول الى القواعد الشعبية و اكثر فعالية في ملاسة هموم الجماعة المستهدفة⁶.

من ناحية اخرى تتعدد المحددات الحاكمة لقدرة المجتمع المدني على التأثير في التنمية تبعا لما تتمتع به منظماته من قدرات ادارية و مؤسساتية ، كبناء الهياكل التنظيمية و تنمية روح العمل الجماعي بين نشاطه وفعالية مهاراتهم الاتصالية وقدرتهم

³ محمد عابد الجابري، اشكالية الديمقراطية والمجتمع المدني في الوطن العربي، المستقبل العربي، العدد 176، جانفي 1993، ص 8.

⁴ ناجي عبد النور، دور المجتمع المدني في تحقيق الحكم الراشد في الجزائر، المفكر. جامعة محمد خيضر بسكرة، العدد 3، ص 112.

⁵ محفوظ بن صغير، مرجع سابق، ص 136.

⁶ فريد لخنش، جمال الدين عاشوري، مجلة الهداد، المجلد 4، العدد 2016، 2، ص 255.

على التخطيط الاستراتيجي ، او ما يطلق عليه بعملية بناء القدرات ، فضلا عن ذلك فان ارساء دعائم التنمية المستدامة مرهون بشروط مؤسسة مسبقا تفترض الانتقال الى قيم جديدة متفق عليها وهي قيم التعااضد و الانصاف وتقوية راس المال البشري و المجتمعي ، وهذا الانتقال يتطلب ان تكون الاولوية للعمل من اجل تقوية المجتمع المدني و اعادة النظر في البيئة القانونية و القيم التي تستند اليها التنمية المستدامة .

2/ التنمية المستدامة:

أ/ مفهوم التنمية المستدامة:

لقد ظهر مصطلح التنمية المستدامة من خلال تقرير لجنة Brundtland بروندتلاند الذي اعدته اللجنة العالمية للبيئة والتنمية سنة 1987 حيث تمت صياغة تعريف للتنمية المستدامة على انها " التنمية التي تلي الاحتياجات الحالية الراهنة دون المساس بحقوق الاجيال القادمة في تلبية احتياجاتهم".

وقد اتفق العديد من الدول بمناسبة انعقاد مؤتمر الارض باريو دي جانيرو البرازيلية على تعريف التنمية المستدامة بانها تنمية توفق بين التنمية البيئية والاقتصادية والاجتماعية ، فتتشا الاقطاب الثلاثة ، فعالة من الناحية الاقتصادية ، عادلة من الناحية الاجتماعية ، وممكنة من الناحية البيئية ، انها التنمية التي تحترم الموارد الطبيعية والنظم البيئية وتدعم الحياة على الارض ، وتضمن الناحية الاقتصادية دون اهمال الهدف الاجتماعي الـ اي يتجلى في مكافحة الفقر والبطالة وعدم المساواة والبحث عن العدالة⁷.

ب/ خصائص التنمية المستدامة:

تتميز التنمية المستدامة بمجموعة من الخصائص التالية⁸:

- ✓ هي تنمية تعتبر البعد الزمني هو الاساس فيها فهي تنمية طويلة المدى بالضرورة تعتمد على تقدير امكانيات الحاضر ، ويتم التخطيط لها لأطول فترة زمنية مستقبلية يمكن من خلالها التنبؤ بالمتغيرات.
- ✓ هي تنمية تراعي الاحتياجات القادمة في الموارد الطبيعية للمجال الحيوي لكوكب الارض.
- ✓ هي تنمية تضع تلبية احتياجات الافراد في المقام الاول فأولويتها هي تلبية الحاجات الاساسية والضرورية من الغذاء والملبس والتعليم والخدمات الصحية وكل ما يتصل بتحسين نوعية حياة البشر المادية والاجتماعية.
- ✓ هي تنمية تراعي الحفاظ على المحيط الحيوي في البيئة الطبيعية سواء عناصره ومركباته الاساسية كالهواء والماء او العمليات الحيوية في المحيط الحيوي كالمغذات لـ الك فهي تنمي تشترط عدم استنزاف قاعدة الموارد الطبيعية في المحيط الحيوي ، كما تشترط ايضا الحفاظ على العمليات الدورية الصغرى والكبرى في المحيط الحيوي ، والتي يتم عن طريقها انتقال الموارد والعناصر وتنقيتهما بما يضمن استمرار الحياة.
- ✓ هي تنمية متكاملة تقوم على التنسيق بين سبلات استخدام الموارد واتجاهات الاستثمارات والاختيار التكنولوجي وجعلها تعمل جميعا باستخدام داخل المنظومة البيئية بما يحافظ عليها.

ج/ اهداف التنمية المستدامة:

لقد اعتمدت الدول الاعضاء في الامم المتحدة عام 2015 اهداف التنمية المستدامة والتي تعرف ايضا باسم الاهداف العالمية السبعة عشر وهي⁹:

⁷ ريد ديب، سليمان مهنا، التخطيط من اجل التنمية المستدامة ، مجلة جامعة دمشق للعلوم الهندسية. العدد 1 ، 2009 ، ص 489.

⁸ الجودي صاطور، التنمية المستدامة في الجزائر: الواقع والتحديات ، مجلة الباحث. العدد 2016 ، 16 ، ص 300.

⁹ برنامج الامم المتحدة الانمائي في الموقع:

- 1/ القضاء على الفقر: حيث لا يزال القضاء على الفقر من بين التحديات التي تواجهها البشرية، ومع ذلك فقد انخفض عدد الاشخاص الذين يعيشون في فقر مدقع من 1,9 مليار نسمة الى 836 مليون شخص يعيشون على اقل من 1,25 دولار لليوم.
 - 2/ القضاء التام على الجوع: فقد أسفر النمو الاقتصادي السريع وزيادة الانتاجية الزراعية خلال العقدين الاخيرين على انخفاض اعداد من يعانون نقص التغذية بمقدار النصف.
 - 3/ الصحة الجيدة والرفاه: حيث خطا العالم خطوات عملاقة في سبيل الحد من وفيات الاطفال وتحسين صحة الامهات.
 - 4/ التعليم الجيد: فمنذ سنة 2000 تم احراز تقدم هائل في تحقيق هدف التعليم الابتدائي في العالم والقضاء على الامية.
 - 5/ المساواة بين الجنسين: يعتبر القضاء على كافة التمييز ضد النساء والفتيات من بين اهداف التنمية المستدامة، فمنذ سنة 2000 أصبح محور المساواة بين الجنسين اهم المحاور التي يعمل عليها برنامج الامم المتحدة الانمائي.
 - 6/ المياه النظيفة والنظافة: يشكل توفر المياه من بين الاهداف التي تسعى اليها الامم المتحدة نظرا للتغيرات المناخية التي اثرت كثيرا على العالم.
 - 7/ طاقة نظيفة وبأسعار معقولة: لقد زاد من يحصلون على الكهرباء في العالم بمقدار 1,7 مليار نسمة بين عامي 1990 و2010، وبذلك فان الامم المتحدة تشجع على استخدام الطاقات البديلة.
 - 8/ العمل اللائق ونمو الاقتصاد: على الرغم من التأثير المتواصل للالزمة الاقتصادية لعام 2008 والركود العالمي فقد انخفض عدد العمال الذين يعيشون في فقر مدقع.
 - 9/ الصناعة والابتكار والهياكل الاساسية: تمثل الاستثمارات في الصناعة والبنية التحتية والابتكار عوامل حاسمة الاهمية للنمو الاقتصادي والتنمية.
 - 10/ الحد من عدم المساواة: حيث تشير الادلة الموثقة عن الارتفاع المتزايد في معدلات عدم المساواة في الدخل حيث يملك 10 بالمئة من السكان أكثر من 40 بالمئة من اجمالي الدخل العالمي.
 - 11/ مدن ومجتمعات محلية مستدامة: حيث يعيش اليوم أكثر من نصف سكان العالم في المناطق الحضرية وبحلول 2025 سيرتفع هذا الرقم الى 6,5 مليار نسمة أي أكثر من 3/2 من البشرية جمعاء.
 - 12/ الانتاج والاستهلاك المستدام: فتحقيق النمو الاقتصادي والتنمية لا يكون على حساب الاستدامة فالزراعة مثلا يجب ان تستخدم تقنيات تقلص فيها استعمال المياه بكثرة.
 - 13/ العامل المناخي: نظرا لتأثيرات التغيرات المناخية فانه يجب ان تكون استراتيجيات تعمل على التقليل من الانبعاثات الحرارية والتأثير على البيئة.
 - 14/ الحياة تحت الماء: حيث يجب الحفاظ على النظم الطبيعية والبيئية في المحيطات.
 - 15/ الحياة في البر: يجب الحفاظ على الحياة البرية فهناك تدهور غير مسبوق في الاراضي الصالحة للزراعة كما انه يوجد تهديدات التصحر والجفاف.
 - 16/ السلام والعدل والمؤسسات القوية: دون وجود سلام واستقرار وحقوق الانسان لا يمكن الحديث عن تنمية مستدامة.
 - 17/ الشراكات من اجل الاهداف: لا يمكن تحقيق اهداف التنمية المستدامة دون ان يكون تعاون وشراكة من قبل الجميع.
- ثانيا: المجتمع المدني في الجزائر:

يتكون المجتمع المدني في الجزائر من مجموعة من المؤسسات والتنظيمات وهي¹⁰:

أ/ الأحزاب السياسية:

عرفتها المادة الثالثة من القانون العضوي رقم 04/12 المؤرخ في 12 جانفي 2012 كما يلي "الحزب السياسي هو كل تجمع مواطنين يتقاسمون نفس الأفكار ويجمعون لغرض وضع مشروع سياسي مشترك حيز التنفيذ للوصول بوسائل ديمقراطية وسلمية الى ممارسة السلطات والمسؤوليات في قيادة الشؤون العامة"، وفي الحقيقة فان هناك خلاف حول تصنيف الاحزاب فهناك من يصنفها على انها من مكونات المجتمع المدني في حين هناك من يرى غير ذلك.

وقد نصت المادة 57 من الدستور الجزائري الجديد على ان حق انشاء الاحزاب السياسية معترف به ومضمون كما لا يجوز تأسيس الأحزاب السياسية على اساس ديني او عرقي او لغوي او جهوي وقد اكدت المادة 58 على الحقوق التي تستفيد منها الاحزاب السياسية والتي تتمثل في:

- ✓ حرية الراي والتعبير والاجتماع والتظاهر السلمي.
- ✓ حيز زمني في وسائل الاعلام العمومية.
- ✓ تمويل عمومي عند الاقتضاء.
- ✓ ممارسة السلطة على الصعيدين المحلي والوطني من خلال التداول الديمقراطي.

ب/ النقابات:

تعتبر النقابات من ابرز منظمات المجتمع المدني والشريك الفعلي في العملية التنموية و\الك لاعتبارات عديدة منها موقعها المركزي في العملية الاحتجاجية و الخدمية ، فضلا عن طبيعة العضوية فيها حيث تضم اكثر الشرائح تعليميا في المجتمع كما ان لها ابعاد داخلية وقومية وعالمية ، ما يمنحها المزيد من القوة والدعم بالإضافة الى كون الى كون ان التنظيم النقابي تتوفر فيه شروط افضل للحركة الجماهيرية من بقية التنظيمات الاخرى ، أي ان حركة التنظيم النقابي هي اكبر حركة مؤطره تعبر عن مجمل القوى الوطنية او الشعبية من أي اطار او تنظيم اخر ، وهي من اهم الاطر لتقوية الاحساس بالمواطنة والحفاظ على الوحدة الوطنية، وفي الجزائر تشكل النقابات ابرز الاطر في المجتمع المدني واقواها ، فقد تضمنت جميع الدساتير الجزائرية الصادرة منذ الاستقلال ممارسة الحق النقابي ، ومن ابرز النقابات العمالية في الجزائر الاتحاد العام للعمال الجزائريين والاتحاد الوطني للفلاحين الجزائريين.

ج/ الجمعيات والاتحادات:

يعد انشاء الجمعيات حقا دستوريا مضمونا وه\ا ما نصت عليه المادة 53 من التعديل الدستوري لسنة 2020 حيث جاء فيها " حق انشاء الجمعيات مضمون ويمارس بمجرد التصريح به ، وتشجع الدولة الجمعيات \ات المنفعة العامة ، تتوفر الجزائر على اكثر من 53743 منظمة مدنية منها 823 جمعية تنشط على المستوى الوطني وتعد ه\ه الارقام دلالة واضحة و ايجابية على حركية و نشاط المجتمع المدني في اتجاه مشاركة المواطن في المسار الديمقراطي و التنموي.

د/ الجمعيات المهنية الجزائرية الرئيسية:

هناك العديد من الجمعيات المهنية اهمها جمعية كبار الموظفين الاداريين و الاتحادات العامة للناشطين الاقتصاديين و الاتحاد الجزائري لرجال الاعمال وكذا غرفة التجارة الصناعة الجزائرية.

¹⁰ اكرام بلباي، بنية المجتمع المدني في الجزائر و اسس تفعيله، مجلة العلوم القانونية و الاجتماعية. المجلد 5، العدد 4، ديسمبر 2021، ص941.

هـ / الجمعيات النسوية:

نصت القوانين والتشريعات الجزائرية على اعطاء المرأة كامل حقوقها الاسرية و السياسية و الاجتماعية ومن هنا برز دور المرأة في البناء المؤسسي للمجتمع بالمدني حيث تنادي بحقوقها بكل موضوعية ومن ابرز الجمعيات و الاتحادات النسائية الجزائرية التجمع الجزائري للنساء الديمقراطيات و الاتحاد الوطني للنساء الجزائريات.

و / الجمعيات الثقافية:

والتي تنشط في الجانب الثقافي للمجتمع وكذا جمعيات التي تحافظ على التراث الثقافي المادي و غير المادي.

ز / الجمعيات البيئية و الانسانية:

عرفت الساحة الجمعوية الجزائرية ظهور الجمعيات البيئية وفي السنوات الاخيرة نظرا لبروز العوامل البيئية وتأثيراتها المختلفة على الجولة و المجتمع وكذا البيئة نفسها، كما يتنشط جمعيات انسانية اهمها على الاطلاق الهلال الاحمر الجزائري الـي له ادوار كبيرة خاصة في الازمات او النكبات.

ح / الجمعيات التطوعية و الطرق الصوفية و الجمعيات الدينية:

تتنوع الطرق الصوفية حيث يوجد في الجزائر الطريقة الشاذلية و التيجانية و القادرية و غيرها كما اصب لجمعيات الزوايا دور مهم في الجزائر لما تمثله من تسامح و محبة و خدمة الدين و الوسطية و الاعتدال و محاربة التطرف ، بالإضافة الى الى الجمعيات المسجدية التي تهتم ببناء المساجد و تنظيمها و كـ\ـ تحفيظ القرآن الكريم و الاشراف على قرائه.

ط / جمعيات حقوق الانسان:

لقد تأسست في الجزائر العديد من الجمعيات التي تهتم بحقوق الانسان اهمها:

✓ الرابطة الجزائرية للدفاع عن حقوق الانسان.

✓ الرابطة الجزائرية لحقوق الانسان.

✓ المرصد الوطني لحقوق الانسان.

ي / الجمعيات والمنظمات الوطنية:

نظرا للعدد الكبير لعدد الجمعيات والمنظمات الوطنية فانه يمكن ذكر اهمها بناءا على نشاطها ومنها:

✓ منظمات العمال والمهن الحرة والفلاحين.

✓ منظمات ارباب العمل.

✓ منظمات اجتماعية وثقافية وانسانية.

ثالثا: اسهامات المجتمع المدني الجزائري في تحقيق التنمية المستدامة:

تبرز مساهمات المجتمع المدني في الجزائر من اجل تحقيق تنمية مستدامة من خلال:

1 / في المجال الاجتماعي: يعمل المجتمع المدني من اجل الوصول الى الواقع الاجتماعي الـي لا تستطيع مؤسسات الدولة الرسمية وبرامجها الانمائية والاجتماعية الوصول اليها بحث يقوم ب:

✓ يقدم الاعانات الاجتماعية ويعمل من اجل محاربة الفقر ومساعدة الفقراء

✓ تقدم الجمعيات الخيرية المساعدات الصحية وتجمع التبرعات للمواطنين المعوزين والذين لا يستطيعون العلاج في المستشفيات خارج الوطن

✓ تقدم الجمعيات الخيرية والاكل والالبسة والاعطية والمواد الغذائية للمحتاجين وتقوم ببناء مساكن للفقراء بالتنسيق مع المتبرعين وكذا السلطات.

✓ ضمان المساواة بين الجنسين حيث تعمل منظمات المجتمع المدني من اجل تحقيق العدالة الفعلية بين الجنسين وهذا من خلال النهوض بنشاط المرأة ودورها الريادي في المجتمع وكذا حماية الطفل وتنظيم النسل والوقاية من الامراض المعدية.

لقد برز الدور المهم للمجتمع المدني في الجزائر خلال ازمة كورونا كوفيد 19 حيث كان لها دور محوري وبارز من خلال العمل التطوعي ومساعدة المرضى والوقوف الى جانب الطواقم الطبية وتنظيف المستشفيات وجمع التبرعات لشراء المعدات الخاصة بالجائحة ومولدات الاكسجين.

وخلال مجلس الوزراء الجزائري الـ 19/04/2020 عبر تقنية التخاطب المرئي عن بعد و الـ 19/04/2020 الى افضى الى جملة من الاجراءات كلها تصب في مواجهة وباء كورونا منها تصنيف الجمعيات التي برزت في هـ\هـ الضائقة بجمعيات \ات منفعة عامة والتي عبر عنها رئيس الجمهورية الجزائري بقوله انه لولا هاته الجمعيات ما تمكنا من تقيق هـ\هـ النتائج الباهرة في التضامن ، وفي توزيع المساعدات التي بلغت الى غاية 18 افريل 2020 حوالي 388 الف عائلة والتي استفادت ما قيمته من المواد الغذائية المختلفة بكمية فاقت 12 الف طن واكد رئيس الجمهورية الجزائري في ذات الاجتماع على ضرورة الاسراع في اعتماد الجمعيات التي تنشط في هـ\هـ المجال شريطة ان لا يكون لها توجه سياسي او ايدولوجي¹¹.

2/ في المجال البيئي:

يعد المجال البيئي من بين المجالات التي تحظى باهتمام كبير لدى منظمات المجتمع المدني وذلك لما لها دور في التنمية المستدامة فالبيئة هي التكوين الطبيعي للأرض وما تحتويه في باطنها وسطحها من معادن وصخور فاعلة او خاملة ومن المياه الجوفية والسطحية وما ينمو فيها او بواسطتها من حياة بشرية وحيوانية ونباتية وبالتالي فان البيئة هي كل ما يحيط بالإنسان ويؤثر على الحياة بصورة مباشرة او غير مباشرة¹².

ان للبيئة علاقة تربطها بالتنمية المستدامة وهذا من خلال الرؤى الجديدة للتنمية المستدامة ولتحقيقها تسعى الدول لتطوير مجتمعاتها ولا شك ان هذا لا يمكن حدوثه من خلال استراتيجيات التنمية السائدة التي غالبا ما تكون مدمرة للبيئة و نتيجة ل\الكفقد عقدت قمة الارض سنة 1992 وذلك من اجل مناقشة الخطر على البيئة في كوكب الارض وقد اكدت تلك القمة على اهمية ان تسير التنمية و البيئة جنبا لجنب وان لا تكون تنمية على حساب البيئة كما لا ينبغي ان تكون البيئة عائقا للتنمية، فالبيئة هي مخزون الموارد الطبيعية التي يستخدمها الافراد لزيادة رفاهيتهم مما يجعل التنمية المستدامة تقلل من الخسائر البيئية ولا تكون عائقا للبشرية في سعيها لتحقيق الرفاهية النماء الاقتصادي والاجتماعي¹³.

وتساهم منظمات المجتمع في الجزائر في المجال البيئي وتحقيق تنمية مستدامة والحفاظ على البيئة والتنوع البيئي والاستدامة و\الك من خلال القيام بحملات تحسيسه في المدارس والمعاهد والجامعات وتنظيم خرجات ميدانية وعلمية من اجل الحفاظ على البيئة وتكريس الاستدامة، وقد عرفت الجزائر انشاء الكثير من الجمعيات ذات الطابع البيئي والتي تعمل على:

- ✓ المحافظة على البيئة واستدامتها ومحاربة التلوث بمختلف انواعه.
- ✓ توعية المواطنين بأهمية البيئة والمحافظة على المحيط والنظافة.
- ✓ مطالبة السلطات المحلية بالنظافة والحفاظ على صحة المواكن ووضع المفارح العمومية في اماكن بعيد عن السكان.

¹¹ محمد التوجي، عبد القادر عثمان، دور الجمعيات الخيرية في مواجهة جائحة فيروس كورونا كوفيد 19، المجلة الجزائرية للحقوق والعلوم السياسية. المجلد 5 العدد 2 ص118

¹² قماري نضيرة، دور منظمات المجتمع المدني في تحقيق التنمية المستدامة في الجزائر، ص102.

¹³ مريم احمد مصطفى، احسان حفطي، قضايا التنمية في الدول النامية. الاسكندرية: دار المعرفة، 2005، ص212.

✓ القيام بالعمل التطوعي من خلال القيام بحملات التشجير والنظافة في الشوارع والساحات العمومية.

✓ . تنظيم ندوات وايام دراسية وملتقيات محلية ووطنية للتوعية بأهمية البيئة والاستدامة البيئية.

✓ تعمل على رفع الوعي المجتمعي بأهمية الطاقة الشمسية كمورد متجدد للطاقة ولأهمية استعماله وكذا أهمية التحول من استعمال النزين والمازوت الى استعمال الغاز حفاظا على البيئة والجو النظيف بما يحفظ صحة المواطن.

وتتمتع الجمعيات البيئية بحرية اختيار النشاطات القانونية اللازمة والمتاحة لها لبلوغ اهدافه فلها الحق في العمل التطوعي او الميداني وتلعب دور المنبه والمراقب لكشف الانتهاكات التي تمس البيئة وان تلجا الى الطرق القانونية ، بالإضافة الى ذلك فإنها تقوم بمجموعة من النشاطات وهي:

✓ اعلام الجمهور وتكوين المختصين ونشر ذلك في وسائل الاعلام واصدار نشرات او دوريات.

✓ اللجوء الى القضاء في حالات التلوث او مخالفة قوانين حماية البيئة.

✓ حفظ الصحة الحيوانية والمساهمة في استئصال الامراض الحيوانية.

كما يتم تنظيم الصيد وحماية الثروة المائية بين مختلف الجمعيات على المستوى المحلي والاشراف المركزي للاتحادية الوطنية للصيادين وتكوين الصيادين وانشاء منطقة او مناطق للمحافظة على تكاثر الصيد بعد استشارة الادارة المحلية والحد من الصيد المحظور ومحاربه ، كما يمكن للجمعيات ان تتدخل في حالات تلوث المياه الصالحة للشرب او تمارس دور وقائيا في حماية المياه من التلوث¹⁴.

3/ في المجال الاقتصادي:

حيث تلعب منظمات المجتمع المدني وبخاصة النقابات العمالية دور مهم في دفع عجلة الاقتصاد والتنمية الاقتصادية ومطالبة السلطات بتوفير الحد الأدنى والعيش الكريم لأفراد الطبقة العاملة والمساهمة والمشاركة في المخططات الحكومية الاقتصادية وذلك من خلال تقديم استشارات او القيام ببرامج تدريبية خاصة بالأفراد لإدخالهم في عالم الشغل وزيادة الدورة الاقتصادية.

كما تعمل الجمعيات النسوية على تقديم برامج تدريبية لاستخلاص الزيوت والاعشاب وكذا تعليم النساء الخياطة والطرز والمنتجات الحرفية والفخارية وذلك لمساعدة واعانة عائلاتهم ماديا وبذلك فه تساهم في التنمية الاقتصادية المستدامة.

وتقوم منظمات المجتمع المدني بالمساهمة في العملية التنموية والك من خلال تمكين المجتمعات المحلية من بناء القدرات وتنمية المهارات في مختلف المجالات التنموية كالتخطيط الاستراتيجي و صياغة البرامج التنموية و تنفيذها بالإضافة الى توفير الخدمات والمساهمة في رسم الخطط و السياسات العامة على المستوى المحلي و الوطني من خلال مجموعة من المبادئ و التفاوض عليها و المحاولة من اجل التأثير على السياسات العامة لإدراج هذه البدائل و تحقيق الاهداف ، ويقوم هذا النوع من مؤسسات المجتمع المدني بتنفيذ الاستراتيجيات التالية:

✓ الرصد والمراقبة من خلال حق الحصول على المعرفة والمعلومة وهذا ما يساهم في اتاحة الفرص امام المجتمع للاطلاع على السياسات التنموية المتبعة وبالتالي معرفة على سبل تنفيذها ونتائجها.

✓ تطوير الاطر القانونية تستلزم التنمية اصدار مجموعة من القوانين التي تكفل الحق وتحصنه بالإضافة الى قوانين تضمن شفافية المعلومات وحق المشاركة وكذا التشريعات ذات الصلة بالحقوق السياسية والاجتماعية والثقافية والاقتصادية ومنع انتهاك للحقوق المختلفة للأسر والافراد¹⁵.

¹⁴ باعلي واسعيد باحمد ، سالمي العيفة ، المجتمع المدني ودوره في حماية البيئة في الجزائر جمعيات حماية البيئة انموذجا ، مجلة دراسات انسانية واجتماعية. المجلد 9 العدد3 جامعة وهران ، 2020 ص222

¹⁵ السيد مصطفى ، مفهوم المجتمع المدني والتحويلات المدنية ، القاهرة: سلسلة بحوث سياسية. 1995، ص45

✓ تأسيس مراكز البحوث والدراسات وتقديم الاستشارات والرؤى واجراء المسوح الميدانية وتحليلها بالإضافة الى العهود والاتفاقيات الدولية التي تكفل حقوق المجتمع والمواطنين في العيش الامن والسلام وتحريرهم من الفقر والعيش الكريم من خلال الحصول على الحقوق الاقتصادية والسياسية والاجتماعية والثقافية.

4/ في المجال السياسي:

للمجتمع المدني في الجزائر ادوار سياسية بالرغم من انه لا يسعى للوصول الى السلطة والمشاركة فيها، ويتمثل ذلك في الدور في تقيق تنمية سياسية هادفة اساسها المشاركة في العملية السياسية والتحول الديمقراطي وتنمية روح المواطنة واهمية بناء الدولة.

وفي إطار السعي لتحقيق تنمية سياسية مستدامة فان جمعيات المجتمع المدني في الجزائر تسعى من اجل تحقيق الديمقراطية التشاركية والتي تعد مكملًا للديمقراطية الانتخابية وذلك من خلال المساهمة في تشكيل المجالس الاستشارية في البلديات وفي الولايات وتقديم الاستشارات للسلطات والاهتمام بالشأن العام ومتابعة ومساندة المنتخبين ومساءلتهم واعطائهم الآراء السديدة فلكل المشاكل في كل المجالات الاقتصادية والاجتماعية والبيئية الثقافية خدمة للوطن والمواطن.

ك\ لك فان المجتمع المدني يساهم في التنشئة السياسية للمواطن وتكوين كوادر قادرة على العمل السياسي واهمية العمل التطوعي والجماعي، وكذا التأكيد على قبول الاختلاف في المجتمع والمساواة وقبول الرأى الاخر والالتزام بالشفافية، كما يحث المواطنين على اهمية المشاركة السياسية في الانتخابات والاستشارات والمشاركة الفعالة في العملية السياسية بما يخدم المواطن والوطن.

فالعلمية الاصلاحية تقوم على المشاركة الفعالة و عدم التصادم و الاعتراف بالرأي الاخر و احترامه بالإضافة الى ذلك فان المجتمع المدني في الجزائر له دور كبير في تشكيل جماعات ضغط تساهم في تعديل خيارات السلطة وبذلك تكون هناك ديمقراطية حقيقية، وكلما نما دور لمنظمات المجمع المدني في مواجهة دور الدولة كلما كان ذلك دليلا على حالة التطور التي تمر بها الدولة لأنها تمثل حالة الوعي الجماهيري بأهمية الدور المدني في صياغة توجهات الدولة و سياساتها لذلك يتعين على المجتمع المدني ان يعي جيدا ان تحقيق تنمية سياسية مستدامة لا يتولد عشوائيا بل هو نتاج لعملية بناء تأخذ في الغلب مراحل و اشواط من اجل اعادة توزيع القوى في المجتمع¹⁶.

الخاتمة:

على الرغم من الأدوار المهمة التي قام ويقوم بها المجتمع المدني في المجالات الثقافية والاجتماعية والاقتصادية والسياسية الا انه هناك مجموعة من الملاحظات وهي:

-اغلبية منظمات المجتمع المدني الجزائري ممولة من طرف السلطة وهذا ما يفقد مصداقيتها من حيث الحياد والاستقلالية والبعد عن السلطة.

-اغلبية منظمات المجتمع المدني ميسسة وتعمل أدوار سياسية أكثر منها اجتماعية او اقتصادية او ثقافية وهناك بعضها يعمل لصالح احزاب سياسية معارضة للسلطة.

اغلبية منظمات المجتمع لدني في الجزائر تفتقد للشعبية واغلبها مسير من طرف شخص واد وهو رئيس الجمعية في ظل غياب تام لهيكل الجمعية او المنظمة.

¹⁶ ليلي بن بغيلة، مرجع سابق، ص 13.

La Planification Sanitaire Durable a L'aube de la Pandemie Covid-19**Berrached Amina** براهيمة امينة**PhD at the High School of Management Tlemcen, Algeria****Résumé**

La planification sanitaire est un instrument de gestion qui peut aider les hommes politiques et les fonctionnaires responsables des services de santé à obtenir et à organiser les ressources en vue des objectifs auxquels ils assignent les priorités les plus élevées. Par ailleurs, une planification sanitaire durable après une pandémie telle que la Covid 19 est un enjeu crucial car cette pandémie a montré que la prévention et la préparation au risque pandémique étaient des priorités aux projets politiques dans le monde, en effet la nouvelle approche planificatrice est une approche collaborative, multisectorielle et transdisciplinaire, promouvant une approche interdépendante, unifiée et interconnectée entre les personnes, les animaux, les plantes et leur environnement à toutes les échelles. Ainsi le but de ce papier est de comprendre à travers une étude qualitative les conséquences de toutes ces modifications, les enjeux et objectifs ainsi que les solutions proposées.

Mots clés : planification sanitaire, développement durables, pandémie Covid 19

Abstract

Health planning is a management tool that can help politicians and officials responsible for health services to obtain and organize resources for the goals to which they assign the highest priorities. In addition, sustainable health planning after a pandemic such as Covid 19 is a crucial issue because this pandemic has shown that prevention and preparedness for pandemic risk are priorities for political projects around the world. Indeed, the new planning approach is a collaborative, multisectoral and transdisciplinary approach, promoting an interdependent, unified and interconnected approach between people, animals, plants and their environment at all scales. Thus the purpose of this paper is to understand through a qualitative study the consequences of all these modifications, the issues and objectives as well as the proposed solutions.

Keywords: health planning, sustainable development, Covid 19 pandemic.

Introduction

La planification sanitaire est un instrument de gestion qui peut aider les hommes politiques et les fonctionnaires responsables des services de santé à obtenir et à organiser les ressources en vue des objectifs auxquels ils assignent les priorités les plus élevées. Par ailleurs, une planification sanitaire durable après une pandémie telle que la Covid-19 est un enjeu crucial car cette pandémie a montré que la prévention et la préparation au risque pandémique étaient des priorités aux projets politiques dans le monde, en effet la nouvelle approche planificatrice est une approche collaborative, multisectorielle et transdisciplinaire, promouvant une approche interdépendante, unifiée et interconnectée entre les personnes, les animaux, les plantes et leur environnement à toutes les échelles. Appuyée sur le concept de la planification sanitaire durable, la prévention du risque épidémique invite à se pencher avec un regard critique sur les activités mettant en contact la faune sauvage, les animaux domestiques et les humains, et à agir de façon préventive sur certaines activités de déforestation, des pratiques de chasse, le trafic d'espèces animales sauvages, des techniques d'élevage, des activités de transport et de commerce international, et sur l'organisation des marchés d'animaux vivants. Conduites de façon illicite ou irraisonnée, ces activités peuvent accentuer le risque d'émergence d'un nouveau virus à potentiel zoonotique, voire pandémique. La question qui se pose est : Avons-nous fait tout ce qui était possible pour limiter les impacts d'un phénomène épidémique de grande ampleur ? C'est ce que nous allons tenter de comprendre à travers ce papier.

La planification sanitaire

La planification sanitaire est un instrument de gestion qui peut aider les hommes politiques et les fonctionnaires responsables des services de santé à obtenir et à organiser les ressources en vue des objectifs auxquels ils assignent les priorités les plus élevées. La planification est aussi le moyen pour la puissance publique de se doter d'une stratégie globale de santé selon un horizon temporel. Elle doit traiter des orientations et des dispositions à prendre pour user de tous les leviers de la régulation (organisation, financement des activités, qualité des activités, implication des usagers) dans tous les domaines complémentaires d'intervention en faveur de la santé, afin d'aménager l'espace de libre intervention des opérateurs de santé adaptant sans cesse leurs offres aux besoins de la population.

Mise au point du plan d'action de la planification santé

La planification est le moyen de se doter d'un projet de santé adapté aux besoins et aux ressources disponibles, ouvert au débat public, programmant les mesures à prendre afin d'être en capacité de les soutenir. Les formes prises par ce projet de santé ne sauraient être celles d'un carcan enserrant toute initiative des opérateurs de santé (professionnels, associations, et établissements) ou contraignant tout choix des usagers de la santé.

Planifier ses ambitions en faveur de la santé de la population, c'est tenter d'abord de prévoir les dispositions à prendre collectivement pour s'adapter aux évolutions des besoins et des réponses possibles.

La planification de l'action publique en santé doit alors embrasser tous les moyens de réguler ce libre jeu entre opérateurs et usagers.

Elle ne saurait se réduire à la seule question de l'organisation de l'offre. Elle doit aussi s'intéresser aux règles de financement des activités et à la qualité des prises en charge en santé,

faciliter l'expression de leurs choix par les usagers, dans les domaines des soins hospitaliers et ambulatoires, du médico-social, de la prévention et de la sécurité sanitaire.

Une telle stratégie globale de santé peut paraître hors de portée car embrassant un espace trop large. C'est là une question d'objectifs et de méthode. L'action publique planifiée doit se centrer sur quelques priorités de santé et déterminer l'emploi de ses moyens de régulation avec méthode en les ciblant sur des enjeux forts. Alors, l'entreprise devient réalisable. Mais il faut prendre quatre grands partis :

- la planification doit conduire à une stratégie globale de santé, ayant pour objet un problème ou un déterminant de la santé, portant sur tous les domaines d'intervention (prévention, soins, médico-social, sécurité sanitaire) et sur tous les moyens de régulation (organisation de l'offre, financement des activités, qualité des pratiques et choix des usagers) ;
- la conception du projet de santé doit se faire selon des formes démocratiques, associant les opérateurs de santé, les usagers, les citoyens ;
- la méthode d'élaboration du projet doit être rigoureuse, en s'enrichissant des évaluations faites sur les travaux précédemment conduits ;
- la formation des acteurs de la planification est à développer (ceux qui au sein de l'administration sont chargés de préparer le projet de santé, mais aussi ceux qu'il concerne : opérateurs de santé et usagers de la santé).

La planification comme outil d'aide à la décision

La planification en santé veut concilier un équilibre entre les besoins de santé de la population sur un territoire donné et un continuum homogène d'offres et d'actions relevant de la sécurité sanitaire, de la prévention, des soins ambulatoires et hospitaliers, du médico-social et du social, ayant des effets sur les déterminants de la santé. Ces offres et ces actions seront organisées au sein d'un réseau de services de santé et de services sociaux porteur de parcours de soins et de parcours de santé, par priorité de santé et par territoire, voire par population.

La planification de la santé est un instrument de gestion permettant aux autorités publiques de prendre des décisions sur une base plus rationnelle. Elle permet de prévoir les services requis et les ressources nécessaires pour atteindre des objectifs déterminés selon un ordre de priorité établi, permettant ainsi le choix d'une solution préférable parmi plusieurs alternatives. Ce choix prend en considération le contexte socio-économique et territorial, les contraintes internes et externes connues ou prévisibles, et doit se faire en concertation avec les professionnels de santé, les acteurs de santé et les populations concernées.

Pour l'Organisation mondiale de la santé (OMS), en 2011, les déterminants sociaux de la santé doivent particulièrement être pris en compte, principalement le stress, la petite enfance, l'exclusion sociale, les conditions de travail, le chômage, le soutien social, les dépendances, l'alimentation et la politique de transports.

Investir les déterminants de la santé, c'est donner à chacun la possibilité d'améliorer son état de santé. La planification en santé prend en compte non seulement l'ensemble des déterminants de la santé lors de l'élaboration, la mise en œuvre et le suivi des actions et des programmes de santé, mais aussi les réseaux des offreurs de services et les parcours des personnes, pour que chacun puisse partout améliorer sa santé.

Le concept du triple AIM dans la planification sanitaire

Dans le cadre de la planification sanitaire, En 2007, l'Institut pour l'amélioration des soins de santé (IHI) a mis au point un cadre pour aider les systèmes de soins de santé à optimiser leurs performances en utilisant divers paramètres. Les trois objectifs des systèmes de santé et d'assurance maladie appelés « Triple Aim », conceptualisés par Donald Berwick (D.M. Berwick, T.W. Nolan, J. Whittington, 2008) et l'Institute for Healthcare Improvement (IHI) des États-Unis d'Amérique, peuvent être adoptés dans n'importe quel pays comme ils le sont aux États-Unis comme le fondement absolument nécessaire de la transformation du système de santé et d'assurance maladie, à savoir améliorer la santé de la population, fournir de meilleurs soins au moindre coût et augmenter la satisfaction de l'utilisateur.

Les trois domaines d'intervention du Triple Aim sont les suivants :

- Améliorer l'expérience des patients
- Réduire le coût des soins de santé par habitant
- Améliorer la santé des populations en général

La réalisation du triple objectif est cruciale pour le succès des organisations de soins de santé qui s'orientent vers des systèmes de paiement basés sur la valeur. Le Triple objectif encourage également les responsables des soins de santé à utiliser les stratégies pour améliorer la santé de leurs communautés au-delà des hôpitaux et des cliniques qui composent le système de soins de santé.

Il existe toutefois plusieurs mesures que les organismes de santé peuvent prendre avant la mise en œuvre pour faciliter la transition :

- Déterminer les besoins spécifiques de la communauté et identifier les populations à risque
- Établir des objectifs spécifiques à l'organisation et au système
- Développer une méthode pour mesurer, suivre et démontrer les progrès

Genèse de La pandémie Covid-19

L'émergence d'un nouveau coronavirus capable de se transmettre entre êtres humains fut l'événement fondateur de la pandémie de Covid-19. À partir du 31 décembre 2019, l'OMS se trouva en situation d'alerte vis-à-vis de ce phénomène et dans la nécessité de qualifier le risque qu'il représentait pour l'humanité.

En dépit des progrès scientifiques et techniques, et de la rapidité à comprendre une partie de ce qui se passait, l'humanité resta cependant largement impuissante. En deux temps trois mouvements, le nouveau coronavirus révéla sa vraie nature, celle d'une puissance de désordre. La pandémie liée au coronavirus créa un chaos mondialisé de portée inédite, qui allait marquer le début du XXI^e siècle. La pandémie de Covid-19 aura eu un tel impact international que, pour les générations actuelles et à venir, elle fixera un avant et un après.

Depuis que l'identification des micro-organismes a permis d'établir un lien direct entre un agent infectieux et telle ou telle épidémie, le paysage de la causalité s'est précisé. De façon indirecte, la question de la responsabilité humaine est cependant posée, car de nombreux facteurs touchant aux activités humaines interviennent dans le déclenchement ou le cours d'une épidémie. Avons-nous fait ce qu'il fallait pour prévenir ce type de phénomène ou en minimiser l'impact ? Sous réserve que s'éclaircisse un jour le mystère de l'origine de la pandémie de Covid-19, dont la solution aujourd'hui la plus probable est zoonotique, la

prévention concerne en particulier les activités humaines en interaction avec le monde animal, c'est dans cette logique précisément que se trace une planification sanitaire durable.

La planification sanitaire durable à l'ère de la pandémie Covid-19

La mise en place d'une planification sanitaire durable passe par l'intégration de l'environnement par toutes ses composantes à cette mise en place, et dans cette voie L'initiative « One Health » (Une seule santé), qui promeut une approche intégrée de la santé humaine et animale, plonge ses racines dans l'observation déjà ancienne des similitudes anatomiques, physiologiques et biologiques entre l'homme et les autres mammifères, dans la parenté des approches diagnostiques et thérapeutiques de la médecine chez l'homme et de la médecine vétérinaire, dans la compréhension de plusieurs grandes crises de santé publique récentes, telles que l'encéphalopathie spongiforme bovine, les pandémies à virus émergent d'origine zoonotique ou les accidents liés à l'anti-biorésistance, et dans la connaissance très ancienne que la qualité de l'environnement influe sur la santé de l'homme, comme sur celle de l'animal.

Appuyée sur le concept de la planification sanitaire durable la prévention du risque épidémique invite à se pencher avec un regard critique sur les activités mettant en contact la faune sauvage, les animaux domestiques et les humains, et à agir de façon préventive sur certaines activités de déforestation, des pratiques de chasse, le trafic d'espèces animales sauvages, des techniques d'élevage, des activités de transport et de commerce international, et sur l'organisation des marchés d'animaux vivants. Conduites de façon illicite ou irraisonnée, ces activités peuvent accentuer le risque d'émergence d'un nouveau virus à potentiel zoonotique, voire pandémique. Avons-nous aussi fait tout ce qui était possible pour limiter les impacts d'un phénomène épidémique de grande ampleur ? Envisager le monde d'après, qu'il soit porteur d'un nouvel ordre ou retour au monde d'avant, implique de se pencher sur les scénarios d'évolution possible de l'épidémie, sur les leçons que l'on aura su tirer du phénomène pandémique, et sur les conséquences qui en résulteront.

Si l'accent est mis, non plus sur la santé des êtres humains, mais sur celle de la Terre ou de la planète, le risque pandémique pourrait bien être oublié, après le tour de passe-passe qui aura voulu « la pandémie bel et bien encadrée dans la crise plus ancienne, plus longue, plus définitive de la situation écologique ». Même si la pandémie de Covid-19 n'est d'évidence pas une conséquence du réchauffement climatique ou d'une atteinte à la biodiversité, sa « récupération » sous l'étiquette écologique peut faire négliger qu'elle est en fait liée à l'évolution démographique des hommes et des animaux, à des activités humaines spécifiques et à l'évolution des micro-organismes, et que des mesures de prévention et de préparation adaptées peuvent l'atténuer. Certes, l'expansion des activités humaines dans les milieux naturels augmente le risque de contact avec des espèces aujourd'hui tenues éloignées des hommes, donc de zoonose. Mais soyons attentifs au « danger qui apparaît avec le mélange des genres entre science et politique » ! C'est bien la grande précarité des populations rurales en zone tropicale humide qui constitue la cause première de la déforestation.

Les enjeux et les solutions proposés dans le cadre d'une planification sanitaire durable

Enjeux

La bonne mise en œuvre du concept One Health a une importance médicale mais aussi économique car les crises sanitaires ont des répercussions importantes sur de nombreux volets, comme a pu le démontrer la crise du Covid-19.

Le contrôle, dès leur source animale, de tous les pathogènes transmissibles de l'animal à l'homme, semble être la solution la plus efficace et la plus économique pour protéger l'homme. En effet, les actions de prévention sont moins coûteuses que les interventions en cas de crise. Ces dernières peuvent découler en particulier du renforcement des capacités des services gouvernementaux (de santé publique, vétérinaire et phytosanitaire) et du développement de programmes de recherche et de formation. Cette approche globale pourra se concrétiser au travers de déclinaisons opérationnelles plus resserrées. Par exemple, il faudrait renforcer le contrôle du commerce d'animaux sauvages illégal ou alors mettre en place des dispositifs de surveillance sanitaire efficace et opérationnelle.

Solutions

- *Une nécessaire détermination des facteurs*

L'intérêt de déterminer les facteurs de ces crises sanitaires se traduit par la volonté de prévenir et agir en amont. Ainsi, plusieurs facteurs majeurs peuvent être retenus : la déforestation, les trafics d'animaux, le réchauffement climatique ou encore la destruction de la biodiversité. Ces facteurs combinés favorisent la transmission des maladies infectieuses animales. L'utilité d'étudier et de traiter tous ces facteurs simultanément, permettant ainsi d'agir plus efficacement et à plus grande échelle.

- *Une nécessaire collaboration des disciplines*

Louis Pasteur soulignait que « la science est une » et il affirmait volontiers que « c'est l'homme seulement qui en raison de la faiblesse de son intelligence, y établit des catégories ». L'idée principale du concept One Health dans le cadre de PSD se retrouve dans cette pensée : il est nécessaire de décloisonner les disciplines et les enseignements afin de combiner toutes les notions et données, permettant une vue d'ensemble.

L'Académie Nationale de médecine française par exemple est d'ailleurs aujourd'hui composée de médecins, de vétérinaires et de pharmaciens. Si l'on peut remarquer la volonté de mettre en place une coopération plus accrue des disciplines, on peut cependant relever que parmi ces spécialistes, l'Académie de médecine ne comprend pas encore d'anthropologues. Ce travail de collaboration des disciplines a notamment pu être illustré durant la gestion de la crise de la Covid-19 où l'on a pu observer que la majorité des organismes sanitaires ont créé une cellule de veille scientifique rassemblant un groupe d'experts représentatifs des domaines de la santé publique, de l'épidémiologie, de l'infectiologie, de la virologie, des sciences pharmaceutiques et des sciences vétérinaires. Cette collaboration est également illustrée par la possibilité donnée aux vétérinaires de vacciner les personnes contre la COVID-19. L'idée se traduit alors en partie par la volonté d'associer les compétences, les disciplines et les professions dans le but de collaborer et d'agir plus efficacement.

- *Une nécessaire collaboration des Organisations*

Le concept de la PSD dans le cadre d'une « seule santé » doit également être promu par la classe politique, à différents niveaux, pour tenter de compenser les limites des approches conventionnelles. Par une note datant de 2010, l'Organisation mondiale de la santé (OMS), l'Organisation des Nations unies pour l'alimentation et l'agriculture (FAO), l'Organisation mondiale de la santé animale (OIE), ont élaboré un cadre de référence du concept *One Health*. L'utilité première est de permettre une plus grande prévention des risques pesant sur la nature, l'agriculture ou l'économie. Pour cela les trois organisations appelaient alors à des partenariats transversaux, impliquant différents acteurs (organisations internationales, gouvernements, entreprises, etc.). Aussi, les trois organisations promeuvent l'échange des données entre les différents épidémiologistes surveillant les populations animales ou

humaines. Depuis 2011, la collaboration tripartite a porté ses fruits, tout d'abord par l'élaboration d'un plan mondial d'action sur la résistance aux antibiotiques le *Global Action Plan on Antimicrobial resistance*. Un cadre a ensuite été développé par les trois organisations pour réduire les risques d'exposition à la rage d'origine animale, l'objectif étant d'éradiquer la rage d'origine canine d'ici à 2030. Enfin, un des derniers avancements majeurs permis par cette collaboration tripartite est la réactivité et l'amélioration des systèmes de surveillance pour les gripes « *zoonotiques* » à travers la rédaction d'un guide. Si l'on peut noter la réalisation de réunions tripartites annuelles et l'adoption de normes conjointes, la crise du COVID-19 est l'exemple révélateur de l'insuffisance de cette coopération qui reste aujourd'hui davantage symbolique.

Conclusion

Que la santé soit dans toutes les politiques était bien connu, et c'est dans cette logique qu'est mise en place la planification sanitaire, mais il fallait peut être la démonstration violente apportée par la pandémie de Covid-19, pour que la prévention en santé et la préparation au risque pandémique s'installent enfin au premier rang des projets politiques dans le monde, seul l'esprit d'anticipation et de préparation, appuyé sur le développement des sciences, des techniques et des nouvelles organisations, pouvait permettre d'atténuer cette brutalité et d'adoucir l'impact de l'évènement. Il est urgent ainsi, d'apprendre des crises sanitaires, notamment en liant santé humaine, animale et environnementale. Une approche globale centrée sur le « vivre ensemble » permettrait à la fois de sauver des vies mais également de préserver l'économie mondiale et notre planète. Il est à espérer que ce plaidoyer d'actualité permettra l'émergence rapide de politiques plus respectueuses de l'environnement et d'une prise de conscience des populations. La crise sanitaire du COVID-19 est en train de démontrer de façon criante ces nécessités.

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Industrie de recyclage et diversification économique, cas de l'Algérie**Djemai Sabrina****Université Abderrahmane Mira de Bejaia****Résumé**

L'industrie du recyclage a retrouvé une certaine noblesse avec l'essor de l'économie circulaire. Derrière les géants du secteur, des centaines de PME participent au dynamisme économique d'une filière dans laquelle l'innovation occupe une place centrale. L'Algérie compte actuellement plus de 4000 PME activant dans le domaine de la valorisation des déchets ménagers. Les déchets, autrefois regardée avec un certain mépris, sont devenu une source de diversification économique et d'opportunités de demain. En Algérie, selon l'étude récente menée par le ministère de l'environnement sur la gestion des déchets montre que la quantité des déchets ménagers dépassera 20 millions de tonnes par année. Un foyer modeste produit chaque jour environ 1 k/hab/jour.

Les quantités de déchets ménagers ont connu un accroissement extraordinaire et rapide en raison de l'urbanisation accélérée, le développement économique, l'accroissement démographique, les changements des modes de vie et des habitudes de consommation qui ont caractérisé le siècle dernier. Parallèlement, la composition de ces déchets est passée d'un profil organique (déchets alimentaires) à des matériaux complexes (produits en fin de vie, carton, plastiques) et provoquant d'énormes problèmes inquiétants sur la santé et l'environnement. Les déchets ménagers génèrent des externalités négatives considérables et leurs non collecte et traitement dans les quartiers et les villes produisent des milieux propices au développement et à la propagation de maladies, lors de leur mise en décharges.

Dans cette communication, nous mettons l'accent sur les avantages de recyclage sur le plan économique et environnemental. Nous présentons les difficultés qu'affrontent les entrepreneurs dans ce type d'industrie à travers l'étude de cas de PME œuvrant dans la récupération, la transformation et le recyclage des déchets. Cela nous permet de porter un regard critique sur le management de cette catégorie d'entreprise activant dans l'industrie de recyclage. Nous avons aboutis au constat que l'industrie du recyclage en Algérie est en développement, mais elle présente encore plusieurs défis à relever pour atteindre son plein potentiel. Ces industries sont souvent fragmentées et ne sont pas encore pleinement développées, un manque d'infrastructures de collecte efficaces..etc. Coopération internationale peut bénéficier au pays en développement de l'assistance technique pour améliorer sa gestion des déchets. Des partenariats avec d'autres pays et organisations peuvent aider à développer des solutions durables.

Mots clés: valorisation des déchets, économie circulaire, économie d'énergie

Résumé

L'industrie du recyclage a regagné en prestige avec l'avènement de l'économie circulaire. En plus des géants de ce secteur, des centaines de PME contribuent activement à la vitalité économique de cette filière, où l'innovation joue un rôle central. Actuellement, l'Algérie compte plus de 4 000 PME actives dans le domaine de la valorisation des déchets ménagers. Les déchets, autrefois méprisés, sont aujourd'hui perçus comme une source de diversification économique et d'opportunités futures. Dans cette communication, nous mettons en lumière les avantages du recyclage tant sur le plan économique qu'environnemental. Nous exposons également les défis auxquels les entrepreneurs de ce secteur font face, en nous appuyant sur l'étude de cas de PME impliquées dans la collecte, la transformation et le recyclage. Nous concluons que l'industrie du recyclage des déchets ménagers en Algérie est en plein essor, mais qu'elle doit encore relever plusieurs défis pour exploiter pleinement son potentiel. Ces industries demeurent souvent fragmentées et n'ont pas encore atteint leur plein développement, en raison.

Keywords: waste valorization, circular economy, energy efficiency.

Introduction générale

La problématique de la gestion des déchets ménagers a connu au cours de ces dernières décennies un regain d'intérêt dans les pays du sud. Les quantités de déchets ménagers ont connu un accroissement extraordinaire et rapide en raison de l'urbanisation accélérée, le développement économique, l'accroissement démographique, les changements des modes de vie et des habitudes de consommation qui ont caractérisé le siècle dernier.

Parallèlement, la composition de ces déchets est passée d'un profil organique (déchets alimentaires) à des matériaux complexes (produits en fin de vie, carton, plastiques) et provoquant d'énormes problèmes inquiétants sur la santé et l'environnement. Les déchets ménagers génèrent des externalités négatives considérables et leurs non collecte et traitement dans les quartiers et les villes produisent des milieux propices au développement et à la propagation de maladies, lors de leur mise en décharges.

Des déchets laissés un ciel ouvert sont à l'origine de lixiviats¹ risquant de s'écouler dans l'environnement et de contaminer les eaux de surface et les nappes phréatiques et causés des problèmes hygiéniques, ce qui crée une insalubrité qui occasionne des maladies parasitaires, microbiennes infectieuses, prolifération des mouches et moustiques vecteurs des maladies ainsi que de bactéries résultat de rejet aléatoires de ces déchets. Le brûlage à l'air libre dans les décharges libère des particules (de suie, par exemple) et des polluants organiques persistants, qui s'accumulent dans la chaîne alimentaire².

