



TEAM AFRIVIX

CLIM @ TES

THE COLLABORATIVE PLATFORM FOR CLIMATE
ACTION IN AFRICA

ABSTRACT

Youth empowerment, in the face of climate change, is a very important tool for sustainable development especially in Africa where over 60% of the population is below 25 years. Africa still lacks opportunities for its youth (15-24y) to access quality climate change education and engage in climate action. A survey conducted in Tlemcen, Algeria, during a youth engagement session revealed significant gaps in climate awareness and engagement among the youth. CLIM@TES seeks to bridge this gap by implementing a comprehensive climate change education program targeting the Algerian youth. This will be achieved through the provision of a platform for the youth to voice their concerns and participate in climate action over a combination of onsite events and an online platform. The main aim of CLIM@TES is to utilize technology, skill building and mentorship to arm the youth with relevant tools to become active players in climate change and subsequently contribute to the Sustainable Development Goals.

Keywords: *Climate change, youth empowerment, sustainable development, awareness, climate education.*

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ABBREVIATIONS AND ACRONYMS

Abbreviations and Acronyms	Meaning
CC	Climate Change
IPCC	Intergovernmental Panel on Climate Change
M&E	Monitoring and Evaluation
NGOs	Non-Governmental Organisations
SDGs	Sustainable Development Goals
UI	User Interface
UN	United Nations
UNICEF	United Nations International Children's Emergency Fund

1.0 INTRODUCTION

The concept of youth empowerment has gained significant attention in recent years. As one of the major concerns in modern society, youth empowerment has long been considered the key to a more equitable and sustainable future for mankind, and a veritable instrument for sustainable national development (Úcar Martínez et al., 2017; Jegede et al., 2019; Umezulike, 2020; Yunyi, 2024). Empowering the youth as members of our societies is vital for ensuring inclusive and equitable quality education and promoting life-long learning opportunities for all, as outlined in the Sustainable Development Goals (SDG 4) (United Nations, 2023; UNESCO, 2024). From this perspective, it is argued that youth can create and become a positive and dynamic force for sustainable development if they are given the knowledge and opportunities to thrive and be involved in decision-making processes (Hwang, 2021; UNDP, 2023). Youth empowerment focuses on equipping young people with relevant knowledge and skills to prepare them to meet the global challenges in contemporary society (UNODC, 2023). Similarly, youth empowerment entails detailed and well-developed programs that can be deployed to improve the capacity of young people to either sustain their personal livelihoods or enable them to live maximally and productively in society. It is a major boost to economic development as it concerns the improvement and quality of life (Hlungwani et al., 2018), hence, empowering the youth also equips them with a voice to be effective and contribute positively to society (Katerina, 2023).

According to the UN, youth encompass individuals roughly between the ages of 15 and 24 (United Nations, 2024), and this demographic constitutes 16% of the global population (UN, 2020). On the other hand, Africa's population is disproportionately young, with over 60% currently under the age of 25. This trend is projected to continue, with young Africans anticipated to comprise 42% of the global youth population by 2030 (WEF, 2022). Yet, this rapidly growing youthful population is confronted with an array of obstacles, such as unemployment, underemployment, poverty, low level of education, lack of relevant skills, and climate change. However, climate change poses the most significant threat to their future well-being and empowerment. About 70% of the African youth are affected by climate change, with many actively pushing for policy action or taking steps to reduce their carbon footprint (Harrisberg, 2021; Kutuywayo et al., 2022). Additionally, a survey on climate change shows that the youth are most motivated to take action

(Schwartzberg, 2023). Based on these arguments, it is imperative for the youth to be equipped with knowledge and skills necessary to partake in decision making and join climate action. Nearly 70% of young people believe their actions can improve climate policies (UNICEF, 2023). However, others argue that including the youth in high-level decision-making procedures may not often lead to the most effective outcomes. Young people, while enthusiastic and passionate, often lack the extensive experience and deep understanding required to navigate complex policy issues. Supporters of this opinion propose that a balance approach, where youth input is considered alongside the knowhow of older or more-experienced members of society, may be more practical for driving sustainable development and meaningful change (Shamerina et al., 2020; Global Center on Adaptation, 2021; UNDP, 2022). Therefore, involving the youth in decision making can lead to long-term positive changes and build a sense of responsibility necessary for socio-economic development (Hurrey, 2023). Currently, there are limited opportunities for the youth to contribute to climate action in Africa. Empowering the youth with green skills (waste management and recycling, sustainable agriculture, environmental protection, etc.) and engaging them in climate change in their professional settings will ignite their passion to tackle climate change (APKMH, 2023; UNFCCC, 2023; UNESCO, 2023). As stated at the Conference of Parties' (COP) 28th session in Dubai, "In the face of the pressing global challenge of climate change, the role of youth in shaping a sustainable future has never been more critical. It is now more important than ever to shape innovative solutions in response to the remarkable dedication of young leaders who are driving the movement for a greener, more equitable planet" (COP 28, 2023).