Une gestion déficiente, pose des défis inédits pour les années à venir. Mais le secteur offre également de nouvelles opportunités d'investissements pour le secteur privé. La gestion intégrée des déchets permet d'apporter des solutions durables. Dans une vision intégrée de

¹Le lixiviat fait référence aux liquides issus des décharges contenant des contaminants dissous et en suspension. Il résulte de l'infiltration des eaux de pluie dans la décharge et de l'humidité des déchets

²Alexandra Le Courtois : Faire des déchets solides municipaux une ressource, revue proparco, secteur privé et développement, n15, 2012, p.2

gestion des déchets, la problématique ne peut pas être traitée comme un objet isolé, ni même se limiter aux seuls aspects de valorisation et d'élimination. Elle doit être placée dans une perspective holistique de gestion des risques et des ressources, qui couvre tout le cycle de vie du déchet, depuis sa génération jusqu'au traitement ultime. Elle anticipe le déchet dès le stade projet, inclut les stratégies de réduction à la source, de valorisation et d'élimination et vise à la maîtrise des flux tout au long du procédé aboutissant au déchet.

Actuellement, l'Algérie a pris conscience de l'impact de la mauvaise gestion des déchets ménagers sur la santé et l'environnement. L'évolution des acquis réglementaires, institutionnels, techniques et financiers en est une preuve palpable. Sur le plan réglementaire promulgation de la loi n°1-19 EN 2001 qui réglemente le secteur des déchets, définition des tâches aux cadres institutionnels (ministère de l'environnement, agence nationale des déchets « AND », le Centre National des Technologies de Production plus Propre « C.N.T.P.P », le Conservatoire National des Formations à l'Environnement (CNFE), ministère de l'intérieur, des collectivités locales et de l'aménagement du territoire « MICLAT » ainsi que les collectivités locales (wilaya, commune,...).

Dans le but d'assurer une gestion intégrée des déchets ménagers deux programmes ont été mis en œuvre le programme national de gestion intégrée des déchets municipaux (PNGID et le plan national de gestion des déchets spéciaux (PNAGDE)³ afin d'éliminer les divers déchets qui sont abandonnés dans des rues, dans des caniveaux, dans des décharges publics qui sont sources de nuisances à la population environnante à travers différents mécanismes de gestion intégrée des déchets.

En Algérie, selon l'étude récente menée par le ministère de l'environnement sur la gestion des déchets montre que la quantité des déchets ménagers dépassera 20 millions de tonnes en 2035. Un foyer modeste produit chaque jour environ 0,8 k/hab/jour et ce chiffre atteindra 1.23 kg/hab/jour⁴. Cette donnée s'établissant à environ 1 kg/hab/jour pour l'agglomération d'Alger. Devant l'accroissement des coûts sociaux entraînés par les déchets, plusieurs méthodes de traitement et de valorisation se sont développées au fil du temps. Parmi les solutions, il y a le recyclage qui permet à la fois de préserver l'environnement et de conserver les ressources naturelles. La récupération et le recyclage des déchets constitueraient un créneau d'investissement économique porteur en Algérie, le marché national des déchets s'élève à 2 Mds de dinars annuellement (17 M EUR)⁵.

L'Algérie produit annuellement 20 millions de tonnes de déchets, toutes catégories confondues, dont 12 millions de tonnes de déchets ménagers et dont 35% sont produits dans 4% du territoire national. De plus, la valorisation des déchets (récupération et recyclage) étant à peine naissante en Algérie ne fait que rajouter à l'attractivité de ce créneau.⁶

Dans cet article, il s'agit de mettre en exergue la stratégie nationale de gestion intégrée des déchets ménagers, à travers une analyse du contexte socio-économique. Nous présenterons les

³Tahar TOLBA, Aurore MORONCINI & Youcef KEHIL, le recouvrement des coûts : un défi pour une gestion durable des déchets ménagers en Algérie. Cas de la Commune d'Annaba, working paper, CIRIEC No. 2020/03

⁴Selon le rapport sur la stratégie nationale à l'horizon 2035 (SNGID 2035)

⁵Fazia DAHLAB : Atelier Régional de Renforcement des Capacités sur les MTD etMPE afin d'assister les Parties à mettre en oeuvre la Convention de Stockholm, Centre National des Technologies de Production Pluspropre (CNTPP),

⁶<https://www.aps.dz/societe/118150-la-quantite-des-dechets-menagers-en-algerie-depassera-20-millions-de-tonnes-en-2035>

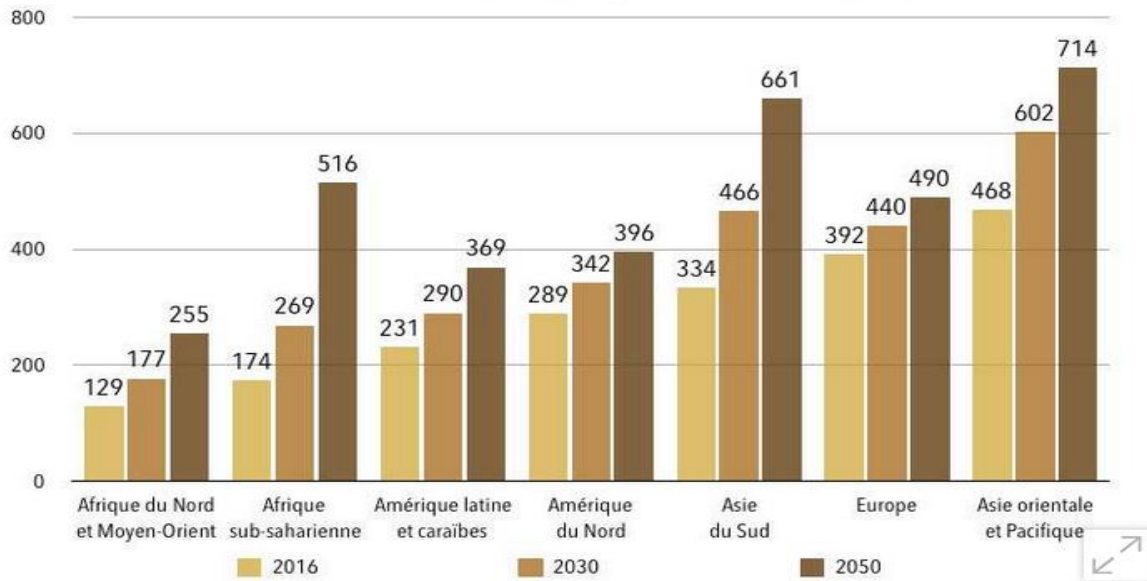
déchets collectés et trier par les entreprises dans les trois zones que représente l'Algérie à savoir : la zone Nord, la zone semi-aride et la zone aride. L'objectif est de mettre l'accent que l'importance de la valorisation des déchets pour une économie rentière.

1.1 Le contexte mondial de la gestion des déchets ménagers

Selon Roger BRUNET, le déchet est un « produit inévitable de l'activité humaine, dont le traitement est coûteux et difficile, bien qu'il soit utile (...) »⁷. Selon un nouveau rapport, la production mondiale de déchets augmentera de 70 % d'ici 2050 si rien ne change rapidement⁸ soit 3,4 milliards de tonnes de déchets par an en 2050. La gestion optimale et la mise en place des filières de valorisation et de recyclage sont des actions concrètes. Il est donc, de l'intérêt général que la quantité des déchets destinés à l'élimination soit réduite au maximum.

La production annuelle de déchets municipaux (déchets ménagers et autres déchets pris en charge par une commune ou une collectivité territoriale) dépasse déjà les 2 milliards de tonnes par an. En raison de l'urbanisation rapide, de l'augmentation du niveau de vie et de la croissance démographique, ce volume risque d'augmenter de 70 % pour atteindre les 3,4 milliards de tonnes en 2050, d'après la Banque mondiale. En Afrique subsaharienne, les pays devront même faire face à un triplement de la masse des déchets, avec plus de 516 millions de tonnes contre 174 aujourd'hui. Une catastrophe, d'autant plus que ces pays disposent de peu d'infrastructures pour gérer cet afflux⁹. Le graphe ci-dessous illustre le volume des déchets par région.

Volume des déchets par région (Million de tonnes par an)



Source : La production de déchets municipaux par région en 2016, 2030 et 2050. © Céline Deluzarche, d'après Banque Mondiale

⁷ Roger BRUNET (1992). « Les mots de la géographie ». Reclus — La Documentation française, 518 p.

⁸ <https://www.banquemonddiale.org/fr/news/press-release/2018/09/20/global-waste-to-grow-by-70-percent-by-2050-unless-urgent-action-is-taken-world-bank-report>

⁹ <https://www.futura-sciences.com/planete/actualites/environnement-10-chiffres-montrent-monde-va-crouler-sous-dechets-73196/>

Selon la banque mondiale chaque habitant produit en moyenne 0,74 kg de déchets par jour. Un chiffre qui cache de fortes disparités, de 0,11 kg au Lesotho à 4,50 kg aux Bermudes. Ces écarts sont fortement liés au niveau de développement : plus le niveau de vie est élevé, plus la population consomme des produits préparés, générant plus d'emballages à jeter. Bien qu'ils ne représentent que 16 % de la population mondiale, les pays développés génèrent ainsi 34 % de déchets de la planète. Cette production progresse aussi avec l'urbanisation.

L'OCDE estime que d'ici 2030, trois milliards de consommateurs de la classe moyenne viendront s'ajouter aux deux milliards actuels. Les villes devront faire une consommation limitée des ressources et produire moins de déchets et d'émissions de gaz à effet de serre. La gestion optimale et la mise en place des filières de valorisation et de recyclage sont des actions concrètes. Il est donc, de l'intérêt général que la quantité des déchets destinés à l'élimination soit réduite au maximum. Il s'agit donc de s'éloigner de la logique linéaire (extraire – transformer – consommer – jeter) pour aller vers le concept qui prône un système économique en forme de boucle : l'économie circulaire. Elle est apparue dans les années 70 mais ne s'est développée qu'à partir de 2010. L'économie circulaire fait face au nouveau défi qu'est celui de la production de produits et de biens, en limitant la consommation et les gaspillages de ressources (matières premières, eau, énergie) ainsi que la production des déchets.

1.2 État des lieux de l'économie circulaire en Algérie

D'après l'AND, les quantités des déchets ménagers recyclés en Algérie pour l'année 2020 s'élève à près de 1,3 millions de tonne, une quantité très faible par rapport à la quantité produite durant la même année, environ 20 million de tonne.

Selon une étude récente menée par le ministère de l'environnement sur la gestion des déchets montre que la quantité des déchets ménagers dépassera 20 millions de tonnes en 2035. Un foyer modeste produit chaque jour environ 0,8 k/hab/jour et ce chiffre atteindra 1.23 kg/hab/jour¹⁰. Cette donnée s'établissant à environ 1 kg/hab/jour pour l'agglomération d'Alger, la fraction organique de ces déchets est de 70%¹¹. Les déchets solides par jour en zone urbaine et 0,6kg/hab en zone rurale soit un équivalent de 10,3 millions de tonnes, jetés en 2012 dont 30 à 40% sont mis en décharges non contrôlées, 60 à 70% dans des décharges contrôlées, 1% sont orientés vers le compostage et seulement 7% sont recyclés¹².

Devant l'accroissement des coûts sociaux entraînés par les déchets, plusieurs méthodes de traitement et de valorisation se sont développées au fil du temps. Parmi les solutions, il y a le recyclage qui permet à la fois de préserver l'environnement et de conserver les ressources naturelles. La récupération et le recyclage des déchets constitueraient un créneau d'investissement économique porteur en Algérie, le marché national des déchets s'élève à 2 Mds de dinars annuellement (17 M EUR)¹³.

¹⁰Selon le rapport sur la stratégie nationale à l'horizon 2035 (SNGID 2035)

¹¹ Fazia DAHLAB : Atelier Régional de Renforcement des Capacités sur les MTD et MPE afin d'assister les Parties à mettre en oeuvre la Convention de Stockholm, Centre National des Technologies de Production Plus

propre (CNTPP), 2018

¹²Rapport sur la gestion des déchets solides en Algérie, Le réseau régional d'échange d'informations et d'expertises dans le secteur des déchets solides dans les pays du Maghreb GIZ avril 2014

¹³ <https://www.aps.dz/sante-science-technologie/153196-recyclage-et-valorisation-des-dechets-le-gouvernement-examine-un-plan-d-action>

L'Algérie produit annuellement 20 millions de tonnes de déchets, toutes catégories confondues, dont 12 millions de tonnes de déchets ménagers et dont 35% sont produits dans 4% du territoire national. De plus, la valorisation des déchets (récupération et recyclage) étant à peine naissante en Algérie ne fait que rajouter à l'attractivité de ce créneau.¹⁴

L'économie circulaire en Algérie constitue un gisement pour l'attractivité de l'industrie nationale et permet l'optimisation ainsi que la réutilisation des ressources et des matières nécessaires aux différents processus industriels. Il permet de répondre au programme du gouvernement en matière de transition énergétique, économique et écologique pour accompagner la stratégie nationale de développement durable à l'horizon 2030".

C'est à ce titre que l'Agence nationale des déchets (AND), de par son statut d'institution publique et son rôle important dans la gestion des déchets, tente de promouvoir une vision appropriée des déchets à travers la mise en place d'un plan d'actions visant à cerner au mieux le gisement tant sur le plan quantitatif que qualitatif.¹⁵

1.3 Le concept d'économie circulaire : En Algérie ce que préconisent les responsables politiques « Mieux produire, mieux consommer, mieux gérer les déchets, améliorer la qualité de l'environnement et favoriser une croissance économique plus responsable, tels sont les cinq commandements de la nouvelle orientation économique du gouvernement. C'est cela l'économie circulaire qui devrait devenir demain la norme de l'économie nationale. Au plan économique, les déchets deviendraient une matière première recyclable, ce qui encouragera l'investissement en matière de collecte, de tri et de recyclage des déchets.¹⁶» Sensibiliser les responsables à orienter les futurs investisseurs vers l'investissement en matière de valorisation des déchets. «L'entrepreneuriat circulaire, levier de développement de la gestion des déchets». D'autre part « Il est question de présenter la stratégie nationale et un plan d'action qui valorise ce nouveau modèle économique, de mobiliser tous les acteurs et parties prenantes¹⁷».

1.4. Avantage de recyclage sur le plan économique en Algérie

L'Algérie produit environ 34 millions de tonnes de déchets en 2023, dont 13 millions de détritres ménagers. Avec moins de 10 % seulement de déchets recyclés et valorisés. La valeur marchande de déchets non récupérés représente environ 40 Mds DZD et peut créer 100 000 emplois. Les prévisions de la ministre de l'Environnement et des Energies Renouvelables est que le volume des déchets atteindra les 74 millions de tonnes en 2030¹⁸.

Ainsi l'ambition du ministère de l'Environnement et des Energies Renouvelables (MEER) serait d'adopter un nouveau modèle de gestion des déchets en passant du mode de gestion

¹⁴Karim OUAMANE : <https://www.businessfrance.fr/algérie-dechets-et-recyclage-un-marche-de-2-mds-de-dinars-par-anhttps://www.aps.dz/societe/118150-la-quantite-des-dechets-menagers-en-algerie-depassera-20-millions-de-tonnes-en-2035>

¹⁵ Rapport AND Caractérisation des déchets ménagers et assimilés dans les zones nord, semi-aride et aride d'Algérie 2014

¹⁶ Fatiha Kazi Aoual-Benslafa , La Gestion Des Dechets Et Le Developpement D'une Economie Circulaire En Algerie : Etat Des Lieux 1er Workshop International : Valorisation des déchets, économie circulaire et développement territorial. Mercredi 06 Mars 2019, Ecole Nationale Supérieure des Mines de Rabat — Maroc

¹⁷Karim Ouamane, Caractérisation des déchets ménagers et assimilés, campagne nationale 2018 / 2019, rapport AND. p10

¹⁸ <https://www.businessfrance.fr/algérie-l-economie-circulaire-au-c%C5%93ur-des-preoccupations-du-meer>

des déchets traditionnels vers une économie circulaire, dont le but est d'arriver à valoriser en moyenne 30 % à 40 % des déchets.

La ministre de l'Environnement et des Energies Renouvelables a indiqué, dans ce cadre, que le secteur de l'environnement en Algérie reste ouvert à toutes les expériences et compétences étrangères. Cela s'est déjà confirmé par l'appui de l'expérience allemande dans le domaine de la gestion des déchets. Cela va de même pour l'expertise chinoise et coréenne qui s'est traduite par la participation d'entreprises originaire des 2 pays sur le salon International de l'Environnement et des Energies Renouvelables (SIEERA) qui s'est tenu en mars 2019¹⁹.

La SNGID 2035 a été réalisée par des experts nationaux et étrangers en partenariat avec l'Union européenne et le consortium Ernest & Young et GTZ, à travers le programme d'appui de l'Union Européenne à la politique sectorielle de l'environnement.

Dans cette présentation, les experts ont estimé que les déchets deviendraient l'un des grands enjeux de l'Algérie dans le moyen terme, et ce, dans le sillage de la poursuite du développement socio-économique du pays et de l'augmentation de sa population qui devrait atteindre les 51 millions d'habitant à l'horizon 2035. En effet, la quantité des déchets produits en Algérie devrait passer de 34 millions de tonnes actuellement à 73 millions de tonnes en 2035. Cette augmentation du volume des déchets entraînera des coûts importants : les coûts actuels de gestion des déchets, subventionnés totalement par l'Etat et estimés à 73 Mds de dinars/an, devraient atteindre environ 178 Mds de dinars/an en 2035.

Selon une étude réalisée par la Banque mondiale dans le cadre du Mediterranean Environmental Technical Assistance Program (METAP), une bonne gestion des déchets ménagers est estimée à 4 000 DZD/tonne (MATE, 2004). Cette évaluation est extrêmement élevée au regard du pouvoir d'achat des ménages. La taxe d'enlèvement d'ordures ménagères (TEOM) par ménage, fixée par la loi de finance 2015, se situe entre 1 000 et 1 500 DZD/an. Cependant, les ménages ne participent, au travers de cette taxe, que de manière très faible au coût réel, dans la mesure où le montant réellement collecté de la TEOM ne s'élève qu'à 15 % de ce qui devrait être perçu (MEER, 2018). Il y a donc nécessité, d'adopter une véritable politique de recouvrement des coûts pour garantir une gestion durable des déchets ménagers et assimilés (DMA).²⁰

L'enjeu environnemental du développement durable vise à mettre en place des actions quotidiennes visant à réduire le gaspillage, économiser les ressources et limiter la pollution. La prévention des déchets permet ainsi de concilier efficacement les avantages socio-économiques avec la protection de l'environnement. De nos jours, les déchets sont considérés comme une ressource précieuse et inépuisable à partir de laquelle on peut extraire des matières premières secondaires et de l'énergie.

C'est pourquoi il est nécessaire d'établir une politique intégrée de gestion des déchets ménagers et assimilés (GIDMA) et de mettre en place des filières de valorisation performantes, comme indiqué dans le Rapport sur la Caractérisation des Déchets Ménagers et Assimilés de l'Agence Nationale des Déchets (AND) en 2014.

¹⁹ <https://www.businessfrance.fr/algérie-l-economie-circulaire-au-c%C5%93ur-des-preoccupations-du-meer>

²⁰ Tahar TOLBA, Aurore MORONCINI & Youcef KEHIL, Le recouvrement des coûts : un défi pour une gestion durable des déchets ménagers en Algérie. Cas de la Commune d'Annaba, working paper, CIRIEC No. 2020/03. p.5

Le gouvernement a établi plusieurs objectifs stratégiques dans le cadre de la Stratégie Nationale de Gestion Intégrée des Déchets à l'horizon 2035 (SNGID – 2035) :

1. Réduire la production des déchets à la source et maintenir la génération des Déchets Ménagers et Assimilés (DMA) en dessous de 1,1 kg/habitant/jour d'ici 2035.
2. Mettre en place le tri sélectif et recycler ou composter plus de 50% des déchets générés en 2035, pour chaque flux de déchets, y compris les DMA, les Déchets d'Équipements Électriques et Électroniques (DES) et les déchets inertes.
3. Éliminer les décharges sauvages et équiper toutes les installations d'enfouissement d'un système de captage et d'un traitement efficace des émissions dans l'air et dans l'eau d'ici 2035.
4. Mettre en œuvre le principe du Pollueur-Payeur et financer intégralement la gestion des déchets publics d'ici 2035 grâce aux contributions financières des producteurs de déchets.
5. Encourager l'économie circulaire et créer 100 000 emplois dans le secteur privé d'ici 2035, directement ou indirectement liés à la gestion des déchets et des ressources secondaires.

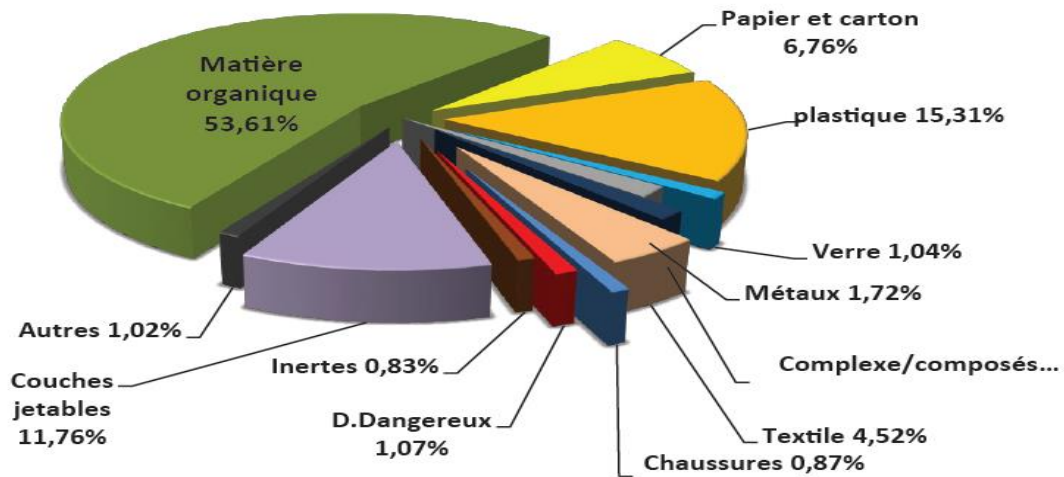
1.5 Composition moyenne des DMA

Les déchets ménagers et assimilés (DMA) représentent la fraction la plus importante Parmi les déchets solides générés en Algérie. On estime leur quantité pour 2018 à plus de 13,1 Millions de tonnes. Ce chiffre s'appuie sur une démographie de 2018 estimée à 42,2 Millions d'habitants et sur la base d'un taux moyen de production de déchets de 0,8kg/hab./j. L'évolution quantitative et qualitative des DMA est plus ressentie pendant cette dernière décennie, intensifiant ainsi les risques sur l'environnement et sur la santé publique.

Cette situation est d'autant plus préoccupante lorsque le taux de traitement et de valorisation des déchets est relativement faible.

Le travail mené dans les 4 wilayas pilotes durant la période avril 2018 – mars 2019 a permis de donner un aperçu sur la composition moyenne des DMA à l'échelle du pays (fig.14) qui se présente comme suit:

- La matière organique représente la fraction la plus importante des DMA produits avec ~ 53,6% ;
- Le plastique représente ~ 15,2% ;
- Les couches jetables ~ 11,50% ;
- Le Papier Carton ~ 7,07% ;
- Le textile ~ 4,5% ;
- Le reste « autres » ~ 8%, sont des fractions très faibles ; de métaux, verre, chaussures, déchets inertes, complexe/composés, etc.



Source : rapport AND, 2019

Conclusion générale

Le recyclage des déchets est un enjeu stratégique majeur pour l'économie. Le tri et le recyclage de déchets permettent de limiter fortement le gaspillage des ressources naturelles, participe à la préservation de l'environnement et permet de pérenniser l'approvisionnement de l'industrie en matières première. Depuis le début des années 2000, la question a connu de vraies évolutions qui ont conduit à l'industrialisation du recyclage pour les déchets aussi bien post-industriels que poste-consommateurs.

Avant de valoriser un déchet, il faut connaître son origine, l'analyser, caractériser son état actuel et son comportement dans le temps et évaluer sa traitabilité. Il s'agit donc de «mesurer pour connaître et connaître pour agir». L'approche globale du déchet permettra d'en définir son devenir, à savoir quel type de valorisation choisir.

Une gestion déficiente, pose des défis inédits pour les années à venir. Mais le secteur offre également de nouvelles opportunités d'investissements pour le secteur privé. La gestion intégrée des déchets permet d'apporter des solutions durables. Dans une vision intégrée de gestion des déchets, la problématique ne peut pas être traitée comme un objet isolé, ni même se limiter aux seuls aspects de valorisation et d'élimination. Elle doit être placée dans une perspective holistique de gestion des risques et des ressources, qui couvre tout le cycle de vie du déchet, depuis sa génération jusqu'au traitement ultime. Elle anticipe le déchet dès le stade projet, inclut les stratégies de réduction à la source, de valorisation et d'élimination et vise à la maîtrise des flux tout au long du procédé aboutissant au déchet.

La quantité des déchets ménagers et assimilés (DMA) en Algérie, estimée à 13 millions de tonnes en 2018, devra dépasser les 20 millions de tonnes en 2035, selon une étude récente réalisée par le ministère de l'environnement.

"Cette augmentation est due à une conjugaison de la croissance de la population, qui atteindra 50 millions d'habitants en 2035 d'une part, et du développement du potentiel économique, d'autre part", selon la même étude.

Tout en relatant le rapport sur la stratégie nationale à l'horizon 2035 (SNGID 2035), l'étude a démontré que la production des DMA passera de 0,8 Kg/hab/jour en 2016 à plus de 1,23 kg /hab/jour en 2035.

Vue cette situation, il faudrait trouver d'autres sites plus adéquats et d'autres sources de financement, ce qui ne sera pas du tout facile, ont estimé les experts qui ont effectué cette étude.

Selon ces experts les reformes structurelles proposées dans le cadre de la nouvelle stratégie nationale ont pour objectif, d'évoluer vers une gestion intégrée et durable des déchets à l'horizon 2035.

" Celle-ci doit permettre aux pouvoirs publics, d'assurer la transition vers une économie circulaire, génératrices de richesse et pourvoyeuses d'emplois et ouvre la voie vers une économie verte, qui constitue un lien durable entre l'environnement et l'économie".

Parmi les objectifs stratégiques de la SNGID 2035, figure la limitation de la génération des DMA à 1,1 Kg/hab/jour, la prévention des déchets des autres flux et l'encouragement du tri sélectif et du tri à la source de manière à recycler ou composter 30% des DMA, 30 % des déchets spéciaux (dangereux) et 50 % des déchets inertes.

" Accroître le rôle du secteur privé fait aussi partie de ces objectifs, dans le but de mener des réformes économiques afin d'inciter le secteur privé à créer 40.000 emplois directement et indirectement liés à la gestion des déchets", souligne la même source.

La valeur marchande des déchets recyclables dépasse 90 milliards de DA/an

Par ailleurs, une étude réalisée par l'Agence nationale des déchets (AND) estime que la valeur marchande potentielle du gisement des déchets recyclable pourrait atteindre plus 90 milliards de DA par an. Selon cette étude, la récupération et la valorisation des déchets ménagers et assimilés seraient à même de créer de l'emploi en matière de valorisation des déchets notamment plastiques dont les bouteilles des boissons gazeuses et des eaux minérales.

Les déchets ménagers issus des bouteilles des boissons gazeuses et des eaux minérales représentent 4% des déchets ménagers, soit 470.000 tonnes/an, et la valorisation de ce type de plastique pourrait créer 7.600 postes d'emploi directs/an, selon l'AND. Le nombre des structures de récupération et de recyclage des déchets non dangereux (DND) s'élevait à 444 structures en 2019, tandis que le nombre d'opérateurs dans ce domaine était estimé à 4080 durant la même année, selon la même étude.

Par rapport à la composition moyenne nationale des déchets générés par les ménages en Algérie, ci-après quelques recommandations :

- La fraction organique qui représente ~ 53,55 % (première source de nuisances au niveau des CET) : une valorisation biologique (compostage, méthanisation) ou une stabilisation avant la mise en décharge comme un premier segment d'une solution pour la gestion durable des DMA.
- La fraction valorisable qui dépasse 25% (plastique, papier /carton, verre et métaux) : par valorisation matière (recyclage/réutilisation) pourrait aussi, constituer le second segment dans la gestion des DMA.
- La proportion de 16% de la fraction tissus & couches sanitaires, pourrait trouver d'autres modes de valorisation plus adéquates que la mise en décharge, notamment la valorisation énergétique. La quantité est en augmentation constante, eu égard au nombre de naissances par an, Il serait propice et d'envisager de lancer une campagne de promotion des couches réutilisables.

V

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واقع ادارة التغيير التكنولوجي في جامعة البصرة – وجهة نظر متخذي القرار

أ.م. هالة غالب الناهي
جامعة البصرة / كلية الآداب

أ.م. د. أمل فاضل عباس
الجامعة المستنصرية / كلية الآداب

المستخلص

يهدف الدراسة الى التعرف على واقع ادارة التغيير التكنولوجي في كليات جامعة البصرة من وجهة نظر متخذي القرار، والفروق في واقع ادارة التغيير التكنولوجي في تلك الكليات من وجهة نظر متخذي القرار بحسب متغير: (أ) سنوات الخدمة(ب) التخصص (ج) المنصب الاداري(د) اللقب العلمي.

اعتمد الدراسة منهج الدراسة الوصفي في اسلوب الدراسات المسحية والمنهج التحليلي والاحصائي. تكونت عينة الدراسة من (181) من متخذي القرار في جامعة البصرة وكلياتها بواقع (60) من القيادات العليا في الجامعة و(109) رئيس قسم و(12) مدير مركز. وتم اعداد استبانة لإدارة التغيير التكنولوجي تكونت 59 فقرة توزعت على خمس مجالات تم اجراء الصدق والثبات لأداة الدراسة وبعد تحليل استجابات عينة الدراسة توصل الدراسة الى ابرز النتائج الاتية:

1- تشير النتائج إلى وجود استجابة إيجابية من قبل المبحوثين بنسبة 75% تجاه فاعلية الهيكل التنظيمي في تطوير جامعة البصرة. تُعزى هذه الاستجابة الإيجابية إلى وجود ادراك عالي ومستوى جيد من الاهتمام بتطوير الهيكل التنظيمي للجامعة، وفقاً لإجابات المبحوثين .

2- أن نشر إدارة الجامعة لثقافة إدارة التغيير التكنولوجي حقق استجابة جيدة بنسبة 80%. هذه النسبة تشير إلى ارتفاع مستوى الإدراك والتفهم لدى المشاركين بأهمية إدارة التغيير التكنولوجي.

من خلال ما توصل اليه الدراسة الحالي من نتائج نوصي بالاتي:

1- الاهتمام تعزيز الوعي والتدريب بأهمية إدارة التغيير التكنولوجي وتوفير التدريبات وورش العمل العملية للموظفين لتعليمهم مهارات وأدوات إدارة التغيير التكنولوجي. و تنظيم الدورات التدريبية و ورش العمل الداخلية واستدعاء خبراء خارجيين لنقل المعرفة والخبرات في مجال إدارة التغيير التكنولوجي.

الكلمات المفتاحية: ادارة التغيير التكنولوجي- الادارة التكنولوجية

Managing Technological Change in the University of Basra - Decision Makers' Perspective

Assoc. Prof. Dr. Halla Ghalib Al-Nahi
University of Basra / College of Arts

Assoc. Prof. Dr. Amal Fadel Abbas
Al-Mustansiriya University / College of Arts

Abstract

The research aims to identify the reality of technological change management in the colleges of the University of Basra from the perspective of decision-makers, and the differences in the reality of technological change management in those colleges from the perspective of decision-makers according to the variables: (a) years of service, (b) specialization, (c) administrative position, (d) academic title. The research adopted the descriptive research methodology using survey studies, analytical, and statistical methods. The research sample consisted of 181 decision-makers in the University of Basra and its colleges, including 60 senior leaders in the university, 109 department heads, and 12 center directors. A questionnaire was prepared for technological change management, consisting of 59 items distributed across five domains. The reliability and validity of the research tool were tested, and after analysing the responses of the research sample,

The research reached the following most prominent results:

1-The results indicate a positive response from researchers, with a rate of 75%, regarding the effectiveness of the organizational structure in the development of Al-Basra University. This positive response is attributed to a high level of awareness and a good level of interest in developing the organizational structure of the university, according to the respondents' answers.

2-The dissemination of the university management's culture of technological change management has achieved a good response rate of 80%. This percentage indicates a high level of awareness and understanding among participants regarding the importance of managing technological change.

Based on the current research findings, the researcher recommends:

1- Emphasizing the importance of technological change management by promoting awareness and providing training programs and practical workshops for employees to teach them the skills and tools of managing technological change. Organizing training courses, internal workshops, and inviting external experts to transfer knowledge and experiences in the field of change management.

Keywords: Technological Change Management - Technological Management

المقدمة

يتميز العصر الحاضر بالتطورات التكنولوجية والتغيرات السريعة في التقدم العلمي، مما أدى الى تحقيق تطورات كبيرة. كما شهدت وسائل وطرق الاتصال تغيرات سريعة في استجابة للاحتياجات السريعة للمجتمع من القوى العاملة المؤهلة في مجال تكنولوجيا المعرفة لإدارة التغيرات التكنولوجية في التعليم وتدريب العاملين المؤهلين وغير المؤهلين في مجال التكنولوجيا المعرفية في قطاعات العمل المختلفة. تلعب هذه القوى العاملة دوراً حيوياً في رفع كفاءة وإنتاجية العمل.

في العقود الأخيرة من هذا القرن، ظهرت فكرة حركة متطورة تتعلق بتدريب وتأهيل العاملين في مجال إدارة التغيير التكنولوجي. أصبحت هذه العملية ذات اهتمام كبير لضمان تأهيلهم وتدريبهم لمواكبة التغيرات التكنولوجية. يُظهر ذلك من خلال استعراض الدراسات السابقة التي تناولت هذا الموضوع. نتيجة للتطورات المستمرة في التقنيات ودمجها في العمل الإداري في الجامعات والتدريس، قررت الباحثة دراسة هذا الموضوع وتطبيقه في واقع جامعة البصرة التي تعمل فيها.

1- المشكلة (The problem)

تعتمد نجاح أي منظمة على قدرتها على مواكبة التغيرات المستمرة في البيئة التي تعمل فيها، وخاصة التغيرات التكنولوجية. يشمل ذلك استخدام أساليب وتقنيات حديثة في عمليات الإنتاج لزيادة الإنتاجية وتحسين جودة المنتجات. لذا، من الضروري أن تولي المنظمة اهتماماً بإدارة التغيير التكنولوجي لتحقيق النجاح.

ويهدف مواكبة جامعة البصرة للجامعات العالمية والحصول على شهادات الاعتماد الأكاديمي، فإنه رغم استخدام التكنولوجيا في بعض كليات الجامعة، إلا أنه من الضروري التركيز على إدارة التغيير التكنولوجي والتحقق من مدى توافر مقوماتها في جامعة البصرة، وخاصة فيما يتعلق برأس المال البشري من متخذي القرارات ومدى التزامهم بنشر الوعي والثقافة المعلوماتية. وبناءً على ذلك، تتمحور مشكلة الدراسة في الإجابة على السؤال الآتي:

1- هل تمتلك جامعة البصرة الأسس والمقومات اللازمة لإدارة التغيير التكنولوجي؟

2- أهمية الدراسة (Study Importance)

تهتم إدارة التغيير بالقدرات والتكيف السريع مع الأحداث في المؤسسات التعليمية، وتسعى للتوافق والتكيف معها والسيطرة عليها وتوجيهها. إنها تلعب دوراً حيوياً في الحفاظ على حيوية وفعالية هذه المؤسسات، وتعمل على تحقيق تحسين في إنتاج المعرفة وتقليل التكاليف وزيادة الإنتاجية.

يتجسد التغيير التكنولوجي في تبني المؤسسات التعليمية للمعرفة والطرق الجديدة المستخدمة في العمليات التعليمية. يساهم التغيير التكنولوجي في تحسين إنتاج المعرفة وخفض التكاليف وزيادة الإنتاجية. يأخذ التغيير التكنولوجي أشكالاً متعددة، مثل التحول من التجهيزات الميكانيكية الى التجهيزات التلقائية، واعتماد أدوات وأساليب جديدة في العمل والتدريس والتدريب لتحسين الكفاءات البشرية، فضلاً عن تنظيم المواقع وفقاً لترتيب يساهم في زيادة السرعة والدقة في الأداء.

تسعى المؤسسات التعليمية الى التخلي عن الأساليب والإجراءات التقليدية واعتماد الطرق التقنية الحديثة، مما يتطلب ابتكار أساليب أفضل للأداء وتحفيز العاملين على الإبداع. تتمثل طرائق الأداء في التوافق مع الطرق والإجراءات الجديدة، وتساهم في تحسين الأداء وتحقيق تأثير إيجابي. تقوم المؤسسات بعمليات التغيير التكنولوجي عن طريق اعتماد طرق ووسائل وإجراءات جديدة لمواكبة التغيير التكنولوجي.

(Study Aims) أهداف الدراسة-3

تهدف الدراسة الى التعرف على:

- (1) واقع ادارة التغيير التكنولوجي في كليات جامعة البصرة من وجهة نظر متخذي القرار.
- (2) الفروق في واقع ادارة التغيير التكنولوجي في كليات جامعة البصرة من وجهة نظر متخذي القرار بحسب متغير: (أ) سنوات الخدمة (ب) التخصص (ج) المنصب الاداري (د) اللقب العلمي.

(Study Methodology) منهج الدراسة-5

اعتمد الدراسة الحالي منهج الدراسة الوصفي اسلوب الدراسات المسحية والمنهج التحليلي والاحصائي.

(Study Community and Its Sample) وعينتهم مجتمع الدراسة-6

يتكون مجتمع الدراسة الحالية من (181) من متخذي القرار في جامعة البصرة وكلياتها بواقع (60) من القيادات العليا في الجامعة و(109) رئيس قسم و(12) مدير مركز. وقد تم اختيار عينة للدراسة الحالية بأسلوب العينة القصدية.

(Study Limits) حدود الدراسة 7

تتكون حدود الدراسة من:

الحدود الموضوعية: ادارة التغيير التكنولوجي.

الحدود الزمانية: 2022-2023

الحدود المكانية: كليات جامعة البصرة ومراكزها.

الحدود البشرية: (متخذي القرار والقيادات العليا في كليات ومراكز جامعة البصرة).

(Data Collection Tools) ادوات جمع البيانات 8

الاستبانة

تم استخدام استبانة مغلقة ذات بدائل محددة لقياس واقع ادارة التغيير التكنولوجي. (1)

(2) البدء بتوزيع الاستبانة والمقابلة لجمع البيانات من 2022-6-15 لغاية 2022-12-20

قامت الباحثتان بتفريغ وتحليل الاستبانة الخاصة ادارة التغيير التكنولوجي خلال برنامج التحليل الإحصائي (SPSS.V.23) اذ تم استخدام مقياس ليكرت الخماسي لاستجابة العينة وهو مقياس ترتيبي يستخدم للإجابة على كل فقرة من فقرات الاستبيان وتكون الاجابة على كل فقرة مكونة من 5 إجابات إذ إن الدرجة (5) تعني (أوافق بشدة) والدرجة (1) تعني (لا أوافق بشدة) حسب الجدول الاتي:

جدول (1)

الاستجابة	لا أوافق بشدة	لا أوافق	محايد	أوافق	أوافق بشدة
الدرجة	1	2	3	4	5

(Validity and Stability Test of the Tools)- اختبار صدق وثبات الادوات 9

1- الصدق والثبات لأداة الدراسة :

أ- الصدق الظاهري للأداة:

تم عرض أسئلة الاستبيان على مجموعة من الخبراء الأكاديميين المتميزين في المجال ، وتم تحقيق توافق كبير بين آرائهم ومقترحاتهم. تم استشارة 15 خبيراً في هذا الاستبيان ، حيث كان لديهم درجات علمية مختلفة ، مع 12 خبيراً بدرجة أستاذ وخبير واحد بدرجة أستاذ مساعد وخبيران بدرجة مدرس. بناءً على آراء المحكمين ومقترحاتهم ، تم إجراء التعديلات اللازمة على أسئلة الاستبيان. وقد وصلت نسبة الاتفاق بين المحكمين حول هذه التعديلات إلى 90%. وبناءً على ذلك ، تم تحديد عدد الفقرات في الاستبيان النهائي بواقع 59 فقرة.

هذه الخطوة تعزز صدق الاستبانة وتضمن أن يكون لديه الدقة والموثوقية اللازمين في قياس المتغيرات المطلوبة. كما أن استشارة الخبراء واستدراك آرائهم تعكس الالتزام بالمعايير العلمية والأكاديمية في تصميم الاستبيان وضمان جودة الأداة المستخدمة في الدراسة.

- الصدق البنائي :

أولاً: قامت الباحثتان بحساب معامل الارتباط بين كل فقرة في كل مجال والدرجة الكلية للمجال. هذا المعامل يعكس قوة العلاقة بين الفقرة والمجال الذي تنتمي إليه ، ويمكن اعتبارها جزءاً من المجال بدرجة مقبولة.

تم تحديد الحد الأدنى لقيمة معامل الارتباط لقبول الفقرة ك 0.40. هذا يعني أنه إذا كانت قيمة معامل الارتباط بين الفقرة والدرجة الكلية للمجال تساوي أو تزيد عن 0.40 ، فإن الفقرة تعتبر مقبولة وتنتمي بشكل جيد إلى المجال. إذ تم إيجادها كالآتي:

جدول (2)

المجال	الفقرات	معامل الارتباط	مستوى المعنوية	القرار
مجال الإدارة	1	.582	0.000	معنوي بدرجة عالية
	2	.770	0.000	معنوي بدرجة عالية
	3	.746	0.000	معنوي بدرجة عالية
	4	.764	0.000	معنوي بدرجة عالية
	5	.754	0.000	معنوي بدرجة عالية
	6	.529	0.000	معنوي بدرجة عالية
	7	.482	0.000	معنوي بدرجة عالية
	8	.463	0.000	معنوي بدرجة عالية

معنوي بدرجة عالية	0.000	.505	9	
معنوي بدرجة عالية	0.000	.477	10	
معنوي بدرجة عالية	0.000	.578	11	
معنوي بدرجة عالية	0.000	.505	12	
معنوي بدرجة عالية	0.000	.439	13	
معنوي بدرجة عالية	0.000	.442	14	
معنوي بدرجة عالية	0.000	.449	15	
معنوي بدرجة عالية	0.000	.489	16	
معنوي بدرجة عالية	0.000	.519	17	
معنوي بدرجة عالية	0.000	.494	18	
معنوي بدرجة عالية	0.000	.454	19	
معنوي بدرجة عالية	0.000	.462	20	
معنوي بدرجة عالية	0.000	.486	21	
معنوي بدرجة عالية	0.000	.496	22	
معنوي بدرجة عالية	0.000	.497	23	
معنوي بدرجة عالية	0.000	.509	24	
معنوي بدرجة عالية	0.000	.695	25	المجال البشري
معنوي بدرجة عالية	0.000	.714	26	
معنوي بدرجة عالية	0.000	.715	27	
معنوي بدرجة عالية	0.000	.716	28	
معنوي بدرجة عالية	0.000	.636	29	
معنوي بدرجة عالية	0.000	.728	30	
معنوي بدرجة عالية	0.000	.719	31	
معنوي بدرجة عالية	0.000	.698	32	
معنوي بدرجة عالية	0.000	.739	33	
معنوي بدرجة عالية	0.000	.724	34	
معنوي بدرجة عالية	0.000	.728	35	
معنوي بدرجة عالية	0.000	.791	36	

معنوي بدرجة عالية	0.000	.809	37	
معنوي بدرجة عالية	0.000	.799	38	
معنوي بدرجة عالية	0.000	.780	39	
معنوي بدرجة عالية	0.000	.719	40	
معنوي بدرجة عالية	0.000	.796	41	
معنوي بدرجة عالية	0.000	.802	42	
معنوي بدرجة عالية	0.000	.816	43	
معنوي بدرجة عالية	0.000	.779	44	
معنوي بدرجة عالية	0.000	.865	45	
معنوي بدرجة عالية	0.000	.867	46	
معنوي بدرجة عالية	0.000	.856	47	
معنوي بدرجة عالية	0.000	.843	48	
معنوي بدرجة عالية	0.000	.820	49	
معنوي بدرجة عالية	0.000	.812	50	
معنوي بدرجة عالية	0.000	.753	51	المجال المالي والفني
معنوي بدرجة عالية	0.000	.765	52	
معنوي بدرجة عالية	0.000	.828	53	
معنوي بدرجة عالية	0.000	.850	54	
معنوي بدرجة عالية	0.000	.854	55	
معنوي بدرجة عالية	0.000	.784	56	
معنوي بدرجة عالية	0.000	.828	57	
معنوي بدرجة عالية	0.000	.720	58	
معنوي بدرجة عالية	0.000	.790	59	
معنوي بدرجة عالية	0.000	.790	59	
معنوي بدرجة عالية	0.000	.790	59	
معنوي بدرجة عالية	0.000	.790	59	
معنوي بدرجة عالية	0.000	.790	59	
معنوي بدرجة عالية	0.000	.790	59	

وباستعراض قيم الارتباطات المبيّنة في الجدول السابق يتضح أن أقل قيمة ارتباط تم التوصل إليها بين الفقرة والدرجة الكلية للمجال هي 0.43. وبالتالي، فإن جميع قيم معاملات الارتباط التي تم الحصول عليها كانت أكبر من أو تساوي 0.40، وهذا يشير إلى درجة مقبولة لقيم الارتباط بين كل فقرة والدرجة الكلية للمجال التي تنتمي إليه.

أن جميع قيم معاملات الارتباط قد حققت قيم مستوى دلالة أقل من 0.001. وبناءً على ذلك، فإن هذه القيم تعتبر دالة إحصائية بمستوى دلالة 0.001، وهذا يعزز مدى الثقة في النتائج.

يمكن استنتاج أنه تم تحقيق الصدق البنائي ل فقرات أبعاد المقياس وأن جميع قيم معاملات الارتباط تعتبر مقبولة وذات دلالة إحصائية عالية بمستوى دلالة 0.001.

ثانياً: تم ايجاد معامل الارتباط بين كل مجال من مجالات استبانة واقع ادارة التغيير التكنولوجي في كليات جامعة البصرة والدرجة الكلية للمقياس بحيث أن هنالك حداً أدنى من قيمة هذا الارتباط يمكن قبوله على اعتبار أن المجال تنتمي بدرجة مقبولة للمقياس حيث اعتمدت القيمة 0.40 كحد أدنى للارتباط بين المجال والدرجة الكلية للمقياس. كونها معتمدة في اغلب الدراسات إذ تم ايجادها كالآتي:

جدول (3)

ت	المجال	معامل الارتباط مع المقياس	مستوى المعنوية
1	مجال الادارة	0.92	0.000
2	المجال البشري	0.95	0.000
3	المجال المالي والفني	0.87	0.000
4	مجال البيئة المحيطة	0.86	0.000

وباستعراض قيم الارتباطات التي تم الحصول عليها في الجدول أن أقل قيمة للارتباط بين المجالات والدرجة الكلية للمقياس هي 0.86، وهذه القيمة تعتبر مقبولة وتنفوق الحد الأدنى المقبول في معظم الدراسات الذي هو 0.40. هذا يشير الى وجود درجة صدق مقبولة بين كل مجال والدرجة الكلية للمقياس، مما يدعم قدرتها على تمثيل المقياس بشكل جيد.

1- الثبات والصدق الداخلي للاداة:

يقصد بالصدق الداخلي للاستبيان هو تمثيله للمجتمع المدروس بشكل جيد أي إن الإجابات التي يتم الحصول عليها من أسئلة الاستبيان سوف تعطينا كل المعلومات التي وضعت من اجلها الأسئلة .

أما ثبات الاستبيان فيعني إنه لو تم توزيع هذا الاستبيان على عينة أخرى من نفس المجتمع وبنفس حجم العينة فالنتائج ستكون مقاربة للنتائج التي تم الحصول عليها بالعينة الأولى وباحتمال معامل الثبات . وللتعرف على الثبات والاتساق الداخلي تم استخدام معامل Cronbach's α لكل مجال من مجالات الدراسة ولكل محور من محاور هذه المجالات وكما موضح بالجدول الآتي:

الجدول (4) معامل الثبات Cronbach's α للمتغيرات الرئيسية

المجال	المحور	عدد الفقرات	معامل Cronbach's α
مجال الادارة		24	0.941
	الرؤية المستقبلية في جامعة البصرة لإدارة التغيير التكنولوجي	5	0.769
	نشر إدارة الجامعة لثقافة إدارة التغيير التكنولوجي	11	0.903
	هيكل الجامعة	8	0.893
المجال البشري		19	0.956
	الشراكة في إدارة التغيير التكنولوجي	9	0.924
	التحفيز لتحقيق أهداف التغيير التكنولوجي	6	0.904

0.887	4	تدريب العاملين على مهارات ادارة التغيير التكنولوجي	
0.938	9		المجال المالي والفني
0.911	7		مجال البيئة المحيطة
0.978	59		المجموع

يتضح من جدول (4) ثبات محاور الدراسة لكل من المتغيرات الرئيسية اذ يتراوح معامل Cronbach's α في جميعها بين 0.769 و 0.978 وهي قيمة مرتفعة مما يدل على ثباتها وصلاحياتها للتطبيق الميداني.

10 - مصادر الدراسة (Research Sources)

(1) مصادر اولية: تتمثل في المعلومات التي تؤخذ من اراء متخذي القرار والقيادات العليا في استقراء آرائهم من خلال الاستبانة والمعايشة الميدانية.

مصادر ثانوية تتمثل في مصادر المعلومات التقليدية والالكترونية. (2)

(Study Terms) مصطلحات الدراسة

جدول (5)

ت	المصدر	مصطلحات الدراسة
1	(ماهر، 2000، صفحة 42)	التغير: هو استجابة مخططة أو غير مخططة من قبل منظمات العمل الإنسانية للضغوط التي يتركها التقدم والتطور الفني الملموس وغير الملموس في الماديات والأفكار
2	(Jones & Careth, 2007, p. 511)	التغيير: هو عملية نقل المؤسسة من وضعها الحالي الى الوضع المرغوب العمل فيه بهدف زيادة خدماتها وانتاجها وفعاليتها.
3	(الطغر، 2020، صفحة 358):	ادارة التغيير: ادارة الجهد المخطط والمنظم والهادف الى تحقيق اهداف التغيير من خلال تطوير العاملين عن طريق التأثير في قدراتهم ومهاراتهم وانماط سلوكهم، وتغيير التكنولوجيا المستخدمة والعمليات والهياكل التنظيمية
4	(بومتقار و شرقي، 2015، صفحة 272)	ادارة التغيير التكنولوجي: هي ادارة وتنظيم والتخطيط المؤسسي لكل تغيير يطرأ على التكنولوجيا المستخدمة في المؤسسة بتكنولوجيا اكثر حداثة وتطور التي تتعلق بالآلات او طرق العمل او المواد او المعلومات الاولية بغرض زيادة الارباح او رضا الافراد عنالعمل

The second axis/previous studies المحور الثاني / الدراسات السابقة

الدراسات المحلية

جدول (6)

ت	الخصائص	التفاصيل
1	اسم الباحث والتاريخ	(الطائي، 2014، الصفحات 1-28)
	عنوان الدراسة	ادارة التغيير التكنولوجي في المكتبات الجامعية العراقية
	الأهداف	دراسة ادارة التغيير التكنولوجي في المكتبات الجامعية العراقية، مع الاشارة الى ابرز الاسس الموجهة لهذا التغيير، وتسليط الضوء على العقبات التي تواجه ادارات المكتبات في هذا المجال.
	نوع الدراسة مجال وعينة الدراسة	بحث تطبيقي
	مجتمع الدراسة وعينة	امناء المكتبات المركزية للجامعات الحكومية العراقية باستثناء مكتبات اقليم كردستان
	النتائج	وجود نقص في الموارد البشرية المؤهلة للتعامل مع مشروعات التغيير التكنولوجي وجود فرق بين اعداد العاملين المتخصصين مكتبيا وتقنيا وبين الحاجة الفعلية للمكتبات.
	التوصيات	ضرورة مفاتحة ادارة المكتبة برئاسة الجامعة للعمل على تخصيص جزء من الدرجات الوظيفية السنوية الخاصة بالمكتبة لتعيين الكفاءات المتخصصة في مجال تطبيق التكنولوجيا.
	مقارنة الدراسة السابقة بالدراسة الحالي	تتشابه مع الدراسة الحالية بتركيزها على ادارة التغيير التكنولوجي وتختلف عنها اذ ان الدراسة الحالية قامت بدراسة التطورات بجامعة البصرة .

الدراسات العربية		
ت	الخصائص	التفاصيل
2	اسم الباحث – التاريخ	(قريشي ، 2014 ، صفحة 290)
	عنوان الدراسة	التغيير التكنولوجي واثره على اداء المؤسسات الاقتصادية من منظور بطاقة الاداء المتوازن :دراسة حالة مؤسسة صناعة الكوابل -فرع جنرال كابل -بسكرة
	الأهداف	التعرف على مستوى التغيير التكنولوجي الحاصل في مؤسسة صناعة الكوابل - فرع جنرال كابل بسكرة,وعلى مستوى اداء مؤسسة صناعة الكوابل , واثر التغيير التكنولوجي بأبعادها المختلفة على اداء المؤسسة.
	نوع الدراسة	اطروحة دكتوراه تطبيقية
	مجتمع الدراسة وعينة	التغيير التكنولوجي في مؤسسة صناعة الكوابل بسكرة الجزائر
	النتائج	وجود اثر ذو دلالة احصائية للتغيير التكنولوجي (كمجموعة) على مستوى اداء مؤسسة صناعة الكوابل
	التوصيات	ان تزيد المؤسسة استثماراتها في مجال الإبداع والابتكار ودعم المنتجات الجديدة
	مقارنة الدراسة بالدراسة الحالي	تشابهة هذه الدراسة مع الدراسة الحالية في التغيير التكنولوجي وتختلف في استخدامها بطاقة الاداء المتوازن والدراسة الحالية تدرس التطور الحاصلة في جامعة البصرة

الدراسات الأجنبية		
ت	الخصائص	التفاصيل
3	اسم الباحث والتاريخ	(Akademischen, 2015, p. 507)
	عنوان الدراسة	Technologic change Polarization and inequality : Employmentand wage patterns in German Local Markets
	الأهداف	التعرف على دور التغيير التكنولوجي كعامل محدد لاتجاهات العمالة والاجور في المانيا خلال الثلاثين عاما "الماضية
	نوع الدراسة	بحث تطبيقي
	مجتمع الدراسة وعينة	التغيير التكنولوجي –المانيا
	النتائج	ارتفاع عدم المساواة بالأجور بين المناطق الدراسة

ضغوط تنافسية في قطاع سوق العمل		
النمو التفاضلي على مستوى المهن واسواق العمل الاقليمية .	التوصيات	
الدراسة الحالية تضمنت التغييرات التكنولوجية في سوق العمل بألمانيا والفجوة الحاصلة من خلال العمالية واستخدامهم للتكنولوجيا اما الدراسة الحالي سيدرس ادارة التغيير التكنولوجي لمتخذي القرار	مقارنة الدراسة السابقة بالدراسة الحالي	

(Importance of Technological Change) أهمية إدارة التغيير التكنولوجي

هناك عدة نقاط تبين أهمية العمل بإدارة التغيير التكنولوجي ، التي تسعى المؤسسات الى العمل على تحقيقها يمكن ان نذكر عدد منها بالاتي:

- 1-المحافظة على الحيوية الفعالة:تكمين أهمية التغيير في داخل المؤسسات و هو تحقيق التجديد والنشاط لاظهار روح النشاط ، كما يتم التحرر من روح اللامبالاة وعدم الإيجابية والروتين الممل الذي يقتل روح(احمد، 2003، صفحة 23)الابداع والابتكار.
- 2- تنمية القدرة على الابتكار: فالتغيير بحاجة مستمرة الى المقدرة للتعامل مع ما يؤيد التغيير ، ويكون التعامل بطريقة إيجابية ومنهم ما يتعامل بالمقاومة للتغيير ، فالتغيير هو الخوف من المجهول وفقدان المميزات وفقدان المهام والعمل.
- 3 - إشباع الرغبة في التطوير: بعمل على التحفيز واشباع الرغبات والدوافع الى الارتقاء والتطوير و (سعيد، 2001، صفحة 255)والتحسين المستمر للعمل .
- 4- عملية التجديد والتطوير للقوى الإنتاجية القادرة على الإنتاج والعمل.
- 5- التطوير المتكامل يادخال تكنولوجيا الحديثة والتكنولوجيا المتطورة للطرق الحديثة.
- 6- التلائم مع المتغيرات: التكنولوجيا وعولمة العصر.
- 7- الوصول الى درجة اعلى من القوة والاداء .
- 8- رفع الروح المعنوية للعاملين.
- 9- التخلص من الاعمال الروتينية.
- 10- ميكنة العمليات العقلية باستخدام الحاسب الالكتروني يساعد على تخزين ومعالجة واختيار وتوفير (Burns B. , 1996, p. 390) (Burns & vavivo, 2001, p. 64) المعلومات .

الجانب العملي

- 1- الوصف الإحصائي لعينة الدراسة وفق الخصائص والسمات الشخصية:
وفيما يلي عرض لعينة الدراسة وفق الخصائص والسمات الشخصية:
- 1- توزيع أفراد العينة حسب اللقب العلمي
في الجدول (7) ادناه سيتم عرض توزيع افراد العينة بحسب اللقب العلمي .
- الجدول (7) توزيع أفراد العينة حسب اللقب العلمي

ت	اللقب العلمي	العدد	النسبة المئوية %
1	أستاذ	25	14
2	أستاذ مساعد	95	52
3	مدرس	61	34
	المجموع	181	100

يبين الجدول (7) أن ما نسبته 34% من عينة الدراسة من حملة لقب المدرس و52% من حملة لقب الأستاذ المساعد و14% من حملة لقب الاستاذية.

2- توزيع أفراد العينة حسب الشهادة

يتضح من الجدول (8) أن عينة الدراسة من حملة شهادة الماجستير بنسبة 7% ثم جاء ما نسبته 93% من حملة شهادة الدكتوراه.

الجدول (8) توزيع أفراد العينة حسب الشهادة

ت	الشهادة	العدد	النسبة المئوية %
1	دكتوراه	169	93
2	ماجستير	12	7
3	المجموع	181	100

3- توزيع أفراد العينة حسب عدد سنوات الخدمة

يتضح من الجدول (9) أن معظم عينة الدراسة 4% وأخيرا من لديهم خدمة بين 10-19 بنسبته 23% .

الجدول (9) توزيع أفراد العينة حسب عدد سنوات الخدمة

ت	عدد سنوات الخدمة	العدد	النسبة المئوية %
1	10-19	41	23
2	20-29	96	53
3	30 فأكثر	44	24
	المجموع	181	100%

2- تحليل فقرات الاستبانة لمتغيرات الدراسة:

جرى تحليل اجابات عينة الدراسة فيما يتعلق بمتغيرات الدراسة باستخدام البرنامج الاحصائي الجاهز SPSS V.23 لحساب الأوساط الحسابية والانحرافات المعيارية ونسبة الاستجابة اذ تدرج اراء الافراد المبحوثين ازاء متغيرات الدراسة وفق مؤشر نسبة الاستجابة الى مساحة المقياس كالآتي

- 1-المستوى الاول يقع بين 20-39.99 ويمثل تدنياً شديداً في مستوى الحالة المدركة.
 1. المستوى الثاني يقع بين 40-59.99 ويمثل تدني في مستوى الحالة المدركة.
 2. المستوى الثالث يقع بين 60-69.99 ويمثل المستوى المتوسط للحالة المدركة.
 3. المستوى الرابع يقع بين 70-89.99 ويمثل مستوى عالٍ للحالة المدركة.
 4. المستوى الخامس يقع بين 90-99.99 ويمثل مستوى عالٍ جداً للحالة المدركة. (تشاو، 1990، صفحة 374)
- اذ تم تطبيقها على استمارة استبانة ادارة التغيير التكنولوجي اولاً وحسب الجداول الاتي:

1- مجال الادارة

تم حساب المتوسط والانحراف المعياري ونسبة الاستجابة لأفراد المجتمع على محاور مجال الادارة الثلاثة (الرؤية المستقبلية جامعة البصرة ، نشر إدارة الجامعة لثقافة إدارة التغيير التكنولوجي ، هيكل الجامعة) وكما موضح في الجدول (10)

جدول (1) المتوسط والانحراف المعياري ونسبة الاستجابة لمجتمع الدراسة على مجالات الادارة

لاستبانة ادارة التغيير التكنولوجي

المحور	رقم الفقرة	الفقرة	المتوسط	الانحراف المعياري	نسبة الاستجابة
الرؤية المستقبلية جامعة البصرة لإدارة التغيير التكنولوجي	1	تقيم الواقع الحالي في ظل المعطيات المتاحة	3.9558	.78756	79
	2	تراعي خطة التغيير التكنولوجي الإمكانيات المادية و البشرية	3.9724	.74110	79
	3	تعمل على إيجاد بيئة عمل تساعد على تحويل الرؤية الى واقع	4.0442	.73653	81
	4	يشترك متخذي القرار بصياغة الرؤية المستقبلية فيما يتعلق باتجاهات التغيير التكنولوجي	3.9669	.77388	79
	5	تعمل على التقويم المستمر لرؤية الجامعة تجاه التغيير التكنولوجي بشكل يساعد على تطويرها	4.0939	.72802	82
		المعدل	4.0066	.54361	80
نشر إدارة الجامعة لثقافة إدارة التغيير التكنولوجي	6	تهيئ العاممين في الجامعة لقبول التغيير التكنولوجي	4.0884	.74007	82
	7	تقيم دورات متخصصة في مجال إدارة التغيير التكنولوجي	4.1768	.74663	84
	8	عقد ورش تدريبية مستمرة لتوضح عملية التغيير التكنولوجي	4.1492	.73399	83
	9	توضح النتائج والمخرجات الايجابية المتوقعة من عملية التغيير التكنولوجي	4.0055	.74905	80

78	.83335	3.8950	تزود العاملين بأدلة إرشادية عن كيفية إدارة التغيير التكنولوجي	10	
81	.78479	4.0276	تبني ثقافة تنظيمية جديدة تساهم في تسهيل عملية التغيير التكنولوجي	11	
79	.81461	3.9448	توضح للعاملين عناصر الثقافة المشتركة للعمل بموجبها لإحداث التغيير المنشود	12	
79	.74061	3.9613	تلتزم بالتغيير من خلال التصرف بطريقة تنسجم مع الثقافة التنظيمية الجديدة	13	
82	.72346	4.0994	تشجع باستمرار على حتمية التغيير التكنولوجي وضرورته في تطوير أعمال الجامعة	14	
78	.74007	3.9116	دراسة تقويمية للثقافة التنظيمية السائدة في الجامعة باستمرار لدراسة ومعرفة ملاءمتها لخطط التغيير التكنولوجي التي تبناها الجامعة	15	
79	.82573	3.9613	توجه بإعادة تنظيم الهيكل التنظيمي ليتوافق مع رؤية الجامعة الجديدة	16	
80	.54752	4.0201	المعدل		
74	.95507	3.7238	تقوم إدارة الجامعة بالتحول نحو اللامركزية من خلال تفويض الصلاحيات للعهداء ورؤساء الأقسام	17	كل الجامعة
78	.79203	3.9227	تقوم بمراجعة الهيكل دورياً بشكل منهجي بعد كل عملية تغيير	18	
77	.80632	3.8343	تعمل على إعادة توزيع بعض الاختصاصات من خلال دمج مهام المناصب مع بعضها و استحداث مناصب جديدة	19	
79	.80155	3.9558	بنى نظام اتصالات ادارية فعال لضمان التواصل بين جميع اقسام المستويات الادارية	20	
79	.81762	3.9392	توجه بإعادة تنظيم الهيكل التنظيمي ليكون ملائماً لرؤية الجامعة الجديدة	21	
78	.85312	3.8950	تصمم هياكل تنظيمية مرنة و متغيرة تساهم في إنجاح إدارة التغيير التكنولوجي	22	
79	.81672	3.9282	الاستفادة من الاتجاهات الحديثة عند تصميم الهياكل	23	

78	83966	3.9000	التوجه لا أحداث تغييرات جذرية اداريا بما يتناسب مع التطورات والتقنيات الحديثة في مجال العمل سيما ضمن البيئة التكنولوجية	24
78	63196	3.8875	المعدل	

سيتم عرض وتفسير نتائج محاور مجال الادارة بحسب الاتي

المحور الاول: الرؤية المستقبلية لجامعة البصرة لإدارة التغيير التكنولوجي

من الجدول (10) يتضح انقيمة الوسط الحسابي بلغ اجمالي (4.0066) اعلى من قيمة الوسط الحسابي الفرضي للمقياس البالغ (3) ، وانحراف معياري بنسبة (0.54361) مؤشراً تشتت اجابات عينة الدراسة عن وسطها الحسابي ، وبنسبة استجابة (80%) مشيراً الى مستوى ادراك عال للإجابات ، وحقق اعلى وسط حسابي للفقرة (5) (تعمل على التقويم المستمر لرؤية الجامعة تجاه التغيير التكنولوجي بشكل يساعد على تطويرها) بقيمة (4.0939) وبانحراف معياري (0.72802) يعزز تحقيق نسبة استجابة (82%) و تحقيق مستوى عالٍ في ادراك الافراد المبحوثين . وحققاقل وسط حسابي فيالفقرة (1) (تقيم الواقع الحالي في ظل المعطيات المتاحة) بقيمة (3.9558) اعلى من قيمة الوسط الحسابي الفرضي البالغة (3) وبانحراف معياري (0.78756) مشيراً تشتت اجابات عينة الدراسة عن وسطها الحسابي ، وعزز نسبة الاستجابة بلغت (79%) مؤشرة تحقيق مستوى عال من ادراك عينة الدراسة للفقرة بالرغم انها اقل وسط حسابي قياسا بال فقرات الاخرى . وتفسر هذه النتائج بانجامعة البصرة تعمل بفاعلية وكفاءة للتوصل لاعلى درجات لأعلناً أداء في العمل حيث تسعى لتحسين جودة الخدمات التي تقدمها للمجتمع وتعمل بروح الفريق الواحد بالرغم من وجود الكثير من العوائق المادية لاقتناء احدث الاجهزة وتدريب العاملين تحد من اعمالها في التطور والتقدم لمواكبة نظيراتها من المؤسسات التعليمية بالدول المجاورة والعالمية لتحقيق الميزة التنافسية .

المحور الثاني: نشر إدارة الجامعة لثقافة إدارة التغيير التكنولوجي

الجدول (10) قيمة الوسط الحسابي لنشر إدارة الجامعة لثقافة إدارة التغيير التكنولوجي بلغ اجمالي (4.0201) اكبر منقيمة الوسط الحسابي الفرضي للمقياس البالغ (3) ، وانحراف معياري بنسبة (0.54752) مؤشراً تشتت اجابات عينة الدراسة عن وسطها الحسابي ، وبنسبة استجابة (80%) مشيراً مستوى ادراك عال ، و حقق اعلى وسط حسابي للفقرة (7) (تقيم دورات متخصصة في مجال إدارة التغيير التكنولوجي) بقيمة (4.1768) وبانحراف معياري (0.74663) يعزز تحقيق نسبة استجابة بنسبة (84%) تحقيق مستوى عالٍ في ادراك الافراد المبحوثين لأهمية تقيم دورات متخصصة في مجال إدارة التغيير التكنولوجي . وحققاقل وسط حسابي في الفقرة (10) (تزود العاملين بأدلة إرشادية عن كيفية إدارة التغيير التكنولوجي) بقيمة (3.8950) وهي اعلى من قيمة الوسط الحسابي الفرضي البالغة (3) وبانحراف معياري (0.83335) مشيراً تشتت اجابات عينة الدراسة عن وسطها الحسابي ، وعزز ذلك نسبة الاستجابة التي بلغت (78%) مؤشرة تحقيق مستوى عال من ادراك عينة الدراسة لهذه الفقرة على الرغم من انها اقل وسط حسابي قياسا بال فقرات الاخرى . لوحظ متخذو القرار والقيادات بجامعة البصرة يحرصون على :

1- تطوير وتأهيل جميع العاملين من هيئات تدريسية وموارد بشرية عاملة والدرجات العليا القيادية عن طريق المشاركة بالدورات التدريبية الالكترونية باستخدام احدث التقنيات وخصوصاً التي اقتنتها الجامعة للحصول على قيم الاداء المتميز وبكفاءة وفعالية وتحقيق اعلى جودة بالعمل .

2- تحرص على تزويد راس المال الفكري بإصدار ادله إرشادية لتعريفهم على الية العمل وبشكل مستمر لزيادة الاداء وتحسين الكفاءة.

3- ابراز نقاط القوة بالعمل ونقاط الضعف لغرض تلافيها وتحسين العمل بما هو افضل وتحقيق مستوى الطموح.

4- تحرص على عقد الاجتماعات الدورية لمعرفة الية الاعمال بالتغيير التكنولوجي ومناقشة الخطط المستقبلية وفقاً للاستراتيجية المعدة والمقترحة لتطوير (الخطط المستقبلية)

5- التحسين المستمر للثقافة التنظيمية وتطويرها وفقاً ما يناسب التطورات الحاصلة بالمجتمع وسوق العمل والتسويق لها .
المحور الثالث: هيكل الجامعة

يبين الجدول (10) ان قيمة الوسط الحسابي لهيكل الجامعة قد بلغ بشكل اجمالي (3.8875) وهو اكبر من قيمة الوسط الحسابي الفرضي للمقياس البالغ (3) ، وانحراف معياري بنسبة (0.63196) مؤشراً تشتت اجابات عينة الدراسة عن وسطها الحسابي ، وبنسبة استجابة (78%) مشيراً الى مستوى ادراك عال لهيكل الجامعة وفقاً لإجابات العينة ، وقد حقق اعلى وسط حسابي للفقرة (20) (بناء نظام اتصالات ادارية فعال لضمان التواصل بين جميع اقسام المستويات الادارية) بقيمة (3.9558) وبانحراف معياري (0.80155) مؤشراً تشتت اجابات عينة الدراسة عن وسطها الحسابي وما يعزز ذلك تحقيق نسبة استجابة بنسبة (79%) وهذا ما يدل على تحقيق مستوى عالٍ في ادراك الافراد المبحوثين لأهمية بناء نظام اتصالات ادارية فعال لضمان التواصل بين جميع اقسام المستويات الادارية . وحقق اقل وسط حسابي في الفقرة (17) (تقوم ادارة الجامعة بالتحويل نحو اللامركزية من خلال تفويض الصلاحيات للعمداء ورؤساء الاقسام) بقيمة (3.7238) وهي اكبر من قيمة الوسط الحسابي الفرضي البالغة (3) وبانحراف معياري (0.95503) مشيراً تشتت اجابات عينة الدراسة عن وسطها الحسابي ، وعزز ذلك نسبة الاستجابة التي بلغت (74%) مؤشراً تحقيق مستوى عالٍ من إدراك عينة الدراسة لهذه الفقرة على الرغم من انها اقل وسط حسابي قياساً بالفقرات الاخرى. لوحظ ان جامعة البصرة تحرص على ان تحقق الميزة التنافسية في الاداء وبجودة وكفاءة وفعالية عالية على اساس :

- 1- يكون العمل بالتغيير التنظيمي الالكتروني مكملًا للأعمال السابقة ومواكبة لأحدث التطورات المستمرة.
- 2- السعي الى وضع استراتيجية ومناقشة جميع ابعادها ومعرفة مدى توافقها مع الاهداف التي اعدت للتغيير او استحداث أي عمل جديد.

2 مجال الموارد البشرية

تم حساب المتوسط والانحراف المعياري ونسبة الاستجابة لأفراد المجتمع على محاور مجال الموارد البشرية الثلاثة (الشراكة في إدارة التغيير التكنولوجي ، التحفيز لتحقيق أهداف التغيير التكنولوجي، تدريب العاملين على مهارات ادارة التغيير التكنولوجي) وكما موضح في الجدول (11)

جدول (11) المتوسط والانحراف المعياري ونسبة الاستجابة لمجتمع الدراسة على مجال الموارد البشرية لاستبانة ادارة التغيير التكنولوجي

المحور	رقم الفقرة	الفقرة	المتوسط	الانحراف المعياري	نسبة الاستجابة
الشراكة في إدارة التغيير التكنولوجي	25	تشرك متخذي القرار في عملية صنع القرار سيما فيما يتعلق باتجاهات التغيير التكنولوجي	3.9392	.87029	79
	26	المشاركة في صنع قرار التغيير على جميع المستويات	3.8950	.89754	78
	27	تقبل أفكار متخذي القرار الجديدة لإدارة التغيير وتبناها في التنفيذ	3.9116	.79786	78
	28	تشجع متخذي القرار على تبادل الخبرات الإدارية في مجال إدارة التغيير التكنولوجي	3.9945	.85957	80
	29	تقوض الصلاحيات الكافية للعاملين لمعالجة المشاكل الآنية التي تحدث اثناء العمل	3.8785	.80735	78

80	.85294	4.0166	تشجيع ادارة الكليات للتعاون و العمل بروح الفريق لإحداث التغيير	30	
79	.83908	3.9613	تفعيل دور متخذي القرار في رسم خطة التغيير التكنولوجي	31	
79	.74807	3.9613	تقبل أفكار متخذي القرار الجديدة لإدارة التغيير التكنولوجي وترحب بها	32	
81	.82439	4.0608	تشجيع متخذي القرار على تبادل الخبرات الإدارية في مجال إدارة التغيير التكنولوجي	33	
79	.65717	3.9576	المعدل		
80	.73021	3.9890	تدعم عمليات التغيير التكنولوجي من خلال تشجيع العاملين على تحقيق اهداف التغيير التكنولوجي	34	التحفيز لتحقيق أهداف التغيير التكنولوجي
79	.76667	3.9669	منح العاملين الثقة من خلال تمكينهم من المشاركة في التغيير التكنولوجي	35	
79	.76213	3.9503	تحفز العاملين للابتكار و المبادرات التي تساهم في إنجاح عملية التغيير التكنولوجي	36	
80	.83659	4.0110	تعترف بإنجازات العاملين في مجال التغيير التكنولوجي وتشيد بها وتكفل المتميزين منهم بمناصب إدارية	37	
77	.94972	3.8398	تقدم حوافز مادية لتشجيع العاملين على تبني خطط التغيير التكنولوجي	38	
76	.96447	3.7956	يوجد نظام للمكافآت يضمن مشاركة العاملين في دعم إدارة التغيير التكنولوجي	39	
79	.69085	3.9254	المعدل		
80	.88185	3.9890	تحرص على تحديد الاحتياجات التدريبية للعاملين في مجالات اتجاهاتها الحديثة للتغيير التكنولوجي	40	تدريب العاملين على مهارات إدارة التغيير التكنولوجي
79	.78320	3.9667	صياغة استراتيجية متكاملة لتطوير و تنمية العاملين على إدارة التغيير التكنولوجي	41	
77	.86135	3.8619	توافر تدريباً كافياً علمياً وإدارياً للتغيير التكنولوجي	42	
78	.82398	3.9006	تحرص على التنويع في أساليب التدريب على إدارة التغيير التكنولوجي	43	
79	.72232	3.9296	المعدل		

سيتم عرض وتفسير نتائج محاور مجال الموارد البشرية بحسب الآتي :

1- المحور الأول : الشراكة في إدارة التغيير التكنولوجي :

م الجدول (11) يتضح ان قيمة الوسط الحسابي للشراكة في إدارة التغيير التكنولوجي قد بلغ بشكل اجمالي (3.9576) وهو اكبر من قيمة الوسط الحسابي الفرضي للمقياس البالغ (3) ، وانحراف معياري بنسبة (0.65717) مؤشراً تشتت اجابات عينة الدراسة عن وسطها الحسابي ، وبنسبة استجابة (79%) مشيراً الى مستوى ادراك عال للشراكة في إدارة التغيير التكنولوجي وفقاً لإجابات العينة ، وقد حقق اعلى وسط حسابي للفقرة (33) (تشجيع متخذي القرار على تبادل الخبرات الإدارية في مجال إدارة التغيير التكنولوجي) بقيمة (4.0608) وبانحراف معياري (0.82439) وما يعزز ذلك تحقيق نسبة استجابة بنسبة (81%) وهذا ما يدل على تحقيق مستوى عالٍ في ادراك الافراد المبحوثين لأهمية تشجيع متخذي القرار على تبادل الخبرات الإدارية في مجال إدارة التغيير التكنولوجي. وحقق اقل وسط حسابي في الفقرة (29) (تفوض الصلاحيات الكافية للعاملين لمعالجة المشاكل الآتية التي تحدث اثناء العمل) بقيمة (3.8785) وهي اعلى من قيمة الوسط الحسابي الفرضي البالغة (3) وبانحراف معياري (0.80735) مشيراً تشتت اجابات عينة الدراسة عن وسطها الحسابي ، وعزز ذلك نسبة الاستجابة التي بلغت (78%) مؤشرة تحقيق مستوى عالٍ من إدراك عينة الدراسة لهذه الفقرة على الرغم من انها اقل وسط حسابي قياساً بالفقرات الأخرى. من خلال عرض النتائج لوحظ ان الجامعة تعطي متخذو القرار والقيادات العليا في الجامعة الدور الاساس للعمل على ان يضيف:

1- القيمة المضافة لتطوير وتحسين العمل الالكتروني وفق احدث التطورات على اساس الدقة في الاداء وتحسين الجودة والفاعلية للعاملين .

2- تعتمد على الكفاءات العليا والخبرات السابقة بالعمل من خلال :

1- اعطاء الفرصة للقيادات من الاعمار الشبابية وتهيئتهم لمسك زمام الامور .

2- تدريب العاملين وتهيئتهم للعمل وذلك بإدخال دورات تدريبية وتطويرية داخل المحافظة او القطر وخارجة

3- الاستئناس بالأفكار الشبابية بتطوير العمل وتحسين الاداء واعطاء قيمة مضافة للعمل .

4- توزيع الصلاحيات لتلافي المشاكل الانية والمستقبلية واعطاء الحلول والحلول البديلة .

5- تشجيعهم وتهيئتهم لصنع القرار عن من خلال الثقة بمقترحاتهم ومناقشتها واطافة الحلول لها .

2- المحور الثاني : التحفيز لتحقيق أهداف التغيير التكنولوجي : يبين الجدول (11) ان قيمة الوسط الحسابي للتحفيز لتحقيق

أهداف التغيير التكنولوجي قد بلغ بشكل اجمالي (3.9251) وهو اعلمن قيمة الوسط الحسابي الفرضي للمقياس البالغ (3) ، وانحراف معياري بنسبة (0.69085) مؤشراً تشتت اجابات عينة الدراسة عن وسطها الحسابي ، وبنسبة استجابة (79%) مشيراً الى مستوى ادراك عالٍ للتحفيز لتحقيق أهداف التغيير التكنولوجي وفقاً لإجابات العينة ، وقد حقق اعلى وسط حسابي للفقرة (37) (تعترف بإنجازات العاملين في مجال التغيير التكنولوجي وتشيد بها وتكلف المتميزين منهم بمناصب ادارية) بقيمة (4.0110) وهو اعلى من الوسط الحسابي الفرضي وبانحراف معياري (0.83659) وما يعزز ذلك تحقيق نسبة استجابة بنسبة (80%) وهذا ما يدل على تحقيق مستوى عالٍ في ادراك الافراد المبحوثين لأهمية هذه الفقرة في الاعتراف بإنجازات العاملين في مجال التغيير التكنولوجي والاشادة بها وتكليف المتميزين منهم بمناصب ادارية. وحقق اقل وسط حسابي في الفقرة (39) (يوجد نظام للمكافآت يضمن مشاركة العاملين في دعم إدارة التغيير التكنولوجي) بقيمة (3.7956) وهي اعلى من قيمة الوسط الحسابي الفرضي البالغة (3) وبانحراف معياري (0.96447) مشيراً تشتت اجابات عينة الدراسة عن وسطها الحسابي ، وعزز ذلك نسبة الاستجابة التي بلغت (76%) مؤشرة تحقيق مستوى عالٍ من إدراك عينة الدراسة لهذه الفقرة على الرغم من انها اقل وسط حسابي قياساً بالفقرات الأخرى. وذلك بسبب:

- 1- احتساب القيمة التي يضيفها العاملين على استراتيجية العمل بقياس درجة الفاعلية للعاملين في العمل التكنولوجي واحتسابها على درجة الاداء والميزة التنافسية بين القيادات ومتخذو القرار بتحسين عمل الكليات والمنافسة فيما بينهم لتحسين الجودة.
- 2- قياس الكفاءة للعاملين وتشجيعهم على الابتكار بالعمل من خلال:
 - 1- تشجيعهم بالحوافز المعنوية مثل ادخالهم دورات تدريبية خارج المحافظة او القطر اعطاء الاجازات الدراسية بتوفير مقعد دراسي داخل وخارج العراق.
 - 2- الحوافز المادية كالمكافآت التشجيعية او صرف نصف راتب اضافي لتشجيعهم او اعطاء هدية قيمة.
 - 3- قيمة معنوية كإهداء درع تشجيعي وكتاب شكرا على ما قاموا به من عمل.
 - 4- قيمة معنوية من خلال ترفيعهم بمكان اعلى او اعطائهم منصب اعلى لكفاءتهم وتقانيهم بالعمل.
 - 5- تنصيبه المسؤول المباشر على سيرة الخطة الاستراتيجية بالعمل (الرقابة على سير واليات العمل والعمال.
- 3- **المحور الثالث : تدريب العاملين على مهارات ادارة التغيير التكنولوجي:** يبين الجدول (11) ان قيمة الوسط الحسابي لتدريب العاملين على مهارات ادارة التغيير التكنولوجي قد بلغ بشكل اجمالي (3.9296) وهو اكبر من قيمة الوسط الحسابي الفرضي للمقياس البالغ (3)، وانحراف معياري بنسبة (0.72232) مؤشراً تشتت اجابات عينة الدراسة عن وسطها الحسابي، وبنسبة استجابة (79%) مشيراً الى مستوى ادراك عال لتدريب العاملين على مهارات ادارة التغيير التكنولوجي وفقاً لإجابات العينة ، وقد حقق اعلى وسط حسابي للفقرات (40) بقيمة (3.9890) وبانحراف معياري (0.88183) وما يعزز ذلك تحقيق نسبة استجابة بنسبة (80%) وهذا ما يدل على تحقيق مستوى عالٍ جداً في ادراك الافراد المبحوثين لأهمية هذه الفقرة في تدريب العاملين على مهارات ادارة التغيير التكنولوجي. وحقق اقل وسط حسابي في الفقرة (42) (توافر تدريباً كافياً على مهارات إدارة التغيير التكنولوجي) بقيمة (3.8619) وهي اعلى من قيمة الوسط الحسابي الفرضي البالغة (3) وبانحراف معياري (0.86135) مشيراً تشتت اجابات عينة الدراسة عن وسطها الحسابي، وعزز ذلك نسبة الاستجابة التي بلغت (77%) مؤشراً تحقيق مستوى عالٍ من إدراك للعينة لهذه الفقرة على الرغم من انها اقل وسط حسابي قياساً بالفقرات الأخرى ، للأسباب الآتية:
 - 1- تحديد احتياجات التدريب للعمل والعمال .
 - 2- الاستمرار بالاعمال الالكتروني بعد التدريب لاستمرار العاملين وتطوير مهاراتهم وتنمية كفاءتهم وزيادة فاعليتهم كل هذا يؤدي الى الابداع وتقليل كلفة العمل.
 - 3- التنوع بأساليب التدريب وتحقيق القيمة المضافة للعمل وتحسين نوعيته.

3 مجال الموارد المالية والفنية في جامعة البصرة

- تم حساب المتوسط والانحراف المعياري ونسبة الاستجابة لأفراد المجتمع على مجال الموارد المالية والفنية في جامعة البصرة وكما موضح في الجدول (12)
- جدول (2) المتوسط والانحراف المعياري ونسبة الاستجابة لمجتمع الدراسة على مجال الموارد المالية والفنية لاستبانة ادارة التغيير التكنولوجي

رقم الفقرة	الفقرة	المتوسط	الانحراف المعياري	نسبة الاستجابة
44	توافر الميزانيات اللازمة لتطبيق عمليات إدارة التغيير التكنولوجي	3.7293	.95375	75
45	توافر دعم مالي للاستعانة بمدرسين مؤهلين لتدريب العاملين على تطبيق إدارة التغيير التكنولوجي	3.6685	.95484	73

46	توافر ميزانية مخصصة للدورات التدريبية في مجال إدارة التغيير التكنولوجي	3.6944	.95775	74
47	توافر بيئة عمل (التصميم، المساحة، التجهيزات) لتطبيق أحد النماذج الحديثة للتغيير الإلكتروني	3.7624	.93329	75
48	توافر بدائل عن الاحتياجات الفنية والمالية المفقودة اللازمة للتغيير التكنولوجي	3.8177	.92190	76
49	توافر كمية كافية من التجهيزات الإلكترونية وبرامج الحاسوب في الجامعة	3.8674	.89075	77
50	توافر شبكات اتصال داخلية وخارجية بين جميع الإدارات لتسريع العمل	3.9337	.89816	79
51	الصيانة الدورية والمتابعة المستمرة للإصلاح العطلات في أجهزة الحاسوب	3.9890	.83659	80
52	تستخدم الجامعة شبكة الحاسوب في معاملاتها الداخلية	3.9227	.89727	78
المعدل		3.8207	.74989	76

سيتم عرض وتفسير مجال الموارد المالية والفنية بحسب الآتي:

في الجدول (12) يتضح ان قيمة الوسط الحسابي للمجال المالي والفني في جامعة البصرة وياجمالي (3.8207) وهو اكبر من قيمة الوسط الحسابي الفرضي للمقياس البالغ (3) ، وانحراف معيارينسبة (0.74989) كمؤشرأتشنت اجابات العينة عن وسطها الحسابي ، وبنسبة استجابة (76%) مشيراً الى مستوى ادراك عال للمؤشر للمجالالمالي والفني في جامعة البصرة وفقاً لإجابات العينة ، وقد حقق اعلى وسط حسابي للفقرة (51) (الصيانة الدورية والمتابعة المستمرة للإصلاح العطلات في أجهزة الحاسوب) بقيمة (3.9890) وبانحراف معياري (0.83659) وما يعزز ذلك تحقيق استجابة بنسبة (80%) و تحقق مستوى عالٍ جداً في ادراك الافراد المبحوثين لأهمية الصيانة الدورية والمتابعة المستمرة للإصلاح العطلات في أجهزة الحاسوب . وحقق اقل وسط حسابي في الفقرة (45) (توافر دعم مالي للاستعانة بمدرسين مؤهلين لتدريب العاملين على تطبيق إدارة التغيير التكنولوجي) بقيمة (3.6685) وهي اعلى من قيمة الوسط الحسابي الفرضي البالغة (3) وبانحراف معياري (0.95484) مشيراًتشنت اجابات عينة الدراسة عن وسطها الحسابي ، وعزز ذلك نسبة الاستجابة بلغت (73%) مؤشرة تحقيق مستوى عالٍ من إدراك عينة الدراسة لهذه الفقرة على الرغم من انها اقل وسط حسابي قياسا بالفقرات الأخرى وتبين من هذه النتائج ان:

- 1-اهتمام متخذو القرارات والقيادات العليا بصيانة اجهزة الحاسوب والاجهزة الالكترونية.
- 2-توفير ميزانية لتجهيز الكليات ومراكزها بأرفادهم بالحواسيب الحديثة لمواكبة أحدث التطورات في المجال الإلكتروني وتحقيق القيمة المضافة للجامعة وتحقيق الفائدة وتحسين الفاعلية وجودة الاداء.
- 3-تحرص الجامعة على توفير شبكات الانترنت لكلياتها ومراكزها العلمية وادخالها بالمختبرات واللجان الامتحانية والتعليم المدمج لغرض تسويق المعلومات والخدمات الالكترونية الادارية والفنية.
- 4-تعمل على توفير بيئة عمل بنى تحتية على اعلى مستوى للعمل الالكترونية لتحسن قيمة العمل وتحقيق الميزة التنافسية بين الكليات المتقارنة علميا بتطوير وتحسين عمل المختبرات وقاعاتهم الدراسية وفق احدث التطورات لتعليم الطلبة وفق التعليم المدمج الإلكتروني .

4 مجال البيئة المحيطة

تم حساب المتوسط والانحراف المعياري ونسبة الاستجابة لأفراد المجتمع على مجال البيئة المحيطة وكما موضح في الجدول (13)

جدول (13) المتوسط والانحراف المعياري ونسبة الاستجابة لمجتمع الدراسة على مجال البيئة الدراسة لاستبانة ادارة التغيير التكنولوجي

رقم الفقرة	الفقرة	المتوسط	الانحراف المعياري	نسبة الاستجابة
53	الجامعة تأخذ بعين الاعتبار عند القيام بالتغيير التكنولوجي كافة العوامل المؤثرة داخليا وخارجيا.	3.8564	.80369	77
54	تستثمر الجامعة جميع امكانياتها من تكيف مع البيئة الخارجية في عملية ادارة التغيير التكنولوجي.	3.8840	.83853	78
55	تنوع وتغير الجامعة وسائلها واساليبها باستمرار لمواكبة التغيرات في البيئة الخارجية.	3.8895	.78807	78
56	تقيم الجامعة علاقات قوية مع منظمات المجتمع بهدف تهيئة بيئة داعمة للتغيير التكنولوجي.	3.9503	.76213	79
57	تستفيد الجامعة من الخبرات المحلية المجتمعية لتوظيفها في تقبل المجتمع للتغيير التكنولوجي.	4.0331	.75204	81
58	تسعى الجامعة للحصول على الدعم المادي والمعنوي من الحكومة لتمكين من الايفاء بمتطلبات التغيير التكنولوجي.	4.0276	.75595	81
59	تحرص الجامعة على وضع معايير اخلاقية للتغيير التكنولوجي تتوافق مع معايير المجتمع.	4.0718	.69148	81
المعدل		3.9590	.62316	79

سيتم عرض وتفسير نتائج مجال البيئة المحيطة

من الجدول (13) يتضح ان قيمة الوسط الحسابي في مجال (البيئة المحيطة) بأجمالي (3.9590) وهو اكبر من قيمة الوسط الحسابي الفرضي للمقياس البالغ (3) ، وانحراف معياري بنسبة (0.62316) مؤشراً تشتت اجابات العينة عن وسطها الحسابي ، وبنسبة استجابة (79%) مشيراً الى مستوى ادراك عال لإدارة التغيير التكنولوجي في مجال (البيئة المحيطة) وفقاً لإجابات العينة ، وقد حقق اعلى وسط حسابي للفقرة (59) (تحرص الجامعة على وضع معايير اخلاقية للتغيير التكنولوجي تتوافق مع معايير المجتمع) بقيمة (4.0418) وبانحراف معياري (0.69148) تحقق نسبة استجابة (81%) تحقق مستوى عالٍ جداً في ادراك الافراد المبحوثين لأهمية ان تحرص الجامعة على وضع معايير اخلاقية للتغيير التكنولوجي تتوافق مع معايير المجتمع. وحقق اقل وسط حسابي في الفقرة (53) (الجامعة تأخذ بعين الاعتبار عند القيام بالتغيير التكنولوجي كافة العوامل المؤثرة داخليا وخارجيا.) بقيمة (3.8564) وهي اعلى من قيمة الوسط الحسابي الفرضي البالغة (3) وبانحراف معياري (0.80369)

مشيرا تشنت اجابات عينة الدراسة عن وسطها الحساي ، وعزز ذلك نسبة الاستجابة (77%) مؤشرة تحقيق مستوى عال من ادراك عينة الدراسة لهذه الفقرة على الرغم من انها اقل وسط حساي قياسا بالفقرات الأخرى. وذلك بسبب:

1- التغيير الداخلي والخارجي لاستراتيجية العمل التكنولوجي وفق الفاعلية والكفاءة بالعمل .

2- دعم المزايا التنافسية للعمل وتهيئة بيئة داعمة للعمل وبكلفة اقل .

3- الدعم المالي والمعنوي لتطوير العمل وفق التغييرات التكنولوجية الحديثة.

الاستنتاجات

في ضوء ما توصل اليه الدراسة من نتائج تم استخلاص الاستنتاجات الآتية :

1- يوجد ادراك ورغبة قوية لدى متخذي القرار والقيادات العليا في جامعة البصرة لتطوير العمل وفقاً لأحدث التغييرات التكنولوجية. يتم التركيز على تحسين وتطوير الأعمال الإدارية باستخدام التكنولوجيا المناسبة.

2- ان اختيار القيادات المناسبة ادى الى تطوير الأعمال الإدارية وتنفيذ التغييرات التكنولوجية المساندة. و ضمان تنفيذ تلك التغييرات بشكل فعال وناجح.

3- ان تشجيع العمل الجماعي وروح الفريق في جامعة البصرة ، و تبادل الخبرات وتبني الأفكار الهادفة ودراساتها لتتوافق مع البيئة الجامعية . والتعاون والتفاعل بين أعضاء الفريق ساهم في تحقيق الأهداف المشتركة.

4- ان توافر فرص التدريب والتطوير للموظفين ادى التطوير مهاراتهم وزيادة قدراتهم في مجالات العمل ذات الصلة بالتكنولوجيا والابتكار.

5- ان استخدام الجامعة الحقيبة الإلكترونية للأعمال الإدارية ادى الى تعزيز العمل في ادارة التغيير التكنولوجي في العمل الاداري .

التوصيات

من خلال ما توصل اليه الدراسة الحالي من نتائج نوصي بالاتي :

1- الاهتمام تعزيز الوعي والتدريب بأهمية إدارة التغيير التكنولوجي وتوفير التدريبات وورش العمل العملية للموظفين لتعليمهم مهارات وأدوات إدارة التغيير التكنولوجي. و تنظيم الدورات التدريبية و ورش العمل الداخلية واستدعاء خبراء خارجيين لنقل المعرفة والخبرات في مجال إدارة التغيير التكنولوجي.

2- تشجيع التواصل والمشاركة الفعالة بين جميع أعضاء المؤسسة. و تنظيم جلسات تبادل الخبرات والمعرفة وإقامة فرق عمل مشتركة لتنفيذ مشاريع تغيير تكنولوجي. كما ينبغي توفير وسائل للتواصل الفعال والتعاون بين الأقسام والكليات والمراكز.

3- العمل الجاد والفعال في تطوير البنية التحتية للكليات العلمية والإنسانية. ينبغي التوسع في البنى التحتية ، مثل الإنشاءات والمختبرات والقاعات ، وتجهيزها بأحدث الأجهزة التقنية والعلمية. التي تساهم في توفير بيئة مناسبة للتعليم والدراسة وتطوير الأنشطة الأكاديمية

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دور الأمن السياحي في تحقيق التنمية السياحية المستدامة

نوفل لعمارة

أستاذ محاضر "أ" جامعة قسنطينة 3 الجزائر

مقدمة:

يعد القطاع السياحي أحد أهم مصادر الدخل القومي، وذلك لما لهذا القطاع من أهمية اقتصادية وثقافية وقد حقق قطاع هذا القطاع ارتفاعاً في نسبة الموازنات العامة للعديد من الدول حول العالم، بما حقق لها نمواً لاقتصاديات العديد من الدول، خصوصاً فيما يتعلق بالمردود المادي.

إن الأمن السياحي هو جانب مهم في عملية التنمية السياحية، يهتم به جميع المستثمرين في القطاع السياحي، حيث أنه يؤمن الحماية اللازمة للسائحين، فقد كان لأحداث مصر وتونس مثلًا تداعيات ملحوظة على التنمية السياحية في البلدين. فقد هوت السياحة، التي تساهم بنحو 7 في المائة من الناتج المحلي الإجمالي، بواقع 40 في المائة خلال الشهرين الأولين من الحراك في تونس. وفي مصر، انخفض عدد السياح بنحو 81 في المائة خلال شهر واحد.

من هنا نطرح الإشكالية التالية: إلى أي مدى يساهم الأمن السياحي في تحقيق التنمية السياحية المستدامة؟

أولاً: مفهوم السياحة

تعتبر السياحة ظاهرة إنسانية قديمة، فالإنسان منذ القدم كان في حركية دائمة بين السفر والتنقل بحثاً عن أمنه واستقراره ورزقه، ومحباً كذلك للعلم والمعرفة.

1- تعريف السياحة:

إن كلمة السياحة في اللغة هي الجريان، يقال ساح الماء أي جرى، وتأتي بمعنى الذهاب في الأرض، ولها معاني عديدة ومن ذلك التدبر والسير في الأرض للاطلاع على ما أودع الله في كونه الفسيح من مظاهر الإعجاز والحكم البالغة¹.

ويعرف **freuler guyer** السياحة بأنها "ظاهرة عصرية تنبثق من الحاجة المتزايدة إلى الراحة وتغيير الهواء، وإلى مولد الإحساس بجمال الطبيعة ونمو الإحساس بالبهجة والمتعة والإقامة في مناطق لها طبيعتها الخاصة، وكذلك نمو الاتصالات بين الشعوب وأوساط مختلفة من الجماعات الإنسانية"².

ويعرفها **McIntosh** وآخرون على أنها "مجموعة من الظواهر والعلاقات الناتجة عن عمليات التفاعل بين السياح ومنشآت الأعمال والدول والمجتمعات المضيئة وذلك بهدف استقطاب واستضافة هؤلاء السياح والزائرين"³.

أما **golden n** فيعرف السياحة على أنها "نوع من الحركة التي بمقتضاها يقيم السائحون لأي غرض في مكان خارج بلادهم، بشرط عدم اعتبار هذه الإقامة لأغراض الكسب الدائم أو المؤقت"⁴.

وتعرف السياحة حسب المجلس الاقتصادي والاجتماعي الفرنسي في قراره الصادر سنة 1972 بأنها "فن تلبية الرغبات الشديدة التي تدفع إلى التنقل خارج المجال المحلي"⁵.

أما المنظمة العالمية للسياحة فتعرف السياحة بأنها "انتقال الأفراد من مكان لآخر لأهداف مختلفة، ولفترة زمنية تزيد عن 24 ساعة وتقل عن سنة مع توفير الخدمات المتعلقة بهذا النشاط"⁶.

¹ محمد بن فايز الجحني وآخرون، الأمن السياحي. الرياض: جامعة نايف للعلوم الأمنية، 2004، ص 42.

² أحمد الجلال، في جغرافية السياحة. القاهرة: عالم الكتب للنشر، 1998، ص 25.

³ حميد عبد النبي الطائي، اصول صناعة السياحة. ط 2، عمان: الوراق للنشر، 2006، ص 23.

⁴ أحمد الجلال، التنمية والاعلام السياحي المستدام. القاهرة: عالم الكتب، 2003، ص 50.

⁵ أحمد لشهب، السياحة في الجزائر 1962-1982. رسالة ماجستير، جامعة الجزائر، 1987، ص 14.

⁶ أحمد محمود مقابلة، صناعة السياحة. عمان: دار الكنوز، 2007، ص 24.

ومهما تعددت التعاريف فإن السياحة أصبحت واقعا مشهودا وهدفا استراتيجيا تسعى إليه الدول المعنية بالسياحة وصناعاتها، فالولايات المتحدة الأمريكية مثلا تشكل إجمالي دخل السياحة الداخلية 90% من إجمالي حركة السياحة، وأصبحت عائدات السياحة عالميا تفوق الدخل من النفط وهي بذلك تشكل الثلث من دخل قطاع الخدمات على المستوى العالمي.

2- تعريف السائح:

من بين التعريفات المبكرة لمصطلح سائح هو ذلك التعريف الذي صدر عن عصبة الأمم في سنة 1937 حيث ورد أن السائح " هو ذلك الشخص الذي يرحل لقضاء فترة تزيد عن 24 ساعة في بلد آخر غير الذي يقيم فيه عادة"⁷، ولعمل غير رسميا.

وهناك من يعرف السائح بأنه " مسافر يمكث مؤقتا لفترة زمنية لا تقل عن 24 ساعة بعيدا عن مكان إقامته الدائمة بغرض الترفيه أو الترويج أو قضاء إجازة أو علاج أو سياحة دينية أو رياضية أو زيارة عائلة أو لغرض علمي"⁸.

3- أبعاد السياحة:

مع الاتجاه المعاصر نحو السياحة لما لها من مردود ايجابي على الدخل الوطني للدول فانه يمكن تصنيف السياحة وفقا لعدد من الأبعاد منها:

أ- البعد المكاني:

ويمكن تقسيم السياحة وفقا لهذا المعيار إلى:

- سياحة خارجية دولية: وفي هذا النوع من السياحة يتم اجتياز الحدود الوطنية والإقامة خارجها.

- سياحة داخلية: وفيها لا ينتقل الأفراد عبر الحدود الدولية بل ينتقلون من منطقة إلى منطقة أخرى داخل الوطن.

ب- البعد الزمني:

وهنا تقسم السياحة وفقا لمدة الإقامة فقد تكون قصيرة، طويلة، أو شتوية، صيفية.

ج- البعد الهديفي:

أي ما هو الهدف من السياحة وبموجب هذا البعد تصنف السياحة إلى عدة أنواع مثل: السياحة العلاجية والسياحة الدينية والسياحة التجارية، وسياحة المتعة والاستجمام، والسياحة الثقافية والسياحة الرياضية، والسياحة المهنية... الخ، وبذلك فانه يمكن تقسيم السياح بناء على ذلك إلى⁹:

- أشخاص يسافرون بقصد زيارة أماكن لها قيمة دينية كبيرة والتي تمارس فيها شعائر دينية خاصة مثل الحج والعمرة.

- أشخاص يسافرون من اجل البحث عن العمل أو الدراسة أو النواحي الإدارية أو المدنية أو الرياضية أو لخصور اجتماعات أو مؤتمرات دولية.

- أشخاص يسافرون طلبا للراحة والاستجمام أو لأسباب صحية للعلاج.

- أشخاص يسافرون بقصد تنمية ثروتهم واستغلال أموالهم بقصد الربح من أعمال التجارة.

- أشخاص يسافرون في رحلات بحرية حتى ولو استغرقت هذه الرحلات مدة طويلة لاكتشاف الدول التي يمرون عليها.

⁷ أمين عبد العزيز، استراتيجية التسويق في القرن 21. القاهرة: دار القباء، 2001، ص 17.

⁸ محمد بن فايز الجحني وآخرون، مرجع سابق، ص 43.

⁹ نفس المرجع ص 45.

-أشخاص يسافرون من اجل اعمال سياسية كحضور مؤتمرات سياسية أو لجان تحضيرية لمؤتمرات وأثناء تواجدهم بالدولة المضيفة يقومون بزيارة لاماكن سياحية.

وتقسم منظمة السياحة الدولية السياحة وفق معايير مختلفة منها المكان المزار والمسافة (محلي، إقليمي، دولي)، والهدف (علاجي، ديني...)، وسيلة النقل (بري، جوي، بحري)، وسيلة الإيواء (فنادق، خيم...)، مدة الإقامة (ليلة، أسبوع، شهر، فصل)، مستوى التنظيم (فردية، جماعية)¹⁰.

ثانيا: مفهوم الأمن السياحي:

يعد الأمن الأساس الجوهري لكافة النشاطات الإنسانية عامة، فبدون الأمن لا تعليم ولا تنمية، السياحة بحاجة للأمن أكثر من غيرها من الأنشطة الإنسانية الأخرى وذلك لان الإنسان فيها يغادر منطقته الجغرافية والثقافية داخليا أو خارجيا، مما يجعله بحاجة للأمن أكثر من غيره.

1- تعريف الأمن السياحي:

يقصد الأمن السياحي الأنشطة الإدارية والأمنية التي تستهدف تأمين مسار الأنشطة السياحية بمختلف صورها في مناخ يسوده الاطمئنان والسكينة بالصورة التي تمكن الأجهزة العاملة في هذا الميدان من أداء مهامها دون أي عوائق تعرقل أداءها، مما يؤدي إلى كسب المزيد من الجذب السياحي في صورة زيادة في عدد السياح وكثرة ما يمضونه من ليل سياحية.

وتتركز الأنشطة المتصلة بتحقيق الأمن السياحي بالدرجة الأولى على تحقيق امن السائح من خلال العمل على توفير كافة الظروف الملائمة التي تجعل إقامته خلال فترة سياحته سعيدة وآمنة، وبما يوفر له كافة الاحتياجات الضرورية والترفيهية التي قصد إشباعها من رحلته السياحية اخذين في الاعتبار الطبائع والعادات المختلفة للسياح الأجانب¹¹.

ويمتد مفهوم الأمن السياحي إلى تأمين المنشآت السياحية المختلفة والتي يستخدمها السياح مثل الفنادق والقرى والمنتجعات السياحية والشواطئ والمطاعم والنوادي وأماكن الترفيه المختلفة، وينصرف تأمين هذه المنشآت إلى توفير العدد الكافي منها والمناسب مع تعداد السياح بما يتجنب معه المخاطر الأمنية الناجمة عن الازدحام، وان يتم تشييد هذه المنشآت بما يراعي شروط الأمن والسلامة فيها من حيث اختيار الموقع والتصميمات والمنافذ¹².

وبدخل في مفهوم الأمن السياحي أيضا الجهود المبذولة لكفالة الأمن الصحي للسياح سواء من حيث مراقبة أماكن تقديم الطعام أو اتخاذ إجراءات الوقاية والتطهير في الأماكن التي يرتادونها بجميع مرافقها، والحرص على مستوى عال من النظافة يتناسب مع البيئة التي اعتادها السياح في أوطانهم ومراعاة الكشف الصحي الدوري على جميع العاملين في المجال السياحي للتأكد من خلوصهم من الأمراض¹³.

ويتسع الأمن السياحي ليشمل علاوة على ما تقدم إجراءات تأمين السياح من مختلف المخاطر الأمنية الجنائية التقليدية من حوادث مرور وسرقات ونصب، وذلك من خلال تركيز إجراءات الوقاية من هذه الجرائم بمراكز إقامة السياح وخلال انتقالهم وتحركات أفواجهم وخاصة في مناطق تجمعاتهم، والحرص على تحقيق نتائج ايجابية فيما يقع عليهم من جرائم وضبط الجناة وإعادة المال المعتدى عليه في جرائم الأموال وتقديم أسرع خدمة طبية في حالة حوادث السير.

¹⁰ غنيم عثمان محمد، سعد نبيل، التخطيط السياحي. عمان دار الصفا للنشر والتوزيع، 1999، ص 212.

¹¹ علي محمد علي، العلاقات العامة في الشرطة وأثرها في جمهور السياحة. الرياض: جامعة نايف، ص 147.

¹² نفس المرجع، ص 148.

¹³ علي بن فايز الجحني وآخرون، مرجع سابق، ص 86.

ويدخل في الأمن السياحي كذلك تأمين السياح والمناطق السياحية ضد مختلف العمليات الإرهابية التي أضحت إحدى الظواهر الإجرامية التي تتعرض لها العديد من الدول وخاصة التي يعتمد اقتصادها على السياحة¹⁴.

كذلك فانه نظرا للدور الذي يلعبه المرشدون السياحيون في قيادة الأفواج السياحية والاتصال المباشر بالسياحة فان مفهوم الأمن السياحي يمتد إلى ضرورة تنظيم هذه المهنة وتقييد ممارستها بضرورة الحصول على ترخيص مسبق بمزاولة لا يصدر إلا بعد التحقيق من توافر الشروط الأمنية والتخصص الفني السياحي لطالب الترخيص.

كما يمتد الأمن السياحي إلى أهمية تأمين أنشطة الشركات العاملة في الحقل السياحي سواء تلك التي تهتم بتنظيم رحلات الأفواج السياحية أو تلك التي تهتم بإصدار تذاكر السفر وتدير عمليات الحجز، وذلك من خلال وضع القواعد الأمنية المتصلة بمراقبة تنفيذ هذه الشركات لما تعقده من اتفاقيات وما تنفذه من شروط وممارستها لأعمالها في الحدود المشروعة واتخاذ الإجراءات الأمنية والصارمة مع المخالفين.

وأخيرا يشتمل الأمن السياحي كذلك بالإضافة إلى امن السياح والمواطنين امن التراث الثقافي والتاريخي، والحضاري الإنساني، بالإضافة إلى امن المشاهد الطبيعية (الجمال، الأشجار، الحيوانات، الطيور)، فقد تتعرض الموروثات الحضارية والأثرية السياحية كاللوحات الفنية والقطع الأثرية لعمليات نهب أو سلب أو تزيف أو بيع في المتاحف العالمية أو لدى سماسرة الآثار أو إساءة استعمالها أو التعدي أو التخريب.

2- مجالات الأمن السياحي:

أ- امن السياح:

ويقصد به امن الأفراد وممتلكاتهم عامة منذ الوصول حتى المغادرة إلى بلدانهم، ويشمل ذلك ألا يكونوا عرضة للسرقة والاستغلال والإرهاب، وكذا امن ممتلكاتهم وامن مكان إقامتهم من شقق وفنادق بالإضافة إلى امن الغذاء والطعام والصحة.

ب- الأمن المادي:

ويشمل امن المباني الدينية والحضارية والأثرية والفنادق والمطارات وكذا وسائل النقل البرية والجوية والبحرية، بالإضافة إلى امن المواقع الطبيعية من غابات وانهار وحيوانات وطيور.

ج- امن العاملين:

ويشمل امن الأفراد العاملين في القطاع السياحي سواء في المواقع الأثرية أو المحميات أو موظفي وكالات السفر أو العاملين في الفنادق.

د- امن المواصلات والاتصالات:

ويشمل تأمين تحركات الأفواج السياحية وتنقلاتهم، بالإضافة إلى امن السياح وحماية معلوماتهم الشخصية واحترام خصوصياتهم وحرياتهم.

3- الوسائل الأمنية لحماية السياحة:

هناك مجموعة من وسائل الحماية الأمنية للسياحة نذكر منها:

أ- الوسائل البشرية:

ويقصد بها الشرطة والشرطة السياحية، وكذا الحراسة الدائمة المواقع الأثرية الطبيعية وكذا الجمارك ونقاط التفتيش.

ب- الوسائل القانونية والتشريعية:

¹⁴ على بن فايز الجحني وآخرون، مرجع سابق، ص 87.

ويقصد بها حماية السياح ومعاينة من يتعرضون إليهم بأقصى العقوبات القانونية.

ج- توفير وسائل الحماية المادية:

ويقصد بها توفير وسائل وأدوات الإطفاء اللازمة عند حدوث الحرائق، وعدم التدخين في المتاحف وإبعاد العناصر والتحف الحساسة من مواقع الزلازل، وإبعاد المتاحف عن الأمكنة الناشطة بركانيا، وحماية المواقع الأثرية من الفيضانات.

د- إعداد كوادرات أمنية:

إعداد كوادرات أمنية خاصة بقطاع السياحة ويتم تأهيلها تحت سلطة ومراقبة السلطات الأمنية.

هـ- وسائل الحماية الإلكترونية:

ويقصد به إدخال التقنيات الجديدة لمراقبة المتاحف والمعارض والمطارات والساحات الخارجية مثل الإنذار الآلي لكشف الحرائق وكمرات المراقبة، وكذا وسائل التحكم الذاتي المبرمجة في حالة أي تهديد أمني للمواقع السياحية، بالإضافة إلى مانعات الصواعق التي تتركب على المباني الأثرية والسياحية¹⁵.

ثالثا: التنمية السياحية المستدامة:

1- التنمية السياحية:

تعرف التنمية السياحية على أنها تلك البرامج التي تهدف إلى تحقيق الزيادة المستمرة والمتوازنة في الموارد السياحية وتعميق وترشيد الإنتاجية في القطاع السياحي، وهي عملية مركبة تضم عدة عناصر متصلة ببعضها البعض، وتقوم على محاولة عملية للوصول إلى الاستغلال الأمثل لعناصر الإنتاج السياحي¹⁶.

وتعرف أيضا على أنها توفير التسهيلات والخدمات لإشباع حاجيات السياح وتشمل كذلك بعض تأثيرات السياحة مثل إيجاد فرص عمل جديدة ومداخل جديدة، ويذهب "دوغلاس بيرس" إلى أنه يمكن تعريف التنمية السياحية على أنها "مد أو توسيع قاعدة التسهيلات والخدمات لكي تتلاقى مع احتياجات السائح"¹⁷.

2- التنمية المستدامة:

تعرف التنمية المستدامة بأنها التنمية التي تلبي حاجيات الحاضر دون المساومة بقدرة الأجيال المقبلة على تلبية حاجياتهم¹⁸، وحسب تقرير brand lande فان التنمية المستدامة هي "عملية تلبية حاجيات الأجيال الحالية دون المساس بإمكانية تلبية حاجيات الأجيال المستقبلية".

وعرفت التنمية المستدامة من قبل ادوارد باربي بأنها "ذلك النشاط الاقتصادي الذي يؤدي إلى الارتقاء بالرفاهية الاجتماعية مع أكبر قدر من الحرص على الموارد الطبيعية المتاحة وبأقل قدر من الأضرار والإساءة للبيئة"¹⁹.

3- التنمية السياحية المستدامة:

أ- تعريف التنمية السياحية المستدامة:

¹⁵ على بن فايز الجحني وآخرون، مرجع سابق، ص 19.

¹⁶ نشوى فؤاد، التنمية السياحية. الإسكندرية: دار الوفاء، 2008، ص 09.

¹⁷ نفس المرجع، نفس الصفحة.

¹⁸ محمد عبد البديع، اقتصاد الحماية والبيئة. القاهرة: دار الامين، 2001، ص 316.

¹⁹ عبد الخالق عبد الله، التنمية المستدامة والعلاقة بين البيئة والتنمية. بيروت: مركز دراسات الوحدة العربية، 1998، ص 242.

تعرف التنمية السياحية المستدامة بأنها تنمية يبدأ تنفيذها بعد دراسة كاملة ومخطط داخل التخطيط المتكامل للتنمية الاقتصادية والاجتماعية والبيئية داخل الوطن ككل أو داخل أي إقليم من الدولة تتجمع فيه مقومات التنمية السياحية من عناصر جذب طبيعية وحضارية أو كلاهما²⁰.

وتعرف أيضا على أنها نقطة تلاقي ما بين احتياجات الزوار والمنطقة المضيفة لهم، مما يؤدي إلى حماية ودعم فرص الاستثمار والتطور المستقبلي، بحيث تتم إدارة جميع المصادر بطريقة توفر الاحتياجات الاقتصادية والاجتماعية والروحية، لكنها في الوقت ذاته تحافظ على الواقع الحضاري والنمط البيئي الضروري والتنوع الحيوي وجميع مستلزمات الحياة وأنظمتها.

وعرف الاتحاد الأوروبي للبيئة والمنتزهات القومية في عام 1993 التنمية السياحية المستدامة على أنها " نشاط يحافظ على البيئة ويحقق التكامل الاقتصادي والاجتماعي ويرتقي بالبيئة المعمارية".

وتعرف منظمة السياحة العالمية التنمية السياحية المستدامة على أنها " السعي إلى تحقيق رغبات السياح وحاجات المجتمعات المضيفة بحيث يراعى تحقيق حمايته تحسين الأفاق السياحية في المستقبل من خلال إدارة الموارد السياحية بطريقة تستجيب للموارد الاقتصادية والاجتماعية والثقافية والتنوع البيولوجي والعمليات البيئية والأنظمة المعيشية"²¹.

ومن التعاريف السابقة يمكن أن نصل إلى أن الاستدامة في التنمية السياحية تعني عملية إشباع حاجيات السياح النفسية والحصول على متطلباتهم دون الإخلال بحقوق الأجيال القادمة من السائحين في احتياجاتهم بالاستمتاع بالبيئة وكذا حقوق الأجيال القادمة من المواطنين المحليين في الثروة السياحية.

ب- مؤشرات التنمية السياحية المستدامة:

ينبغي توافر المؤشرات التي تساعد على تقييم التنمية السياحية المستدامة وقد اقترحت منظومة السياحة العالمية استخدام مؤشرات للتنمية السياحية المستدامة وهي:

- المؤشرات البيئية: ويتم قياسها عن طريق:

- مؤشر معالجة النفايات الصلبة السائلة.

- مؤشر كثافة استخدام التربة الذي يقيس كثافة السياح في المنطقة.

- مؤشر استخدام المياه والذي يقيس استخدام السياح للمياه الصالحة للشرب مع حجم استخدامها من قبل السكان المحليين إلى الحجم الكلي للمياه الصالحة للشرب.

- مؤشرات حماية الجو من التلوث وهو الذي يقيس مدى تلوث الهواء خلال فترات السنة للمواسم السياحية.

- المؤشرات الاجتماعية: وترتكز على:

- مؤشر الانعكاس الاجتماعي والذي يقيس تأثير السياحة على الظروف المعيشية للسكان.

- مؤشر رضا السكان المحليين ويحدد مستوى رضا السكان المحليين بالمشاريع السياحية.

- مؤشر الأمن ويقيس مدى انعكاس عنصر الأمن على تدفق السياح.

- مؤشر الصحة العامة ويعكس تأثير تطور النشاط السياحي على مستوى صحة السكان.

- المؤشرات الاقتصادية: وتتعلق بقياس تأثير النشاط السياحي على الاقتصاد والوسط المحلي وأهم مؤشرات:

²⁰ عبد الوهاب صلاح الدين، التنمية السياحية. القاهرة: مطبعة زهران، 1991، ص 82.

²¹ عبد الرحمان السحيباني، الدليل الإرشادي للسياحة المستدامة في الوطن العربي. جامعة الدول العربية، ص 07.

- مؤشر العملة الصعبة.

- مؤشر الدخل.

- مؤشر الاستثمار.

ج- مبادئ التنمية السياحية المستدامة:

هناك مجموعة مبادئ للتنمية السياحية المستدامة نذكر منها²²:

- يجب أن يكون للتخطيط للسياحة وتنميتها وإدارتها جزء من استراتيجيات الحماية والتنمية للإقليم والدولة ، كما يجب أن يتم تخطيط وإدارة السياحة بشكل متداخل وموحد يتضمن إشراك وكالات حكومية مختلفة ومؤسسات خاصة ومواطنين وذلك لتوفير أكبر قدر من المنافع.

- يجب أن تتمتع هذه الوكالات والمؤسسات والجماعات والأفراد بالمبادئ والأخلاق التي تحترم ثقافة م بيئة واقتصاد المنطقة المضيفة والطريقة التقليدية لحياة المجتمع وسلوكه بما في ذلك الأنماط السياسية.

- يجب أن يتم تخطيط وإدارة السياحة بطريقة مستدامة وذلك من أجل الحماية والاستخدامات الاقتصادية المثلى للبيئة والطبيعة.

- يجب أن تهتم السياحة بعدالة توزيع المكاسب بين مروجي المكاسب وأفراد المجتمع المضيف أو المحلي.

- يجب الأخذ بمتطلبات البيئة والمجتمع قبل مباشرة أي تنمية سياحية.

- يجب تشجيع الأشخاص المحليين للقيام بأدوار قيادية في التخطيط والتنمية بمساعدة الحكومة وقطاع الأعمال والقطاع المالي.

د- متطلبات تحقيق التنمية السياحية المستدامة:

لتحقيق تنمية سياحية مستدامة هناك مجموعة من الإجراءات والوسائل وهي:

- سن قوانين وتشريعات ذات العلاقة بحماية البيئة.

- وجود مراكز دخول في المواقع السياحية لتنظيم حركة السياح وتسهيل المراقبة الحذرة لسلوكهم تجاه البيئة السياحية.

- تحديد القدرة الاستيعابية للمواقع السياحية حتى يتفادى الازدحام في المناطق الأثرية والتاريخية.

- نشر الوعي السياحي والثقافة البيئية بين السكان المحليين.

- تشجيع إقامة المشاريع التي توفر الدخل للسكان المحليين مثل الصناعات التقليدية والحرفية والعمل كمرشدين.

- تعاون كل القطاعات ذات العلاقة بالقطاع السياحي لإنجاح إقامة المحميات الطبيعية والتراثية وإدارتهم من طرف كواد مؤهلة واعتماد سياسة بيئية ملائمة.

رابعاً: مساهمة الأمن السياحي في تحقيق التنمية السياحية المستدامة:

تسعى التنمية السياحية المستدامة إلى الاستغلال الأمثل للمواقع السياحية من حيث دخول السياح بإعداد متوازنة للمواقع السياحية على أن يكونوا على علم مسبق بأهمية المناطق السياحية والتعامل معها بشكل ودي حتى لا تكون أضرار ، وتلبي السياحة المستدامة الأمانة احتياجات السياح مثلما تعمل على الحفاظ على المناطق السياحية وزيادة فرص العمل للمجتمع

²² أحمد محمود مقابلة ، مرجع سابق ، 92.

المحلي ، وهي تعمل على إدارة كل الموارد المتاحة سواء كانت اقتصادية أو اجتماعية أو طبيعية وتسعى للمحافظة على التوازن البيئي و التنوع الحيوي وكل ذلك لا يتم إلا في وجود مناخ امن.

إن العلاقة بين السياحة والأمن هي علاقة طردية ومتلازمة فأيما يكون الأمن والاستقرار تكون هناك فرص نجاح السياحة مزدهرة ، وأيما تكون السياحة ناهضة ومزدهرة يكون الأمن مستتباً فالترابط بين الأمن والسياحة هو ترابط قوي ويتضح ذلك الترابط من خلال ما يلي²³:

1- إن النهضة السياحية تحتاج إلى تخطيط والتخطيط يعتمد على المعرفة الاجتماعية والاقتصادية والثقافية والسياحية ، فضلاً عن الإمكانيات المتاحة ولا يمكن التنبؤ بمعرفة هذه العوامل في ظل واقع غير امن ومستقر.

2- عندما يكتمل التخطيط ستبقى المخططات دون تطبيق وتنفيذ ، فتنفيذ المشروعات يحتاج إلى امن واستقرار إذ لا يمكن أن ينجز أي مشروع سياحي إلا في مناخ امن ومستقر.

3- إن العلاقة بين الخوف والسياحة هي علاقة متلازمة فحينما يوجد الخوف تتدنى مستويات صناعة السياحة أو تنعدم وحيث يكون الأمن تزدهر السياحة وتدوم.

4- الأمن يعني ثباتاً واستقراراً آمناً مما يتيح الفرصة لاستغلال الموارد الطبيعية والبشرية بشكل أفضل وتوظيفها بما يحقق نمو سياحياً وتقدماً اجتماعياً في جميع الأصعدة.

5- استتاب الأمن في أي دولة يكسبها احترام وإعجاب الآخرين على المستوى الإقليمي والدولي ويعزز السياحة ومردودها الاقتصادي.

6- إن صناعة السياحة تفرض على أي دولة أن تؤمن الاحتياجات المشروعة والخدمات المناسبة للسياح منذ ساعة وصولهم إلى ساعة مغادرتهم وهذا يعني أن الأمن ملازم لهذه الصناعة من البداية إلى النهاية.

الخاتمة:

لقد أصبحت السياحة من بين أهم الروافد المساعدة على النهوض الاقتصادي والحضاري خاصة في عصرنا الحاضر ، وذلك لما تقدمه من مداخل كبيرة لاقتصاديات الدول وما توفره من فرص عمل وعملية صعبة واستثمار وتحسين في مستويات معيشة السكان المحليين ، كما أن تحقيق تنمية سياحية مستدامة يجب أن يكون قائماً على تلاقي حاجيات ورغبات السياح من جهة والحفاظ على الموروث الثقافي والحضاري للمجتمعات المحلية من جهة أخرى بالإضافة إلى المحافظة كذلك على التنوع الحيوي والطبيعي والبيئي.

و يبقى تحقيق الأمن السياحي والاستقرار من بين العوامل الحاسمة والمؤثرة في أي صناعة سياحية أو استثمار سياحي ، فانعدام الأمن يؤدي إلى خوف المستثمرين والسياح وكساد الصناعة السياحية ، بينما بناء اقتصاد قوي قادر على مواجهة التحديات والظروف يجب أن يرتكز على سياسة أمنية يكون بمقدورها حماية السياح من الجرائم والمشاكل ، وكذا الأماكن السياحية من التخريب والنهب والحفاظ على الطبيعة والتراث والتوازن البيئي والحيوي ، وكل هذا يؤدي إلى الانتعاش السياحي والازدهار الذي هو في الحقيقة نتاج للأمن السياحي.

²³ على بن فايز الجحني وآخرون ، مرجع سابق ، ص 08.

Factors Affecting the Attitudes of Agricultural Producers toward Subsidies in Turkey**Issaka Saidou Ismaila****Çukurova University****Prof. Dr. Şinasi Akdemir****Çukurova University****Abstract**

Several policies have been implemented to improve the sustainability of agriculture, covering the environment, economy, and society in the world. In this paper, a total of 120 farmers were selected in different provinces (Konya, Aksaray, Bitlis, Elazığ, Karaman, Kütahya, Muğla, Muş, Van) through simple random sampling and interviews, as well as focus groups. Logistic regression analysis was conducted to investigate factors affecting farmers' attitudes toward subsidies. The results revealed that the model accurately predicts whether the manufacturer has received support with 88.2 % accuracy. Age and tractor ownership variables are significant in the model. 89% of respondents reported that the support is not enough for agricultural activity against 11%.

Keywords: Factors affecting, Logistic regression, Agricultural subsidies, Turkey

Introduction

Agriculture makes it compulsory for this sector to be protected and supported by the state or institutions authorized by the state in every country in the world (World bank 2022). Today, as a result of both internal and external developments, agricultural instruments used in the support have been diversified according to the objectives as producer-oriented, consumer-oriented, and trade-oriented. Short-term subsidies due to the food crisis that emerged in 2008, while there is a tendency to reduce focus on applications ([Mittal](#) 2009). From late 2008, as countries emerged from the food security crisis and experienced the effects of the global financial and economic crisis, agricultural production increased. They have started to give more importance to medium and long-term policies by focusing on support (Maetz et al. 2011).

Giray (2012), to direct Turkish agriculture, different agricultural support tools have been used in terms of periods. Until the 2000s, apart from structural measures, product price supports, input, and credit subsidies were predominantly used as support tools. The number of products subject to support purchases, which started with wheat in 1932, increased to 24 in 1980 and 26 in 1992. Feed, seeds, and pesticides, especially fertilizers, are the main inputs for which subsidies are applied. However, the said supports cannot direct the agricultural sector in a targeted way, transfer efficiency cannot be achieved, and impose heavy burdens on the budget.

In parallel with the changes in support tools in the world, as well as internal reasons such as support tools were phased out and these supports were replaced by area-based Direct Income Support (independent of product type and amount). Since 2005, the agricultural weight of Direct Income Support in the support budget has decreased (Rapport 2020). In 2006 Agriculture Law, difference payment supports were accepted as the main policy tool. compensatory payments, milk premium, animal husbandry supports, agricultural insurance payments, rural development supports, environmental protection program supports, especially artificial insemination and veterinary support, Support tools such as research and development and agricultural extension support, marketing incentives, special storage assistance, quality support, organic production support, and some input supports when necessary have been diversified according to the targeted objectives (Hayes 2021). In 2009, DIS payments were completely abolished by the government.

The strategic objectives of agricultural policies are to ensure adequate and balanced nutrition, to be globally competitive and it is stated as the development of an environmentally friendly agricultural sector (Hobbs 2000). In the plan, R&D, innovations, efficiency, and food safety infrastructure emphasis is placed on strengthening and using water more efficiently in agriculture. The 2013-17 Strategic Plan defines five strategic areas in the agricultural sector: agricultural production and security of supply; food safety; phytosanitary and animal health; agricultural infrastructure and rural development; and institutional capacity building (GSDR 2015). According to T.C. Official Gazette (2014), the strategic targets, agricultural support tools, difference payments (for oil sunflower, seed cotton, soybean, canola, grain corn, safflower, olive oil, grain, and legume products...), compensation payments, diesel, fertilizer, soil analysis support, certified seeds, and sapling use support, livestock supports (forage crops, artificial fertilization, milk premiums, risk-free livestock zones, beekeeping, and fisheries), organic agriculture production support, good agricultural practices support, agricultural insurance support, biological control support, farm different support tools were used such as accounting data network support, environmental protection support for agricultural lands, agricultural extension and consultancy support, rural development support. Developed countries have used these agricultural supports extensively from the past to the present (OECD 2015). For this reason, the amount of support given to agriculture due to budget constraints for developing countries, as well as the extent to which producers benefit from this support, is examined. important for its effectiveness. in this study; we investigated the producers, to achieve the strategic goals of Turkish agriculture which of the diversified support types. Then, the socioeconomic characteristics of the producers benefit from different supports. The objective of this study is to investigate factors affecting farmers' attitudes toward subsidies.

Methodology

The binary logistic regression model was used to identify the factors affecting farmers' attitudes toward subsidies. The survey question on participation on farmers' attitudes toward subsidies "Yes" or "No" answer which is called a dichotomous variable. Many studies show that factors affecting the decision of farmers' attitudes toward subsidies are mostly related to demographic and biophysical factors which can help to characterize households. A total of 120 farmers were selected in different provinces (Konya, Aksaray, Bitlis, Elazığ, Karaman, Kütahya, Muğla, Muş, Van) through simple random sampling and interviews, as well as focus groups. Gujarati (1988) and Aldrich et al. (1984) the logit distribution function for the farmers' attitudes toward subsidies production activities is specified as Logistic regression is a model which constructs the best-fit line that describes the relationship both in terms of the direction of the relationship and estimated values between dependent variables and independent

variables. In the case of this study farmers' attitudes toward subsidies and other selected independent variables (Aldrich et al. 1984). Y is the dependent variable which is the benefit from agricultural supports and code 1=Yes; 2=No. Age and Tractor ownership are continuous independent variables that will be used for analysis.

$$P(y = 1 | x) = P(y = 1 | x_1, x_2 \dots x_7) \quad (1)$$

$$P(y=1 | x) = G (B_0+B_1X_1+B_2X_2+\dots+B_KX_K) =G (B_0+xB) \quad (2)$$

Where G is the function taking on values strictly between one and Deux $1 < G < 2$

Y = 1 = if farmers' attitudes toward subsidies, 2 =if otherwise

$$Y = \beta_0 + \beta_1 Ag + \beta_2 Tow + \varepsilon \quad (3)$$

Where

Y = Farmers' attitudes toward subsidies

Ag = Age

Tow= Tractor ownership

ε = Error term

β_0 = is the coefficient of the constant term

$\beta_1 - \beta_2$ = unknown parameters

Table 1: Variables explanation and measurement

Variable	Explanation	Measurement
Dependent variable		
Farmers' attitudes toward subsidies		1=Yes; 2=No
Independent variables		
Age	Age of the producer	Years(1 = 0-30; 2 = 31-60; 3 = more than 61)
Tractor ownership	Tractor possession	1=Yes; 2=No

Results and Discussion

The results of the demographic factors of farmers such as age, gender, social security, Household size, education, Irrigation possibility, Tractor asset and Labor size are the factors affecting the attitudes of agricultural producers toward subsidies have been presented in Table 2. The values show that the average size of Labor in the research was 2-3 people. The average age 61 and above years, followed by 31-60 and 0-30 of the farmers were 66.09, 46.95 and 22.5 respectively. Research results demonstrated that 38.7% are primary or less school graduates, 60.5% middle or high school graduates and 0.8% university graduates. Similarly, the findings reported by Maddison (2006). 100% were male of the whole targeted population with 0% female. These results contradicted the finding by Buyinza and Wambede (2008).

Table 2: Socio-Demographic characteristics of the respondent

Variables		N	%	Mean
Age	0-30	2	1.7	22.5
	31-60	107	89.2	46.95
	61 and above	11	9.2	66.09
Gender	Male	120	100	-
	Female	-	-	-
Social security	Yes	106	92.2	-
	No	9	7.8	-
Household size	1-5	44	37.6	4.59
	6-10	70	59.8	7.06
	More than 10	3	2.6	13
Education	Primary -less	46	38.7	-
	middle-high level	72	60.5	-
	University	1	0.8	-
Irrigation possibility	Yes	75	67.6	-
	No	36	32.4	-
Tractor asset	No	20	17.2	-
	Yes	96	82.8	-
Labor size	0-1 person	61	57	1
	2-3 person	40	37.4	2.35
	More than 4	6	5.6	4.5

Source: Field survey, 2022

The results of respondents indicated that support from agriculture is so difficult. formality too long had the highest, followed by the support no need and find is not enough, land rent, transfer and other were 36%; 20%; 16% and 4% respectively(Figure 1).

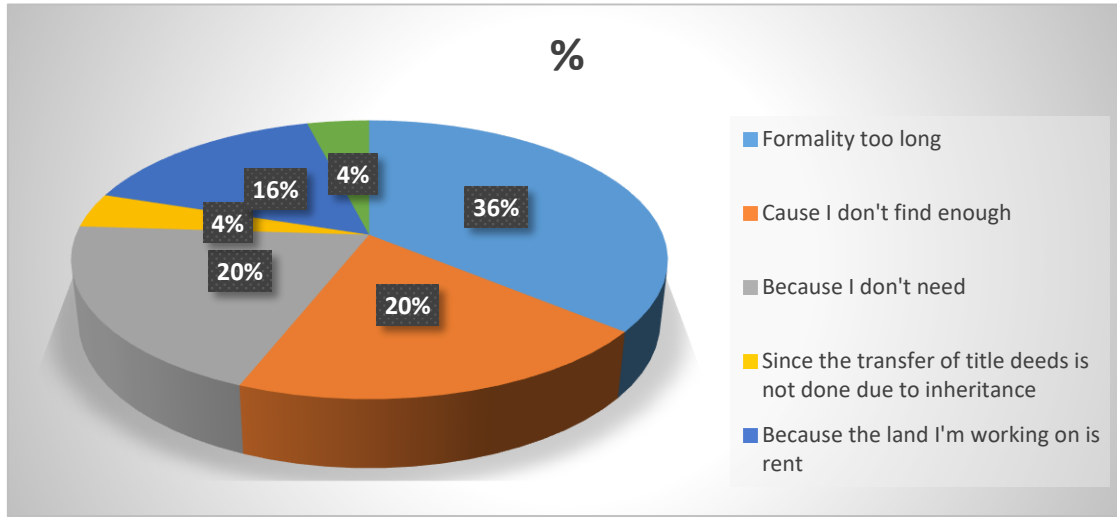


Figure 1: Benefit from agricultural supports, if no, why?

Figure 2 illustrated that 41% benefit from premium systems and field-based supports, followed by agricultural practices and insurance support 7%, and agricultural consulting support 4%.

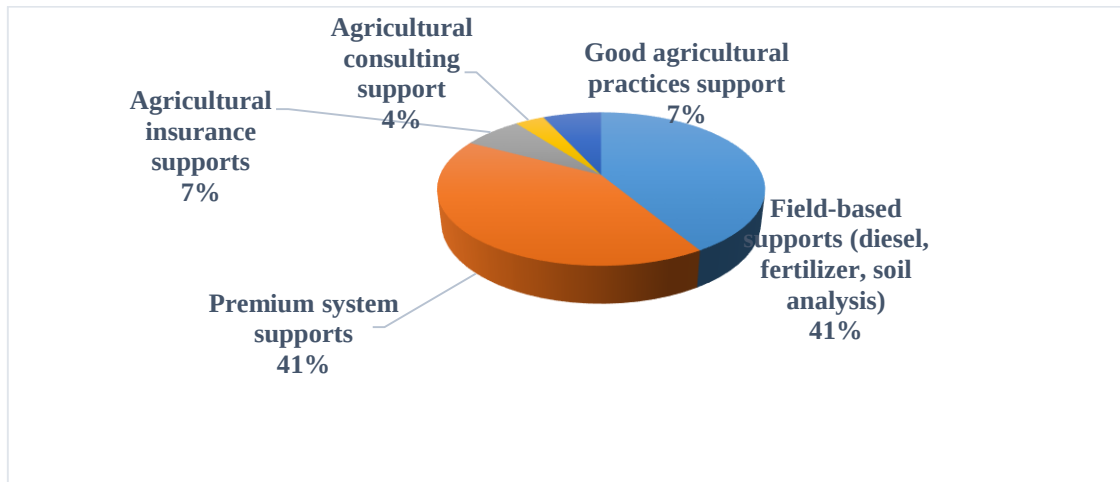


Figure 2: Benefit from agricultural

It is clear that the results indicate 89% of respondents reported that the support is not enough for agricultural activity against 11%. The fact that the majority of the respondents are not satisfied with agricultural support in the area of the survey is illustrated in figure 3 below. These results contradicted the findings by Sevinç et al. (2019) 74.5% of farmers said the support has positive effects on inputs and technology used in production and 79.4% said the support is effective in decisions about crop types.

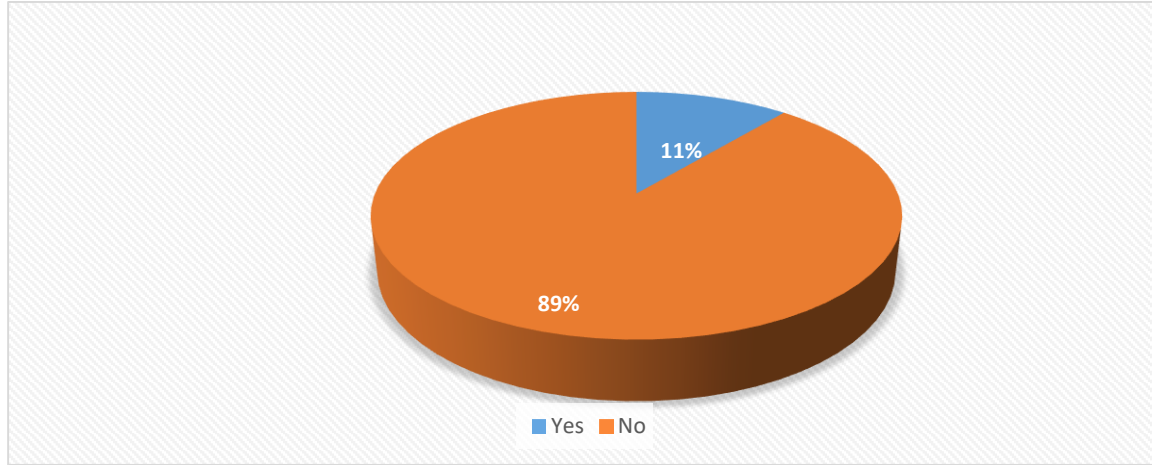


Figure 3: Agricultural supports

The model accurately predicts whether the manufacturer has received support with 88.2 %accuracy. Age and tractor ownership variables are significant in the model (table 3). The age variable is included in the model with a negative coefficient. It is observed that the tendency to benefit from agricultural support increases as the age increases (90 % from 1-0.10). Age is very important in determining the productivity of the labor force. The reason is that the youths are very energetic, ready to take risks, active and passionate as far as commercial production and adoption of new technologies are concerned. Significantly, the youth are the future farmers who are to carry on farming as a profession for sustainable food production in the nation. Arokoyo and Auta (1992) suggested that it is only the youth that they described as an energetic, creative, innovative, productive, and committed workforce that can bring expected development in agriculture. This result is also in line with the findings of Dolisca et al. (2006) who found that age is significantly and negatively related to farmers' decisions to adopt agricultural activity. This implies that as farmers get older, they are less inclined to adopt technologies when compared to relatively young farmers. Similarly, the findings of Topçu (2008); Artillery (2008) stated that the level of benefiting from agricultural support increased as the education level of the producers and the amount of cultivated land increased.

The tractor ownership variable takes place positively in the model and it is understood that those who own tractors receive more support (9.36 times). Tractor ownership by farmers raises farm production importance. It can be affected by many other potential factors, including specialization, land consolidation, changes in crop mixes, or biological innovations there are supported by Deininger & Byerlee (2012); Wan & Cheng (2001); Cramb (2011).

Table 3: Results of Logit regression

Variables	Coefficient	Standard error	Wald statistic	Sd	P value	Exp(B) Odds
Age	-2.34	1.139	4.218	1	0.04**	0.10
Tractor ownership	2.236	1.021	4.8	1	0.03**	9.36

NB: *** 1% ** 5% * 10%

Conclusion

The agricultural sector is supported by various policies all over the world due to the nature of the sector and the goods of this sector. Then, to the structure, it is known that the socioeconomic characteristics of the producers are also effective. The results of the logistic regression analysis show us the age variable is included in the model with a negative coefficient. It is observed that the tendency to benefit from agricultural support increases as age increases. And also, The tractor ownership variable takes place positively in the model and it is understood that those who own tractors receive more support. These results may contribute to improving the attitudes of agricultural producers toward subsidies.

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Factors Affecting the Yield in Dry Production Wheat in Turkey**Issaka Saidou Ismaila****Çukurova University****Prof. Dr. Şinasi Akdemir****Çukurova University****Abstract**

Wheat cultivation is important to Turkey's agricultural sector and food security. This study delves into the multifaceted factors that significantly influence the yield of dry wheat production in the Turkish context. Drawing on an extensive review of literature and empirical data, this research identifies and analyzes key determinants affecting wheat yield, including environmental factors, agronomic practices, technological advancements, and socio-economic factors. Understanding these factors is crucial for enhancing wheat production, ensuring food security, and fostering the sustainability of agriculture in Turkey. The objective was to identify factors influencing dry wheat production yields. In 2021, this study was conducted within the Konya region, involving 92 producers. To achieve this, a linear regression analysis was executed, with the yield as the dependent variable. Several independent variables were considered, including wheat cultivation area, seed quantity, base, and top fertilizer quantities, fallow status, certified seed utilization, and seed variety. The resulting model exhibited an impressive R-squared value of 73.5%, indicating that 73.5% of the variance in the dependent variable could be explained by the independent variables. Furthermore, based on the F-test results presented in the Anova table ($p < 0.05$), it was established that the model holds statistical significance. To gauge the relative importance of each factor, we examined fines, with higher fines generally indicating greater desirability or value within the context of the considered crop. In this category, fines range from 7.56% to 36.97%, with the highest fine corresponding to the top seed yield option. For agronomic practices, fines range from 8.40% to 31.09%, with the fourth option receiving the highest fine. Regarding technological advancements, fines range from 5.04% to 31.09%, with the fifth option having the highest fine.

Keywords: Factors influencing, Significance, Turkey

Introduction

Wheat, a staple food for millions worldwide, holds a prominent position among global cereal crops. In Turkey, it assumes a crucial role within both the agricultural sector and food security of the nation. Nonetheless, various factors wield substantial influence over wheat yields within arid production systems. Specific temperature ranges are requisite for the optimal growth and yield of wheat. The occurrence of extreme temperatures, be it heatwaves or frost events, has adverse effects on wheat yield. Adequate and timely rainfall or the efficient practice of irrigation holds paramount importance in ensuring sufficient soil moisture during critical growth stages.

Inadequate or excessive water availability can result in yield reductions, as indicated by Kizilgeçi et al. in 2020. Additionally, the varying water-holding capacities and nutrient availability associated with different soil types profoundly impact wheat growth and yield. Sandy soils may have poor water retention, while heavy clay soils can limit root development. b. Soil Fertility and Nutrient Management: Adequate nutrient availability, particularly nitrogen (N), phosphorus (P), and potassium (K), is crucial for wheat yield. Imbalanced nutrient levels or deficiencies can reduce productivity (Karaca et al. 2018). Choosing suitable wheat varieties adapted to specific agro-climatic conditions and disease resistance is vital for maximizing yield potential. Seeding Rate and Plant Density: Optimal plant population density and seeding rates contribute to better light interception, nutrient uptake, and weed competition management. Crop Rotation and Residue Management: Proper crop rotation practices and residue management help control diseases, pests, and weed pressure, positively influencing wheat yield. d. Weed, Disease, and Pest Management: Effective weed control, disease prevention, and pest management strategies are crucial for minimizing yield losses (Erol, 2019). Mechanization and Technology Adoption: The use of modern agricultural machinery, precision farming techniques, and advanced technologies can improve efficiency, reduce labor requirements, and enhance wheat yield. Optimal timing of operations such as sowing, fertilization, irrigation, and harvesting can significantly affect wheat yield (Canatay & Öztürk (2017). In addition, Socio-economic factors such as Farm size and management practices, including access to resources, infrastructure, and knowledge, can influence wheat yield. b. Market Factors: Price fluctuations, market demand, and access to markets affect farmers' decisions, investment in inputs, and overall wheat yield (Smith et al., 2019). This research aims to identify and analyze the key factors affecting wheat yield in dry production systems in Turkey.

Methodology

This research, conducted in Turkey, specifically focused on 92 producers in the Konya region. The aim was to gather pertinent data regarding factors that potentially affect wheat yield in dry production in Turkey. These factors encompass climate data, soil characteristics, fertilization methods, irrigation practices, seed quality, pest and disease management, as well as agricultural practices. The next step was to identify the key variables likely to impact wheat yield. To achieve this, consultation with domain experts, a comprehensive review of existing literature, and consideration of data availability and quality were undertaken (Karasu et al. 2017). Subsequently, the collected data underwent a cleaning and preprocessing phase. This involved addressing missing values, removing outliers, normalizing variables as needed, and ensuring the data was suitably formatted for analysis. The dataset was then divided into two subsets: a training set and a testing set. The training set was employed to construct the regression model, while the testing set was reserved for evaluating the model's performance (Özler & Kucukmehmetoglu, 2015). A linear regression analysis was performed on the training set using the chosen variables. The model was fitted to the data, and coefficients of the predictor variables were estimated. Techniques like stepwise regression or regularization were considered to refine the model if necessary. The performance of the linear regression model was evaluated using the testing set. Metrics such as the coefficient of determination (R-squared), mean squared error (MSE), or root mean squared error (RMSE) were calculated to assess the model's predictive capability (Tanriverdi & Guneyli, 2020). The estimated coefficients were then interpreted to comprehend the relationship between predictor variables and wheat yield. Factors with significant impacts on yield and their direction

of influence (positive or negative) were determined. Additionally, sensitivity analysis was conducted to assess the model's robustness by exploring how its results varied when certain variables were altered or removed (Unal & Karakoc, 2019).

Results and Discussions

Table 1 illustrates the average seed yield, with a value of 3.5435, denoting the quantity of seeds produced per unit of land or plant. A higher average indicates a more desirable yield for agricultural purposes. Similarly, the variable "High price" holds an average of 3.5326, representing the associated market price of the seeds. A higher average signifies a relatively profitable price for farmers or seed producers. The variable "Frost resistance" possesses an average of 3.6630, signifying the seeds' ability to withstand frost damage. A higher average implies greater resilience, particularly advantageous in frost-prone regions. For "Resilience against lodging," the average is 3.6087, reflecting the plants' resistance to bending or breaking of stems due to external factors like wind or rain. A higher average implies healthier and more productive crops. Additionally, "High straw and straw yield" shares an average value of 3.6630, indicating the plants' capacity to produce substantial straw, useful for applications like animal bedding, composting, or biofuel production. These averages provide valuable insights into seed characteristics, encompassing seed yield, market price, frost and lodging resistance, and straw yield of the resulting plants.

Table 1: Represents a set of variables and their corresponding averages.

Variables	N	Average
Yield of seed	92	3.5435
High price	92	3.5326
Frost resistance	92	3.6630
Resilience against lodging	92	3.6087
High straw and straw yield	92	3.6630

Source: Result of survey

Table 2 illustrates different factors alongside their respective percentage fines. Seed yield measures a crop's seed production, with higher yields signaling increased productivity. Marked fines span from 7.56% to 36.97%, with the highest fine linked to the top seed yield. High crop prices signify strong market demand and potential profit gains for farmers. The fines range from 8.40% to 31.09%, with the highest fine linked to the fourth option. Frost resistance gauges a crop's ability to withstand and recover from frost damage, especially crucial in cold climates. The fines span from 5.04% to 31.09%, with the highest fine tied to the fifth option. Resilience against lodging pertains to a crop's capacity to endure adverse weather or weak stalks, maintaining an upright position for efficient harvesting. The fines range from 9.24% to 31.09%, with the highest fine associated with the fifth option. High straw and straw yield refer to the quantity and quality of straw a crop produces, which can serve various purposes. This includes animal bedding or mulching. Fines range from 9.24% to 33.61%, with the highest fine linked to the fifth option. In

summary, marked fines signify the relative importance assigned to each factor, with higher fines typically indicating greater desirability or value within the context of the considered crop.

Table 2: Table represents various factors and their corresponding marked fines in percentages.

Factors	Marked Fine (Percent)					Total
	1	2	3	4	5	
Yield of seed	17.65	7.56	7.56	30.25	36.97	100
High price	8.40	17.65	14.29	31.09	28.57	100
Frost resistance	5.04	19.33	15.97	28.57	31.09	100
Resilience against lodging	9.24	17.65	12.61	29.41	31.09	100
High straw and straw yield	9.24	12.61	15.97	28.57	33.61	100

Source: Result of survey

Table 3: Model regression

Model	Total squares	SD	Mean squares	F	P value
Regression	51092.189	3	17030.730	30.642	0
Residual	47243.317	85	555.804		
total	3343322.632	119			

Table 4: Result of regression

	B	Std. error	T statistic	P value	Tolerance	VIF
(Still)	130.622	18.665	6.998	0.000		
Fallow state (1=fallow; 2=stubble)	-21.912	7.039	-3.113	0.003	0.624	1.603
Using certified seed (1=yes; 2=no)	-25.897	6.947	-3.728	0.000	0.570	1.754
Amount of base fertilizer used per decare (kg)	1.405	0.641	2.193	0.031	0.709	1.410

Table 4 presents significant findings regarding the influence of various factors on dry wheat production. Notably, the fallow status, the utilization of certified seeds, and the quantity of base fertilizer per decare exhibit significance with p-values below 0.05. The model underscores the importance of these variables in dry wheat production (p-value <0.05). Analyzing the coefficients, we observe that leaving the field fallow increases dry wheat yield by approximately 22 kilograms per decare. Conversely, those not using certified seeds experience a reduced yield, amounting to a decrease of roughly 26 kilograms per decare. It becomes evident that as the amount of base fertilizer applied per decare increases, the yield also rises. Specifically, an additional kilogram of base fertilizer per decare results in an approximate 1.4-kilogram increase in yield.

Firstly, the fallow status of the field has a positive impact on wheat yield in dry cultivation. The coefficient linked to fallow status indicates an increase in wheat yield by approximately 22 kilos per decare. This suggests that allowing the land to remain fallow before planting wheat can lead to higher yields by improving soil fertility, weed control, and reducing disease and pest pressures, ultimately enhancing field productivity. This finding aligns with Smith et al.'s (2023) research. Secondly, the use of certified seeds significantly influences wheat yield. Those not using certified seeds experience a lower yield compared to those who do, with a reduction of about 26 kilos per decare. Certified seeds undergo quality testing and meet specific standards for purity, germination rate, and genetic purity. Using certified seeds ensures farmers plant high-quality, genetically pure seeds with good germination rates, contributing to improved crop performance and higher yields. Lastly, the quantity of base fertilizer used per decare positively correlates with wheat yield. The coefficient associated with the increase in base fertilizer indicates that an additional kilo of base fertilizer per decare results in an increase in yield of approximately 1.4 kilos. Base fertilizer refers to the initial application of fertilizer before planting, providing essential nutrients for crop growth and development. This positive relationship underscores the importance of adequate nutrient supply for achieving optimal wheat production. Furthermore, it's worth noting that there are no assumption distortions based on the normality graph of residuals and the expansion graph of estimates with the residuals provided below. Additionally,

there are no issues of multicollinearity between independent variables, as indicated by VIF values (less than 10) and tolerance values (greater than 0.10).

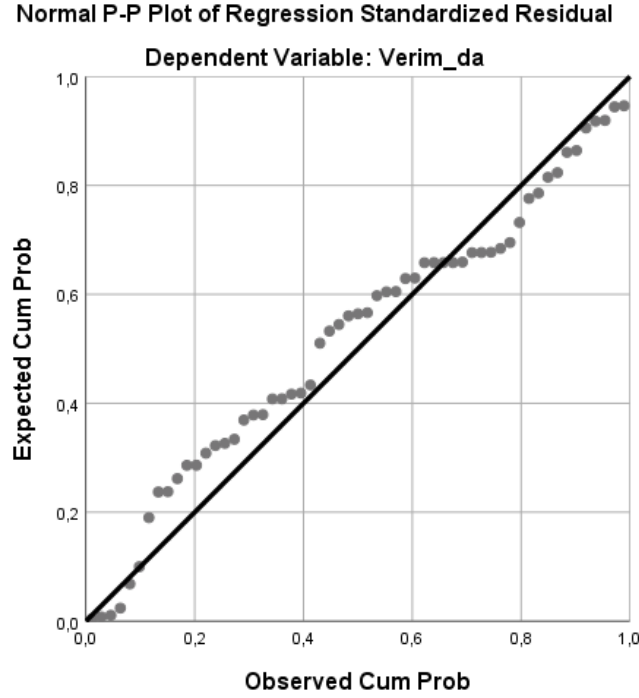


Figure 1: Normality graph

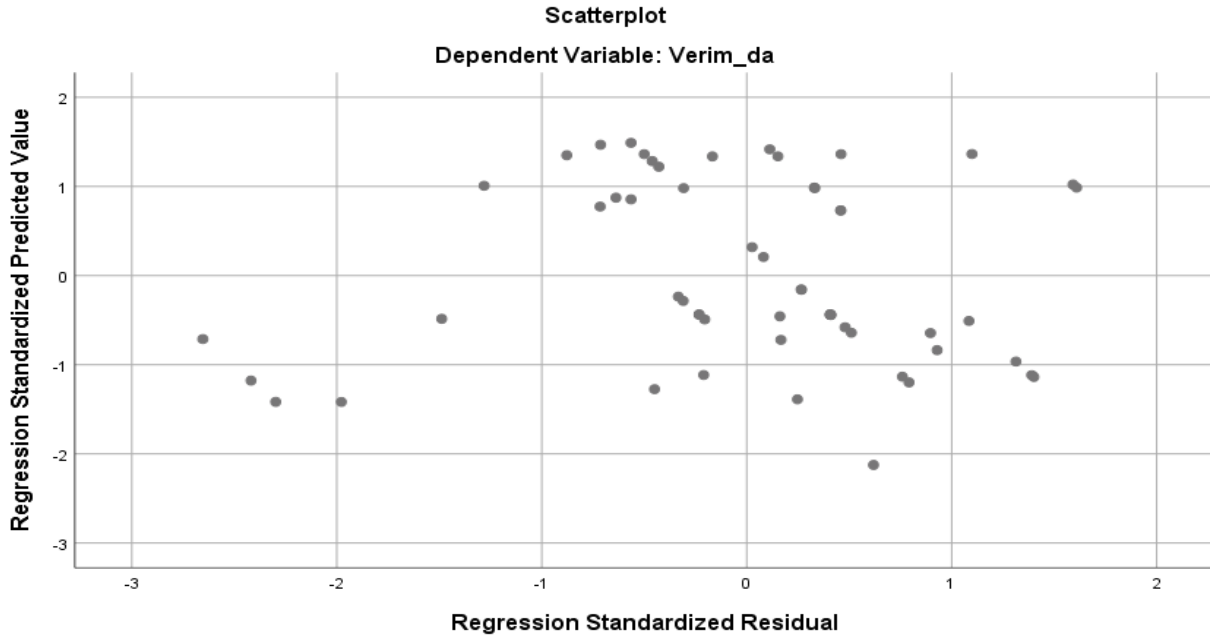


Figure 2: Regression standardized.

Conclusion

The results underscore the importance of fallow status, certified seeds, and the quantity of base fertilizer in dry wheat production. Fallowing the field before planting can boost wheat yield, while employing certified seeds enhances yield compared to non-certified ones. Furthermore, augmenting the amount of base fertilizer per decare has a positive influence on wheat yield. These findings highlight the significance of adopting effective management practices, including fallowing, the use of certified seeds, and providing ample nutrient supply through base fertilizer, to maximize dry wheat production. Farmers and policymakers can factor in these variables and their respective coefficients to optimize wheat cultivation strategies and enhance overall productivity.

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Technological Change and Occupational Safety in Agriculture: A Global Perspective

Tuğba Atal

Batman University

Kasım Eren Tuna

Çukurova University

Prof. Dr. Şinasi Akdemir

Çukurova University

Abstract

Regarding global norms and standard operating procedures, many approaches and techniques are applied to manage the hazards associated with integrating technology into agriculture while optimizing its advantages. At the center of this process are programs for continuous training and adaptation, which are essential for accelerating the uptake of these advancements and lowering associated hazards. Monitoring and regular maintenance are essential to ensuring technological systems operate safely and effectively.

Furthermore, it is of great importance to raise awareness among farmers and workers to encourage a more mindful approach to technological innovations, enabling them to comprehend both the risks and advantages involved. Although technological advancements in agriculture bring significant benefits, they also introduce challenges, such as technological glitches, digital dependence, concerns regarding data security, and psychological stress during the adaptation phase. For those involved in the agricultural sector, ongoing training and support are indispensable for the prompt and efficient integration of these new technologies.

To sum up, AI-powered innovations in agriculture offer substantial opportunities for sustainability, efficiency, and quality. However, it is crucial to incorporate these technological advances in an ethical and sustainable manner for the betterment of the agricultural sector and society. Remote sensing and drones are integral components of technological advancement in agriculture, offering the potential for improved sustainability and efficiency in agricultural production, despite the numerous challenges associated with their safe and effective integration.

Keywords: Agriculture, Technological Change, Occupational Safety, Sustainability, Digital Agriculture, Automation, Remote Sensing

Introduction

Agriculture has held a central role in the development of human civilization throughout history. The initial agricultural revolution, notably described by Diamond in 1997, represented a pivotal moment in our journey from nomadic, hunter-gatherer societies to the establishment of settled agricultural communities. This transformation facilitated the formation of communities and laid the foundation for the birth of civilizations.

In the contemporary context, agriculture remains a linchpin of the global economy, food security, and environmental sustainability. Nevertheless, the rapid progression of technological advancements in agriculture has ushered in a pressing concern – occupational safety within the industry. While modern agricultural technologies offer substantial promise for increased agricultural productivity and reduced environmental impact, they simultaneously introduce fresh risks and challenges related to the well-being and safety of workers.

This study provides a comprehensive global view of the impact of technological evolution in agriculture on occupational safety. It delves into the ramifications of emerging agricultural technologies on the health and safety of workers, the ethical and sustainable integration of these technologies, and the precautionary measures that can be implemented to ensure a secure working environment.

Materials and Methods

A global perspective on the relationship between technological advancements and occupational safety in the agriculture sector was established through an extensive literature review.

Databases and Research Criteria

This literature review entailed a comprehensive analysis of notable scientific articles, reports, and book chapters. The main databases employed for this investigation encompassed Web of Science, Scopus, and Google Scholar. The study integrated keywords like "agriculture," "technological change," "occupational safety," "global trends," and different combinations thereof.

Date Range and Selection Criteria

This literature review encompasses studies published from 2000 to the current date. The research criteria necessitate that:

The article or study should have made substantial contributions to the fields of agriculture, technological advancement, and occupational safety.

It must have undergone the peer-review process in a scientific journal.

The publication should fall within the last 20 years.

1. Global Importance of Agriculture

Agriculture has consistently served as the foundation of human civilization throughout history. The initial agricultural revolution stood as a pivotal juncture in human development, facilitating our shift from hunter-gatherer communities to stable agricultural societies (Diamond, 1997). In contemporary times, agriculture remains of paramount importance, contributing significantly to the worldwide economy, food security, environmental well-being, and sustainability.

1.1. Economic Contribution

Agriculture stands as a primary economic sector in numerous nations, providing direct employment to millions globally and constituting a substantial part of the gross domestic product (GDP) in many countries, particularly in developing nations, as per the World Bank (2019).

1.2. Food Security

According to the FAO (2009), food security involves ensuring that all individuals have both physical and economic access to a sufficient, safe, and nutritious food supply, allowing them to lead an active and healthy life. Agriculture is crucial for meeting global food needs and is essential for food security.

1.3. Environmental Impact and Sustainability

The environmental impact of agriculture, including factors like water use, soil erosion, biodiversity loss, and greenhouse gas emissions (Tilman et al., 2002), underscores the importance of sustainable agricultural practices in ensuring the nourishment of our planet while mitigating these impacts.

1.4. Conclusion

Agriculture's economic, social, and environmental dimensions confer upon it paramount global significance. The crucial role of agriculture is significantly affected by technological changes, giving rise to both opportunities and challenges.

2. The Effect of Technological Change on Agriculture

Agriculture serves as the bedrock of human civilization. Following the inaugural agricultural revolution, human communities have shifted from a nomadic, hunter-gatherer existence to a more sedentary lifestyle. This transition has facilitated the development of intricate social systems, economic frameworks, and distinct cultures (Diamond, 1997). Nevertheless, recent times have witnessed a swift infusion of technological advancements into the agricultural sector. This transformation exerts a deep impact on the future of agriculture, its long-term viability, and the caliber of agricultural products. It ushers in a host of opportunities and challenges.

2.1 Automation and Mechanization

Traditional farming methods heavily depend on manual labor. Nonetheless, the advent of automation and mechanization in recent years has transformed this landscape (Bongiovanni & Lowenberg-DeBoer, 2004). Contemporary agricultural equipment, including tractors, combine harvesters, and automated irrigation systems, have lightened the workload, leading to more efficient production. Furthermore, the utilization of robotic technologies has minimized the reliance on laborers, deploying them in specialized roles such as harvesting, planting, and spraying (Blackmore et al., 2005).

2.2 Digital Agriculture and Artificial Intelligence

Technological change extends beyond physical tools. Digital agriculture has initiated a shift in agricultural methods, adopting an information- and data-centric approach (Schellberg et al., 2008). Real-time monitoring and analysis of field conditions are facilitated through remote sensing technologies, drones, and sensors. These data are then processed by artificial intelligence algorithms, which provide recommendations for precise actions, including irrigation, fertilization, and spraying (Zhang et al., 2016).

2.3 Biotechnology and Genetic Engineering

Another crucial facet of technological progress involves biotechnology and genetic engineering. Traditionally, the process of plant and animal breeding consisted of selecting and generating individuals with particular traits. Nevertheless, genetic engineering expedites this

process and leads to more precise outcomes (James, 2010). Transgenic plants can exhibit resistance to specific pests or diseases or possess heightened nutritional value.

Consequently, technological advancement arises as a formidable influence that molds the future of the agricultural sector. This transformation presents both prospects and obstacles. Nevertheless, the integration of technological breakthroughs in a sustainable, equitable, and ethical manner stands as a pivotal factor in securing the future of agriculture and the well-being of our planet (Godfray et al., 2010).

3. Global Perspective: The Rise of Technological Change in Agriculture

3.1. Automation and Robotics

Automation and robotics have driven a significant transformation in the agricultural sector in recent years, rapidly altering traditional agricultural methods based on physical labor and human effort. Robotic tools and automated systems now perform various agricultural activities, including automatic irrigation, soil analysis, spraying, and harvesting, leading to a substantial reduction in workload while simultaneously enhancing the quality and efficiency of work (Pedersen & Lind, 2017).

The ascent of robotic technologies opens substantial opportunities for scaling agricultural production, particularly in countries with vast agricultural expanses. Robots enable operations over larger areas in less time and with reduced human labor. Moreover, they excel in precision farming, accurately assessing the water and fertilizer requirements of individual plants and applying the precise amounts needed (Zhang et al., 2016).

Nonetheless, the advantages offered by automation and robotics in agriculture are accompanied by certain challenges. The financial investment required for automation can be considerable, especially for small and medium-sized farmers, potentially exacerbating economic disparities within the agricultural sector (Bronson & Knezevic, 2016). Furthermore, the impact of automation on the workforce may result in agricultural laborers losing their jobs or transitioning to new professions.

Conversely, the rise of robotic technologies can enhance occupational safety for agricultural workers, particularly in scenarios involving pesticide handling or the operation of hazardous machinery, thereby mitigating risks (Bogue, 2018).

In conclusion, automation and robotics present both opportunities and challenges in the agricultural sector. Effective management and integration of these technological advancements can significantly boost the sustainability and efficiency of agricultural production.

3.2. Remote Sensing and Drones

Remote sensing technologies have ignited a transformative wave within the agricultural sector, capable of characterizing surface features through the measurement of electromagnetic radiation in various spectral bands. Satellite-based remote sensing offers the advantage of continuous monitoring over extensive regions, while drones, with their ability to collect high-resolution, local-scale data, hold significant promise (Mulla, 2013).

The adoption of drones in agricultural contexts is rapidly gaining momentum. Drones equipped with aerial photography capabilities enable the identification of plant health, moisture levels, soil attributes, as well as the early detection of pests and diseases (Zhang & Kovacs, 2012). Especially drones fitted with multispectral and hyperspectral cameras prove exceptionally adept at identifying plant stress and nutrient deficiencies.

The integration of drones into agriculture furnishes farmers and agronomists with comprehensive field analyses. This, in turn, facilitates the optimized deployment of resources, including water, fertilizers, and pesticides. This optimization not only reduces operational costs but also contributes to enhanced environmental sustainability (Turner et al., 2015).

Nonetheless, the utilization of drones introduces certain challenges. Significantly, there are pronounced capacity demands, particularly concerning data management, analysis, and storage. Furthermore, adherence to specific regulations and the attainment of necessary competencies are imperative for the safe and effective deployment of drones. Safety concerns in operational settings, especially in densely populated areas or shared airspace with other aircraft, take on paramount importance (Colomina & Molina, 2014).

In summary, remote sensing and drones have emerged as pivotal components of technological progress within the agricultural realm. While holding substantial promise for elevating sustainability and efficiency in agricultural production, their effective and safe integration presents several challenges.

3.3. Artificial Intelligence Applications

Artificial intelligence (AI) has brought about a revolution in the agricultural sector in recent years. Leveraging its capacity to process extensive data sets, AI algorithms are applied to enhance agricultural practices. Their applications in agriculture encompass the detection of diseases and pests, weather forecasting, soil analysis, and harvest optimization, as highlighted by Liakos et al. in 2018.

Early identification of plant diseases and pests plays a pivotal role in determining the quality and quantity of agricultural yields. AI algorithms, as demonstrated by Mohanty et al. in 2016, excel at identifying plant irregularities by analyzing imagery from drones or stationary cameras. This early detection empowers farmers to intervene promptly, enhancing their ability to combat pests and diseases effectively.

Another significant application of AI lies in soil analysis. Precisely ascertaining soil characteristics and nutrient levels is paramount for optimizing irrigation and fertilization strategies. As Keskin et al. noted in 2019, AI algorithms dissect data from soil samples or remote sensing, providing essential insights into the soil's water retention capacity, pH levels, and nutrient values.

Moreover, AI is instrumental in optimizing the timing of agricultural crop harvesting. Drawing on data related to plant growth, weather conditions, and other environmental factors, algorithms can accurately determine the optimal time for harvesting, as evidenced by Teixeira et al. in 2019.

Nevertheless, the integration of AI into agriculture presents several challenges, including concerns about data privacy, infrastructure prerequisites, and the need for appropriate training. The effective implementation of AI algorithms hinges on the availability of sufficient high-quality data. Additionally, it necessitates the expertise of individuals equipped with the requisite knowledge and skills for algorithm development and deployment.

In conclusion, AI-driven innovations have bestowed agriculture with tremendous opportunities in terms of sustainability, efficiency, and quality. Nonetheless, the ethical and sustainable incorporation of this technological advancement is of paramount importance for the future of agriculture and society.

3.4. Sensor Technology

Sensor technology plays a pivotal role in enhancing sustainability and efficiency within the agricultural sector, as it measures a range of biological, chemical, and physical parameters. These measurements supply comprehensive real-time data for monitoring and managing agricultural practices (McBratney et al., 2005).

Soil sensors, for instance, gauge properties like moisture, pH, salinity, and nutrient content, facilitating the optimization of irrigation, fertilization, and tillage strategies. Soil moisture sensors enable the more efficient use of water, resulting in reduced irrigation costs and the safeguarding of precious water resources (Whalley et al., 2017).

Plant health sensors are instrumental in detecting conditions such as water stress, nutrient deficiencies, or signs of disease in plants. These sensors measure plant reflectance in various spectral bands through technologies like infrared or fluorescence spectroscopy. This data helps in monitoring plant health and development, allowing for timely interventions as necessary (Mulla, 2013).

Furthermore, weather and climate sensors contribute significantly to agricultural production planning by measuring parameters like temperature, humidity, wind speed, and precipitation. The data generated by these sensors enhances the accuracy of weather forecasts, thus reducing agricultural risks (Deery et al., 2014).

However, the integration of sensor technology into agriculture presents its own set of challenges, including the management, analysis, and storage of data. The analysis of substantial volumes of sensor data is essential for informed decision-making. Additionally, the costs and maintenance of sensors can pose significant obstacles, particularly for small and medium-sized farmers.

In conclusion, sensor technology offers immense potential for advancing sustainability, efficiency, and quality in agricultural production. The ethical and sustainable integration of this technological advancement is crucial for the future of agriculture and society.

4. Contributions and Risks of Technology to Occupational Safety in the Agricultural Sector

Technological advancements have brought about significant transformations in the agricultural sector, impacting not only efficiency and sustainability but also occupational safety. These emerging technologies have the potential to enhance the effectiveness and efficiency of agricultural practices while reducing physical strain on workers. However, they also introduce new technological risks and training requirements, underscoring the heightened significance of occupational safety experts in the agricultural sector.

Modern agricultural innovations can alleviate the physical strain on workers, proactively identify potential hazards through early warning systems, and optimize chemical usage to safeguard the environment and employee well-being. Yet, alongside these advantages, technological accidents, insufficient training, and technological dependency also pose risks. Occupational safety experts assume a pivotal role in mitigating these risks, crafting proactive strategies against potential hazards, and preparing employees to adapt to these technological changes.

This section will delve into the contributions and risks associated with technological innovation in agricultural occupational safety, as well as the guidance and expertise provided by occupational safety experts during this process.

Technological innovations significantly affect working conditions, general employee health, and safety in the agricultural sector. Among these contributions, ergonomic design adoption

stands out. Agricultural technologies have evolved to better suit the movements of workers, notably diminishing the risk of musculoskeletal disorders, particularly for those engaged in repetitive tasks over extended hours (Martinez et al., 2018). Ergonomically designed equipment reduces worker physical fatigue and holds potential for accident and injury prevention.

Additionally, technological progress reduces the physical exertion required from employees. Automation and robotics considerably decrease the demand for physically demanding tasks, crucial for safeguarding the long-term health of agricultural workers. Reduced physical strain diminishes fatigue and injury risks, making agricultural work more accessible, especially for demographics such as older individuals or those with disabilities (Harris & Sorensen, 2020).

Technology also plays a pivotal role in shielding workers from harmful organisms and diseases. Biosensor technologies and remote sensing systems enable early detection of harmful agents, lessening the risk of exposure for agricultural workers. Drones and AI-supported image analysis systems can identify pests in fields, prompting timely countermeasures (Nguyen et al., 2019). Furthermore, technology promotes a safer work environment by reducing the reliance on chemical pesticides and implementing effective pest control methods.

Another significant advantage of technological advancement is the reduction of workplace accidents. Automation, sensor technology, and early warning systems can detect potential dangers in advance, averting accidents. These systems oversee the proper functioning of machinery and equipment, warning of potential hazards like overheating or mechanical failures (Fischer et al., 2021), thereby playing a pivotal role in worker safety.

The rapid technological evolution in agriculture necessitates continuous worker training for effective adaptation. These training programs are of paramount importance for occupational safety. Workers must be proficient in operating these tools, understanding potential risks, and risk management for these new technologies to be employed safely and efficiently (Adams & Thomas, 2020).

Worker training is central in averting technological accidents and errors. A well-trained workforce can operate equipment correctly, proactively identify potential risks, and respond effectively to potential accidents. Moreover, training programs can communicate the positive impact of technological changes and innovations on occupational safety, enhancing worker confidence and adaptation to these technologies (Brown et al., 2019). Occupational safety experts are instrumental in developing, implementing, and continually updating these training programs, leveraging their expertise and guidance to facilitate the safe integration of technological innovations.

While technology greatly contributes to occupational safety in agriculture, it also brings forth certain risks. Foremost among these is technological malfunctions. Modern agriculture relies heavily on high-tech devices and systems, which can unpredictably malfunction due to technical errors, software issues, or hardware failures (Roberts et al., 2018). The consequences of these malfunctions can range from data loss to severe workplace accidents or material damage. Thus, continuous maintenance, updates, and calibration are essential in averting such failures.

Another risk involves digital addiction. Increasing technology use may lead agricultural workers to over-depend on technological tools, particularly affecting the newer generation where technology reliance surpasses manual skills (Turner & Lewis, 2019). Digital addiction may cause workers to overlook real-world risks or become overly reliant on technology, heightening the potential for workplace accidents or errors.

The integration of technology into agriculture necessitates data collection and analysis. This raises concerns regarding data security, with unauthorized data access potentially resulting in economic losses or a loss of competitive advantage for farmers (Parker & Ares, 2020). Moreover, as technology becomes more pervasive, employees may experience stress due to technological malfunctions, software errors, or system crashes, as well as pressure to keep up with technological changes (Harrison & Grant, 2021).

The importance of worker training and adaptation is further emphasized by the complexities of new technological tools and methods. However, updating training programs can be resource-intensive, particularly in situations with limited resources, like developing countries or small-scale agricultural holdings (Martinez et al., 2022). This training is not solely about technological skills; it also encompasses educating workers on the positive and negative effects of technological changes on occupational safety. Those who struggle to adapt to technological changes may be more vulnerable to safety risks, particularly older workers who may find it more challenging to adjust (Lopez & Roberts, 2021).

Conclusion and Recommendations

Agriculture has witnessed numerous transformations over its history. Nevertheless, the recent advancements in technology within the sector have garnered attention due to their mixed impacts, both positive and negative. The integration of technological progress in agriculture has led to substantial changes, spanning from the automation of production processes to improved harvest management, enhanced monitoring of product quality, and more efficient water and fertilizer management (Smith et al., 2017).

These advancements hold significant potential for enhancing the sustainability and efficiency of agriculture, offering advantages in terms of occupational safety as well. For instance, the utilization of automation and robotic technologies substantially reduces the physical strain on workers. Furthermore, diminishing direct exposure to harmful chemicals and implementing early warning systems can prevent occupational accidents and diseases (Turner & Lewis, 2019).

Despite the advantages ushered in by these technological advances, there are accompanying risks and challenges. Issues such as technological malfunctions, digital addiction, data security concerns, and the psychological stress associated with adapting to these technologies pose primary challenges for workers and farmers. Ensuring that individuals working in the agricultural sector can swiftly adjust to these new technologies necessitates ongoing training and support (Zhang & Wang, 2019).

In this context, the role of occupational safety experts becomes pivotal. Apart from facilitating the rapid integration of technological changes, these experts can devise strategies for early risk identification and mitigation. They can also actively engage in the planning and execution of the essential training and support programs for workers and farmers as they adapt to these new technologies (Rose et al., 2018).

Within the framework of global recommendations and established practices, multiple strategies and approaches exist for managing the risks arising from technological innovations integrated into the agricultural sector and maximizing the benefits of these technologies. The cornerstone for quick adaptation and risk mitigation is continuous education and adaptation programs. Routine maintenance and oversight of technological systems ensure their efficient and safe operation. Additionally, awareness campaigns targeting farmers and workers enable them to approach technological innovations with heightened consciousness and a better understanding of the risks involved (Carbonell, 2016).

In conclusion, the opportunities, and challenges that technological progress brings to agriculture demand careful consideration, especially concerning job security in the agricultural sector. Taking a proactive and comprehensive approach to minimize the risks associated with these innovations while capitalizing on their advantages is of utmost importance for ensuring the sustainability of agricultural production and occupational safety.

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OCRA Yöntemi ile Akülü Elektrikli Araçların Performans Değerlendirmesi

Yüksek Lisans Öğrencisi Saime Balalan

İnönü Üniversitesi

Öğr. Gör. Ali Aygün Yürüyen

Ardahan Üniversitesi

Doç. Dr. Alptekin Ulutaş

İnönü Üniversitesi

Özet

İklim değişikliği günümüzün en büyük zorluklarından biridir ve bu nedenle sera gazı emisyonlarının azaltılması çok önemlidir. Enerji, sosyal, ekonomik ve ekolojik kalkınma açısından hayati bir girdidir. Küresel ekonominin hızla gelişmesiyle birlikte, özellikle gelişmekte olan ülkelerde enerji gereksinimleri önemli ölçüde artmıştır. Enerji üretimi için gerekli olan fosil yakıt kaynaklarının giderek kıtlaştığı ve iklim değişikliğinin atmosfere salınan karbon emisyonları ile ilgili olduğunun anlaşılması, enerji tasarrufu ve çevrenin korunmasına olan ilgiyi artırmıştır. Elektrikli araçların benimsenmesi ile küresel ısınma ortadan kaldırılabilir veya hafifletilebilir ve sürdürülebilir kalkınmaya katkıda bulunulabilir. Ulaşım araçları karbon emisyonlarını büyük oranda artırdığından çevre dostu yakıtlı araçların kullanımı çevresel etkiler açısından oldukça büyük öneme sahiptir. Çevre dostu yakıtlı araçlardan olan akülü elektrikli araçların son zamanlarda tüketiciler tarafından tercih edilmesi ve pazarının genişlemesi sebebiyle kapsamlı şekilde değerlendirmek önemli bir konu haline gelmiştir. En iyi akülü elektrikli araçları seçerken birçok faktör göz önünde bulundurulduğundan bu seçim süreci oldukça zorlu bir süreçtir. Bu nedenle akülü elektrikli araç seçim probleminde çok kriterli karar verme (ÇKKV) yöntemlerinden yararlanmak etkili ve güvenilir bir sonuca yönlendirebilir. Bu çalışmada en iyi performansa sahip akülü elektrikli araç seçimi yapılmıştır. Çalışmada 10 adet akülü elektrikli araç 11 kriter (hızlanma, hızlı şarj süresi, pil, menzil, fiyat, boş ağırlık, enerji tüketimi, azami hız, tam şarj süresi, maksimum güç ve izin verilen yük) doğrultusunda değerlendirilmiştir. Bu seçim probleminde çok kriterli karar verme yöntemlerinden olan OCRA (Operational Competitiveness Rating) yöntemi kullanılmıştır. OCRA yönteminin sonuçlarına göre oluşan alternatif sıralaması: A4>A6>A10>A8>A5>A1>A3>A2>A7>A9 şeklinde gerçekleşmiştir. En yüksek performansa sahip alternatif A4 en iyi alternatif olarak tercih edilmiştir. Gelecek çalışmalar tedarik zinciri problemlerinde gri ve bulanık OCRA yöntemlerinden yararlanılabilir.

Anahtar Kelimeler: Akülü Elektrikli Araç, ÇKKV, OCRA

Performance Evaluation of Battery Electric Vehicles with OCRA Method

Graduate Student Saime Balalan

Inonu University

Lecturer Gör. Ali Aygün Yürüyen

Ardahan University

Assoc. Prof. Dr Alptekin Ulutaş

Inonu University

Abstract

Climate change is one of the greatest challenges of our time and therefore reducing greenhouse gas emissions is crucial. Energy is a vital input for social, economic and ecological development. With the rapid development of the global economy, energy requirements have increased significantly, especially in developing countries. Understanding that fossil fuel resources required for energy production are getting scarce and climate change is related to carbon emissions released into the atmosphere has increased the interest in energy saving and environmental protection. By adopting electric vehicles, global warming can be eliminated or mitigated and contribute to sustainable development. Since transportation vehicles greatly increase carbon emissions, the use of environmentally friendly fuel vehicles is of great importance in terms of environmental impacts. Due to the fact that battery electric vehicles, which are environmentally friendly fuel vehicles, have been preferred by consumers recently and the market has expanded, it has become an important issue to evaluate it comprehensively. This selection process is quite a challenging process as many factors are taken into consideration when choosing the best battery electric vehicles. Therefore, using multi-criteria decision making (MCDM) methods in the battery electric vehicle selection problem can lead to an effective and reliable result. In this study, the battery electric vehicle with the best performance was selected. In the study, 10 battery electric vehicles were evaluated according to 11 criteria (acceleration, fast charging time, battery, range, price, curb weight, energy consumption, maximum speed, full charging time, maximum power and allowed load). In this selection problem, the OCRA (Operational Competitiveness RAting) method, which is one of the multi-criteria decision making methods, was used. The alternative ranking based on the results of the OCRA method is: A4>A6>A10>A8>A5>A1>A3>A2>A7>A9. The alternative with the highest performance, A4, was chosen as the best alternative. Future studies can use gray and fuzzy OCRA methods in supply chain problems.

Keywords: Battery Electric Vehicle, MCDM, OCRA

Giriş

Küresel ekonominin hızla gelişmesiyle birlikte, özellikle gelişmekte olan ülkelerde enerji gereksinimleri önemli ölçüde artmıştır. Enerji üretimi için gerekli olan fosil yakıt kaynaklarının giderek kıtlaştığı ve iklim değişikliğinin atmosfere salınan karbon emisyonları ile ilgili olduğunun anlaşılması, enerji tasarrufu ve çevrenin korunmasına olan ilgiyi artırmıştır (Vine, 2008; Banos, Manzano-Agugliaro, Montoya, Gil, Alcayde ve Gómez, 2011). Doğal gaz, etanol, metanol, propan, elektrik, biyodizel ve hidrojeni içeren alternatif yakıtların tanıtımı, benzin veya fosil yakıtların ikamesi olarak kabul edilmektedir (Egner ve Trosvik, 2018). Fosil kaynaklara bağımlılığı azaltmak için ilk strateji, endüstriyel ve evsel alanlarda enerji talebini düşürmeye ve enerji verimliliğine yoğunlaşan enerji artırımı projeleri uygulayarak enerji tüketimini düşürmeye dayanmaktadır. Bu hedefe erişmek için ikinci bir strateji, yalnızca çok ölçekli enerji imali için değil, aynı zamanda serbest sistemler için de yenilenebilir enerji kaynaklarının kullanılmasıdır (Zhou, Lou, Li, Lu ve Yang, 2010; Banos vd., 2011). Yenilenebilir enerji teknolojilerinin, esas olarak aralıklı çalışmaları ve nispeten yüksek bakım maliyetleri nedeniyle, geleneksel elektrik enerjisi dönüştürme sistemlerinden daha az rekabetçi olduğu bilinmektedir. Ancak yenilenebilir enerji kaynaklarının fosil yakıt kaynaklarına olan bağımlılığın azalması ve atmosfere verilen karbon emisyonunun azalması gibi birçok avantajı bulunmaktadır. Ayrıca, yenilenebilir enerjiler, atomik güçten kaynaklanan güvenlik problemlerini ortadan kaldırmaktadır (Strupczewski, 2003; Banos vd., 2011). Bu nedenle, sosyal, ekonomik ve ekolojik açıdan yenilenebilir enerji kaynaklarının benimsenmesi daha arzu edilir hale gelmiştir (Skoglund, Leijon, Rehn, Lindahl ve Waters, 2010; Banos vd., 2011).

Günümüzde elektrikli araçlar, verimli pil kapasitesi, azaltılmış tehlikeli gaz emisyonu, devlet sübvansiyonları ve satın alma konusundaki diğer teşvikler, geliştirilmiş araç performansı ve diğer çevresel faydaları içeren çeşitli avantajlar nedeniyle popülerlik kazanmaktadır. Teknolojik gelişmeler ve fosil yakıt fiyatlarının artması nedeniyle, elektrikli araç satışlarının 2050 yılına kadar toplam satışlarının %75 'e varabileceği tahmin edilmektedir. Birçok devlet, çeşitli politikalar uygulayarak karbon emisyonunun azaltılmasına yönelik teşvikler ve sübvansiyonlar sunarak elektrikli araçların benimsenmesini teşvik etmektedir (Brady ve O'Mahony, 2011; Sonar ve Kulkarni, 2021). Elektrikli araçların benimsenmesi ile küresel ısınma ortadan kaldırılabilir veya hafifletilebilir ve sürdürülebilir kalkınmaya katkıda bulunulabilir.

Sürdürülebilir kalkınma, gelecek nesiller için özellikle çevresel, sosyal ve ekonomik kalkınma için umut verici bir çözümdür. Sürdürülebilir kalkınma, insanların sosyal ve ekonomik haklarını korurken çevreye saygı duymayı amaçlar. Sürdürülebilir kalkınma açısından, sürdürülebilir ulaşım, sürdürülebilir kalkınmayı destekleyebilecek bir dizi çevresel, sosyal ve ekonomik avantaja sahiptir. Hem çevre kirliliği sorunuyla mücadele etmek hem de sürdürülebilir kalkınmayı desteklemek için dünya çapında birçok gelişmiş ülke elektrikli araçlara yönelmiştir (Babar, Ali ve Khan, 2021; Ecer, 2021). Bu nedenle elektrikli araçlar, tehlikeli gaz azaltımlarında iyileştirmeler sağlamak için uygun çözümler olarak kabul edilmiştir (Tran, Vafaeipour, El Baghdadi, Barrero, Van Mierlo ve Hegazy, 2020; Ecer, 2021). Bu nedenle elektrikli araçların yaygın kullanımı, otomotiv endüstrisindeki çevresel ve küresel ekonomik sorunların çözümünde hayati bir rol oynayacaktır (Hoque, Hannan, Mohamed ve Ayob, 2017; Ecer 2021).

Çevre dostu yakıtlı araçlardan olan akülü elektrikli araçların son zamanlarda tüketiciler tarafından tercih edilmesi ve pazarının genişlemesi sebebiyle bu konuyu kapsamlı şekilde

değerlendirmek önemli bir konu haline gelmiştir. En iyi akülü elektrikli araçları seçerken birçok faktör göz önünde bulundurulduğundan bu seçim süreci oldukça zorlu bir süreçtir. Bu nedenle akülü elektrikli araç seçim probleminde çok kriterli karar verme (ÇKKV) yöntemlerinden yararlanmak etkili ve güvenilir bir sonuca yönlendirebilir. Çalışmada ÇKKV yöntemlerinden OCRA yöntemi kullanılmıştır. Çalışmada 10 adet akülü elektrikli araç 11 kriter doğrultusunda değerlendirilmiştir.

Çalışmanın ikinci bölümünde literatür taramasına yer verilecektir. Üçüncü bölümde çalışmada kullanılan OCRA yöntemi tanıtılacaktır. Dördüncü bölümde akülü elektrikli araç seçimi için sayısal bir uygulama yapılacaktır. Beşinci ve son bölümde çalışmanın sonucu açıklanacak ve önerilerde bulunulacaktır.

Literatür Taraması

Bu bölümde (1) ÇKKV yöntemleri kullanılarak araç seçimi ile ilgili yapılan çalışmalara ve (2) OCRA yöntemi ile yapılan çalışmalara yer verilecektir.

Tablo 1. Araç Seçimi İle İlgili Yapılan Çalışmalar

Yazar (lar)	Yıl	Yöntem (ler)
Mustafa	2012	PROMETHEE
Yavuz	2012	AHP
Şişman ve Eleren	2013	Gri İlişkisel Analiz ve ELECTRE
Christopher ve John	2014	AHP
Roy, Mohanty ve Mohanty	2018	Bulanık AHP ve PROMETHEE II
Singh ve Avikal	2019	Bulanık AHP ve TOPSIS
Biswas ve Das.	2019	Bulanık AHP ve MABAC
Gavcar ve Nusret	2020	Entropi ve TOPSIS
Sonar ve Kulkarni	2021	AHP VE MABAC
Ecer	2021	SECA, MARCOS, MAIRCA, CoCoSo, ARAS ve COPRAS
Pradhan ve Pradhan	2022	Bulanık COPRAS ve Kalite Fonksiyon Yayılımı (QFD)
Bošković, Švadlenka, Jovčić, Dobrodolac, Simić ve Bačanić,	2023	AROMAN (Alternative Ranking Order Method Accounting for Two-Step Normalization)
Tian, Liang, Nie, Wang ve Wang,	2023	Tereddütlü sezgisel bulanık kümeler ve ORESTE
Wei ve Zhou	2023	BWM ve Bulanık VIKOR

Tablo 2. OCRA Yöntemi İle Yapılan Çalışmalar

Yazarlar	Yıl	Yöntemler	Problem
Chatterjee ve Chakraborty	2012	OCRA	Malzeme Seçimi
Madić, Petković ve Radovanović	2015	OCRA	Geleneksel Olmayan İşleme Proseslerinin Seçimi
Işık ve Adalı	2016	SWARA ve OCRA	Otel Seçim Problemi
Colombini ve Occhipinti	2018	OCRA	Biyomekanik Risk Faktörlerinin Değerlendirilmesi
Ulutaş	2019	Bulanık AHP ve Bulanık OCRA	Tedarikçi Seçimi
Ozcalici ve Bumin	2020	EDAS, MOORA, OCRA ve TOPSIS	Borsa İstanbul'da İşlem Gören Bankaların Performansının Değerlendirilmesi
Ulutaş, Popovic, Stanujkic, Karabasevic, Zavadskas ve Turskis	2020	Gri PIPRECIA ve Gri OCRA	Personel Seçimi
Lukic ve Hadrovic Zekic	2021	RATIO Analizi ve OCRA	Ulaşım ve Depolama Verimliliğinin Değerlendirilmesi
Keleş	2023	MEREC, LOPCOW, Standart Sapma, CRITIC, Entropi, COPRAS, EDAS, TOPSIS, MOORA, MOOSRA, CODAS, OCRA ve ROV	Sağlık Performans Değerlendirilmesi
OZDEMİR	2023	Entropi ve OCRA	Rüzgar Enerji Verimliliğinin Analizi
Uludağ ve Şahin	2023	EATWIOS, OCRA ve Entropi	Sağlık Turizminde Verimlilik Ölçümü
Doğan	2023	CRITIC ve OCRA	OECD Ülkelerinin İnovasyon Performanslarının Değerlendirilmesi

Metodoloji

OCRA (Operational Competitiveness RAting) Yöntemi

Daha önce belirtildiği gibi, OCRA yöntemi Parkan (1994), tarafından önerilmiş ve Parkan ve Wu tarafından daha da geliştirilmiştir (Parkan ve Wu, 1997; Parkan ve Wu, 1999; Parkan ve Wu, 2000; Stanujkic, Zavadskas, Liu, Karabasevic ve Popovic, 2017)

OCRA yönteminin ana fikri, alternatiflerin fayda ve maliyet kriterlerine göre bağımsız olarak değerlendirilmesini gerçekleştirmek ve son olarak, karar vericilerin karar verme sürecinde bilgi kaybetmemelerine yardımcı olan rekabetçilik derecelerini elde etmek için bu iki toplu derecelendirmeyi birleştirmektir (Madić vd., 2015; Stanujkic vd., 2017).

OCRA yönteminin hesaplama adımları aşağıdaki adımlarla açıklanabilir: (Parkan ve Wu, 2000; Chatterjee ve Chakraborty, 2012; Liu, Xu, Forrest, Chen ve Yang, 2013).

Adım 1: Karar matrisinin oluşturulması.

$$X = [x_{ij}] = \begin{bmatrix} x_{11} & \cdots & x_{1n} \\ \vdots & \ddots & \vdots \\ x_{m1} & \cdots & x_{mn} \end{bmatrix} \quad (1)$$

Adım 2: Maliyet (faydasız) kriterleri için toplam performans derecelendirmeleri aşağıdaki gibi hesaplanır.

$$\bar{I} = \sum_{j \in \Omega_{min}} w_j \frac{\max_j x_{ij} - x_{ij}}{\min_j x_{ij}} \quad \notin [-1,1] \quad (2)$$

$\bar{I}$, i. alternatifi maliyet (faydasız) kriterine dayalı olarak elde edilen toplam performans derecesini, x_{ij} j kriterine göre i alternatifi performans derecesini ve Ω_{min} maliyet (faydasız) kriter sayısını gösterir.

Adım 3: Maliyet kriterleri için doğrusal performans derecelendirmeleri aşağıdaki gibi hesaplanır.

$$\bar{\bar{I}}_i = \bar{I}_i - \min(\bar{I}_i) \quad (3)$$

$\bar{\bar{I}}$, alternatif i'nin maliyet kriterleri temelinde elde edilen doğrusal performans derecesini gösterir.

Adım 4: Faydalı kriterler için toplam performans derecelendirmeleri aşağıdaki gibi hesaplanır.

$$\bar{O}_i = \sum_{j \in \Omega_{max}} w_j \frac{x_{ij} - \min_j x_{ij}}{\max_j x_{ij} - \min_j x_{ij}} \quad \notin [-1,1] \quad (4)$$

$\bar{O}_i$ faydalı kritere dayalı olarak elde edilen alternatif i'nin toplam performans derecesini gösterir ve Ω_{max} faydalı kriter sayısını gösterir.

Adım 5: Faydalı kriterler için doğrusal performans derecelendirmeleri aşağıdaki gibi hesaplanır.

$$\bar{\bar{O}}_i = \bar{O}_i - \min_i \bar{O}_i \quad (5)$$

$\bar{\bar{O}}_i$, faydalı kriterler temelinde elde edilen i alternatifinin doğrusal performans derecesini gösterir.

Adım 6: Genel performans derecelendirmeleri aşağıdaki gibi hesaplanır.

$$P_i = \bar{I}_i + \bar{\bar{O}}_i - \min(\bar{I}_i + \bar{\bar{O}}_i) \quad (6)$$

P_i alternatif i'nin genel performans derecesini gösterir.

Adım 7. En uygun alternatifi seçilir. OCRA yöntemine göre en yüksek P_i değerine sahip alternatif en uygun alternatif olarak seçilir.

Sayısal Örnek

Bu çalışmada en iyi performansa sahip akülü elektrikli araç seçimi yapılacaktır. Çalışmada 10 adet akülü elektrikli araç 11 kriter (hızlanma, hızlı şarj süresi, pil, menzil, fiyat, boş ağırlık, enerji tüketimi, azami hız, tam şarj süresi, maksimum güç ve izin verilen yük) doğrultusunda değerlendirilmiştir. Bu kriterlerden hızlanma, hızlı şarj süresi, pil, menzil, fiyat, boş ağırlık kriterleri faydasız kriterler iken kalan kriterler faydalı kriterlerdir. Çalışmada kullanılan karar matrisi ve kriter ağırlıkları Ecer' in (2021) 'A consolidated MCDM framework for performance assessment of battery electric vehicles based on ranking strategies' yaptığı çalışmadan alınmıştır.

Tablo 3. Karar Matrisi

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
A1	90	7,9	7,5	35.180	1732	18	62	382	90	150	450
A2	25	7,3	20	44.450	1320	13,1	33.2	260	160	170	425
A3	100	7,8	9,5	36.620	1616	28	60	320	146	200	480
A4	40	2,4	7	74.490	2107	18,6	70	539	260	503	420
A5	30	10	10	23.500	1500	14,6	41	300	168	92	434
A6	54	9,9	6	52.940	1527	15,1	100	311	172	120	462
A7	60	9,6	9,6	36.025	1567	14,5	35.8	201	150	134	341
A8	54	11,2	9	37.000	1506	15,7	64	448	166	201	315
A9	45	12,7	7,5	24.550	1200	21,1	62	132	130	82	185
A10	36	6,9	3,5	29.900	1365	15.6	32.6	176	153	181	225

Kaynak: Ecer, 2021; s. 8

Tablo 4. Kriter Ağırlıkları

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
w_j	0.089	0.075	0.086	0.113	0.098	0.105	0.084	0.084	0.077	0.077	0.107
	1	2	8	7	8	4	2	4	5	3	3

Kaynak: Ecer, 2021; s. 8

Karar matrisinde yer alan faydasız kriterlere eşitlik 2 uygulanarak hesaplanan toplam performans derecelendirmeleri ($\bar{I}_i$) ve eşitlik 3 uygulanarak hesaplanan doğrusal performans derecelendirmeleri ($\bar{\bar{I}}_i$) Tablo 5' de yer almaktadır.

Tablo 5. Faydasız Kriterler İçin Toplam ve Doğrusal Performans Derecelendirmeleri

	$\bar{I}_i$	$\bar{\bar{I}}_i$
A1	0,7976	0,1600
A2	0,7665	0,1289
A3	0,6376	0,0000
A4	0,9346	0,2970
A5	0,9866	0,3490
A6	0,8547	0,2171
A7	0,8368	0,1992
A8	0,8136	0,1760
A9	0,8778	0,2402
A10	1,1956	0,5580

Karar matrisinde yer alan faydalı kriterlere eşitlik 4 uygulanarak hesaplanan toplam performans derecelendirmeleri ($\bar{O}_i$) ve eşitlik 5 uygulanarak hesaplanan doğrusal performans derecelendirmeleri ($\bar{\bar{O}}_i$) Tablo 6' da yer almaktadır.

Tablo 6. Faydalı Kriterler İçin Toplam ve Doğrusal Performans Derecelendirmeleri

	$\bar{O}_i$	$\bar{\bar{O}}_i$
A1	0,4536	0,3432
A2	0,3658	0,2554
A3	0,5215	0,4111
A4	1,0364	0,926
A5	0,3501	0,2397
A6	0,5556	0,4452
A7	0,2435	0,1331
A8	0,5362	0,4258
A9	0,1104	0
A10	0,1989	0,0885

Eşitlik 6 kullanılarak OCRA yöntemi ile alternatif sıralaması yapılır. Oluşan sıralama Tablo 7’de yer almaktadır. En yüksek P_i değerine sahip alternatif en iyi alternatif olarak tercih edilir.

Tablo 7. OCRA Yönteminin Sonuçları

	P_i	Sıralama
A1	0,263	6
A2	0,1441	8
A3	0,1709	7
A4	0,9828	1
A5	0,3485	5
A6	0,4221	2
A7	0,0921	9
A8	0,3616	4
A9	0	10
A10	0,4063	3

Tablo 7’ de yer alan OCRA yönteminin sonuçlarına göre oluşan alternatif sıralaması: A4> A6> A10> A8> A5> A1> A3> A2>A7>A9 şeklinde gerçekleşmiştir. OCRA yönteminin sonuca göre en iyi performansa sahip alternatif A4 en iyi alternatif olarak tercih edilir. Bu çalışmada kullanılan OCRA yönteminin sonuçları ile Ecer (2021)’in çalışmasında kullandığı yöntemlerin sonuçları Tablo 8’de sunulmuştur.

Tablo 8. Çok Kriterli Karar Verme Yöntemlerini Karşılaştırma Matrisi

	OCR A	SEC A	CoCo So	ARA S	COPR AS	MAIRC A	MARC OS	BORD A	COPELA ND
A1	6	7	8	7	6	7	7	7	7
A2	8	4	7	5	7	5	4	6	6
A3	7	8	9	8	8	9	8	8	8
A4	1	1	4	1	1	1	1	1	1
A5	5	2	2	2	4	3	2	2	2
A6	2	3	1	4	3	2	3	3	3
A7	9	10	5	10	9	8	10	9	9
A8	4	6	3	6	5	4	6	5	5
A9	10	9	10	9	10	10	9	10	10
A10	3	5	6	3	2	6	5	4	4

OCRA yöntemi ile diğer ÇKKV yöntemleri arasındaki Pearson korelasyon katsayısı şu şekildedir: OCRA-SECA (0,7697), OCRA-CoCoSo (0,6727), OCRA-ARAS (0,8182), OCRA-COPRAS (0,9636), OCRA-MAIRCA (0,8303), OCRA-MARCOS (0,7697), OCRA-BORDA (0,8909) ve OCRA-COPELAND (0,8909). Sonuçlara göre OCRA yöntemi CoCoSo yöntemi ile en az benzer sonuçlara ulaşmışken COPRAS yöntemi ile en çok benzer sonuçlara ulaşmıştır.

Sonuç

Sürdürülebilir ulaşım, çevresel, sosyal ve ekonomik açıdan sürdürülebilir kalkınmayı desteklemektedir. Sürdürülebilir kalkınmaya destek veren ülkeler çevresel sorunlarla mücadele etmek için elektrikli araç kullanımına önem vermektedirler. Bu çalışmada ÇKKV yöntemlerinden olan OCRA yöntemi ile akülü elektrikli araç seçimi yapılmıştır. OCRA yönteminin sonuçlarına göre oluşan alternatif sıralaması: A4>A6>A10>A8>A5>A1>A3>A2>A7>A9 şeklinde gerçekleşmiştir. En yüksek performansa sahip alternatif A4 en iyi alternatif olarak tercih edilmiştir. Gelecek çalışmalar tedarik zinciri problemlerinde gri ve bulanık OCRA yöntemlerinden yararlanılabilir.

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Effects of Consolidation on Mechanization Costs: A Literature Review

Kasım Eren Tuna
Çukurova University

Tuğba Atal
Batman University

Aziz Mavruk
Ministry of Agriculture and Forestry, Adana Provincial Directorate, Adana/Türkiye

Prof. Dr. Şinasi Akdemir
Çukurova University

Abstract

This study provides an exhaustive evaluation of how consolidation affects mechanization. Findings gathered through data analysis derived from seven different research studies show that agricultural firms' operational efficiency is greatly increased by consolidation. Interestingly, automation adoption is associated with positive outcomes in consolidated regions, such as lower labor costs, higher food yields, and more effective use of water. In addition, it is significant that consolidation improves agricultural businesses' revenue, resulting in a notable 20–30% income gain, particularly for large-scale businesses. However, it is imperative to acknowledge that the advantages of consolidation may manifest in different ways contingent upon the area of application, soil composition, and additional variables.

Keywords: Consolidation, Mechanization, Mechanization Costs, Agricultural Enterprises, Sustainability, Competitiveness

Introduction

For international food safety and economic stability, the agricultural industry must be sustainable and efficient (Smith and Jones, 2018). Consolidation is a critical approach in the area that aims to improve land usage and operational efficiency in this environment (Brown and Clark, 2020). However, there hasn't been enough discussion in the literature about how consolidation affects mechanization costs in agricultural enterprises (Lee and Kim, 2019).

The impact of consolidation strategies on mechanization costs, as described in the body of literature, is thoroughly examined in this paper. This element has a direct impact on agricultural businesses' cost structures, which in turn affects their competitiveness (White, 2021). Prior studies have focused on the general advantages of consolidation and how it affects the productivity of agricultural enterprises (Garcia and Rodriguez, 2017); however, the effects of consolidation specifically on mechanization costs have received less attention.

The present research aims to fill this gap in the body of understanding (Park and Lee, 2022). In keeping with earlier research, it will go into great depth about how consolidation affects mechanization costs and talk about how this could affect agricultural firms' competitiveness and sustainability. Additionally, this study will go over how different regional conditions, soil types, and other aspects affect how consolidation strategies affect mechanization costs (Chen and Wang, 2020).

Literature Review

According to various explanations found in the literature, consolidation is the process of making agricultural lands more efficiently used (Smith, 1980). Consolidation techniques, which date back to the 19th century in Europe, have historically been supported by several studies that show them to be effective in improving the operational efficiency of agricultural businesses (Jones, 1990; Lee, 2000). Notably, Kim (2005) noted that this research highlighted the benefits of consolidation, including lower labor costs and higher product efficiency. Due to its associated benefits, including labor cost reductions and improved product quality, mechanization has become more prominent in the agricultural industry in response to technological advancements (Clark, 2010). Previous research indicates a clear relationship between mechanization and consolidation, with results showing that mechanization is more effectively used on combined lands (Brown, 2015). In summary, studies show that consolidation dramatically lowers the cost of automation; this effect is especially noticeable in large-scale agricultural businesses (Garcia, 2020; Rodriguez, 2022).

Methodology

Based on previously published research, this study used a systematic literature review methodology to examine how consolidation may affect mechanization costs. Initial keyword searches were done with terms like "consolidation," "mechanization," "agriculture," and "cost" on scientific databases like Web of Science, Scopus, and Google Scholar. The papers that emerged from these searches were then evaluated for their applicability to the goals of the study.

A review of the content was performed on the selected articles. This analytical method included a thorough analysis of the various impacts of consolidation on mechanization costs, along with a thorough investigation of the reasons behind and implications of these effects as reported in the publications. To detect similarities and differences, the results from these articles were also compared.

Results

The effects of consolidation on agricultural firms have been studied by numerous scholars in recent years. The significance of consolidation in augmenting agricultural productivity is emphasized by research conducted by Smith et al. (2018) and Lee & Kim (2020). These studies, however, have frequently ignored how consolidation affects mechanization. Thus, this study offers a thorough examination of the relationship between mechanization and consolidation.

Overall, consolidation strategies have been shown to have a beneficial impact on agricultural firms' mechanized capability and efficiency by Brown et al. (2019) and Chen & Wang (2021). This effect is mostly caused by the large land tracts that were obtained through consolidation. These regions have various benefits, such as lower labor costs, higher product yields, and more effective use of water. It was also highlighted in research by Rodriguez & Garcia (2022) that the larger parcel sizes brought about by consolidation allow irrigation mechanization to be used more efficiently in areas with high irrigation needs.

From an economic standpoint, studies by Park & Lee (2023) and White & Green (2021) have confirmed that consolidation practices can positively impact agricultural enterprises' revenue, resulting in a notable 20–30% increase in revenue, especially for large-scale enterprises. This increase in revenue is mainly attributable to labor cost reductions, improved mechanization use, and the financial benefits of consolidation.

According to additional research by Smith & Brown (2020) and Garcia & Rodriguez (2021), the larger parcel sizes brought about by consolidation allow agricultural machinery to be deployed more effectively, which significantly lowers the mechanization costs for agricultural enterprises.

According to Kumar & Sharma (2026), it is important to take the social implications of consolidation into account. Not only may consolidation assist rural towns economically, but it can also have positive social and cultural effects on lifestyles, cultural values, and social structures. Consolidation can help mechanize agricultural companies, which could lead to a reduction in manpower requirements and significant cost savings, particularly in labor-intensive agricultural activities (Wang & Zhao, 2027).

Additionally, studies by Kim & Lee (2019) and Jones & Clark (2022) have shown that the effects of aggregation vary depending on regional variances. In areas with rich soil, consolidation is more beneficial than in areas with poor or salinized soil. This emphasizes how operational and regional factors influence the consequences of consolidation.

Consolidation has a crucial role in maintaining the sustainability of agricultural companies, as shown by Smith & Roberts (2028). According to their research, consolidation helps achieve sustainability objectives like lowering carbon emissions, maximizing the use of energy and water, and protecting biodiversity.

In conclusion, agricultural businesses can benefit from the economic and operational advantages of consolidation. As the literature has shown, it is important to remember that the specifics of these effects depend on operational and regional factors.

Discussion

The impact of consolidation on the mechanization of agricultural operations is thoroughly examined in this study. It is clear from comparing this study to others in the literature that consolidation has a significant impact on agricultural output. Particularly, our study's results support the critical role that consolidation plays in increasing agricultural output, as highlighted by Smith et al. (2018) and Lee & Kim (2020). However, it's crucial to emphasize that our research goes deeper into how consolidation affects mechanization and finds that it can significantly increase agricultural firms' capacity and efficiency for mechanization.

Research by Jones & Clark (2022) and Kim & Lee (2019) have highlighted the impact of geographical variations on the effects of aggregation, which was noted in this study as well. The benefits of consolidation may exceed those of areas with saline or barren soils, particularly in those with fertile soil.

As stressed by Kumar & Sharma (2026), one must also consider the social effects of consolidation. The social repercussions of consolidation are covered in great length in this paper. Consolidation strategies can help communities economically as well as socially and culturally, particularly those in rural areas.

Finally, this study demonstrates how crucial consolidation is to the long-term viability of farming businesses. According to a Smith & Roberts (2028) study, consolidation can assist agricultural companies in achieving sustainability objectives like lowering their carbon

footprint, maximizing the use of water and energy, and protecting biodiversity. These conclusions are also supported by the study's findings.

Conclusion

This study explores in detail how consolidation affects agricultural firms' mechanization. As expected, the results highlight the critical role that consolidation plays in increasing agricultural output (Smith et al., 2018; Lee & Kim, 2020).

Moreover, it is apparent that agricultural firms' mechanized ability and efficiency are markedly improved by consolidation, especially in areas with rich soil, where the advantages are greater than in areas with saline or dry soil. The extant literature provides support for this hypothesis, as demonstrated by research like Kim & Lee (2019) and Jones & Clark (2022).

Regarding its implications for society and the economy, consolidation benefits rural areas as well. As noted by Kumar & Sharma (2026), in addition to the economic benefits, consolidation's social and cultural effects should be properly considered.

Furthermore, this study confirms the conclusions of Smith & Roberts (2028) by highlighting the vital importance of consolidation for the sustainability of agricultural businesses.

In conclusion, this study clarifies the complex effects of consolidation on farming businesses and confirms that these businesses can reap significant gains from it that are consistent with their goals for sustainability, social justice, and the economy.

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Tarihi Yapıların Korunması Kapsamında Sürdürülebilir İklimlendirme Sistemleri**Mehtapnur Bayrak****Kültür ve Turizm Bakanlığı****Prof. Dr. Hümeysra Birol****Dokuz Eylül Mimarlık Fakültesi****Özet**

Yaşamımızın her alanında gündemde yer alan Sürdürülebilirlik kavramı mimari bağlamda yenilikçi teknoloji ve sistemlerle üretilen ekolojik yapılar ile özdeşleşmektedir. Ancak, sürdürülebilirlik olgusunun temel unsurlarından olan bilginin gelişimi ve geleceğe transferi kimi zaman göz ardı edilmektedir. Oysa, geçmiş üretimlerin deneyimlerini aktaran geleneksel yapılar yerel malzeme kullanımı, kullanıcı odaklı tasarımı ve ekolojik çözümleri ile sürdürülebilir mimari için referans niteliğindedir. Bu çerçevede ele alınan çalışmada, incelenen örnekler üzerinden geleneksel iklimlendirme çözümleri ve çağdaş tasarımlarda kullanılan pasif sistemler aktarılmakta, bu sistemlerin aktif iklimlendirme sistemleri ile bütünleşme olasılıkları irdelenmektedir.

Çalışmada öncelikle tarihi yapılara ve geleneksel iklimlendirme yöntemlerine odaklanılmaktadır. Bu kapsamda, tarihi yapıların iklimlendirme çözümleri yapılar tekniği, mekânsal kurgu, işlev, açıklık kurgusu gibi yapı ölçekli girdileri ele alınmaktadır. Ayrıca, yapılar çevrenin iklimlendirme performansında belirleyici olan yönlenme, ışık kontrolü, yeşil kullanımı ve gölgelenme, yapıların birbiri ile ilişkisinin kurgusu tanımlanmaktadır. Ardından, günümüzdeki sürdürülebilir mimari yaklaşımın iklimlendirme çerçevesinde öngörülleri ve çözümleri ele alınmaktadır. Bu kapsamda minimum enerji tüketimi ve sıfır karbon ayak izini hedef alan, iklime uyumlu tasarımlarda belirleyici olan girdiler tanımlanmakta, öncelikle tarihi yapılardan referans alan pasif sistemler incelenmektedir. Elde edilen veriler doğrultusunda geleneksel iklimlendirme yöntemleri ve günümüz konfor taleplerinin ekolojik sürdürülebilirlik çerçevesinde ilişkilendirilmesine yönelik modern pasif ve aktif sistemler incelenmiş ve değişen yaşam standartları, kullanıcı konforu ve iklim değişikliği gibi unsurlar göz önünde bulundurularak geleneksel yöntemler ve bunlara destekleyici şekilde eklenen modern sistemlerin bir arada kullanılmasına yönelik hibrit çözümler üzerine, literatür taraması sonucu elde edilen bulgular ve nitel gözlemlere dayalı alternatif öneriler sunulmuştur. Tarihi yapılarda kullanılan geleneksel yöntemler ve yeni yapılarda kullanılan yöntemlerin, tarihi yapıların yeniden kullanılmasına yönelik kültürel ve çevresel sürdürülebilirlik bağlamında ele alınması, konunun ana teması olan tarihi yapıların yeniden kullanılmasında irdelenecek olan sürdürülebilir iklimlendirme için altlık oluşturmıştır.

Geleneksel ve çağdaş iklimlendirme sistemlerine odaklanan bulgular doğrultusunda, tarihi yapıların günümüz konfor koşullarına uyumu çerçevesinde uygulanabilecek hibrit çözümlerin irdelenmesi, bu çözümlere çevresel ve kültürel sürdürülebilirlik bağlamında dikkat çekilmesi amaçlanmıştır. Öte yandan, koruma-kullanım dengesi çerçevesinde

iklimlendirme donanımlarının tarihi yapının özgün nitelikleri ile ilişkisi ele alınmakta, olası çözümlerde geleneksel pasif sistemlerin potansiyeline ve kullanımına odaklanılması hedeflenmektedir.

Anahtar kelimeler: Sürdürülebilirlik, Ekolojik mimari, İklimlendirme, Geleneksel yapım kültürü, Tarihi yapı

The Sustainable Climatization Systems in the Context of Preservation of Historical Buildings

Mehtapnur Bayrak

Ministry of Culture and Tourism, Izmir Surveying and Monuments Directorate

Prof. Dr. Hümevra Birol

Dokuz Eylul University

Abstract

The concept of sustainability, which is on the agenda in all areas of our lives, is identified with ecological structures produced with innovative technology and systems in the architectural context. However, the development of knowledge, which is one of the basic elements of sustainability, and its transfer to the future are sometimes overlooked. However, the traditional construction culture, which conveys the experiences of past productions, is a reference for sustainable architecture with its use of local materials, user-oriented design, and ecological solutions. In this study, which is handled within this framework, traditional air conditioning solutions and contemporary ones are compared within the context of sustainable preservation of historical buildings, and the possibilities of integration of these systems with active air conditioning systems are examined.

The study primarily focuses on historical buildings and traditional air conditioning methods. In this context, inputs such as air conditioning solutions, construction technique, spatial setup, function, and opening setup of historical buildings are discussed. In addition, orientation, light control, use of green, and shading, which are determinative factors in the air conditioning performance of the built environment, are defined. Then, the predictions and solutions of today's sustainable architectural approach within the framework of air conditioning are discussed. In this context, climate-compatible designs that aim for minimum energy consumption and a zero carbon footprint are defined, and passive systems that reference historical buildings are examined. In line with the data obtained, modern passive and active systems have been examined to relate traditional air conditioning methods to today's comfort demands within the framework of ecological sustainability. Considering changing living standards, user comfort, and climate change, alternative suggestions based on the findings obtained as a result of the literature review and qualitative observations on hybrid solutions are presented. Besides, through the contemporary air conditioning systems that are built into the traditional systems, the climatization of historical buildings in the framework of cultural and environmental sustainability is discussed.

In line with the findings, it is aimed to bring to the forefront the usage of hybrid solutions based on traditional climatization systems in the renovation of historical buildings and to draw attention to these solutions in the context of environmental and cultural sustainability. On the other hand, within the framework of protection-use balance, it is aimed to discuss the adaptability of air conditioning equipment to the unique characteristics of historical structures and to underline the potential of traditional passive systems.

Keywords: Sustainability, Ecological architecture, Air-conditioning, Traditional construction culture, Historical building

Giriş

Tarihi yapıların doğayla uyumlu tasarım yaklaşımları ve geleneksel çözümleri, günümüz mimarisi ve yapı üretimi için önemli bir referanstır. Bu bakışla tarihi yapılar, yapının konumlanacağı alanın niteliği, yönlenme, yapım sistemi ve malzeme gibi geleneksel ve yerel kararları içermekte, geleneksel yapım kültürünün devamı için kaynak sunmaktadır. Öte yandan, iklim değişikliği ve küresel ısınmanın getirdiği olumsuz sonuçlar, doğal kaynakların kontrollü kullanıldığı sürdürülebilirlik kavramının önemini arttırmış bu kavramın önemli başlıklarından olan geleneksel yapım kültürünün sürekliliği çerçevesinde tarihi yapıların korunması ve yaşatılması ön plana çıkmaya başlamıştır. Konuyla ilgili, 28 Kasım 2011 tarihinde 17. ICOMOS Genel Kurulu'nda kabul edilen Tarihi Kentlerin ve Kentsel Alanların Korunması ve Yönetimi ile İlgili Veleto İlkeleri içerisinde de yenilenebilir enerji kaynaklarının kullanımının artırılması, enerjiyi boşa harcamaktan ve doğal döngülerin dengesinin bozmaktan kaçınılması gerektiği belirtilmiştir (URL.1). Sürdürülebilirlik olgusu ile bütünleşen bu ilkeler, küresele karşı yereli, geçiciliğe karşı sürekliliği öngörmektedir.

Günümüzde geçicilik kavramı hayatımızın her alanına etki etmiş, var olanı iyileştirmek ya da uzun ömürlü ve ekonomik çözümler üretmek yerine kısa süre hizmet vermek ve yenilenmek üzere üretilen çözümler benimsenmiştir. Yaşamın tüm alanlarını etkisi altına alan bu yaklaşım, hızla üretilen ve kısa kullanım süresi beklenen yapı stoklarının üretimini tetiklemiştir. Öte yandan, geleneksel yapım kültürünün benimsediği yere ve doğala uyumlu biçimlenmeler, detaylar unutulmuş, teknoloji ve makinalara bağımlı bir mekansal yaşam hakim olmuştur. Bu duruma karşı bir başkaldırı niteliğindeki sürdürülebilirlik olgusu bir yandan kaynak tüketimini azaltmayı ve tarihi devamlılığı hedefleyen yeniden kullanımı (Eres, 2019), diğer yandan enerji tüketimine ihtiyaç duymayan pasif iklimlendirme sistemlerini öngörmektedir.

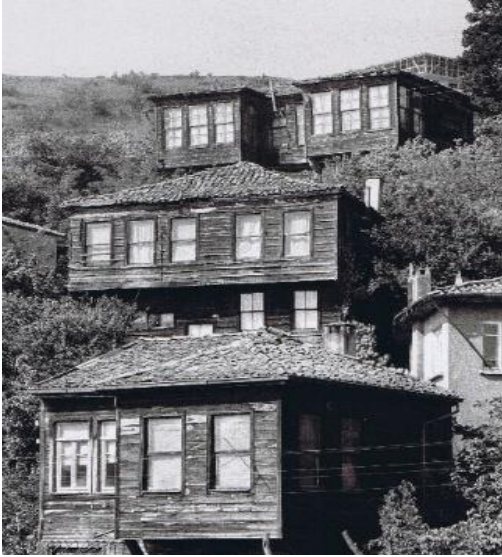
Sürdürülebilir kalkınma çerçevesinde tarihi yapılara odaklanan bu çalışma kapsamında, geleneksel iklimlendirme sistemleri ve günümüz sistemlerini karşılaştırılmalı olarak ele alınmaktadır. Bu kapsamda öncelikle geleneksel iklimlendirme sistemleri ve farklı iklim bölgelerindeki çözümler incelenmiş, geçmiş dönemlerde yaşam konforunu arttırmak için geliştirilen doğal sistemler irdelenmiştir. Ardından sürdürülebilir mimari yaklaşımı çerçevesinde uygulanmış yeni yapılardaki iklimlendirme sistemleri ele alınmış, geleneksel yapıya referans veren pasif sistemler üzerinde durulmuştur. Elde edilen veriler doğrultusunda, geleneksel öğreti ve çağdaş bilgi çerçevesinde geleneksel ile yenilikçinin uyumu üzerine odaklanılmış, tarihi yapıların güncel kullanımlarında doğaya ve yapıya en az zarar veren, olası iklimlendirme koşulları tartışılmıştır.

1) Tarihi Yapılarda Geleneksel Sürdürülebilir İklimlendirme Sistemlerinin İncelemesi

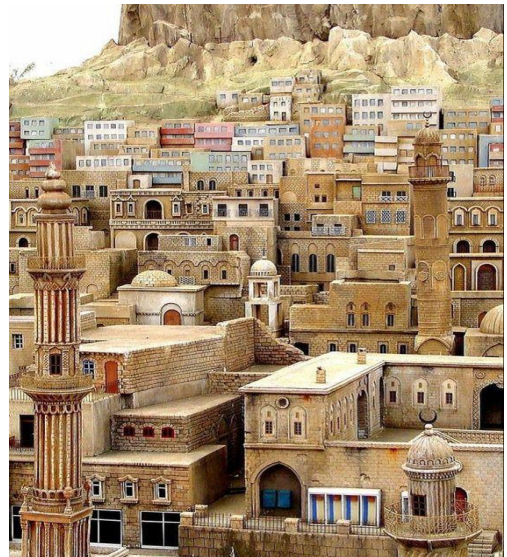
Tarihi yapıları biçimlendiren geleneksel yapımcılık kültürü, yerel veya bölgesel dinamiklerin etkisi ile oluşmuştur. Bu durum, üzerinde konumlandığı coğrafyanın topografik, iklimsel ve kültürel dinamiklerini öncelik alan yapıların üretilmesini ve nesiller boyu bu bilginin sürdürülmesini sağlamıştır. Bu bağlamda, geleneksel yapıların iklimlendirme çözümlerini çevresel ve yapı ölçeklerinde ele almak mümkündür.

1.1. Çevre ölçeğinde Çözümler

Geleneksel yerleşimlerin temel özelliklerinden biri, doğanın olumlu ve olumsuz koşullarına ayak uyduracak şekilde biçimlenmeleridir. Bu çerçevede, ılıman ve sıcak iklim bölgelerinde ısının olumsuz etkisini azaltmak ve rüzgarın serinletici etkisinden olabildiğince yararlanmak öncelik olmuştur. Evler, gün ışığından elverişli bir şekilde yararlanmak üzere birbirinin ışığını ve rüzgarını kesmeyecek şekilde konumlandırılmıştır. Soğuk iklim bölgelerinde ise yapıların sert iklim koşulları ve soğuk rüzgarlardan korunması öncelik alınmış, hakim rüzgara masif yüzey ile yönelme, bitişik nizamda konumlanma gibi çözümler benimsenmiştir. (Şekil 1, 2)



Şekil 1. Safranbolu Evleri (Kaynak, URL2)



Şekil 2. Mardin Evleri (Kaynak, URL3)

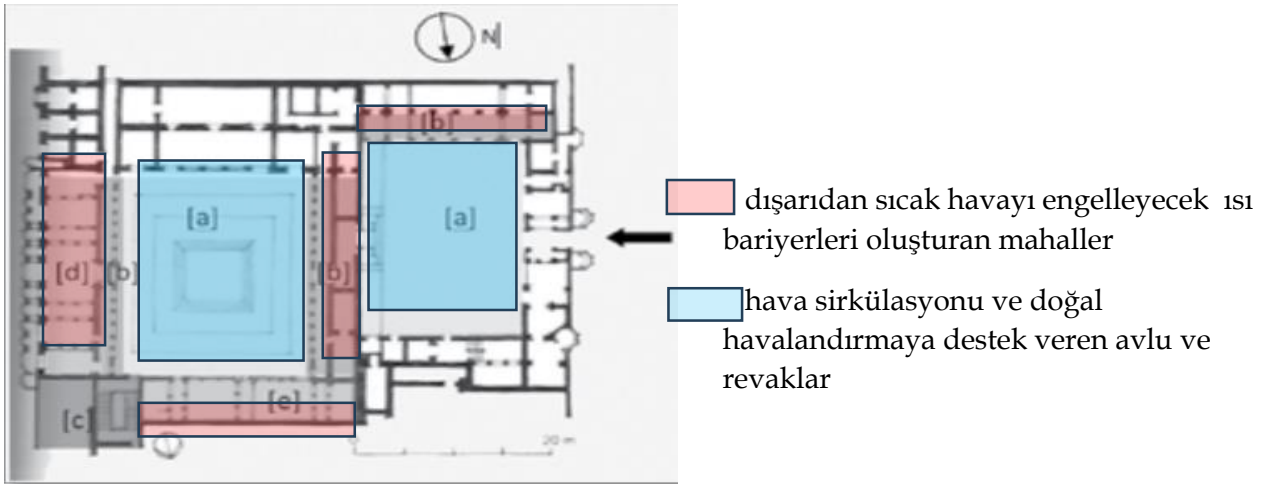
Yapıların konumlanışlarında belirleyici olan unsur, hakim rüzgara göre yönelimdir. Sert iklim bölgelerinde hakim rüzgar yönünde kısa ve/veya masif cepheler izlenirken, sıcak bölgelerde bu cephelerin ana yaşam mekanlarını ve yarı açık mekanlar ile birlikte barındırdığı izlenmektedir. Geleneksel yapıların birbirlerine ısı bariyeri oluşturacak veya gün ışığının iletecek şekilde konumlandırılması, sıcak iklimlerde doğal rüzgarın yapılara ulaşmasını sağlarken, soğuk iklimlerde ise ısıyı doku içinde tutulmasını veya dağıtılmasını sağlamıştır.

1.2 Yapı Ölçeğinde Çözümler

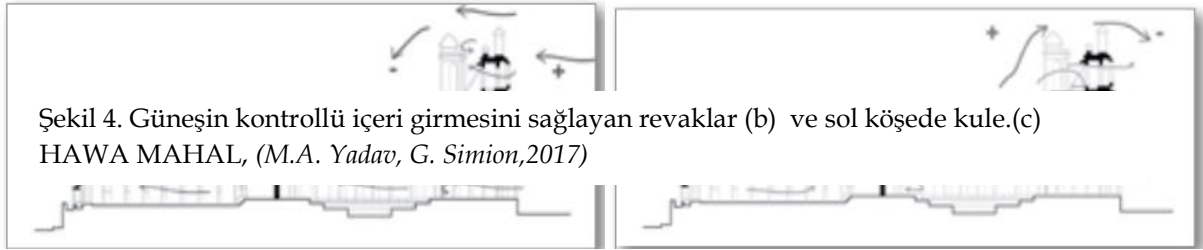
Tarihi yapılar, doğal kaynaklardan maksimum düzeyde faydalanmak için üretilen mimari çözümleri ile yere ve kültüre özel evrensel çözümler sunmakta, günümüz mimarisine referans olmaktadır. Geleneksel yapımcılık kültürünün biçimlendirdiği bu yapıların iklimlendirme çözümlerini mekansal kurgu, cephe kurgusu, yapımcılık sistemi ve malzeme üzerinden tanımlamak mümkündür.

1.2.1 Mekansal Kurgu

Tarihi yapıların mekan kurgusu, kullanıcı toplumun kültürel yapısının yanı sıra içinde bulundukları iklim özellikleri dikkate alınarak oluşmuştur. Geleneksel yapılarda benimsenen doğal iklimlendirme, yaşanan hacimlerin plan kurgusundaki yerini, boyutunu ve yönünü belirlemiştir. Mekan organizasyonu ile ulaşılması hedeflenen ısıyı iletmek, ısıyı korumak, dışarı atmak ya da uzaklaştırmaktır. Sıcak iklimlerde mekanları örgütleyen merkezi avlular ve sundurmalar ısının içeriye ulaşmasını engellemekte, doğal havalandırma ve kontrollü güneş girişi sağlamaktadır. Hindistan'ın Jaipur kentinde bulunan ve 1799'da inşa edilmiş olan Hawa Mahal Sarayı, birbirine ve diğer odalara [b] bir dizi revakla bağlanan, farklı boyutlarda iki dikdörtgen avlu [a] dan oluşmaktadır. Bununla birlikte, yapının kuzeydoğu köşesinde konumlanan kule, ısı bacası olarak çalışmakta ve sarayın doğal havalandırmasına hizmet etmektedir. Bu örnekte de görüldüğü üzere, doğal havalandırma ve ısıtma için maksimum verimin sağlanması amacı ile yardımcı mimari elemanlardan yararlanılmıştır. Sıcak iklimlerde ısı bariyerini, soğuk iklimlerde ise ısı akışını sağlayan 'Termal tampon alanlar' (verandalar, avlular) doğal havalandırmayı arttırarak, avluları çevreleyen revaklar ve kule ise çapraz havalandırma etkisi ile fazla ısının yakalanmasına ve soğuk hava akımlarının geçişine imkan vererek pasif iklimlendirme çözümleri sunmaktadır (M.A. Yadav, G. Simion,2017). (şekil 3,4 ve 5)



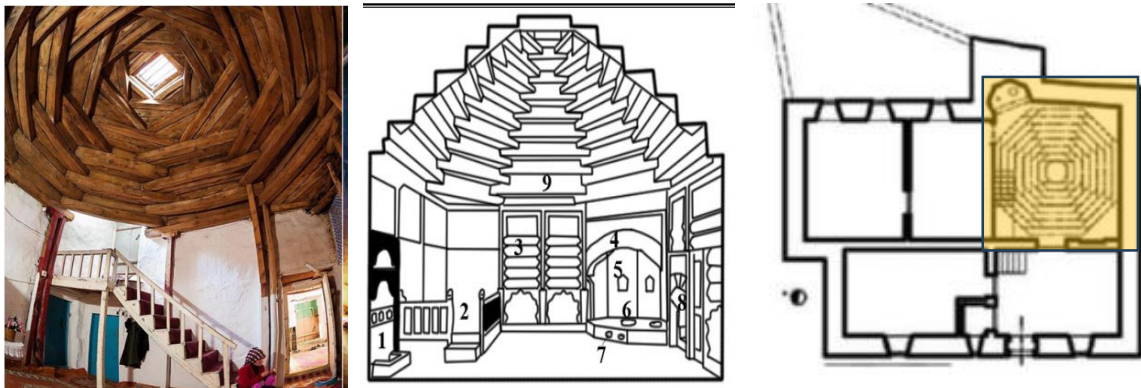
Şekil 3. Güneşin kontrollü içeri girişi ve ısı bariyeri sağlayan mahaller (b) HAWA MAHAL, (M.A. Yadav, G. Simion,2017)



Şekil 4. Güneşin kontrollü içeri girmesini sağlayan revaklar (b) ve sol köşede kule.(c)
HAWA MAHAL, (M.A. Yadav, G. Simion,2017)

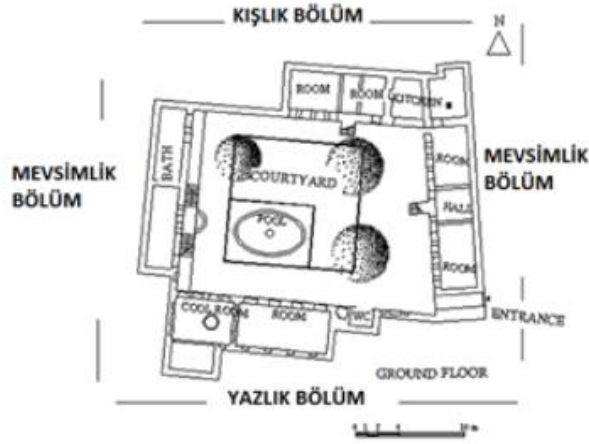
Şekil 5. Doğu batıdan gelen hakim rüzgar yönleri ve kulenin çalışma prensibi
HAWA MAHAL, (M.A. Yadav, G. Simion,2017)

Yapı tasarımında plan kurgusunun ön planda tutulduğu ve ana tasarımın bu çerçeveden işlediği sıcak iklimin tersine, soğuk iklim bölgelerinde kübik, kompakt kütle formu benimsenmekte, rüzgarın iç mekana etkisi olabildiğince azaltılmaktadır. Sert karasal iklimde ortaya çıkan bir çözüm olan Erzurum- Tandır Evleri, mekansal kurgusu ve ana yaşam biriminin hacimsel niteliği ile dikkat çekicidir. Pişirme işlevinin de gerçekleştiği ana yaşama mekanının iç içe geçen sekizgen formlu kırlangıç tavan kurgusu, iç mekandaki kirli havanın çıkışını ve mekanı aydınlatacak ışığın alımını sağlamaktadır. (Şekil 6,7)



Şekil 6, 7. Geleneksel Erzurum Tandır Evi
(Görsel ve kesit: Gök, Y., & Kayserili, A. 2013; plan: Önal, 2023)

Sıcak ve soğuk iklimsel girdiler doğrultusunda biçimlenen geleneksel Diyarbakır Evi ise, yazlık ve kışlık bölümler içermektedir. Evin yazlık bölümleri avluya açılan eyvanlarla bütünleşerek kuzeye yönlendirilmiş, böylece yaz aylarında serin ve gölgeli bir mekân düzenlemesi sağlanmıştır. Hâkim kuzey rüzgârlarına açık olan yazlık bölümlerin geniş ve yüksek tavanlı mekanlarında çok sayıda ve büyük ebatlı pencereler kullanılmış, böylelikle iç mekânda sürekli hava akımı sağlanmıştır. Kışlık bölümü oluşturan mekânlar ise, güneye yönlendirilmiş, soğuk iklimin yarattığı olumsuz hava koşullarından korunmak amaçlanmıştır. Yazlık bölümlere göre daha küçük hacimlere sahip olan kışlık odalardaki açıklıklar küçültülmüş, böylelikle sert iklim koşullarından korunma sağlanmıştır (Baran, 2017). Öte yandan, yaşama mekanlarının kışın sıcak, yazın serin olacak şekilde konumlanması, mutfak ve uyku mekanlarının ise serin bölgelerde konumlanması önemsenmiştir (Şekil.8).

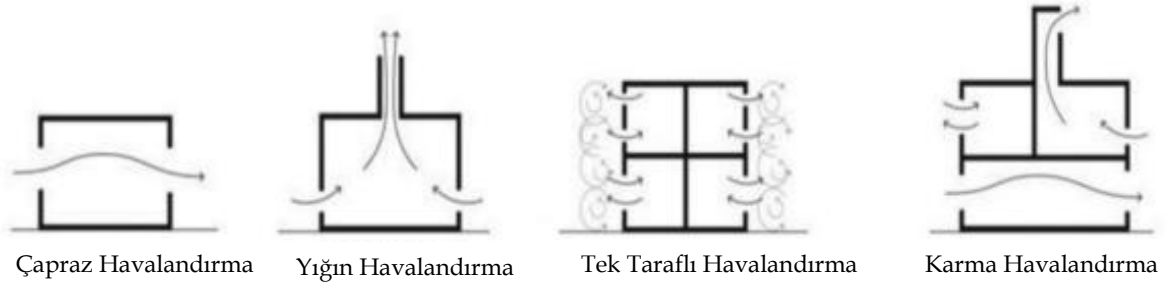


Şekil 8. Geleneksel Diyarbakır evleri
(Kaynak: URL4)

1.2.2 Cephe kurgusu

Tarihi yapıların açıklık düzeni, sundukları yatay ve düşey havalandırma çözümleri ile ısı kontrolünün en temel unsuru ve ısı konforunun sağlanmasının önemli bir etkenidir. Büyükgöz ve Yamaçlı (2002), doğal iklimlendirme hedefi ile mekansal kurgu ile bütünleşen cephe kurgusunu, açıklıkların konumlanması ile sağlanacak doğal havalandırma ve ısı kazanım yöntemleri açısından dörde ayırmaktadır: Çapraz havalandırma, tek taraflı havalandırma, baca havalandırması, karma havalandırma (Şekil 9)

Şekil 9. Doğal havalandırma sistemleri (Büyükgöz, Yamaçlı, 2002)



Tarihi yapılarda pasif iklimlendirmeyi mümkün kılan boşluk kurguları; güneş ışığı kontrolü, etkili havalandırma, ısıyı kontrolü ve maksimum rüzgar akışı sağlayacak şekilde biçimlenmiştir. Isıyı tutmak istenilen yerlerde pencereler küçük ve az sayıda iken, havalandırmanın etkili olması istenen ve hakim rüzgarın soğutma yönünden estiği bölgelerdeki cephelerde geniş, çok sayıda pencere boşluğu oluşturulmuştur. Pencerenin rüzgar yönü ve aksi yönde, karşılıklı konumlandırılmasıyla mekanın içerisinde hava akımı oluşmaktadır. Oluşan bu hava akımı pencere yönü, büyüklüğü ve rüzgar yönüne bağlı olarak değişkenlik göstermektedir. Kırsalda ve rüzgarın fazla olduğu bölgelerde inşa edilen binalar kalın taş duvarlara ve küçük pencere açıklıklarına sahiptir. Öte yandan, Anadolu coğrafyasında doğal güneş ışığının en fazla güneyden alınması, güney cephelerinin şeffaflaşmasına yol açmıştır. Yapıların yazlık bölümlerinin güney cephesinde geniş boşluklar kullanılır ve pencere doğraması taş duvarın iç kısmında yer alır iken, kışlık bölümlerde boşluk boyutları küçülmekte, pencere doğraması duvar kesitinin dış yüzeyinde ya da ortasında konumlanmaktadır. Özellikle soğuk bölgelerdeki doğramalar, ahşap kapaklarla dış hava etkilerinden korunmuştur (Baran, 2017). (Şekil 10)



Şekil 10. Esmâ Ocak Evi, Diyarbakır. Yazlık (sol) ve kışlık (sağ) bölümlerdeki açıklıkların değişimi. (Sol: H.Birol Arşivi, Sağ: Baran, 2017)

Yapı kabuğunun önemli bileşenlerinden olan duvarlar, malzemesi, yapılış tekniği, kalınlığı ve yüzey kaplayıcıları (sıva) ile ısının içeride tutulması ya da yapının istenilen ölçüde nefes almasına katkıda bulunurlar. Geleneksel yapım kültürünün parçası olan bağdadi sistemi; ahşap karkas sistemle üretilen duvarın her iki yüzeyine 2-3 cm. enindeki kırılmalı kesitli ahşap çıtaların 1cm gibi aralıklarla çakılması ve ardından her iki yüzeyin sıvanması ile oluşturulmuştur. Bu sistemde duvar iç oluşan hava boşluğu ısı yalıtımı sunmakta, bu tekniğin kagir beden duvarlarının iç yüzeylerine uygulanması ise çift cidarlı yüzey oluşturarak ısı yalıtımı ve doğal ısıtma olanağı sunmakta, doğal havalandırmaya da katkı sağlamaktadır. (Şekil 11a)

Duvarların yapılış tekniğinin yanı sıra, bulundukları iklim ve coğrafyaya uygun malzeme kullanımı da öne çıkan doğal çözümlerdendir. Geleneksel yapıların yerel taş ve yerel mineral katkılı harç ile örülmüş ve üzeri organik bağlayıcı harçlar ile sıvanmış kalın dış beden duvarları ve kerpiçten yapılmış duvarları sıcak tutma ya da engelleme özelliğine sahiptir. Özellikle çamur harçlı taş duvarların ve kerpiç duvarlar ile ilgili olarak ısıyı bulunduğu mevsim koşullarına göre yazın içeriye sıcak geçirgenliği kışın ise sıcak içeriye tutması ile mevcut koşullarda ideal ve bulunabilir malzemeler olmuşlardır. Taş, Orta Anadolu Türk evlerinde yapı ile zemini birbirine bağlayan önemli bir unsur olmuştur. Ayrıca sığağa ve

soğuşa karşı yalıtım sağlamakta, yoğuşmayı önlemektedir (Şimşek, 2016). Bu yönleri ile çamur harçlı taş ve kerpiç yığma sistemler, eldeki kaynakları kullanarak ilave önlemler gerektirmeden ısıl konforu sağlaması nedeniyle sürdürülebilirlik ilkelerini taşımaktadırlar (Taşçı vd. 2018). (şekil 11b)



Şekil 11a. Bağdadi duvar (S.Özen, 2021), Şekil 11b. Kerpiç yığma sistem uygulaması (URL 5)

Pasif iklimlendirmede etkin olan bir diğer bileşen çatılardır. Geleneksel mimaride çatılar yapının önemli bir tamamlayıcısı olup, onları her türlü iklim ve çevre koşullarından koruyan en önemli unsurdur. İklimsel özellikler ve yaşam tarzı göz önünde bulundurularak şekilleri, teknikleri ve yapımlarında kullanılan malzemeler belirlenmiştir. Sıcak ve yağışsız iklimlerde ahşap kirişleme üzeri düz ve sıkıştırılmış toprak, kerpiç gibi malzemelerden yapılan çatılar (toprak dam), hem sıcak gecelerde dinlenme ve uyuma mekanı sunmakta, hem de mevsimlik gıda üretimi (meyve, sebze kurutulması) için kullanım alanı yaratmaktadır. Öte yandan, soğuk ve yağışlı iklimlerde kullanılan, %20' den yüksek eğimli ahşap çatı ile mekan içeren çatılar; sıcak ve soğuk havalarda ev için ısı bariyeri görevini üstlenmekte, doğal havalandırma ve ısıtma sağlamakta, kar kütlelerinin çatıya tutunmasını önlemektedir (şekil 12, 13, 14)



Şekil 12. Nevşehir, Uçhisar, düz damlı evler (H. Birol Arşivi, 2014)



Şekil 13. Rize, sac eğimli çatı örneği (URL 6)



Şekil 14. Rize eğimli kiremit çatıya örnek (URL 7)

Geleneksel yapıların iklimlendirme çözümlerinde gölgelendirme elemanları da sıklıkla kullanılmıştır. Yapı yüzeyine gelen fazla ışık, ısı ya da soğukun iç mekanda yaratacağı olumsuz koşulların kontrolünü sağlamak amacıyla üretilen bu elemanlar; ahşap kepenkler, taş güneşlikler ve çatı saçaklarıdır. (Şekil 15, 16, 17, 18)



Şekil 15. Foça, ahşap kepenk (URL 8)



Şekil 16. Pencere gölgelikleri (Meşrebiye), Urfa (URL 9)



Şekil 17. Çatı saçakları, Kula. (H. Birol arşivi)



Şekil 18. Taş saçaklar, Çeşme. (H. Birol arşivi)

Sıcak ve kuru iklim bölgelerinde ısı konforu güçlendirmek için kullanılan bir diğer unsur, su ögesidir. Avlulu yapılarda ve avlunun orta noktasında yer alan havuzlar ortamın nemlendirilmesini ve böylelikle serinletilmesini sağlamakta, böylelikle avluyu çevreleyen

mekanlara nemli hava yönelmektedir. Ayrıca, yapı avlularında ya da çevrelerinde bulunan ağaç ve bitkiler pasif iklimlendirme açısından önemli bir etken oluşturmakta, özellikle ağaç olan bölgelerde hava akımının ideal koşullara gelmesinde etkin olmaktadır. (Şekil 19, 20)



Şekil 19. Havuzlu orta avlu
Hawa Mahal (URL 10)



Şekil 20. Peyzajla zenginleştirilmiş avlu
Muğla (URL 11)

Sonuç olarak, geleneksel evlerde, yapı yönelimi, biçimlenişi, mekanların plan kurgusu, fonksiyonları, seçilen malzemeler yapının bulunduğu yerin iklimine, coğrafyasına göre şekillenmiş genellikle sıcak olması gereken yaşam alanları, daha serin olması gereken mutfak ve uyku mekanlarının belirleyici kurgusu ile birlikte bunlara ek olarak hakim rüzgar yönü ve güneş dikkate alınarak malzemeler seçimleri ile birlikte cephe tasarımları şekillenmiştir.

2) Güncel Mimaride Kullanılan Sürdürülebilir İklimlendirme Sistemleri

Günümüzde değişen iklim koşulları, yaşadığımız çevre, değişen yaşam tarzımız, kent politikalarımız ve konfor anlayışımız, önceleri doğal yollar ile yapılan ısıtma ve havalandırma yöntemlerini teknoloji kullanarak, mekanik yollardan yapmamıza neden olmuştur. Bu durum doğaya sırtımızı çevirerek daha fazla enerji tüketmemize bunun sonucunda da daha fazla karbon ayak izi bırakarak küresel ısınmayla yüz yüze gelmemize neden olmaktadır. Bütün bu sebepler mimarların tasarımlarında 'sürdürülebilir enerji', 'yenilenebilir enerji', 'sıfır enerji', gibi kavramlara öncelik vermeye yönlendirmektedir.

Geleneksel havalandırma ve ısıtmanın, Değişen konfor kriterleri ve iklimsel faktörler doğrultusunda geleneksel iklimlendirme sistemlerinin yeterli gelmediği durumlarda teknolojinin getirdiği olanaklar ile üretilen yöntemler bulunmaktadır. Sürdürülebilirlik hedefi kapsamında bu yöntemlerde aranan ilkeler;

- En verimli halinde az enerji tüketmek ve az karbon ayak izi bırakmak,
- Kullanılan enerjinin doğaya en az zarar veren yöntemler kullanmak,
- Yenilenebilir malzeme kullanmak,
- Yapı enerji harcama kontrolünü sağlamak, boşa enerji tüketimi yapmamak ve hava koşullarını dengede tutmak için akıllı otomasyon sistemleri ve yazılımlardan faydalanmaktır.

Binalarda ısıtma, soğutma, havalandırma, aydınlatma ve elektrik üretimi için en yaygın kullanılan yenilenebilir enerji kaynakları; güneş, rüzgar ve jeotermal enerjidir. Bu enerji kaynaklarının binalarda kullanımı ile ilgili iki tür sistem vardır: pasif ve aktif sistemler. Isıtma, soğutma, havalandırma ve aydınlatma amacıyla güneş ve rüzgar enerjisinin kullanımına yönelik binaların tasarım aşamasında doğal tasarlanan sistemler "pasif sistemler" olarak kabul

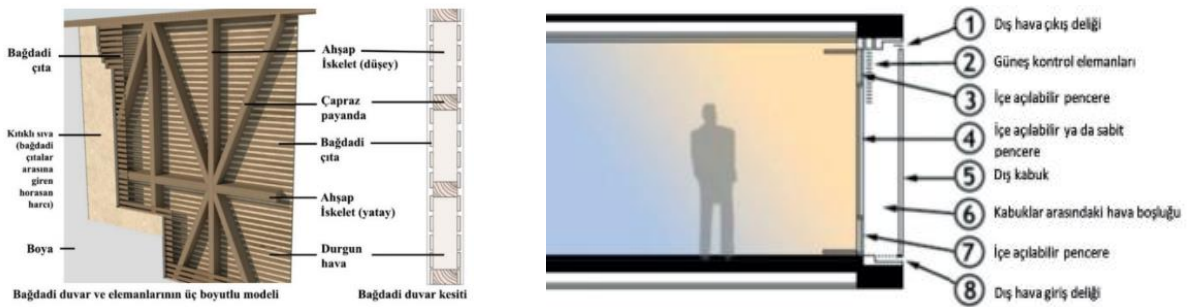
edilirken, bina tasarımına eklenen teknolojik ürünler içerenler ise “aktif sistemler” olarak tanımlanabilir.

Çalışmanın bu bölümünde teknolojinin getirdiği olanaklarda faydalanılarak ‘sürdürülebilirlik’ ilkesi çerçevesinde biçimlendirilmiş iklimlendirme sistemlerinin sunduğu çözümler ele alınmaktadır. Bu kapsamda minimum enerji tüketimi ve sıfır karbon ayak izini hedef alan, iklime uyumlu tasarımlarda belirleyici olan girdiler tanımlanarak öncelikle tarihi yapılardan referans alan pasif sistemler incelenmekte, ardından teknolojinin getirdiği imkanlar doğrultusunda geliştirilen ve tarihi yapılarda da kullanılabilecek olan aktif sistemler ele alınmaktadır.

2.1 Geleneksel yöntemleri referans alan pasif sistemler

Güncel mimaride sürdürülebilirlik ilkesi çerçevesinde kullanılan pasif sistemler, yapının ısıtma, soğutma gibi iklimlendirmesinde ihtiyaç duyulan enerjiyi en aza indirmek için tercih edilen ilk aşamadır. Bu yöntemlerde güneş, rüzgar, su gibi doğal kaynakların kullanımında geleneksel sistemler referans alınmakta, güncel malzeme ve yöntemler ile iyileştirilerek günümüz koşullarına göre uyarlanmaktadır. Bu yaklaşım; eski yöntemlere olan farkındalığı arttırılması ve yenilenebilir enerjinin mevcut kaynaklardan sağlanmasına teşvik edilmesinin yanı sıra, geleneksel yapıların korunması ve yeniden kullanımlarında güncel sistemlerin kullanım olasılığı sağlaması nedeniyle önemlidir. Bu çerçevede ele alınabilecek pasif sistemler cephe kurgusu, mekan dizilimi, mimari eleman ve boşluk tasarımı üzerinden öneriler sunmaktadır.

1. Cephe Kabuğu: Geleneksel yapı sistemlerinde çift cidarlı duvar kurgusu ile yaratılan hava boşluklarını referans alan kabuk tasarımlarında, yüksek performanslı malzeme kullanılan çok katmanlı cephe tasarımı benimsenmekte, cephe kabuklarının bir kısmının fotovoltaiik panel ile kaplandığı örneklerde görülmektedir. Yapının beden duvarından uzaklaştırılan bu ikinci katman, oluşturulan hava boşluğu ile yapının iklimlendirmesine katkı sağlarken, yenilikçi malzemeler ve uygulama teknikleri ile güneş ışığı depolayan ya da rüzgar enerjisi sağlayan kabuklar üretmektedir. (Şekil 21, 22)



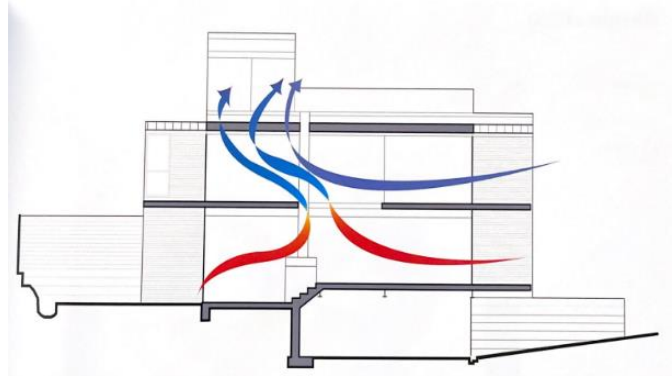
Şekil 21. (sol) Geleneksel bağdadi sistem (Alemdar, Şahin, Çavdar, 2023)

(sağ) Günümüzde kullanılan çift katmanlı cephe uygulaması (Alakavuk,2010)



Şekil 22. (sol). Şağ kaplı cephe. Buldan, Denizli. (URL 12)
(sağ).Çift katmanlı cephe uygulaması, BIQ Binası (Alakavuk,2010)

2. Merdiven Bacası; Sıcak iklimlerde doğal havalandırma için kullanılan rüzgar kapanları, rüzgar kuleleri ve çatı fenerlerine referansla, iç mekandaki sıcak havayı çatıdan atmak için oluşturulan modern rüzgar kuleleri kullanılmaktadır. Merdiven boşlukları ile bütünleşen bu sistemin daha etkin çalışabilmesi için çatıya fan döşenmekte, böylelikle sıcak havanın atılması ve rüzgarın içeri girmesi sağlanmaktadır. Güncel mimaride kullanılan rüzgar kuleleri teknolojinin sunduğu imkanlar dahilinde sensörlü kepenk sistemleri, ısınan havayı depo eden termal kütleler gibi gelişmiş sistemler ile geliştirilmiş, maksimum verim elde edilmesi sağlanmıştır.(Şekil 23, 24)



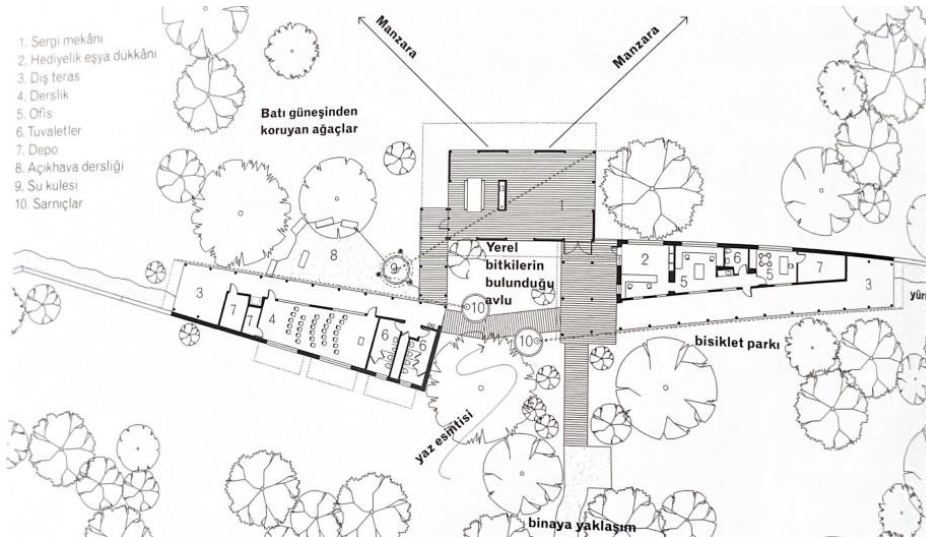
Şekil 23. (sol). Geleneksel konutta rüzgâr kapanlarının yarattığı hava akışı, Urfa (Melikoğlu,Bekleyen, 2021) (sağ). Yeni yapıda merdiven boşluğunun yarattığı doğal havalandırma (M. Guzowski,2019)



Şekil 24. (sol).Geleneksel rüzgar bacaları, İran (URL 13)
(sağ). Ekoloji Araştırma Merkezi, Stanford, (URL 14)

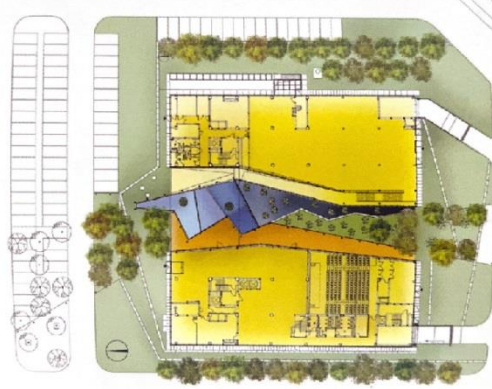
3. Plan kurgusu ve cephe düzeni; Geleneksel yapılarda benimsenen, sıcak ve soğuk zonlara göre ısı bariyeri görecekle ya da ısıyı iletecek alanlar oluşturmak ve planda bu amaçla sınırlayıcılar ya da açıklıklar oluşturmak prensibi, güncel yapı tasarımında da kullanılmıştır. Yatma ve yaşama mekanlarının baktığı yön ve buna göre oluşturulan cephe düzeni enerji ve havalandırma etkin kullanım için geleneksel yapılardan referans alınan başlıca unsurlardandır.

4. Yapı avlusu; Geleneksel konutun doğal havalandırma ve aydınlatma çözümleri arasında olan avlu gibi açık ve yarı açık alanlar, güncel mimaride de kullanılmaktadır. şekilde peyzajla da desteklenerek kontrol edilmektedir. (Şekil 25)



Şekil 25. Yeni yapıda avlulu sistem ile doğal havalandırma oluşumu. (M. Guzowski,2019)

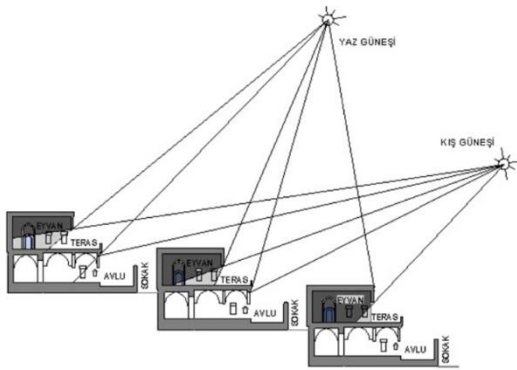
5. Su ve bitkisel öğeler: Geleneksel mimariden esinlenerek oluşturulan açık mekanlarda, ortamı nemlendirmek ve serinletmek için bitkilenme ve havuz gibi su öğeleri kullanılmıştır. Güncel mimaride de kullanılan bu çözüm ile doğal iklimlendirme sağlanmakta, yapılaşma yoğunluğunun artışından kaynaklı sıcak hava dalgasının ve yoğun şehir trafiği gürültüsünün yapıya ulaşmasını engellemek için yeşil bant ve ağaç gibi bitkisel peyzajdan yararlanılmaktadır. (Şekil 26, 27)



Şekil 26 (sol). Yeni yapıda su ve peyzajdan faydalanılan doğal havalandırma (M. Guzowski,2019).

Şekil 27 (üst). Yeni yapı avlusunda su ve yeşil bant kullanımı (M. Guzowski,2019).

6. Yapı yönelimleri: Geleneksel mimarinin topografya ilişkisi ve yönelim prensipleri, güncel mimari ürünlerde enerji kullanımını en aza indirmek açısından önemli olmuştur. Tasarım aşamasında, program ve yazılımlar yardımıyla yapıların güneşe ve rüzgara hakim yönleri hesaplanmaktadır. Ayrıca, yapıların ve kamusal alanların birbirinin hava akımını engellemeyecek şekilde teraslama mantığıyla yapıldığı tasarımlara da rastlamak mümkündür. (Şekil 28, 29)



Şekil 28. Geleneksel Mardin evlerinin konumlanma ve yönelme prensipleri (URL 15)

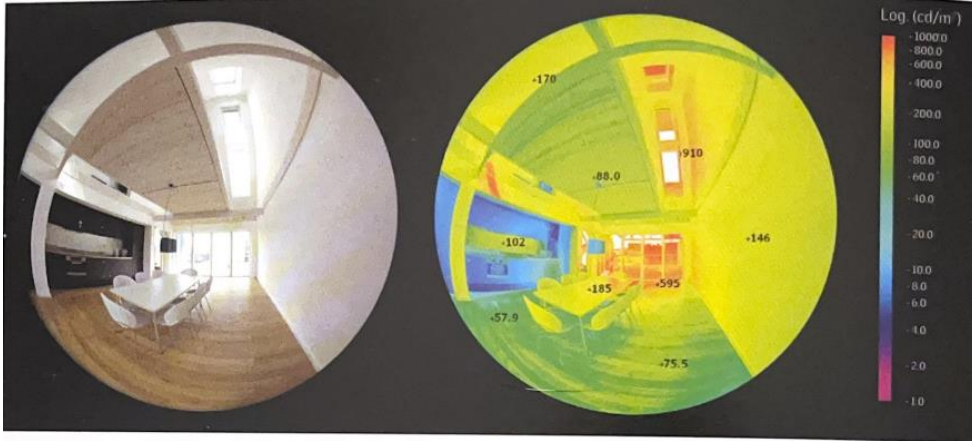


Şekil 29. Teraslama, yeşil öğeler ve güncel sistemlerin bir arada kullanımı SIEEB Binası, İtalya (M.Guzowski,2019)

2.2. Tarihi Yapıların İklimlendirmesinde Kullanılabilecek Modern Aktif Sistemler

Yapılarda modern havalandırma ve ısıtma sistemlerinin oluşturulmasına doğal unsurlar yerine çağdaş ve yenilikçi teknolojilerinin kullanıldığı sistemler Aktif Sistem olarak tanımlanmaktadır. Yenilenebilir enerji kullanımının düşüklüğü ve karbon salınımının yüksekliği nedenleriyle eleştirilmekte olan bu sistemlerde, sürdürülebilirlik hedefi çerçevesinde akıllı sistemler ve malzemelerin kullanımına başvurulmaktadır. Öte yandan, tarihi yapıların korunmasını konu alan uygulamalar için tercih edilecek sistemlerin yapının özgün karakterini zedelememesi veya öznel niteliğini güçlendirmesi beklenmektedir. Bu beklenti, kullanılacak sistem ve malzemelerin tarihi yapının estetik, mimari ve belge değerlerine, malzeme kültürüne olumsuz etki yaratmaması, ayrıca hafiflik ve yangın dayanımı sağlamasını gerektirmektedir. Çalışmada ele alınan sistemler bu kapsamda seçilmiş olup sürdürülebilir iklimlendirme çerçevesinde sağladığı az karbon salınım, doğal kaynaklardan sağlanan enerji ve az enerji tüketiminin sağladığı avantajları ile birlikte tarihi yapılarda uygulanabilirliği yönünden oluşacak avantaj ve dezavantajlara değinilmiştir.

- Akıllı otomasyon sistemleri; yapıların güneş enerjisinden maksimum faydalanması, ya da hakim rüzgar yönüne göre ideal konumlanmasını öngören çizim ve yazılım programları kullanılmakta, evin içinde ısı ölçümüne göre havalandırma, soğutma ya da ısıtma yapan yapı otomasyon sistemleri ile gereksiz enerji sarfiyatının önüne geçilebilmektedir. (Şekil 30) Bu sistem ile teknik mekanik donanımların minimize edilmesi, tarihi yapıların iç mekanlarının görsel etkisine en az zarar oluşturması nedeniyle olumludur.



Şekil 30. Gündüz evin en çok ısınan yerlerini ölçen sistem (M. Guzowski, 2019)

- Fotovoltaik Paneller ve Güneş Kollektörleri; Yapılarda güneş yönüne göre ayarlanan bu sistemler çatı kullanımında paneller, kütle kabuğunun biçimlenmesinde ise panel yüzey veya mimari eleman olarak üretilebilmektedir. Bu sistemler, yapının enerjiye ihtiyaç duyan bütün cihazları için destekleyici doğal enerji kaynağıdır (Şekil 31, 32). Sistemde kullanılan panellerin farklı mimari elemanlarla bütünleşebilme özelliği, tarihi yapıların çatı yüzeyleri ve kepenkleri ile birlikte kullanım imkanı sunmaktadır.



Şekil 31. Kepenlerdeki ayarlanabilen fotovoltaik paneller, (M. Guzowski, 2019)



Şekil 32. Çatıda Güneş kolektörü ve fotovoltaik paneller, (M. Guzowski, 2019)

- Biyokütle kazanı;Yapıların enerji gereksinimi için karbon salınımı yüksek fosil yakıtlar yerine bitkisel bazlı, koza tohumu yağı ile çalışan ve 'biodizel' enerji üreten yakıt kazanları, aktif sistem olmakla birlikte kontrollü doğal kaynak kullanılması nedeniyle dikkat çekicidir. (Şekil 33) Sistemin karbon salınımının azlığı ve yakıtı ulaşılabilirlik kolaylığı özellikle kırsal yerleşimlerdeki yapılarda kullanım avantajı sumaktadır. Ayrıca yapıdan ayrık bir şekilde yerleştirilebildiği için tarihi yapının kütleli algısında olumsuz etki yaratmamaktadır. Bununla birlikte, fosil yakıtlar kadar enerji verimliliği sağlamayacağı için yüksek enerji tüketimi gerektiren yapılar için uygun değildir. Öte yandan, yapı dışı konumlandırılması için yapı parselidne ek mahal üretimi gerektirmektedir.



Şekil 33. Biyokütle kazanı, (URL 16)

- Faz Değiştiren Malzemeler (FDM): Dar bir sıcaklık aralığında yüksek miktarda ısı enerjisi depolamak zorunda olan faz değiştiren malzemeler, geleneksel yapı malzemeleri (beton, taş) ile kıyaslandığında çok daha hafif olmalarına rağmen geleneksel yapı malzemelerinden 15 kat daha fazla ısıyı birim hacimlerinde depolayabilmektedirler. (Canım, D. S., & Kalfa, S. M. 2021) Bu özelliğinden kaynaklı olarak FDM'ler hafif ve yüksek ısı kütleye sahip bina kabuğu,

duvarları, döşeme ve çatı uygulamalarında kullanıma uygun bir malzeme olarak karşımıza çıkmaktadır. Bunlar parafin polimer panel ısıl kütleli¹ organik malzemeler ya da inorganik üretilen panel, ısı yalıtım köpük vb.. sistemlerdir. Doğal havalandırmanın etkin bir şekilde çalışması için ısının girmemesi ya da kaçmaması gerekmekte olup bu nedenle üretilen akıllı malzemelerdir. Modern kimya endüstrisiyle üretilen yüksek performanslı organik bu malzemeler, uzun yıllar dayandığından yapı bakımı için daha az enerji ve kaynak gerektirmektedir. (Şekil 34, 35) Tarihi yapıların duvar, çatı, döşeme gibi farklı noktalarında uygulanabilen bu malzemeler, kütle algısında değişim yaratmaması, yangın önleyici malzeme katkısı ile aktif ve pasif iklimlendirmede ısı depolayarak enerji verimliliği sağlaması açısından olumludur. Öte yandan, yangın önleyici malzeme katkısı yapılmamış FDM'lerin yüksek yanıcılık özelliği olması ve dış ortam sıcaklığının düşük olduğu zamanlarda FDM'lerin enerji tasarrufuna katkısının düşmesi, sistemin olumsuz yönleridir



Şekil 34. Cavipor; mineral bazlı yerinde köpük sistemidir (URL 17)



a)



b)

Şekil 35. (a) Tuğla içinde makro kapsüllenmiş parafin uygulaması ,
(b) BioPCM Makro kapsüllerde BioPCM.
(Canım, D. S., & Kalfa, S. M. 2021)

- Çok katmanlı camlar: Yapının en çok ısı kaçırdığı ya da ısının içeriye alındığı, doğal havalandırmayı da etkileyen pencerelerde kullanılan camlar ısı geçirimi en aza indireyecek düşük emisyonlu, özel arası gaz dolu üç katmanlı ya da iki katmanlı olarak tasarlanabilmektedir. Tarihi yapıların görsel algısını değiştirmeden özgün doğramalarda kullanılabilmesi ve enerji kontrolünü yüksek oranda sağlayabilmesi ile avantaj sunan bu malzeme, monte edildiği doğrama kesitinin 3 katmanlı cam kalınlığına uyumlu olması gerektiğinden, özgün doğrama kesitinin geniş yapılarda kullanılabilir.

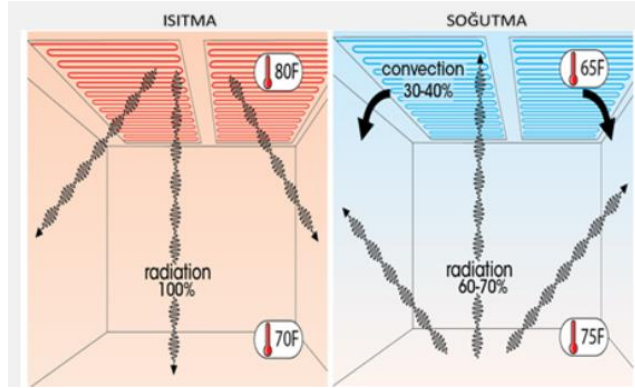
- Modüler esnek mekanlar: büyük ölçekte bir mekanı kullanım yönünden çeşitli alternatiflere imkan veren tekrarlanabilir ya da değişebilir farklı alternatiflere imkan tanıyan sökülüp başka yerde yeniden kurulabilen prefabrik modüler sistemleri içermektedir. Bu modüler sistem küçük ölçekte ise yaşama alanları içinde mevsimsel olarak havalandırma ya da ısıtma için oluşturulan bölümlenmelere bağlı ısı bariyer alanları ya da ısı iletim mekanları oluşturabilmek için sökülüp takılabilen ısıl kütleli panelleri içeren tasarımlardır. Çeşitli ısıl kütleli malzemeler ile modüler esnek değişken hava koşullarına ve mekanlara esnek çözümler üretilen bu sistem, özellikle yüksek tavanlı tarihi yapılarda kabuk içinde kabuk oluşturan tasarım yönünden de etkili mekanlar yaratılabilmektedir.

- Isı geri kazanımlı mekanik havalandırma: yüksek performanslı bu mekanik havalandırma yöntemleri, atık havadan enerji kazanımı sağlayarak verimliliği arttırmaktadır.

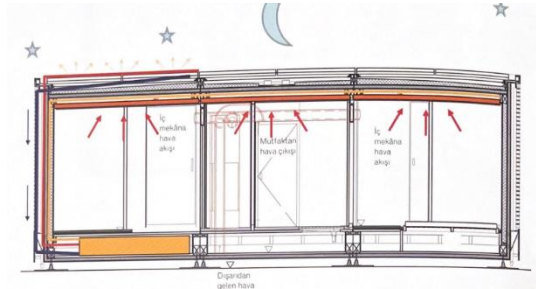
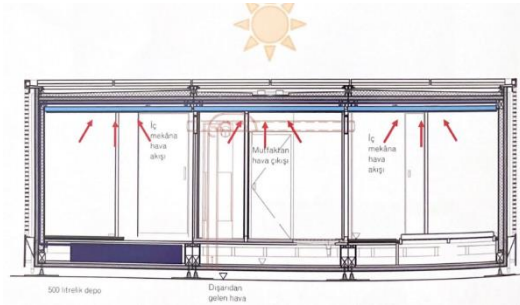
- Radyan tavan sistemleri ve Buharlaşmalı radyan soğutmalı tavan sistemleri: Radyant ısıtma/soğutma sistemlerinin ince tüp boruların içine gömüldüğü bir örtü şeklindeki uygulamalardır. Özellikle gün boyunca ısınan havanın gece yükselmesiyle çalışan soğutma sistemi ile evi soğutur ve gündüz enerjinin etkin kullanılmasında önemli bir rol oynamaktadır. (Şekil 36, 37) Buharlaşmalı radyan soğutmalı havalandırma sistemlerinde ise, yapının temel seviyesinde bulunun bir havuzda boru sistemleri ile çatıya pompalanan ve gece geri çekilen suyun buharlaşmalı soğutmasına dayalı bir tavan sistemidir. (Şekil 38) Tavan, döşeme ya da duvarda panel şeklinde kullanılabilen sistemin uygulama alanı çeşitliliği sunması ve tesisat boşluğuna gerek duyulmaması olumludur. Öte yandan, sistem gereği iç mekanda donatı oluşturulmasının gerekmesi, uygulanacak yüzeyde özgün süsleme, bezeme olmasını gerektirmekte, dolayısıyla kullanım alanını sınırlamaktadır.



Şekil 36. Sistemin panellerle birlikte kaplanması (URL 18)



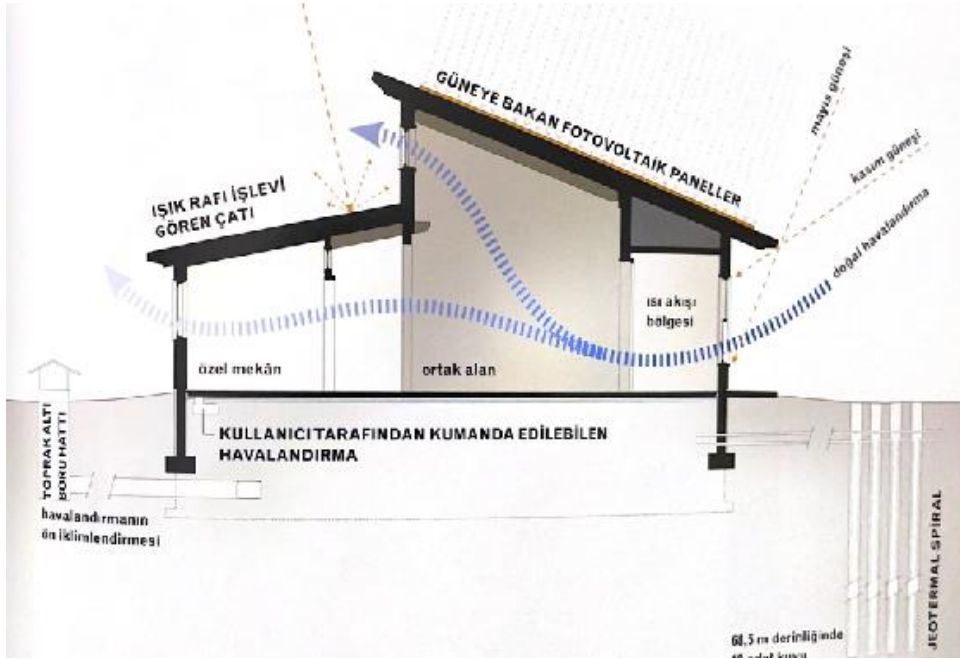
Şekil 37. Radyan ısıtma sistemleri çalışma prensibi (URL 19)



Şekil 38. Buharlaşmalı radyan tavan sistemi çalışma prensibi (M. Guzowski, 2019).
(sol). Gündüz çatıya su pompalanması, (sağ). Gece boyunca çekilmiş suyun buharlaşması ile soğutma

Jeotermal ısı pompası: Bu sistemde dışarıdan alınan havanın iklimlendirilmesi yapıldıktan sonra toprak altına döşenen boru hatlarıyla yapının içine taşınmaktadır. Isıtma ve soğutma tesisatında bulunan ısı pompası, zemin döşemesini ısıtmak ve soğutmak için kullanılmaktadır. Havayı ısıtmak ve soğutmak için de ayrıca bir dolaşım sistemi kurularak toprak içinden geçirilen hava yapının içine aktarmı mümkündür. (Şekil 39) Kışın, boruların içinde bulunan su, yer küreden ısı emmekte ve sonrasında pompa ile sıcak havaya çevirmektedir. Yazın ise pompa sıcak havayı evin dışarısına çekmekte ve borular ısıyı yere geri yaymaktadır. Söz

konusu sistem yapı dışında kurulduğu için kütle algısını zedelememektedir. Bununla birlikte, boru yerleşimi için geniş bir alana ihtiyaç duyulduğu için geniş parsellerde kurulum sağlanabilmekte, borulama tipine bağlı olarak yüksek maliyet gerektirebilmektedir.



Şekil 39. Jeotermal toprak altı boru sistemi, M. Guzowski, 2019)

3) Tarihi Yapıların İklimlendirilmesinde Hibrit Sistemler

Tarihi yapıların yeniden kullanımları dahilinde iklimlendirme koşullarının çağdaş sistemler ile güçlendirilmesi hedefi, hibrit sistemlerin kurgulanmasına yol açmıştır. Bu kapsamda, sürdürülebilir bir iklimlendirme oluşturmak hedefi ile, tarihi yapının öznel niteliklerini zedelemeyen özgün iklimlendirme olasılıkları ile bütünleşme olasılıkları barındıran uygulamalar;;

- Mekan kurgusunun modüler geçici sistemler ile yeniden düzenlenmesi,
- Katmanlı (çift cidarlı) yapı kabuğu üretimi,
- Doğal malzemenin yenilikçi malzemeler ile iyileştirilmesi,
- Cephe açıklıklarının düşük emisyonlu çift cam ile güçlendirilmesi,
- Çatı ve cephede fotovoltaik panel kullanılması,
- Peyzaj ile bütünleşen jeotermal ısı sistemi kullanımı,
- Enerji verimi yüksek çağdaş mekanik yöntemlerin uygulanmasıdır.

- Mekan kurgusunun modüler geçici sistemlere ile yeniden düzenlenmesi;

Tarihi yapıların mekan organizasyonu doğal iklimlendirmeden yararlanılacak şekilde tasarlanırsa da, güncel hayatla uyum çerçevesinde farklı işlev verilmesi kullanım yoğunluğu

gibi nedenlerden dolayı yeterli gelemeyebilir. Yeni kullanımın ihtiyaçları doğrultusunda mekanın mevcut yüksekliğinden yararlanmak, ısı bariyeri oluşturmak ya da ısı iletimi sağlamak için modüler sökülebilir ve değişebilir paneller kullanılabilir. Bu uygulamalarda önemli olan husus, kullanılan bölücü panellerin iç mekanın ruhunu zedelememesidir. Bu nedenle, geniş iç hacme sahip olan tarihi endüstri yapıları için uygun bir uygulamadır. Almanya Stuttgart'ta, Kültür Merkezi olarak yenilenen 19. yüzyıl Tarihi Lokomotif Hangarı'nda 2015'te gerçekleştirilen uygulamada, modüler esnek bölme duvarların kullanımı ile mekanın akustik niteliğini güçlendirilmiş, kullanılan mekanların hacmi küçültülerek gereksiz enerji sarfiyatının önüne geçilmiştir. (şekil 40)



Şekil 40. Tarihi Lokomotif Hangarı, Stuttgart- Almanya (URL 20)

- Katmanlı yapı kabuğu üretimi (çift cidarlı cepheler);

Tarihi yapı duvarlarının onarım ve tamamlamalarında kullanılan bu sistem, sıvalı yüzeylerde öngörülen sıva yenilemelerinin yüksek performanslı malzemeler ile yenilenmesini ya da mevcut beden duvar yüzeyinin dış veya iç yüzeyine yeni bir cidar üretilmesini içermektedir. Alès, Gard'da, (Fransa) 11. yüzyıldan kalma bir Kilise kalıntılarının Turizm Bilgi Merkezi olarak yenilenmesinde kullanılan bu yaklaşım; yapının güneye bakan cephesindeki revaklı bölümünün şeffaf bir yüzey oluşturularak kapatılması ve oluşturulan bu hacmin ısı yalıtım boşluğu üretmesini kapsamıştır. Revaklı bölüme uygulanan çift PV ve yalıtımlı yarı şeffaf cephenin 3 katmanlı cam yüzeyleri arasındaki oluşan boşluk kışın ısıtılmaya yazın ise havalandırmaya destek olarak iklimsel davranışı optimize etmekte ve dengelemektedir. (Şekil 41)



Şekil 41. Ales-Fransa turist ofisi cephe bütünleşik pv uygulaması (URL 21)

Enerji etkin yapı tasarımı kapsamında, fotovoltaik panel kullanımı ve jeotermal ısı pompası kullanımı ile enerji üretiminin yanı sıra, yapıların güneş ışığından en fazla yararın sağlaması için yapı konumlanması ve gün ışığının en ideal ölçüde alınabileceği cephe tasarımı hedeflenmektedir. Gün ışığını en ideal şekilde almak üzere oluşturulan boşluk düzeninin yanı sıra, cephenin gün ışığını alan kısımlarına, pencere kepenkleri, çatılar ve gölgeliklere güneş panellerinin yerleştirilmesi de yapının enerji etkinliğini arttırmaktadır. Reichstag Binası'nın yenilenmesinde jeotermal enerji, doğal havalandırma, doğal aydınlatma ve aktif güneş enerji sistemlerinden entegre güneş pilleri kullanılmıştır. Teras çatı zeminine yerleştirilen 100 adet PV paneli yaklaşık olarak 40 kw enerji sağlamaktadır. (Kanan, 2012) Bununla birlikte yapıda jeotermal ısı pompası uygulanmış, yapının ısıtma ve soğutması büyük bir kısmı toprak altında bulunan tesisat sisteminde dolaşan jeotermal ısı enerjisi ile sağlanmıştır. (şekil 42)



Şekil 42. Reichstag Parlamento Binası çatı bütünleşik pv (photovoltaik panel) sistem (URL 22)

Değerlendirme

Değişen iklim koşulları ve tükenen kaynaklar yaşamın her alanında sürdürülebilirlik olgusunu öne çıkarmış, mevcut olanı geliştirmiş olan ile destekleyerek sürdürme yaklaşımının yaygınlaşmasını ve uygulamaya geçilmesini başlatmıştır. 1990'lardan bu yana ekolojik sürdürülebilirliği öncelik alan yapı ve çevre tasarımı üzerine akademik çalışmalar ve uygulamalar yaygınlaşmış olsa da, geleneksel yapıların yenilikçi yaklaşımla iklimlendirilmesi ve bu yapıların yenilenmesinde enerji etkinlik hedefinin de göz önünde tutulması konusu göz ardı edilmiştir. Öte yandan, miras alanlarının önemli unsurlarından olan tarihi yapıların koruma kullanım dengesi gözetilerek yeniden işlevlendirilmesi, ekonomik değerinin

güçlenmesi ve kültürel devamlılık arz etmesi ile başlı başına sürdürülebilir bir yaklaşımdır. Bu nedenle, tarihi yapıların yeniden kullanımında güncel konfor ihtiyaçlarına yanıt verebilmesi gerekmekte, yapının öznel karakteri ile uyumlu iklimlendirme sistemlerinin seçimi önem kazanmaktadır.

Tarihi yapıların mimari karakterine olumsuz etki yaratmayan iklimlendirme sistemlerinin kullanımı ile düşük enerji tüketen verimli yapılar haline getirilmesi, bu yapıların sürdürülerek gelecek nesillere aktarılması açısından büyük önem arz etmektedir. Bu amaçla, öncelikle geleneksel yapılarda kullanılmış olan doğal iklimlendirme sistemlerinin ve çağdaş teknolojinin kullanıldığı güncel sistemlerin anlaşılması, ardından çağımızın konfor koşulları çerçevesinde geleneksel ve güncel sistemlerin nasıl bütünleştirilebileceğinin araştırılması gereklidir. Böylelikle, tarihi yapıların yeni işlevlerinde ihtiyaç duyduğu iklimlendirme koşullarının hem yapıya hem de doğaya en az zararla sağlanması mümkün olacaktır.

Bu hedefle geliştirilen çalışmada güncel iklimlendirme sistemlerinin geleneksel sistemlerden referansla geliştirilen örnekler ve geleneksel sistem ile bütünleşik çalışma olanağı sunan hibrit sistemler irdelenmiş, bu yaklaşımla geliştirilmiş sistemlerin uygulandığı yapılar incelenmiştir. Bu doğrultuda, tarihi yapıların sürdürülebilirlik ilkeleri kapsamında yeniden işlevlendirilmesinde dikkatle ele alınması gereken hususları şöyle sıralamak mümkündür;

- Tarihi yapıya uygun bir işlev verilmesi yapının kullanıcı yoğunluğunu etkilemekte, yeni kullanımın gerekliliklerini karşılayacak konfor sıcaklığı ve ideal havalandırma koşullarının sağlanması gerekmektedir.
- Tarihi yapının yapım tekniği ve mimari kurgusu öznel ve değerlidir. Güncel iklimlendirme sistemlerinin tarihi yapının öznel değerlerinin algısını engellemeyecek biçimde oluşturulması, iklimlendirme sisteminin gerektirdiği alt yapının tarihi yapının özgün yapım sistemine uyumlanabilecek şekilde tasarlanması gereklidir.
- Tarihi yapının bulunduğu yerin kentsel konumu, yapının bulunduğu alanda yapılacak her türlü müdahalede çevresel etkiden faydalanabilmek ve çevreye fayda sağlayabilmek açısından önemlidir. Konu edilen yapının inşa edildiği dönemdeki fiziksel çevresi ile günümüz durumu arasındaki yapılaşma niteliğindeki ya da çevre etki değerindeki farklılaşma, yapı için oluşturulacak sürdürülebilirlik kararlarını etkilemektedir.
- Tarihi yapının bulunduğu yerin toplumsal yapısı, koruma uygulanmalarının sürdürülebilirliği açısından önemlidir. Alan kullanıcısının çevre, kültür ve tarihe olan bilinci, o yere olan aidiyet duygusu gerçekleştirilmeye çalışılan koruma, yeniden işlevlendirme uygulamasının benimsenmesini ve kullanım devamlılığını sağlayacaktır.

Yapılan incelemelerde, tarihi yapıların yeniden işlevlendirilmesi kapsamında güncel iklimlendirme sistemlerinin kullanılabilirliğinde, yapı ölçeğinin belirleyici unsurlardan biri olduğu görülmüştür. Örneğin, tarihi endüstri yapılarının iklimlendirilmesinde geleneksel yöntemler yetersiz kalırken, geniş araziler içinde yer almaları ve geniş hacimlere sahip olmaları nedeniyle güncel iklimlendirme sistemlerinin kullanımına uygun oldukları belirlenmiştir. Güncel sistemlerin uygulanmasında yapı ölçeği ve iç mekanın hacimsel niteliği önem kazanmaktadır. İklimlendirme sistemlerinin tarihi yapıya uygulanmasında bir diğer öncelik, tarihi yapının görsel algısının sürekliliğinin öncelik alınmasıdır. Bu hedefle, benimsenecek iklimlendirme sisteminin tarihi yapının özgün mimari kurgusuna ve elemanlarına uyumlu çözümler içermesi beklenmelidir.

21. yüzyılın önemli tartışma konularından olan temiz, yenilenebilir enerji kullanımı, sürdürülebilirlik olgusu çerçevesinde birçok farklı disiplinde öngörüler oluştururken, kültürel

kimliklerin sembolü olan tarihi yapıların yapı yaşam döngüsünün küresel enerji probleminin dışında tutulması mümkün değildir. Tarihi yapılar, kendine özgü geleneksel malzeme, tarih, kimlik, mimari özellikleri ile yapı çevrenin önemli bileşenlerindendir. Bu yapıların güncel yaşamla bütünleşerek korunması hedefi doğrultusunda, bir yandan öznel karakterini sürdürmesi öte yandan güncel konfor koşullarını asgaride de olsa karşılaması gereklidir. Tarihi yapıların inşa dönemlerinde benimsenen pasif iklimlendirme çözümlerinin, günümüz kullanımlarında beklenen konfor koşullarına uyumlanabilecek şekilde yeniden düzenlenmesi, bu yapıların kullanım değerlerinin güçlenmesini ve böylelikle öznel nitelikleri ile korunmalarını sağlayacaktır. Bu noktada yenilenebilir enerji kaynaklarını kullanan geleneksel iklimlendirme sistemlerinin güncel aktif sistemler ile bütünleşerek hibrit çözümler üretilmesi sadece iklimlendirme olasılıklarını ve ekolojik sürdürülebilirliği değil, aynı zamanda ekonomik ve kültürel sürdürülebilirliği de mümkün kılacaktır.

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Preventive and Repressive Measures Combating Administrative Corruption in Local Groups

Moulai Ali Zohra

Sociology Department, Faculty of Humanities and Social Sciences

Ali Lounici, Blida 2 University

Abstract:

Maintaining the stability and organization of society depends on the extent to which its various types of institutions and activities meet the needs of community members. This process begins with satisfying the local community so that peace and tranquility prevail in the overall community. The most important institutions that ensure that the needs of members of the local community are met are the local groups (state/municipality) that undertake projects that undertake the tasks of satisfying the various needs and desires of individuals for various social services. Local groups are considered the link between society and the state. Therefore, the effective and proficient performance of these institutions' tasks is the concern of the state and many studies, especially with the spread of the phenomenon of administrative corruption.

Achieving effectiveness at work requires attention to the worker's behavior, which must be consistent with the rules, requirements and duties of the job. Working individuals - in their interaction with the organizational rules of local groups - may resort to using various possible tricks and games, adopting deviant behavior and transgressions, and thinking about achieving their own interests at the expense of public interests. The end result is the wasting of the rights and interests of individuals (citizens or institutions) dealing with local groups, and thus the loss of trust in them, which increases the gap of mistrust and lack of credibility between the citizen and state institutions. For this reason, the state, with its various agencies, has created mechanisms and devices to combat the phenomenon of administrative corruption, until She regains her position in society and gains the trust of her citizens. Accordingly, this study answers the following question: What preventive and repressive measures has the state taken to combat administrative corruption in local communities? What is the sociological analysis of the phenomenon of administrative corruption?

Keywords: *administrative corruption, local groups, corruption prevention law.*

التدابير الوقائية والقمعية لمكافحة الفساد الإداري في الجماعات المحلية

الملخص:

يتوقف الحفاظ على استقرار المجتمع وتنظيمه على مدى تلبية مؤسساته بمختلف أنواعها وأنشطتها لحاجات أفراد المجتمع. وتنطلق هذه العملية بإرضاء المجتمع المحلي حتى يعم السلام والطمأنينة في المجتمع الكلي. وتمثل أهم المؤسسات التي تسهر على تلبية حاجيات أفراد المجتمع المحلي في الجماعات المحلية (الولاية/البلدية) التي تتكفل بالمشروعات التي تضطلع بمهام إشباع مختلف حاجات الأفراد ورغباته من الخدمات الاجتماعية المتنوعة. إذ تعتبر الجماعات المحلية همزة الوصل بين المجتمع والدولة؛ لهذا فإن أداء المهام بفاعلية وإتقان لهذه المؤسسات، هو من اهتمام الدولة وكثير من الدراسات خاصة مع تفتيش ظاهرة الفساد الإداري.

إن تحقيق الفاعلية في العمل يوجب الاهتمام بسلوك العامل الذي يجب أن يكون متطابقا مع قواعد ومتطلبات وواجبات الوظيفة. قد يلجأ الأفراد العاملون في تعاملهم مع القواعد التنظيمية للجماعات المحلية إلى استخدام مختلف الحيل والألاعيب الممكنة، وانتهاج سلوكيات وتجاوزات منحرفة، والتفكير في تحقيق مصالحهم الخاصة على حساب المصالح العامة؛ والمحصلة النهائية هي إهدار حقوق ومصالح الأفراد المتعاملين (المواطنين، أو مؤسسات) مع الجماعات المحلية، وبالتالي فقدان الثقة فيها مما يزيد من فجوة عدم الثقة وغياب المصداقية بين المواطن ومؤسسات الدولة. ولهذا عمدت الدولة بمختلف أجهزتها إلى إفراز آليات وأجهزة لمحاربة ظاهرة الفساد الإداري، حتى تسترجع مكانتها في المجتمع، وتكسب ثقة مواطنيها. وعليه تأتي هذه الدراسة للإجابة على التساؤل التالي: ما التدابير الوقائية والقمعية التي اتخذتها الدولة لمحاربة الفساد الإداري في الجماعات المحلية؟ وما هو التحليل السوسيولوجي لظاهرة الفساد الإداري؟

الكلمات المفتاحية: الجماعات المحلية، الفساد الإداري، قانون الوقاية من الفساد.

Introduction:

The Algerian state - with its adoption of the new strategic project "White Algeria" - attaches great importance to its various types and activities, especially local groups (states, municipalities, and affiliated departments), as they are the mirror that reflects the state's intentions to change for the better, reform society, and realize the hopes and aspirations of the citizen (whether individuals or institutions). Satisfying the latter has become difficult due to the disappointment he/she receives from local groups.

The negligence or failure of local groups to take care of the needs of individuals is tantamount to an abuse of the entire system of governance. For this reason, several studies have emerged in this field that examine the organizational process in administration and some behavioral deviations from some employees in the public administrative corps, hence bypassing the organizational values and culture of the organization as well as the legal rules. This is what causes it to deviate from its assigned roles through the emergence of some deviant behaviors such as favoritism, bribery, nepotism, and neglect. This is what has come to be called *administrative corruption*.

To restore the state's prestige inside and outside the country, rebuilding the bridge of trust between it and its citizens in society, and to address and reduce a pathological phenomenon that is increasingly widespread in public administrations, namely administrative corruption, the country has sought to introduce legal legislation. This could only be done through producing the Corruption Prevention and Combating Law to block the way for violators,

preventing them from abusing power and influence, and giving priority to considerations of favoritism over legal requirements and public interest provisions.

Therefore, we here examine the following problem: What preventive and repressive measures has the state taken to combat administrative corruption in local communities? The following are sub-questions from this central one: Are the preventive and repressive measures taken by the state sufficient to combat administrative corruption in local communities? What is the sociological analysis of the phenomenon of administrative corruption?

Objective of the Study: Among the most important objectives to be achieved are:

- Identifying the most important preventive and repressive measures stipulated in the Prevention and Combating of Corruption Law and the extent of its ability to control employee behavior and reduce the phenomenon of administrative corruption.
- A sociological analysis of the phenomenon of administrative corruption and revealing other mechanisms accompanying the Corruption Prevention Law to reduce the phenomenon of administrative corruption.

Research methodology:

This study is based on the descriptive analysis method, where the researcher does not only focus on describing the phenomenon of administrative corruption that appears in the form of social facts, but rather analyzes it sociologically. "The methodology of the study describes the fact of the phenomenon as it happens in reality, qualitatively or quantitatively. The qualitative expression describes the phenomenon and explains its characteristics, while the quantitative expression gives it a numerical description of the amount or size of this phenomenon and the degree of its connection with other phenomena" (1) As the study explores the descriptive aspect the manifestations of administrative corruption widespread in the management of local communities, diagnosing them and shedding light on its various aspects and consequences. The analytical aspect requires us to interpret it using the concepts of the sociological theory, trying to uncover its causes by referring to the social, economic, political, cultural and legal structure of the Algerian society. It also aims to examining and analyzing the organizational and administrative procedures as well as the national laws related to the issue of combating corruption, especially Law No. 06-01 regarding preventing and combating corruption issued in Algeria in 2006.

Research Tools and Techniques:

In order to achieve the desired objectives of this study, the researcher decided to approach the study field using observational method. "The researcher observes the subjects to research without participating in their activities and arousing their interest. Hence, communication with group members is direct, unconscious of the fact that they are under observation. Observation is one of the best tools for studying the effects of administrative corruption because it provides the researcher with the opportunity to identify the individual's actual behavior in its natural, spontaneous form as it is in reality" (2) We made several visits to the research site and observed the behavior of the employees and the behavior of those who frequented the municipality, talking to them about the topic in public discussions without making them feel that they were under observation.

Inspection:

Once the research topic is determined, the research community in which the field study is conducted is determined in return, and as long as the study topic relates to "the phenomenon of administrative corruption in local communities." Therefore, the research community is

represented by local communities. The term *local communities* appeared for the first time in Algeria under Article 54 of the Law of September 20, 1947, which stipulates that local communities in Algeria are municipalities and states, as a result of the changes that occurred on the Algerian administrative map.” (3) After independence, New local communities were established. The municipality established communities pursuant to Order 67-24 issued on January 28, 1967, and the state established communities pursuant to Order 69-38 1967 issued on May 23, 1969. Local groups became responsible for the management of their facilities and properties. Local groups are characterized by a set of characteristics, most importantly including administrative and financial independence. (4)

Due to the sensitivity of the issue, we decided to choose the municipality that facilitates access to it using our network of personal relationships in order to observe the facts and obtain the necessary information. We chose the municipality of Hassania and Bathia, which is affiliated with the state of Ain Defla, where we recorded, in September 2023 several cases or manifestations of administrative corruption, presented through building an observation network.

Discussion of the results:

1. The Algerian legislator’s criminal policy confronting the phenomenon of corruption (Anti-Corruption Law)

The legislator has attached great importance to combating administrative corruption in its criminal policy, by criminalizing most of its forms and manifestations that pose a major threat to the functioning and work of public administration, in accordance with Law No. 06-01, including the Law for Preventing and Combating Corruption that was amended and supplemented. An entire chapter was devoted to the substantive provisions (criminalization) to combat administrative corruption. The legislator also supported a mechanism to combat this phenomenon with procedural and repressive provisions, carefully stating the measures for judicial follow-up of criminalized acts of administrative corruption at both the national level and international levels through cooperation mechanisms and asset recovery. The legislator also formulated a very advanced punitive policy to reduce administrative corruption and deter its perpetrators.

1.1 Preventive measures to confront the phenomenon of corruption:

Preventive policy is an integral part of the criminal policy that intervenes before the crime occurs. It consists of measures and procedures stipulated by the Algerian legislator in the Law of Preventing and Combating Corruption. It is clear to us from the term itself that the priority in confronting this phenomenon is to prevent it. If the prevention mechanisms and methods do not work, we subsequently resort to repressive methods.

We find that the Algerian legislator has set preventive measures to confront the phenomenon of corruption in the public and private sectors. For example, in the public sector, the public official is obligated to declare his property, as stipulated via Article 4 of Law 06-01. In addition, objective standards for employment were established, and this is confirmed by Article 3 of the same law. These preventive measures regarding employment contribute to enhancing job security by trying to prevent some forms of administrative corruption.

As for preventive measures for the private sector, we find in Article 13 that measures are taken to prevent the private sector from being involved in corruption, such as enhancing cooperation between agencies that uncover corruption in the private sector. Standards and procedures for the purpose of preserving the integrity of this sector are set and transparency is enhanced.

Moreover, accounting standards are provided in Article 14 of the same law along with the participation of civil society in the prevention of corruption in Article 15.

1.2 Repressive measures to confront the phenomenon of corruption:

The Law of Preventing and Combating Corruption, in terms of criminalization, punishment and investigation methods, is moving towards expanding the scope of corruption crimes, in reference to the development taking place at the level of economic and financial activities and the intertwining of relations among countries and international organizations and mechanisms. It touches on the crime of bribery of public officials in Article 25 thereof, in which the Algerian legislator takes the side that distinguishes between the crime of the briber and the bribed, as well as the crime of treachery, which is punishable from two to ten years and a fine of 200,000 DZD to 1,000,000 DZD. It also refers to special investigative methods in Article 56, such as collecting evidence, electronic surveillance, and hacking. The dominant feature of corruption crimes is that they lack the presence of the victim as a natural person, as is found in many other crimes such as theft, murder, rape...etc. Rather, corruption crimes often occur against a legal person, which sometimes weakens the individual incentive to prosecute, due to the absence of direct personal harm resulting from the crime. As a result, the entire burden is placed on watch and investigation bodies, prompting the legislator to create the Commission for Preventing and Combating Corruption, stipulated in Article 17 and specifying its tasks in Article 20. (5)

2 Behaviors of administrative corruption and their place in the Algerian legislator:

The manifestations of administrative corruption are multiple; they take many forms, most common in public offices, especially in local groups: bribery, nepotism, and influence peddling.

2.1 Bribery:

It is the employee's trafficking in the functions of the job he is authorized to carry out, with the perpetrator requesting, accepting, or obtaining a gift, promise, or any other benefit to perform or abstain from performing an act of the job. (6) Bribery is a crime related to trafficking in public office work that requires the presence of two persons:

Bribee: a public official who receives or seeks a special benefit for himself or for others.

Briber: the interested party who offers or promises a benefit or accepts the employee's request in exchange for performing an act of the job or abstaining from it or breaching one of its duties. (7)

Punishment for the crime of bribery:

Bribery of public officials: Article 25 of Law No. 06-01 of Muharram 21, 1427 corresponding to February 20, 2006, on preventing and combating corruption, amended and supplemented, stipulates: The penalty shall be imprisonment from two (2) to ten (10) years and a fine of 200,000 DZD up to 1,000,000 DZD. This law applies to the following cases:

- Anyone who promises, offers or grants an undeserved advantage to a public official, directly or indirectly; whether it is for the benefit of the employee himself or for the benefit of another person or entity in order to perform an act or refrain from performing an act of his duties.
- Every public official who requests or accepts, directly or indirectly, an undue advantage, whether for himself or for the benefit of another person, or other entity, for performing an act or refraining from performing an act of his duties.(8).

2.2. Favoritism or Nepotism:

It is considered one of the most dangerous manifestations of corruption and the most difficult to treat, as it results from exploiting a government position for personal gain for the benefit of the individual and his cronies with no right. The administrative employee resorts to mediation in the case of assignment, transfer, promotion, bonus, or to please his boss at work. Some workers use it as a form of exchange of interests. This phenomenon is widespread in developing societies, where it is widespread in the customs of some of these societies to the extent that it becomes a right for those who seek it, and whoever fails to fulfill it is deprived of chivalry. There are those who confuse it with intercession or pre-emption, which is an aid to goodness and helping others to meet their needs in a way that is not harmful for anyone and does not violate anyone's rights. (9)

Favoritism or nepotism means favoring a person or party at the expense of another person or party in providing a certain benefit that should have gone to whoever is more deserving of it. One of the most prominent examples of this is assigning prestigious jobs to the children of well-known figures or to people with specific affiliations. This is the most dangerous type of corruption because it is invisible, intangible, and not easy to prove with evidence.

Parties involved in the crime of nepotism:

- **The person to whom it is recommended:** He is considered a selfish, flattering person whose only concern is obtaining a private benefit or interest regardless of the consequences resulting from that.
- **The recommending person (the source of the recommendation and the intermediary):** This person is administratively corrupt, selfish in nature, and is primarily dominated by individual interest. Because he has issued a recommendation to someone, he is looking for his own interests through that person who will offer him the bribe as a gift and as gratitude and a response for the favor.
- **The person who owns the establishment (the manager):** He is primarily to blame in the matter more than anyone else, as he accepts the recommendation and passes it on in order to satisfy all parties in the relationship (10).

- The Crime of Nepotism:

It is the acceptance by a public official of a request or recommendation based on a violation of the law, delivered by others to the person in need in violation of the performance of his job duties, which leads to taking a right or fulfilling an invalidity and the waste of public money. Favoritism and nepotism are two sides of the same coin, as favoritism is favoring relatives and friends because of their kinship, not as a matter of their competence. Nepotism is certainly based on violating the law and involves taking away a right owed to others. It also involves an attack on public money, which everyone has a duty to protect from any attack. It is an implementation of the principle of exchanging interests and benefits between the person requesting nepotism and the person intervening or inciting the employee to commit it. (11)

The most dangerous issue in the crime of nepotism is that it has become part of the culture of society and has become a custom or social inheritance passing down through generations, and people deal with it as if it were a normal or necessary matter. There is no doubt that most citizens complain about intermediary, and they resort to it because they were forced to do so. It has become part of the culture of society, and it has been entrenched in people's minds that one would not be able to do anything without mediation that facilitates the completion of their transactions. There is no doubt that the negligence of some employees in performing the job tasks assigned to them has helped spread this phenomenon.

Nepotism has many negative consequences for members of society and for society in general, which leads to obstructing the desired economic, political and social development, in addition to inflicting injustice on many weak people who have no support. Taking away their rights and giving them to others who do not deserve them also leads to a loss of citizens' confidence. In state institutions. Implementing the notion of electronic government is one of the solutions to reduce the spread of nepotism crimes, so that transactions are completed electronically and not via employees (12). Hence, it was necessary to stipulate the criminalization of nepotism, so came the Anti-Corruption Commission Law No. 06-01 of 2006 stating explicitly for the first time that intermediary is criminalized and dealt with as one of the crimes of corruption as long as it invalidates a right.

2.3 Influence Peddling:

Influence Peddling is an exploitation of influence, an expression composed of two words. Exploitation, linguistically, means taking the yield, that is, taking the benefit of a thing, and this indicates benefiting from a specific thing while keeping the origin of that thing. (13) As for influence, it means the effective order, that is, the obeyed in all its commands. From what was mentioned, the expression of exploiting influence then becomes taking the profit or benefit of a passing or effective matter, and this is what makes influence close to the things whose benefit can be obtained by exploiting it.(14) So, exploiting influence means - linguistically - what influence can generate from the benefit if it is used (15).

Punishment for the Crime of Influence Peddling:

Pursuant to Article 32 of Law 06-01, shall be punished by imprisonment for a term of two (2) to ten (10) years and a fine from 200,000 DZD to 1,000,000 DZD(16), as the law enforcement to the following cases:

- Anyone who promises a public official or other person any undeserved advantage or offers him or grants it to him indirectly in order to incite that public official or person to exploit his actual or supposed influence with the aim of obtaining from an administration or public authority, an undue advantage for the original instigator of the act or for any other person.
- Every public official or any other person who directly or indirectly solicits or accepts any undue advantage for himself or for another person to abuse his real or supposed influence with the aim of obtaining from an administration or a public authority an undue benefits.
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3. Observation Network Data Analysis:

Type of observation	Timing of observation	Place of observation	Frequency of observation	Observation Parties
Recruitment Competition Procedures	September 13, 2023 at 11:00a.m.	Human Resources Management Office at the Municipality	Once	Candidates for a recruitment competition with the President of the People's Municipal Assembly and the Head of the Human Resources Management Office

Announcement of the housing distribution list	It has no specific time limit (According to the announcement of the list of housing distribution)	Department Headquarters Square Town Hall Square	Multiple times	A state of anger and riot from citizens towards the head of the department
Procedures for announcing the consultation on a development project	It has no specific time limit (According to the announcement of the consultation)	Office of New Procurements and Works in the Municipality	Multiple times	Candidates for the tender for project completion

1.

The first case: an announcement of the recruitment competition for the position of senior technician in the municipality of Hassania.

A recruitment competition for the position of a senior technician in the municipality of Hassania was announced by the Human Resources Management Office, calling for candidates to pass the competition. We met with some employees under pre-employment contracts working in the Human Resources Department, where permission was given to change the nature of the recruitment competition. Recruitment for a senior technical position is supposed to be made on the basis of certification, that is, a study of files, and priority in hiring is given to those with professional experience. However, to our surprise, the head of the Municipal People's Council, with the collusion of the Human Resources Department official, changed employment based on the competition. This is due to the presence of a relative and acquaintance of a municipal official who is a candidate for this position, and to facilitate his obtaining the job. The nature of recruitment was changed because he does not have any document proving seniority and experience in a senior technical position. In other words, he cannot be recruited on the basis of certification (study of files), but rather on the basis of the competition. This official can reach an understanding with the examination center to ensure the result of the competition in favor of his acquaintances by changing the marks and points of the candidates. In the end, the candidate with connections and acquaintances of a municipal official succeeded.

Although the law is clear in the recruitment process and despite the articles stipulated in the Anti-Corruption Law, especially Article 3 of Law 06-01 on Preventing and Combating Corruption, which stipulates that recruitment should be based on objective criteria. However, we noticed a violation of the law and abuse of influence by the head of the Municipal People's Assembly and the human resources official in changing the nature of recruitment without objective justification and without taking into account entitlement to the position, in addition

to the use of favoritism or mediation where the right of others to the position was taken away. This obviously indicates the absence of functional control by higher authorities regarding the performance of officials and employees of their duties in local communities.

The second case: An announcement of the list of beneficiaries of housing for the municipality of Bathiya, affiliated to the Bathah district.

I was passing in front of the headquarters of the Bathah District, where we found a large crowding, and when we asked the reason for this crowding, it was said that the list of beneficiaries of housing had been announced. However, the majority of the citizens living there did not obtain housing, and this caused a great uproar and discontent on the part of the citizens and their demand to see the head of the department. The latter agreed to meet the citizens and listen to their concerns. Although the list of those benefiting from housing for the municipality of Al-Bathiya was announced at the district level, the head of the district was responding to the angry citizens that they had been excluded by their mayor. A woman was let out by the department's security after meeting with the department's head. She was in a miserable, hysterical state and claimed that she did not get housing because she did not pay the money as a bribe. Here the head of the department called the security official to close the office and stop receiving citizens. I called a colleague working in the municipality of Bathia, which is affiliated with the Bathahiya district, and told him what happened in front of the district headquarters, trying to understand more of the course of events. He told me that most of the beneficiaries of housing are people whose relatives are employees of the department. This uproar and protest in front of the department headquarters will reveal the person who takes bribes from citizens and deceives them claiming that he will provide them with housing. After this event, the list of housing beneficiaries was completely canceled because there had been tampering with it.

The cancellation of the list of beneficiaries of housing for the Municipality of Bathiya, affiliated with the Bathiya District, is nothing but conclusive evidence of the use of devious illegal methods by local groups, such as the use of favourism or nepotism. The names of relatives and acquaintances of the employees in the department of the Bathiya District and municipality were included, and the names of those deserving or those with the right to housing were withdrawn from the announced list, regardless of the presence of some employees who exploited citizens by requesting bribes in exchange for false promises that would guarantee them access to housing.

Third case: An announcement of a consultation to complete a project at the municipal level.

The New Trades and Works Office in the municipality of Hassaniya announced the existence of a development project that requires consultation by experts. The authority in charge of the announcement summoned the contractors to approach the authority in order to review the book of terms for the process, starting from the first day of the announcement and for a period of 08 days. I took this opportunity to approach the contractors interested in this project to find out their impression of the strict enforcement of the laws to obtain this project and how the Procurement Office dealt with them. However, the contractors who were prohibited from reviewing the book of terms were not limited to residents of the municipality of Hassania, but there were contractors who came from outside the state of Ain Defla, such as the contractors from Algiers. It was observed that the delay of the employees in the office in attending the deals until 10:30 a.m., without paying attention to the value and importance of the competition of the dealers coming from the various municipalities of the state, near and far in particular.

Whenever an official from that office comes, he asks those present if his co-workers have come. And if he does not find them, he leaves and so on until 10:00 a.m. In addition, the employees left the same office at 10:30 to go to the café without estimating the feelings of the contractors, who remained sitting for hours waiting for the person in charge to come and look at the terms' booklet. One of the employees said that the booklet of terms is with the head of the Municipal People's Council, and he is the one who presents it to the customers. When he was asked about his office, they were told that he has an important meeting at the state level. One of the employees also said that the customers or contractors must return another day and that they should contact in advance to come and receive the terms booklet. All of this will result in wasting half of the announcement period, estimated at 8 days. The manner of questions that the contractors received from the employee about their states and capabilities, and that the project to be completed requires high experience and has great difficulties in completion.... Most of the contractors present understood that employees in the procurement office were trying to incapacitate them and keep them indirectly away from the project participation in the consultation. This ambiguity and lack of transparency led most candidates to doubt and despair about the consultation and its results, which would never be in their favor, but rather in the interests of one of their acquaintances. Hence, they left.

The lack of discipline of the employees in the New Procurement and Works Office, the procrastination and wasting of the time required to consider the book of terms for the contractors present—regardless of the ill-treatment and failure to facilitate or complicate matters—are nothing but indicators. They indicate manipulation and escape from the fact that the consultation on a new development project was given to one of their acquaintances and their relatives instead of granting it to those with competence and eligibility in the name of the law. Such behaviors and conduct refer to a major organizational defect and a terrible spread of corruption at the level of this institution, whether among employees or officials.

Sociological analyses of the phenomenon of administrative corruption:

Local groups constitute an institution of the state. They represent a living social system, with different needs such as continuity, existence, and adaptation to the environment in order to reach the maximum degree of effectiveness and harmony to achieve its established goals. The most important of these goals is meeting the requirements, aspirations and concerns of the residents of the local community and seeking to develop it. This can only be achieved through good conduct of work by instilling confidence and reassurance in the hearts of employees and those responsible for performing tasks in local communities with perfection, thus increasing the productivity of work in quantity and quality. This contributes to the satisfaction of the local community towards this institution and encourages it to flourish and develop, with the active participation of the citizen in proposing possible solutions and issuing his opinions on the issues raised at the local level of the community. This process will not succeed unless local groups adopt a strategy of openness to the outside world, getting closer to the citizens and residents neighboring this institution, i.e., all the residents of the municipalities and departments of the state. They must listen to their concerns with all ears and find immediate solutions with the participation of all parties and actors before they become complicated.

The effectiveness of local groups depends on the effectiveness of the performance of its members. This performance must be accompanied by real-time monitoring of individuals while performing their duties according to Merton's functional theory. Monitoring means to increase the focus on the necessity of relying on the behavior of individuals (i.e. the behavior of employees). This behavior is known, and its pre-determined patterns are adhered to,

according to what is stipulated in the internal regulations of the institution, each in his specialty and under his responsibility. Therefore, it is possible to predict deviant behavior outside the legal regulatory framework of the job and hold individuals accountable and assist them. Merton believes that the efficiency of bureaucratic administration appears in maturity or rationality, when control is based on technical knowledge, objective standards, and the impersonal nature of member relationships (17). In other words, formal rules and procedures become common and normal among individuals. The process of acquiring those rules and procedures takes place as the normal basis for the individual's behavior, and the use of personal relationships among members of the institution, i.e., among the officials holding positions, is reduced. This is what we found in the field study: a complete absence of real-time control over the performance of tasks by employees or officials in local groups, which led to the use of personal relationships in the form of nepotism, abuse of influence, and requesting bribes.

The emergence of deviant behavior or so-called administrative corruption in local communities primarily derives from its social organization that did not meet the goals and desires of employees. This is what characterizes this organization in terms of its shortcomings and lack of social justice, forming negative tendencies, the most important of which is their feeling of deprivation, which in turn leads to a decreased sense of loyalty, belonging, and belief in the legitimacy of the social organization, rules, laws, and social controls (18). Consequently, a lack of respect for and recognition of the work rules and regulations in local groups prompts them to adopt devious behavior and methods to achieve their personal goals. These behaviors include requesting bribes, using favoritism, nepotism, or peddling influence to achieve their personal goals and interests at the expense of the public interest.

This trend is confirmed by the theory of non-normativity set by Durkheim and Merton, is a theory that sees the occurrence of waves of sudden and rapid social change leading to a state of disintegration, insecurity, and social disorder, which negatively affects the means of social control, including: opinion, social standards, values, law, etc. These procedures become unable to control the behavior of the individual and achieve his goals and ambitions, through legitimate means and means, either due to financial or physical inability, or due to the hurries to achieve those ambitions. This results in their lack of respect for the laws and customs prevailing in society and motivates them to adopt values and ideas that push them to be free from social controls and restrictions, with the aim of achieving ambitions that are usually illegal. This, in turn, motivates them to commit abnormal behavior and regulatory violations, such as: bribery, nepotism, abuse of influence, etc. This theory also confirms that material goals or ambitions (i.e. the search for money accumulation and quick profit) play a prominent role in explaining behavioral imbalances and deviations from the standards of the institution, *local groups* in particular and society in general.

Amending and reforming the social organization of institutions, including local groups—to keep pace with sudden and rapid changes in society in a way that makes the requirements and needs of employees compatible with the conditions of social life—is only a precautionary and preventive measure to avoid the employee falling into inappropriate behavior, contrary to Sharia, law, and moral social custom. This is regardless of the activation of one of the basic social processes of work, which is control, with the aim of inspecting and ensuring that work is performed in a legitimate manner, and predicting negative and abnormal performance and correcting it before it becomes too late.

Results:

- Preventive and repressive measures taken by the state to combat administrative corruption in local groups are insufficient to control employee behavior and make it organizational behavior.
- Weakness of oversight bodies within and outside local groups.
- Weakness of social organization of local groups and their inability to adapt and keep pace with rapid and sudden changes in society, and meet employee requirements.
- Lack of awareness among individuals or employees and embracing negative, unethical values (the use of nepotism, influence, and bribery) as natural social standards that are transmitted from one generation to another in the form of a socio-cultural inheritance of the society.
- The lack of openness of local groups to the outside world as it is a complex and closed system that has led to the marginalization of civil society and citizens.

Suggestions:

- Introducing harsh penalties and strictly applying them to those who commit corruption in its various forms, as a deterrent against other lurkers.
- Activating oversight and accountability bodies, and intensifying surprise field visits, which are considered one of the most effective means in combating administrative corruption.
- The absence of work rules, written procedures, and codes of conduct for employees in the public sector, and the poor formulation of laws and by-laws regulating work, as a result of the ambiguity, conflict, or multiplicity of some of their articles and the complexity of their procedures.
- Involving and activating civil society institutions in combating corruption, especially at the local level.
- Focusing on the moral aspect and activating the roles of socialization institutions to spread religious and spiritual values and virtuous morals linked to the integrity of individuals.
- Choosing municipal employees - especially officials - on the basis of competence is one of the most effective and efficient means of combating administrative corruption.
- Compatible living and raising the levels of wages and incomes for employees, and increasing financial and moral incentives in line with changes in the socio-economic and political conditions of society.

Conclusion

Administrative corruption is nothing but a pathological phenomenon that affects a complex urban society, which is becoming more complicated day after day, especially after the fourth industrial revolution, i.e., the digital technical development, which has led to the acceleration of social changes and the weakness of customary social control means. This constitutes fertile ground for the growth of corruption. Corruption means defrauding economic, social, political and cultural interests by achieving personal benefits and giving priority to kinship relations over public interests, as long as it affects public institutions more than private ones.

The state takes all preventive and punitive measures to combat the phenomenon of administrative corruption, especially among local groups. However, this is insufficient to advance society and gradually get rid of the cause of corruption, by reconsidering or modifying the social organization prevailing in state institutions and making it more responsive to rapid changes in society, such as achieving social justice among employees in the institution. The employee or the administrative official often feels that his rights are being

violated, and that the financial return or wage he gets from performing his job is much less than the duties he performs or that it is much less than the returns he gets compared to another employee. Therefore, many employees themselves seek to achieve balance through administrative corruption (asking for bribes, for example, and this is what we found in the second case of the field study). Moreover, the material destitution and economic problems (high cost of living and high prices) facing the public official in the reality of his daily life, force him to contravene and violate the social, moral and religious values that he possesses. However, committing such unethical behaviors depends on the employee's personality, upbringing, and how he interacts with the situation within the administrative organization of the institution. For the poor socialization of the employee or the corruption of the administrative official, his morals, and social values in general, are the causes of committing such shameful acts, in addition to administrative officials' mistaken appointment of such employees or placing them in positions of responsibility and decision-making.

The reasons for the spread of the phenomenon of administrative corruption are countless. Some reasons are related to the individual or employee, and others are related to society, especially the social organization prevailing in institutions. Sociological theorists have confirmed that society is what incites the individual to perform abnormal behaviors due to the compelling and changing conditions in which he lives. Solutions are derived from society by taking a synthesis of all the socio-cultural, social, economic and political actions to bring about profound adjustments and reforms to the way it is organized, provoking it to respond to the requirements of the individual (the employee) and society alike.

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Revisiting H. G. Wells' *The Island of Dr. Moreau* (1896) as a Children Narrative from a Post-humanist Perspective

Dr. Gihan Ibrahim ElSayed Khreba

Asst. Prof. at the Higher Institute of Child's Arts

Department of Creative Production (Creative Writing Branch)

Academy of Arts, Cairo, Egypt

Abstract

The rise of the Scientific Revolution in the past, and the accelerating current technological developments that intersect with environmental crises and "ecological consciousness" have brought about fears of the bad consequences of science and technology upon humanity, a trend of thought heralded by postmodernism, breaking with the humanist and Enlightenment assumptions, and evolved evidently into new depths in the late twentieth century by post-humanists. Such fears associate with the current interest in sustainable development for the future of humanity. The worldly famous H.G. Wells' *The Island of Dr. Moreau* (1896), directly tackles in scientific, technological, and environmental issues; questions associated with the post-humanist perspective as data refer to. The novel is appropriate for the age group of 12 to 18 years, asserted in Amazon's literary product's purchase details. According to the UN General Assembly Resolution a child is a person who is under the age of eighteen years. Being a children's narrative, the novel's ethical and ideological implications for children have to be considered. The present study attempts to scrutinize Wells' novel in order to unravel aspects of post-humanism that lurk in to decide on whether this stream of thought is old-established except for the name, or not, referring to the textual artistic features that help foregrounding its features. The narrative is analyzed from a post-humanist lens to realize the objectives of the study.

Keywords: *Cyborg, Environment, Post-humanism, The Island of Dr. Moreau, Science and Technology.*

رؤية جديدة من منظور ما بعد الإنسانية لرواية ه. ج. ويلز للأطفال

جزيرة الدكتور مورو (1896)

أ.م.د. جيهان إبراهيم السيد خريه

المعهد العالي لفنون الطفل بأكاديمية الفنون

تخصص التأليف والكتابة الإبداعية

أكاديمية الفنون بالقاهرة

لقد أدى نهوض الثورة العلمية في الماضي، والتطورات التكنولوجية المتسارعة إلى إثارة المخاوف من العواقب الوخيمة للعلم والتكنولوجيا و علاقتهما بالبيئة -مع نمو الوعي البيئي- على البشرية، وهو اتجاه فكري بشرت به ما بعد الحداثة وتطور بشكل واضح إلى أعماق جديدة في أواخر القرن العشرين من خلال تيار ما بعد الإنسانية، و ترتبط مثل هذه المخاوف بالاهتمام الحالي بالتنمية المستدامة لمستقبل الإنسانية، وتتناول رواية ه. ج. ويلز جزيرة الدكتور مورو (1896) بشكل مباشر قضايا علمية وتكنولوجية؛ قضايا مرتبطة بمنظور ما بعد الإنسانية، وتعد هذه الرواية مناسبة للفئة العمرية من 8 إلى 16 عامًا وفقًا لموقع أمازون عن تفاصيل المنتج الأدبي، مما يتطلب النظر في التضمينات الأخلاقية والفكرية لها، وتفترض هذه الدراسة أن الرواية السابقة تتسم بخصائص تيار ما بعد الإنسانية، مما يدفعنا إلى التطرق لها لكشف جوانب ما بعد الإنسانية الكامنة فيها من أجل تحديد ما إذا كان تيار ما بعد الإنسانية في الواقع كان له إرهاباته في الماضي بغض النظر عن المسمى المعروف له حاليًا، وبذلك يتم تحليلها من منظور ما بعد الإنسانية لتحقيق أهداف الدراسة.

الكلمات المفتاحية: ما بعد الإنسانية، رواية الأطفال جزيرة الدكتور مورو، العلم و التكنولوجيا، البيئة، السايبورج.

I. Introduction

Post-humanism stands as an ideological framework to delve into the current problematic situation of humanity at the age of technology and environmental changes through its insights and conceptions of comprehensiveness, interconnectedness, cohesion and justice among all forms of existence. It addresses literature, among many other disciplines, to mark it with its distinguished flavor. Finding its distinctive attributes from the profound well of post-humanism, its literature is characterized by engagement with the post-humanist condition, enabling its texts to exhibit a range of common and related features connected with that perspective (Guesse. "On the Possibility" 23-40; Rugo). When it intrudes into children's literature, post-humanism enriches the genre with properties that encourage young readers to be involved in philosophical questions and ethical matters, shaping their worldview in our running age. H.G. Wells' *The Island of Dr. Moreau*¹ (1896), at the first sight, seems to show signs of a post-humanist text for children; this is what makes it the target narrative of this study, considering its chronological significance in relation to its post-humanist reference.

¹ The novel will be referred to as (IM) in the context of the study.

For elucidating the previous points, the study is divided into an introduction in which the changes enroll the planet earth technologically and environmentally are discussed, followed by a clarification of what the contemporary child needs to cope culturally with; those accelerating challenges. The role of literature in shaping the thoughts and ethics of the child towards the current condition of humanity is explained. At this stage, the popularity of the above novel and its importance to the present study are highlighted in addition to the questions of the study. The paper goes further to present a theoretical framework in which the definition of post-humanism and its key figures are introduced. By appealing to its definition, how it is differentiated from humanism, and trans-humanism will be offered. At this point, it seems logical to illustrate the key concepts of post-humanism. Once its fundamental principles are settled, post-humanism manifests itself in orienting literary narratives to differ from traditional literature so as to maintain their new post-humanist insights. Accordingly, post-humanist literary narratives directed to children share common characteristics associated with post-humanism. Eventually, the study exhibits an analysis of the referred children narrative, Wells' novel, from the post-humanist scope to answer its research questions.

I.i. Current Challenges Raised by the Intersection of Technology with Environment:

Contemporary world undergoes "technological progress of the 1980s and 1990s, marked by the 'information and telecommunications revolution' (Šmihula 51) and the subsequent transition to the digital age" and changes in the global environment to the verge of crises, taking many forms and affecting various sectors that consequently require urgent attention (Guesse. *Fictions and Theories* 117). "[T]he environmental consequences of social activity are frequently affected by the rate and direction of technological change, and partly because environmental policy interventions can themselves create constraints and incentives that have significant effects on the path of technological progress" (Jaffe et al. 462). The technological problematic comprises for example, "Cyber security Threats" where companies are open to be attacked by hackers so that they might lose their data essential for their work. "The increasing frequency and sophistication of cyber-attacks is a continuing issue for tech companies and any organization that uses computers" ([Medin](#) and [Siege](#)). Added to the threats is the shortage in talented or trained AI professionals to support companies using AI innovations besides compatibility between such technologies and their ethical impact on people, a matter interests mainly this study ([Medin](#) and [Siege](#); [Ajay Khari](#); [Jean-Baptiste](#); [Jo Debecker](#)). Protection of personal private data of the individuals who use AI represents another challenge that face technology users and companies ([Ajay Khari](#); [Jo Debecker](#); Ugalde). The most important AI problematic for humanity lies in that the boundaries between humans and nonhumans are shaken in the last decades and become a matter of debate among the intellectuals, coming to its utmost condition to the border of panic, once humanoid robots appeared on the international scene. In 2018, "Saudi Arabia granted a humanoid robot called Sophia citizenship. The internet went crazy about it, and a number of sensationalized reports suggested that this was the beginning of 'the rise of the robots' "raising a debate "about what rights robots might have in the future" ([Ethics Centre](#)).

Regarding the threat on the environment, "climate change" to the worse, "Resource Depletion" and consumption; different kinds of "increased pollution" and "Biodiversity Loss" are caused by technology and industries, where the environmental balance becomes at risk (Jaffe et al. 463; Bothell). Such problems, if are not resolved, will put all forms of life at the stake of famine, diseases, and even extinction. These are but some of the potential threats of misusing technology and ecological mistreatment by humans on the planet earth in the age of science and technology, intersecting issues that stir serious global discussion within the framework of post-humanism.

I.ii. Empowering Children to be Post-humans:

The present period of technological threats and of "multiple interlinked environmental, social, economic and health challenges – the climate change crisis, pollution, biodiversity loss and the extinction of species, deforestation, land degradation, increased incidents of environmental disasters" demands a child to be "brought into being as 'posthuman'" (Stockholm+50 national consultations global synthesis report; Lindgren 916). Such point is demonstrated on two levels: the practical and the philosophical so as to provoke in the child ethical attitudes and behaviors of integrity and interconnectedness with all sorts of life and the ecosphere besides the technological products. Firstly, What it means to be a post-human child, is practically to socialize the child to the post-human era by enabling the young people to extend their perception and awareness beyond the traditional thoughts of the human-centered perspectives towards a holistic insight of the human as interconnected with all forms of life and other nonhuman entities, including technology, and ecosystems. "Indeed, when provided with appropriate opportunities to engage in their own protection, children will often learn important life skills and prosocial behaviour, which in turn enhance their resilience and development" (Ippolito 76). Evidences are verified concerning children's capability of configuring their own progression and "the environment in which they live and of bringing their own insights, experience and creativity to bear in alleviating their difficulties" (Ippolito 76).

The philosophical aspect of empowering children with such post-human capabilities relates to the production of knowledge given to the child and the ontological view presented to him/ her about the nature of the world and of the human being to break with that of modernism and Enlightenment and to develop awareness of the problematic situation of the globe at the post-human epoch. That is to say,

The theoretical shift towards posthumanism is described by Lenz Taguchi as an 'ontological turn,' i.e., it is not only a collection of theories that 'give direction for how we produce knowledge (epistemology), but also for how we understand the world, matter and materiality, and how we understand ourselves (ontology).' 15 Lenz Taguchi. (Lindgren and Öhrfelt 265-6)

In this sense, new conceptions of childhood along with the educational goals are to stem their bases from post-humanist principles of criticizing anthropocentrism that elevates man over other existents and the ecological sphere (Lindgren and Öhrfelt 265; Murris and [Reynolds](#)). That is "to work" with children "in ways that go beyond the binary divide (i.e. the Cartesian cut) between mind and body, intellect and emotion, nature and culture, and theory and practice" (Lindgren and Öhrfelt 265). Thus a child becomes a responsible member in the interconnected technological and eco-world.

I.iii. Significance of Literature to Children in the Post-human Condition

For literature is generally one of the "Ideological State Apparatus" in Louis Althusser's own words and, accordingly, functions to sustain the dominant ideology of a society (15 24-5), children's literature, as a "production of fictions: or better still, the production of fiction-effects" (Macherey and Balibar 284-87), has the agency to play a role in empowering kids in order to be involved in the present post-human condition as an evasive global ideology. "Undoubtedly, children's literature plays a vital role in forming the young generations' personalities and leaves an ever last impression and impact. So, offering different varieties of literature is essential to pursue their future life successfully and smoothly" (Ismail 593). Consequently, literature influences the child's development in different respects; of them: emotional and social growth, moral and ethical education so as to stand as an invaluable resource for children.

To demonstrate literature's importance for children, through their exposure to fictional characters with their life challenges and plot incidents, children empathize and identify with them whether fictitious characters are negative or passive, Ismail explains (594). Animal characters and those of science fiction are of great significance for developing interconnections with other life forms and technological innovations. In this respect, Bayraktar mentions that "having characters that were animals, good-hearted, and funny as well as having action and adventure within the stories made the storybooks the children's most favorite" (qtd. in. Ismail 595). Post-humanist conceptions are to be foregrounded positively in children's literature to generate the targeted impact on children. Moreover, the deepest effects are realized once "The topics they prefer to be covered in the books they read from most to least are friendship, family, adventure, science fiction, religious subjects, *love of animals*, and *nature consciousness*" (Bayraktar 345) (My emphasis). Enhancing environmental and global awareness and values is an important characteristic of children's literature that provoke children to "become more skillful at problem solving as well as thinking critically and creatively" (Bayraktar 345). Literary narratives enrich "young people with values, beliefs, imagination and creativity" to further shape children's morals and ethics (Pulimeno et al. 13). As revealed, children's literature has profound implications for children's development in many ways and capable of conveying post-humanist ideological messages, especially that its generic nature is embedded with some of these messages such as animal and techno-innovative characters and holistic topics of co-existence and connectedness with the others and etc.

I.iv. Wells' Novel --- Highlights and Scope:

I.iv.i. Highlights:

Revisiting H.G.Wells' *The Island of Dr. Moureau* (1896) from a post-humanist perspective is the focus of study thanks to its apparent association with themes dwell in science, biotechnology, and human subjectivity in relation to nature in addition to its popularity for both children and relatively for adults all over the world (Amazon.com). Notably, scientific research on the implications of narratives oriented to children shows that environmental behavior and attitudes of the individual start to be consolidated and enduring at the age of seven from childhood to adulthood (Otto et al.). This narrative is filmed to add internationally to its fame. **H. G. Wells** (1866-1946) is one of the most popular English writers considered as the "father of science fiction" for his many literary works of diverse scientific themes that he tackled to prove himself as a "Scientific Futurist" and "is best-remembered as an early writer of science fiction and futurism" (Wmturmer721; Silson24; Goodreads, Inc.). In 1896, he published his distinguished novel, *The Island of Dr. Moreau* that has long-lasting as a popular narrative to be read and studied since its publication up till now and "that remains one of the author's most disturbing and unforgettable novels" (Benz and Chang). It is not only quoted by many authors and intellectuals as a major literary work and as a source of inspiration for many science fiction writers (Goodreads, Inc.), but also adapted to the cinema and television for a long period of time (Stewart and Lowne).

Wells' novel culminates Wells' main concern in promoting the quality of our individual lives through the holistic inclusion of human race and our primary incentives, not to depart from those instincts, for "it is the way to power over that primary life which, though subordinated, remains intact" (Wells, 20229). What gives the novel its special importance for the present study is that it "remains one of the author's most disturbing and unforgettable novels" whose sophisticated prophetic nature about the future gives it an everlasting significance to post-humanism in addition to the utility of science; "While gene-splicing and bioengineering are

common practices today, Wells' haunting vision raised ethical questions more than a century before our time" (Benz and Chang).

I.iv.ii. Scope:

Wells' *The Island of Dr. Moureau* (1896) is produced in a period of time that has witnessed many philosophical and ideological tensions, mainly approaching modernism with its problematic and questionable issues. Post-humanism is the main critical approach to scrutinize the novel so as to unravel the post-humanist features in this narrative, answering the following questions: Does post-humanism have roots in the late nineteenth century represented in H.G.Wells' *The Island of Dr. Moureau* (1896) for children or not? Additionally, what are the post-humanist aspects, if there, in Well's narrative for children?

II. Theoretical Framework:

In order to answer the previous questions, a theoretical overview of post-humanism's definition, origins, key features as well as the main characteristics of post-humanist literature accompanied by other related concepts are presented.

II.i. Key Figures & Definition of Post-humanism:

Initially, post-humanism comes into being thanks to some distinguished figures who contribute to its theoretical body, like, Donna Haraway, Rosi Braidotti, Peter Sloterdijk, , Evan Thompson, Francisco Varela, S. L. Sorgner , Humberto Maturana, Douglas Kellner, Timothy Morton, and philosophers such as Robert Pepperell, the theorist of "posthuman condition" (Thomas; Braidotti, 2015 2). Definitions of post-humanism vary due to the multi-faceted nature of the perspectives that approach the term though they generally meet when they touch upon its core viewpoints. Before indulgence into what post-humanism is, it seems appropriate to divide the term as it is in writing into two sections: the prefix 'post' and the morpheme 'humanism'. It is 'post' because it comes after in time and in presumptions; it breaks with 'humanism'. It may also signify an apocalyptic age in which humans lose control over the ecosystem and AI innovations. It is considered as re-evaluation of the human-centered outlook, asserting interconnectedness and integration among all forms of existence.

In his attempt to define post- humanism, Jaroslav Malik sheds light on the fact that post-humanism is a reaction to humanism which stresses that "human beings are traditionally recognized as unique by having the capacity for autonomy. Autonomy is commonly understood as signifying one's ability for self-governance, and it is often discussed in moral and political philosophy" (p.142). Malik puts more emphasis on the position of humans in humanism by stressing that "In virtue of our autonomy, humanists argue that human life is valuable and should be protected as a result" (p.142). He comes lastly to explain that post-humanism "as a post-anthropocentric movement that seeks to decentre our conception of man through the postmodern critique of the categories that support it. Posthumanists see humanism as harmful because of its ontological implications" (p.146). His opinion is presents post-humanism as in stark opposition to humanism though it is not quite the matter because it is against man's superiority over non-humans, keeping the welfare of man as the target by reconciliation and coherence with other existents.

Unlike Malik, Cary Wolf explores how the term post-humanism has developed from varied fields such as genealogy to denote "a new theoretical model for biological, mechanical, and communicational processes that removed the human and Homo sapiens from any particularly privileged position in relation to matters of meaning, information, and cognition" (Qtd. in Cary Xii). She goes further to conclude her examination of how post-humanism evolved as a theory to transcend the border of postmodernism into causing cultural changes in the humans so that to adopt the post-

humanist values in their behavior, maintaining a difference between post-human and post-humanist stances.

[W]hen we talk about posthumanism, we are not just talking about a thematics of the decentering of the human in relation to either evolutionary, ecological, or technological coordinates...rather, I will insist that we are also talking about *how* thinking confronts that thematics, what thought has to become in the face of those challenges.(xvi)

Anna Barcz points out that Wolfe's definition is remarkable and is different from other definitions "explicitly by claiming that interest in animals needs to be confronted with posthumanism not only from the perspective of the subject of cognition, but also in terms of the method of cognition" (p.249). So it relates to the process of humans' reconceptualization of the other as important as man himself.

Others widen the term to comprise many disciplines under its regulations. Richie Nimmo refers to post-humanism as "an umbrella term for cluster of related ontological, epistemological, and theoretic methodological developments across the social sciences, arts, and humanities" (p.1). Maneula Rossini in *Plaggrave Handbook of Critical Posthumansism* concurs with Nimmo about the varied fields of study that posthumanism covers and intrudes into (p.7). Reaching such comprehensive spotlight of post-humanism, a much more concise definition is offered in a very simple way to end this part with. "posthumanism, in its essence, is a postanthropocentric way of thinking" where it does not negate humanism, nor entangle with antihumanism, but announces the "end of a particular image of us" and perhaps warns us of the dangerous consequences of the inherited anthropocentrism (Chesi 56-7).

II.ii. Post-humanism and Trans-humanism:

Post-humanism departs from trans-humanism in principle and meets with in the post-human condition (Braidotti, 2015 2). The former attacks the anthropocentric assumptions of humanism that posits humans at the center of ethical and moral consideration because of man's superiority over all other existences including the forms of life and the inanimate too due to human's agency of mental faculties leads to autonomous thinking. Post-humanist outlook views man not as the pivot of being but as integrated part of a large environmental and technological system (Braidotti, 2015 2; [Galston](#)). Trans-humanism is an extension of humanism and a "'reinforcement' of humanism" but shares the benefits of the post-human condition with post-humanism (Merzlyakov 475). "[T]ranshumanism continues to be imbued with the old humanist values that consider human beings to be autonomous, fully conscious, and intentional actors who are endowed with an innate superiority that places them at the centre of creation" (Braidotti, 2015 2). However, it views the technological advancement as a vehicle of extending and improving the biological limits of the human being towards more autonomy and potentials, keeping man's rank at the top of the hierarchy of being and committing "to a particular kind of posthumanism" (Braidotti, 2018 32; [Galston](#)). The "cyborg" is the trans-humanist perfect example of such integration between humans and technology.

II.iii. Post-humanist Key Features:

Post-humanism stands steadily on key assumptions that distinguish it from any other philosophical tenet. In the first place, it presents a critique of humanism in which it rejects its foundational concepts about the image of man and its consequent notions (Chesi 56-7). "Post-human Condition", another term for post-humanism, refutes anthropocentric opinion of the human as the center of being (Oberauer). Another concept that signifies post-humanist philosophy is the interconnectedness and integrity of all existences and entities whether alive or inanimate. "That is, refutaion of man's superiority over humans and non-humans is

followed by placing humans as a part of the network of technology and ecology (Oberauer; Keeling and Lehman). Post-anthropocentrism challenges the idea that humans are significant and privileged entities among other existences because they have the mental faculties to think and to be autonomous, defying man's highest rank over all entities, the binary oppositions maintained by humanism and Enlightenment's beliefs are to be resented by post-humanist deconstruction of dualism (Thomas). "In contrast, a posthumanist scholar rejects this dichotomy through understanding the human as entangled with its environment" (Keeling and Lehman). It asserts a more flexible and fluid conception of human subjectivity, dismantling all the inherited dualism that places one party over the other where "[p]ost-dualism is focused on undermining strict, rigid and absolute dualisms, particularly when they lead to hierarchical conceptions such as human/ animal, mind/body" (Thomas).

"Technogenesis", "ethical implications", and "emergence of new subjectivities" are other features and postulations of post-humanism. The post-human period, posits man's subjectivity under question because technology is used to enhance human capabilities to the extent that the existence of a more-than-human such as the cyborg interrogates what man means (Thomas; Keeling, Diane Marie and Marguerite Nguyen Lehman). "Technogenesis, the co-evolution of human and technological development, is clearly of interest to posthumanists, forming as it does a role in the redefinition of the human" (Thomas). This situation foregrounds ethical questions about the implications and impacts of technology and ecosystem. "We live in an age of AI, algorithms, robotics, and genetic manipulation. Wars are no longer fought by human agents alone. Technologies such as bomb disposal robots and drones help to save and destroy human lives" (Oberauer). To put it another way, humans have to treat all beings ethically and equally. Dynamism of human identity is the goal of post-humanism where man's subjectivity is affected by all the surroundings; technology, environment, and culture (Thomas). In this way, it represents a change towards understanding humanity as part of a complex web of relationships, challenging the notion of human superiority and calling for a fairer ethical framework to envelop all relationships (Miah 2).

II.iv. Post-humanist Renovation in Children's Literary Narrative:

Post-humanist philosophy provides children's literature with its main conceptions to vary from the traditional anthropocentric perspective and consequently to appear in the literary characterization, themes and messages, and narrative structure. Fictional characters, humans and non-humans, are presented in interconnected relationships that take many forms according to the context. One of these relations is portrayed physically in hybrid figures such as anthropomorphized animals and "cyborg" as well as treating "animals and plants as companion species to humans, and numerous studies now explore 'vegetal thinking,' animality, and the entanglements of humans with other life forms as well as nonliving matter" (Rogers and Hamilton-McKenna 2; Chesi 62; Nayar, 2023 4). Critiquing man's superiority over all beings, the protagonist involves with non-human characters in incidents that crystallize mutual and equal potentials of both when engaging in shared situations and experiences (Mallan; Guyton 2). Cyborgs, figures modified genetically, trans-humans, vegetal beings, and even metaphorical hybrids, accompanied sometimes with metamorphoses or multi-identities and blurring fictional realities characterize children's narrative within the post-human condition (Rogers and Hamilton-McKenna 2; Nayar, 2023 4).

Post-human literature tackles in themes about identity and its boundaries, subjectivity, agency, embodiment, and computer metaphor affected by technology or environment, besides the ethical consideration of treating "non-human agencies" with respect, care and equity

(Nayar, 2022227). For example, the image of the "cyborg" surfaced as "a contemporary cultural metaphor in order to capture the ambivalent condition of the contemporary human beings, whose bodies are open to forms of technological modification and intervention" (Bolter 2). Furthermore, Bolter states that in other digital applications such as "single-player video games, the user interact with rather than through a computer system" (Bolter 7). According to their moves and performance, "the player becomes willingly, if temporary, a cyborg" (Bolter 7).

Unconventional narrative techniques in narrating the stories are adopted in post-human narratives in addition to structuring the plot to encourage blurring the boundaries between man and all other forms and beings (Guyton 35; Rogers 2). "[C]omposite or fragmented narrative structures" and "externally focalized narration" (Guyton 1), anthropomorphism or human-like animals who talk and behave like humans and hybrid Characters represent some techniques that consolidate post-humanist conceptions in literature. For instance, the posthumanist employment of "not-quite-human characters" – anthropomorphism-- unsettles the borders between humans and all other entities, encouraging the child to be familiarized with the "equal and individual subjectivity to these other existents suggests the more fluid ontology that posthuman ideologies propose" (Jaques 364). It is essential to indicate that these are some of the techniques to exemplify.

III. Post-humanist Aspects in Wells' *The Island of Dr. Moreau* (1896)

The following part is dedicated for analyzing H.G. Wells' novel, *The Island of Dr. Moreau* (1896) for children from a post-humanist perspective. This is to realize the objectives of the study in exploring its post-humanist features and to decide whether the assumptions of this trend is manipulated and, hence, originated in the narrative as a prophetic literary voice in the intellectual literary arena of the 19th century or not. The study aims at examining its literary structural elements and ideological message to unravel the post-humanist aspects crystallized in Wells' novel.

Wells' *The Island of Dr. Moreau* (1896) is a lively profound ground of departure from the fictional dystopian anthropocene to the utopian and peaceful post-humanist one so that to foreground what a human really means where "The nonhuman and the posthuman have always been a part of human becoming." (Chesi 56). Although such transition takes a linear move from the beginning of the narrative to its end, post-humanist conceptions are intertwined with the texture of the dystopian anthropocene throughout the novel to defy the human fixed image and constant moral codes of thinking and behavior hailed by humanism. Thus, the narrative that crystallizes the fluidity of the borders between humans and non-humans (Rosenfeld 37), coupled with the ethical responsibility of man towards animals, presents also a critique of the humanist anthropocentrism in order to show its post-humanist aspects. Through the authorial employment of the triple relationship between humans, non-humans, and biotechnology, the above thoughts are foregrounded.

III.i. Interconnectedness between Humans and Non-humans Critiquing Anthropocentrism

Interconnectedness between humans and all life forms are displayed openly in the imaginary world of Wells' novel, taking two facets: creating the "Beast Folk", and vagueness of identities, enhanced by the technical employment of the narrative structure, setting, characterization and narration that will be given later (IM 58 69).

III.i.i. Creating Humanoid Animals: The Beast People

The "Beast People" (IM 52), human-animal hybrids that are created through vivisection and genetic engineering by Dr. Moreau who takes refuge on a remote island in order to carry out his unethical experiments, are a living proof of the flexible boundaries between humans and animals, dismantling the hierarchical privileged status of man over non-humans [Rosenfeld 37]. Throughout the novel, the Beast community show common features between humans and animals not only on the physical level, but on the psychological and social levels too, so that it resemble the Londoners, revolting against human's superiority over them.

III.i.i.i. The Beast Folk Share Physical Characteristics of Both Humans and Animals

The mutant creatures seem as both animals and human-like in appearance and in their survival instincts. Once Edward Prendick is saved and admitted on the island, the servant who introduces him coffee is a queer man with animal ears, edged with fur "And his eyes shine in the dark" (IM 36). Prendick exclaims, "'Montgomery,' said I, suddenly, as the outer door closed, 'why has your man pointed ears?'" and then inquires, "and a fine black fur at the edges?" (IM 35). Vagueness of the distinctions between what is animalistic and what is human is expressed again by Prendick, "'Pointed,' I said; 'rather small and furry, — distinctly furry. But the whole *man* is one of the *strangest beings* I ever set eyes on.'" (IM 36) (My emphasis). To give another example, Prendick sees an animal-like man walks on four legs on the bank of the stream, "Then I saw it was a man, going on all-fours like a beast" (IM 38). He cannot distinguish the creature's biological affiliation because of the intertwined characteristics of humans and animals in the islanders' bodies.

III.i.i.ii. Human/Animal Common Psychological and Social Features

In critical situations that threaten life, both humans and animals behave alike by being cannibals to defy the traditional anthropocentric and hierarchical duality between the two species. In the beginning of the novel, Prendick and his fellow sailors are "drifted famishing", what press them to make a lottery that "fell upon the sailor" to be killed and eaten by his fellows to keep themselves alive (IM 9). After the sailors fight to death with each other, Prendick finds himself alone in the dinghy amid the sea. His survival instinct forces him to eat the human flesh of his fellows. Similarly, rebelled beasts kill Moreau, followed by Prendick leaving his body for them to be most probably eaten.

Moreau lay face downward in a trampled space in a canebrake. One hand was almost severed at the wrist and his silvery hair was dabbled in blood. His head had been battered in by the fetters of the puma. The broken canes beneath him were smeared with blood. His revolver we could not find. Montgomery turned him over.... We locked ourselves in, and then took Moreau's mangled body into the yard and laid it upon a pile of brushwood. Then we went into the laboratory and put an end to all we found living there. (IM 100)

Cannibalism is a common trait that blurs the borders between humans and carnivorous animals, erasing the humanist dichotomy of human/animal.

Humanoid animals are endowed genetically with traits that enable them to talk, think and behave like humans to be as clues to the post-humanist interconnectedness between the two

species on the one hand, and as a matter that elevates considerably the mutant animals to the human status which is overcome by animalistic instincts in the end of the novel to emphasize the post-humanist rejection of man's superiority over non-humans and hierarchical dualism (Thomas). The puma, a 'humanimal' woman, is a typical example of both an overlapped blend of the two kinds and a rejection of her humanity. The puma *speaks* painfully and *resents* her current state as humanized. Having the capability of thinking and speaking like humans, Prendick is confused about the true identity of the puma whether it is an animal or a woman.

"It's nothing so very dreadful," said he. "But I think you have had about enough for one day." The puma suddenly gave a sharp yell of pain. At that he swore under his breath. "I'm damned," said he, "if this place is not as bad as Gower Street, with its cats."

"Montgomery," said I, "what was that thing that came after me? Was it a beast or was it a man?" (I M 46-7)

The beast folk have the same conduct as normal humans where they abide to law and to social pressures. They attempt to repress their animalistic instincts, obeying the law issued by Dr. Moreau and even guarded by other members of their folk. Once Prendick is introduced to live with the beast people, the Ape-man admits him to the creature, "the Sayer of the Law" in the hut who makes sure Prendick is a man. Being a man, he has to repeat and commit to the law. "It is a man," the voice repeated. 'He comes to live with us?'" (IM 58 56). The creature, with a good English accent, interrogates whether Prendick will live with them or not. The interrogation is understood by Prendick. "The Ape-man looked at me as though he expected something. I perceived the pause was interrogative. 'He comes to live with you,' I said. 'It is a man. He must learn the Law.'" Prendick has to recite the Law that puts man as a benchmark and a standard to reach, departing any trait associated with animals.

"Not to go on all-fours; that is the Law. Are we not Men?

Not to suck up Drink; that is the Law. Are we not Men?

Not to eat Fish or Flesh; that is the Law. Are we not Men?

Not to claw the Bark of Trees; *that* is the Law. Are we not Men?

Not to chase other Men; *that* is the Law. Are we not Men?" (IM 57)

They have to control their animalism, walking upright and feeding like humans, not like animals lest they are punished. "His is the House of Pain" and "Evil are the punishments of those who break the Law. None escape" (IM 57 58). They modify their behavior to cope with Moreau's expectations of them to act like humans. "He is a five-man, a five-man, a five-man — like me," said the Ape-man" (IM 57). One last point, both human and beasts are vulnerable to be killed to maintain equality among all life forms. "They knew now that we of the Whips could be killed even as they themselves were killed" (IM 110). This is to put an emphasis on the post-humanist dismantling of traditional hierarchical dualities between man and non-humans, "Post-dualism is focused on undermining strict, rigid and absolute dualisms, particularly when they lead to hierarchical conceptions such as human/animal, mind/body" (Thomas 2).

III.i.i.iii. The Beast Community and the Civilized Society Are Alike

The novel exhibits an analogy between the Beasts society and that of humans in London. Prendick notices that the Beast community is a mirror copy of the civilized world. When Moreau, Montgomery and Prendick chase the killer of the rabbit, the former two are keen to investigate the case logically for not condemning an innocent creature. "'But then we have to *prove* that he killed the rabbit,' said Montgomery. 'I wish I'd never brought the things here'" (IM 83). Although Moreau is convinced that the Leopard-man is the criminal, he repeats emphatically what Montgomery refers to as the necessity of having an evidence of the Leopard-man's commitment of the crime (IM 84). Moreover, "Much the brutes care for the Law, eh? when Moreau's not about!" (IM 83). Once Moreau is dead, the beasts inquire about the Law just like what humans do. Prendick tells them,

I suddenly stepped in front of Montgomery and lifted up my voice: – "Children of the Law," I said, "he is *not* dead!" M'ling turned his sharp eyes on me. "He has changed his shape; he has changed his body," I went on. "For a time you will not see him. He is – there," I pointed upward, "where he can watch you. You cannot see him, but he can see you. *Fear the Law!*" (IM 98) (My emphasis)

By the end of the novel in London, Prendick expresses such similarity between both societies, "I could not persuade myself that the men and women I met were not also another Beast People, animals half wrought into the outward image of human souls, and that they would presently begin to revert, – to show first this bestial mark and then that" (IM 124). The novel gives proofs of the similarity of both societies to contribute to the above post-humanist theme.

III.i.i.iv. Humanized Animals Deconstructing Human Superiority: Retrogression to Animalism

However, the humanized beasts retrograde to their animalism. Primal instincts express themselves in some fictitious situations to challenge human superiority over other species and life forms by violating the human law and challenging man's will. One of the mutant creatures kills a rabbit and sucks the blood, violating the Law. Prendick recounts the brutal accident that takes place on the bank of the stream where the rest of a rabbit body is there soaked with blood and a brute dressed in blue is drinking by sucking water and walking on four to vanish in the forest (IM 83). Upon hearing this, Montgomery "took out his revolver, examined the cartridges in it and replaced it. Then he began to pull at his dropping lip" (IM 83).

According to the Law of "the Beast Folk", those who break it are punished, "Evil are the punishments" and "None escape" (IM 58). Their punishment is unavoidable. Therefore, everyone must perceive, know, and cling to Law. "Punishment is sharp and sure. Therefore learn the Law. Say the words" (IM 59). When one of the creatures retrogrades to its animalistic instinct of eating other animals' flesh, Montgomery comments on the accident asserting such regression.

It was on our way back that we came upon *the dead rabbit*. The red body of the wretched little beast was rent to pieces, many of the ribs stripped white, and the backbone indisputably gnawed.

At that Montgomery stopped. "Good God!" said he, stooping down, and picking up some of the crushed vertebrae to examine them more closely. "Good God!" he repeated, "what can this mean?"

"*Some carnivore of yours has remembered its old habits,*" I said after a pause. "This backbone has been bitten through." (IM 82) (My emphasis)

Once Montgomery informs Moreau about the unlawful brutal killing of the rabbit, Moreau is sure that the Leopard-man is the criminal. "I've no doubt in my own mind that the Leopard-man was the sinner" (IM 84). Moreau, Prendick, Montgomery, and M'ling go through the forest to search the beast, reaching the place of the "Beast People" who chant the Law, "His is the Hand that wounds; His is the Hand that heals," and so forth upon seeing Moreau (IM 85). Moreau counts the Beasts to find that the Leopard-man is missing, what makes him the sinner. Moreau says, "That Law has been broken!" where there is "None escape" (IM 86). He arrests the sinner and "Goes back to the House of Pain" to torment the Leopard-man who attacks Moreau with the help of other rebelled beasts, stirring Prendick to use his revolver (IM 87). This is to end with the revolt against Moreau by killing him, announcing the loss of man's privileged status over animals and the unbridgeable gap between biological species along with human's duty towards other life forms to differ from the synchronic Darwinian assumption of human's biological evolution from other species.

III.i.ii. Overlapping and Obscure Identities

The overlap between humans and other entities appears evidently in the form of vagueness of characters' identities, like the "Beast People", Montgomery, Prendick, and Moreau. Prendick is confused about the identity of the brute people on the island. At his first arrival to the island, he inquires "'Your men on the beach,' said I; 'what race are they?'" and Montgomery says, "'Excellent fellows, aren't they?' said he" (IM 36). Until he receives an explanation of Moreau's hybrid creatures, Prendick is bewildered about their unclear race and hence their vague identities, especially when "Prendick asks Moreau why 'he has taken the human form as his model'" to carry out his bioengineering experiments of blending species (Roberts 57). This contributes to the blurring bonds between humans and non-humans.

III.i.ii.i. Montgomery's Vagueness Blurring Borders of Human/Animal Duality

For Montgomery, he is a mysterious and obscure person whose vagueness appears early in the narrative and is foregrounded clearly by the end, taking the shape of ambivalent actions and reactions, to maintain the intertwined link between humans and beasts. Prendick describes him as follows: "All the time the strangeness of him was shaping itself in my mind; and as I talked I peered at his odd, pallid face in the dim light of the binnacle lantern behind me" (IM 19). Prendick cannot develop a friendly relation with him because of Montgomery's "long separation from humanity" (IM 92). He diagnoses Montgomery as oscillating between brutes and humans. "I felt that for Montgomery there was no help; that he was, in truth, half akin to these Beast Folk, unfitted for human kindred" (IM 104). Mental disturbance is felt in his responses, "He was almost sober, but greatly disturbed in his mind" (IM 101). His obscurity is revealed also in his contradictory situation towards his past life in London, projecting his nostalgia where "He spoke like a man who had loved his life there, and had been suddenly and irrevocably cut off from it" on the one hand, and his feeling more comfortable to live on

the island on the other hand (IM 19 92). Hence he burns the boats which he and Prendick are to use for leaving the island to reunite with normal humans (IM 106).

III.i.ii.ii. Prendick's Confusing Character Embodying Intertwined Species

Prendick is an example of the breakdown of identity's borders on many overlapping levels; physical, social and psychological, to connote the fading limits among all life forms, differing from what is indicated in an essay, "Man and the Animal", on Wordpress.com, that he resists such union of identity to represent the anthropocene. In other words, his very identity undergoes changes throughout the novel, starting with the civilized man, merging with the brute people, and closing in incorporation with nature besides denying his mental faculties as a human, describing himself as an animal (IM 125). His first words written of his story, he refers to the "loss of the *Lady Vain*" to signify his civilized background before staying on the island of Dr. Moreau (IM 8). Once he is lost in the sea, approaching Moreau's ship on which he is saved, he converts to cannibalism and carnivorousism as above explained (IM 9). He inaugurates what will happen to him on the island. His mental health is not quite good as described by his nephew Charles Prendick in the introduction to the memoirs written by Edward Prendick, the fictional protagonist, "His case was discussed among psychologists at the time as a curious instance of the lapse of memory consequent upon physical and mental stress" (IM 5). In the course of events, he is perplexed about the true identity of the beasts "Montgomery interrupted my tangle of mystification and suspicion about one o'clock, and his grotesque attendant followed him" (IM 35). His mind is affected badly by the surrounding ambiguous creatures that represent a threat to his life. "The vague dread that had been in my mind since I had seen the inhuman face of the man at the stream grew distincter as I stood there", says Prendick and adds that "The thicket about me became altered to my imagination. Every shadow became something more than a shadow,—became an ambush; every rustle became a threat" (IM 39-40). When he hears the screams of pain from the next enclosure, his mental status comes to its peak. "I answered him as briefly, in fragmentary sentences. He narrates, "'Tell me what it all means,' said I, in a state bordering on hysterics" and adds later, "my mind a chaos of the most horrible misgivings" (IM 46 48).

His integration with the "Beast Folk" comes gradually to add to his indistinctive being. Once he is presented to the mutant creatures during the investigation of the rabbit, he considers himself as part of "a fused trinity" with Moreau and Montgomery (Jaëck 214). This trinity is a contemporary step of playing the role of a guard going towards the moment of being transformed into one of the Beasts where he reveals, under his delusions, that Moreau sends "an army of monstrous creatures" after him to fulfill the mission. "My imagination was running away with me into a morass of unsubstantial fears" (Jaëck 214; IM 111). For his identity's disintegration reaches its peak when he considers himself one of the brutes "I became one among the Beast People" (IM 113).

He also associates socially with the humanoids and their Law when he is introduced with them to display contradictory and vague identity. "Prendick's delirium — until the final chapters of the novel stage an unleashed proliferation of madness, a collective hallucination of extreme porosity and exchange between natural species" (Jaëck 207). In his own words, Prendick says that his thoughts are disturbed (IM 111). He goes after the killer of the rabbit, helping in ceasing the criminal, and by the end, he shoots the sinner as previously referred to (IM 87). The act of killing projects his split of identity between humanity and animalism; he plays the role of the policeman, and at the same time, breaks the Law by killing others, "'But one has sinned', said I, 'Him I will kill'" --- his true being is obscure (IM 114). Such point extends

to Prendick's ascending to power when Moreau is dead to act as a ruler, showing the human within. However, he clings to a humanized double character of Moreau, the Dog-man, "My inseparable Dog-man" to be his guard, forming an ally of two supposed distinct races where his very existence relies on a mutant creature and entangling with the beasts (IM 116). The "Dog-man" is his mediator to merge with the beasts, so as Prendick to be one of them, in his own expression, near the end of the narrative (IM 113). The Dog-man retrogrades into animalism to be "hairy" and walks on four to launch his separation from Prendick and to magnify the latter's identity bewilderment and loneliness (IM 117).

Inability to avoid merging with the animals characterizes Prendick's viewpoint till the closure of the novel, culminating his mixture with non-humans and the ecosphere. When he is back to England, he finds himself still confused psychologically and entangled with the Beasts of the island so that he makes a comparison between the island's people and those of London as similar. He writes, describing his bewilderment about identities including his to oscillate in fear between what is human and that of animals,

My trouble took the strangest form. I could not persuade myself that the men and women I met were not also another Beast People, animals half wrought into the outward image of human souls, and that they would presently begin to revert . . . though I do not expect that the terror of that *island will ever altogether leave me*. At most times it lies far in the back of my mind, a mere distant cloud, a memory, and a faint distrust; but there are times when the little cloud spreads until it obscures the whole sky. Then I look about me at my fellow-men; and I *go in fear*. (IM 124) (My emphasis)

Although he perceives that such analogy is not real and a matter of illusion, "the degradation of the Islanders will be played over again on a larger scale" in London (IM 124). Far from his mental perception of the distinctness of the races, he maintains the Darwinian similarity of the animal kingdom. Hence, he reacts to the people of London; "shrink from them, from their curious glances, their inquiries and assistance, and long to be away from them and alone" and goes to the countryside to live alone (IM 124). He comes to assert the resistance of the human mental superiority by admitting his animalism and association with nature in his rural new residence. "And even it seemed that I too was not a reasonable creature, but only an animal tormented with some strange disorder in its brain which sent it to wander alone, like a sheep stricken with gid", living in "a small household"(IM 125).

III.i.ii.iii. Dr. Moreau's Contradictory Nature Challenging the Anthropocene

Dr. Moreau stands for two opposite intellectual situations: the anthropocentric power over non-humans on the one hand, and the post-humanist idea of the blurred identities of humans with animals on the other hand. The former situation is deconstructed through the fictional dystopian consequences of the doctor's experiments along with his social system imposed on the island, so as to emphasize the post-humanist critique of anthropocentrism. "Dr. Moreau's conceit of human uniqueness (and superiority) fosters the kind of thinking that allows humanity to ignore the natural consequences of its actions. . . . a counter to the Anthropocentric speciesism that lead us to the Anthropocene and Dr. Moreau to his island" (Rosenfeld 37). He is portrayed as an anthropocentric frantic scientist who believes in the superiority of Man over all other forms of life, presenting a dystopia on the island. In this connection, Marlena G. Kalafut invokes Burnett and Roll's definition of dystopian novels to demonstrate their

characteristics as opposed to the Platonic Utopia in order to argue for the positive link between dystopian novels and humanity's violation of equality and human rights while pursuing the welfare of humans and perfection of societal life.

These are known as anti-utopian novels or, more commonly, dystopian novels, a term which was "coined for its overtones of disease and malfunction, making it an accurate label for the genre's depictions of human foibles, weaknesses, and messiness that defeats attempts to create a perfect society" (Burnett and Rollin 77-78). Each work of dystopian literature addresses humanity's potential for reaching too far and tipping the balance in the wrong direction, away from the society of equality and perfection and towards one of abusive methods of societal control and neglect of its citizens. (68)

Instead of creating a new world submissive to man's will for the welfare of man, Dr. Moreau's wicked scientific experiments lead to imbalance, as above, and eventually to his own death. In this light, Dr. Moreau is depicted as the scientist whose ultimate goal is to assume and impose his authority and power over Nature embodied in the "Beast Folk" whom he scientifically interferes in their existence by transforming their shapes to be human-like creatures and compelling them to follow his Law. He explains his pseudoscience to Prendick,

Yes. These creatures you have seen are animals carved and wrought into new shapes. To that, to the study of the plasticity of living forms, my life has been devoted. . . . It all lay in the surface of practical anatomy years ago. . . . It is not simply the outward form of an animal which I can change. The physiology, the chemical rhythm of the creature, may also be made to undergo an enduring modification, — of which vaccination and other methods of inoculation with living or dead matter are examples that will, no doubt, be familiar to you. A similar operation is the transfusion of blood, — with which subject, indeed, I began. (IM 68)

He goes on demonstrating the transplantation of tissues among animals to affect their chemical responses and the ways they grow "to modify the articulations of its limbs" to alter their (IM 69). Moreover, he is not concerned with the morality of such experiments and their consequences because his main interest is to control nature. During his conversation with Prendick about the nature of his experiments, Dr. Moreau expresses his indifference to the morality of his experiments (71). He adds that nature is "remorseless" and so is a scientist like him (71). He is amoral with his beasts.

Although his experiments succeed in bringing about hybrid creatures, issuing the Law to discipline them in a human-like community, they revert to their animal nature and revolt against him and kill their creator to crystallize not only the fall of the Darwinian utopia and the rise of distinctiveness of species and the equal right of all kinds to live and to be treated with respect. He organizes the beasts' life by Law, suppressing their animalistic instincts to dominate them and glorify his super position as a god-like creator. When Prendick meets the "Beast folk", he is enforced to say the Law.

"It is a man," the voice repeated. "He comes to live with us?"
It was a thick voice, with something in it — a kind of whistling overtone — that struck me as peculiar; but the English accent was strangely good.

The Ape-man looked at me as though he expected something. I perceived the pause was interrogative. "He comes to live with you, " I said.

"It is a man. He must learn the Law. " (IM 56)

The humanoid creatures have to obey the Law under the threat of the doctor's punishment who forces them to go against their instinctual nature lest "the house of pain" (IM 57). His humanistic vanity and even "apotheosis of sadism" motivate him to put himself as their god who represents the Law, the pain, the creator and the healer (Roberts 57). In the novel, he is described as "*His is the House of Pain. His is the Hand that makes. His is the Hand that wounds. His is the Hand that heals*" (IM 5785). Prendick deduces their divine conception of Moreau, feeling frightened if he does not repeat the Law. "A horrible fancy came into my head that Moreau, after animalizing these men, had infected their dwarfed brains with a kind of deification of himself. However, I was too keenly aware of white teeth and strong claws about me to stop my chanting on that account" (IM 57). After the doctor's death, they keep committing to the Law for a time. "'Not to suck your drink; that is the Law.' Much the brutes care for the Law, eh? when Moreau's not about!" (IM 83). Yet, Dr. Moreau could not change their inherited animalism, especially their adherence to Law is not genuine. They revert to their instinctual behavior, announcing the failure of Moreau's Cause, after killing him (IM 100).

Conversely, Moreau presents an example of overlapping identities between humans and animals. This appears evidently in his experiments that humanize the animals through vivisection and the technology of genetic engineering as above indicated (IM 68). They adhere superficially to the human-like traits by walking uprightly on two, speaking, and committing to a social order by the Law. The doctor clings to the idea of mixed identities between man and animals so that he deserts London preferring to live with the brutes rather than with humans. His morality is ambiguous because his first intention is to elevate animals to act like humans as a result of his experiments, and then contradicts his main goal by imposing his power over the beast community by means of Law and fear of pain to deny them using the human faculty of free will (IM 36 46 55-59). Although his power over the humanoid beasts is based on fear of him, Moreau have fears of them too to break the Law, reverting to their animalism. Prendick notices such mutual fears between the scientist and his creations.

"They were men, men like yourselves, whom you have infected with some bestial taint, – men whom you have enslaved, and whom you still fear."

"You who listen," I cried, pointing now to Moreau and shouting past him to the Beast Men, – "You who listen! Do you not see these men still fear you, go in dread of you? Why, then, do you fear them? You are many – ." (IM 63)

He is frightened by their animalistic instinct to kill on the one hand, and the beasts fear his humanistic Law and punishment on the other hand. Then, both of them are associated in interweaved and overlapped relationships.

III.ii. Technical Aspects Promoting Post-humanist Narrative Interconnectedness and Dystopia of the Anthropocene:

Wells expresses his mastery of foregrounding the intertwining of humans with the biosphere, namely animals, in the confines of his dystopian narrative in the 'satire' mood, "Wells himself pondered adding 'A Satirical Grotesque' as the novel's subtitle, but decided against anything so obvious" (Roberts 54). Hence, Wells fictionalizes his own perspective "on the dehumanization processes taking place in the novel, we see an ironic structure that

strengthens the novel's tragedy" (Forys 2). He employs a number of literary techniques and devices in constructing the narrative structure, the settings, the characters, along with techniques of narration.

III.ii.i. Narrative Structure

The plot begins with a memoir left by the survivor Edward Prendick to his nephew and heir. The plot device of the memoir gives authority to the first person narrator so as to make believe of what he relates (IM 5). Such a state of making the reader believe entails the audience's involvement in the incidents of the narrative, mostly adopting the same point of view of the protagonist, Prendick and reconsidering definitions of humanity and human-animal relationship. Consequently, the post-humanist ideological message of the writer reaches its destination to the young readers. Yet, Wells seems unwilling to talk about scientific facts in Prendick's narrative and therefore, he lessens his credibility by asserting his mental breakdown from the very beginning of the novel. Such undecidability about the truth of the incidents accompanied with identification of the young reader evoke thinking about what the narrative aims at; the ideological message of the novel. In order to introduce the dystopia resulting from the unrestrained scientific practices and their consequent deformed cyborgs or trans-humans, Wells utilizes two parallel situations of the island's beast society and the civilized community of England. The similarities between both societies enhance the rejection of irresponsible science and technology that may endanger human existence just like the tragic murder of Moreau on the one hand, and serve to crystallize the sameness of the humans and the brute cyborgs, where Prendick sees the people of London as the Beast folk. This suggests that man's identity is a site of the fluidity between humans and non-humans.

Voyages and loss signify post-humanist thoughts in the novel. The voyage from the most civilized world to the island brutal one in addition to Prendick's action as a cannibal break the lines between humans and other forms of life. Prendick's cannibalism initiates and prepares the child reader to what will occur later on the island, and so does Moreau's voyage realize the same objective. Prendick's voyage back is a way towards standard science in England where he finds the civilized community a match of that on the island. Hence, he travels to the countryside to reunite with the ecosphere to inaugurate blurring of human identity with the others, keeping distinctiveness of its species. Another situation that maintains the above post-humanist thoughts is Prendick's loss in the "darkling sea" when he is saved to the island and once more rescued to England has its own significance (IM 19). Loss is a plot device that symbolizes Prendick's uncertainty about the future of science and humans. Uncertainty connotes to vagueness and promotes the interconnectedness of humanity and animality, and the failure of the paradigm of irresponsible wicked science and biotechnology presented in the novel.

III.ii.ii. Setting Structure

Wells deploys the setting to generate his post-humanist ideas. The island of the doctor is the double of that of England. Both places, from Prendick's point of view, are occupied by beasts upon whom scientific advancements influence their identities and all aspects of life. This is to give room for the above parallel communities to be represented. The pain house in which the humanoid beasts are punished once they violate the Law, issued by Moreau, is an artistic device to boost humanistic superiority of man over other nonhumans, a matter critiqued through the author's fictional dystopia where "Moreau holds his beast-men in check with a

Law that is a nominalisation of Pain, his medium for creating them: a simple, if precarious, strategy. The trace of the novel is the disintegration or degeneration of this imposed structure" (Roberts 56). The sea stands as a symbol of loss and vagueness in addition to its function as a spatial distance between the island-- atavism-- and London -- civilization-- to develop the contrast between their inhabitants and plays also the role of connecting both of them by being a place of loss and cannibalism. The forest on the island of Dr. Moreau is a site where the beasts live. It is a limitless place carries the danger of brutes' attacks on humans and on other humanoids, suggesting vagueness and fear that make the boundaries between humans and humanoids flexible. Generally, obscurity dominates the scene on the island, "dim light", and in London to foster unclear lines among the existents (IM 48106 124-5). The last scene in the countryside expresses harmony with nature and blending with it, fostering a post-humanist vivid image of melting with the natural environment and overlapping the lines between Prendick and the natural biosphere.

III.ii.iii. Chracterization

Characters are doubled either by contrast or by similarity to obscure the lines between species and to emphasize the symbolic irony of wells' dystopia. W. J. Harvey explains the meaning of doubling fictional characters. "The device, of doubling one image over another, is paralleled in the handling of character. In the sense that one implies the other. . . not two characters but a single one, or a single essence with dual aspects, as if composed by montage --- a spiritual continuum, so to speak" (123). Prendick and Moreau are considered to be two aspects of one character doubled by resemblance where both are scientists, and guardians of the Law in addition to their coexistence with the Beast people, travelling by the sea, and living on the isolated island after their stay in London. Wells portrays both characters as mad scientists, one explains his pseudoscience, the antihero, while the other narrates the shocking incidents, losing a great part of his mental sanity, the hero.

But Wells seems to be enacting an important displacement, from the hackneyed and thus reassuring *topos* of the mad scientist to the more original and disquieting one of the mad narrator. . . . So perhaps is it not so surprising that the narrator should follow in the madness of the scientist, and develop the same agenda in his own field. . . . (Jaëck 208)

Moreau is depicted as a flat character and hence does not change in the course of events whereas Prendick's personality undergoes developments. Doubling both of them, whether by contrast or through prolongation, helps the young readers to rethink their position towards scientific experiments and their consequences, and what it means to be human, human identity and relation to other living beings. This concurs with Wells' philosophical main objective of his fictional works as cited in Silloson's essay entitled, "The Discovery of the Future", "Here he shows that there is a growing tendency in modern times to shift the center of gravity from the past to the future and to determine the moral value of an act by its consequences rather than by its relation to some precedent" (25). Such thoughts are fed by the dissimilarities between both scientists as if they are contradictory forms split from one.

By the end, the reader sympathizes with the experimental animals and dislikes the collapse of the beast society as a result of the faulty use of science, a stance reinforced by doubling the humanoids by both addition and contrast to the humans. The beast folk combine physically and psychologically the characteristics of both humans and animals so to speak of the post-humanist unity and interconnectedness between living creatures on one level, and the distinctiveness of each species on the other to dismantle the Darwinian claims about the origin of species. Montgomery exhibits, through his obscurity and preference to live on the island, a

split of human civilization and animalism for the advantage of fluidity of the lines between both. From Prendick's viewpoint, both the "Beast people" and the Londoners are doubled by addition by the closure of the narrative although they are distinct on the onset of the novel so as to overlap the limits between humans and non-humans on the one hand, and to reconceptualize humanity by deconstruction of stereotypical dualities inherited from the humanist tradition on the other hand.

IV. Conclusion:

This research paper aims at propping the depth of the post-humanist thought in the literary past by scrutinizing H.G. Wells' famous children's novel *The Island of Dr. Moreau* (1896) in order to uncover whether the assumptions of that trend of thought are represented in the narrative or not, especially that Wells' narrative tackles in themes and issues associate with post-humanist interests. Hence, the study attempts to stand on the theoretical principles and postulations of post-humanism as a current philosophical predisposition, focusing on its association with literature and mainly literary works targeting children. The analysis of the novel from the post-humanist perspective proves that it really addresses post-humanist themes excellently through its human and humanoid characters and its narrative structure. It foregrounds a dystopian challenge to the long-acclaimed anthropocentric conception of man's superiority over other species by blurring the biological, psychological, mental, and social boundaries between humans and animals in addition to uniting with nature. This is accompanied by a critique of the Darwinian conception hailed in the Victorian age of a human as originated biologically in lower species in his evolution, so as to maintain the distinctiveness of species though their interconnectedness. The novel invites its young readers to rethink human identity and morality in relation to other creatures and to the ecosystem from a fresh ethical perspective. To conclude, Wells' novel introduces post-humanist issues through its sophisticated prophetic narrative to maintain that post-humanism has origins in the late nineteenth century so as to answer the questions of the study.

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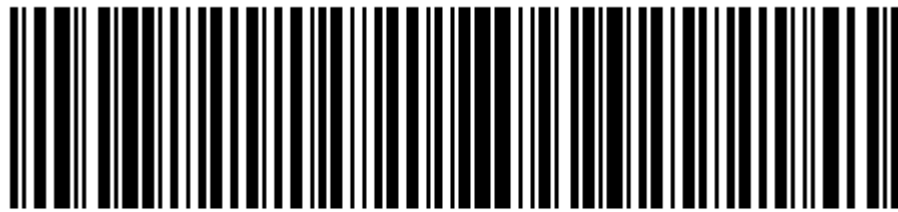
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ان المشاكل المتفاقمة من خلال أزمات الطاقة والتخوف من احتلال الامن الغذائي ولاسيما في الدول الأكثر فقراً ، يستوجب إعادة التفكير بشكل جوهري على المستوى الدولي وفق استراتيجيات مستدامة تحقق الاستقرار على مستوى العالم وتجنباً الوقوع في أزمات دولية تركز أساساً على الاستغلال العقلاني للموارد الطبيعة واعتماد طاقات متجددة وأساليب جديدة في الزراعة لضمان تحقيق استدامة في الامن الغذائي والحفاظ على حقوق الأجيال القادمة.



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