Addressing these climate change issues demand a deliberate effort, with climate change education playing a central role in equipping individuals with the knowledge and skills required to mitigate and adapt effectively to its impacts (IPCC, 2022). In Africa, climate change vulnerability is more pronounced due to its diverse climates and socio-economic conditions. The continent is susceptible to frequent droughts, heatwaves, food insecurity, water scarcity, perennial flooding and health related challenges. Hence, climate literacy in Africa is of utmost importance in addressing these pertinent challenges, fostering resilience and promoting sustainable development (UNEP, 2021). Currently, numerous initiatives have been implemented to enhance climate change education though significant challenges remain. Many countries in the continent are working to integrate climate education into their educational systems, supported by regional and international organisations (UNESCO, 2020). For instance, the United Nations University Institute for Advanced Study of Sustainability (UNU- IAS)

implemented Education for Sustainable Development in Africa (ESDA) which aims to integrate sustainability into higher education curricula across African universities. These initiatives aimed to empower the youth to understand and respond to the changing climate. However, the level of success of these efforts varies, and there is an urgent need to address the existing gaps and barriers (UNECA, 2022).

In Algeria, the impacts of climate change are more peculiar to the environment, economy, and society (IPCC, 2022). The country's arid and semi-arid climate makes it particularly vulnerable to climate-induced disruptions, such as desertification, water scarcity, and extreme weather events (Miara et al., 2022; World Bank, 2022). In spite of these challenges, climate change education in Algeria has not yet reached its full potential (UNEP, 2021). This is especially critical for the youth aged 15 to 24, a demographic that represents the future leaders, innovators, and workforce of the nation. Effective climate change education for this age group is essential for equipping them with the knowledge and skills needed to address and adapt to climate change impacts.

Currently, the level of climate literacy in Algeria is significantly low among the youth. According to a study conducted by Lounis et al., (2023) found that students below 30 years had a lower level of knowledge about climate change than those above 30 years. Similarly, Bellakehal (2022) argued that there is little climate change awareness even among well-educated Algerians. He stated that climate change education for the youth is essential and recommended a platform which enables them to communicate their concerns about climate change. The low level of climate change education for Algerian youth could be due to several challenges including resource limitations, lack of technology, lack of trained educators (UNESCO, 2020), and gaps in educational frameworks (UNECA, 2022). However, there are existing initiatives and programs such as the National Climate Change Education Program, launched in 2020 aimed at promoting climate literacy among young people at the university level, NGO Climate Change Education Outreach Program supported by the Algerian government for the protection of the Algerian natural environment, and Media and Public Awareness Campaigns focusing on explaining science and impact of climate change at the local level. It is imperative to strengthen and expand these initiatives to effectively empower the Algerian youth to confront and manage the impacts of climate change (UNESCO, 2020). The use of social media platforms can be an effective means to drive these campaigns since a significant number of African youth rely on social media for information concerning climate

change (Bouba Oumarou & Li, 2022). These initiatives will therefore equip the youth with the prerequisite knowledge and skills to address climate change impacts within their communities, ultimately fostering resilience and promoting sustainable development in the country (UNEP, 2021). Hence, the intercept of equitable education (SDG 4) and climate action (SDG 13) is of paramount importance to a sustainable future.

A Survey on Climate Change Awareness

Our team organised a youth engagement event where a survey on climate change awareness of the youth in Tlemcen was conducted, as shown in [Figure 1 and 2](#). Thirty participants were interviewed to examine their level of awareness, understanding, and involvement in climate change issues, and to identify gaps our project could address.

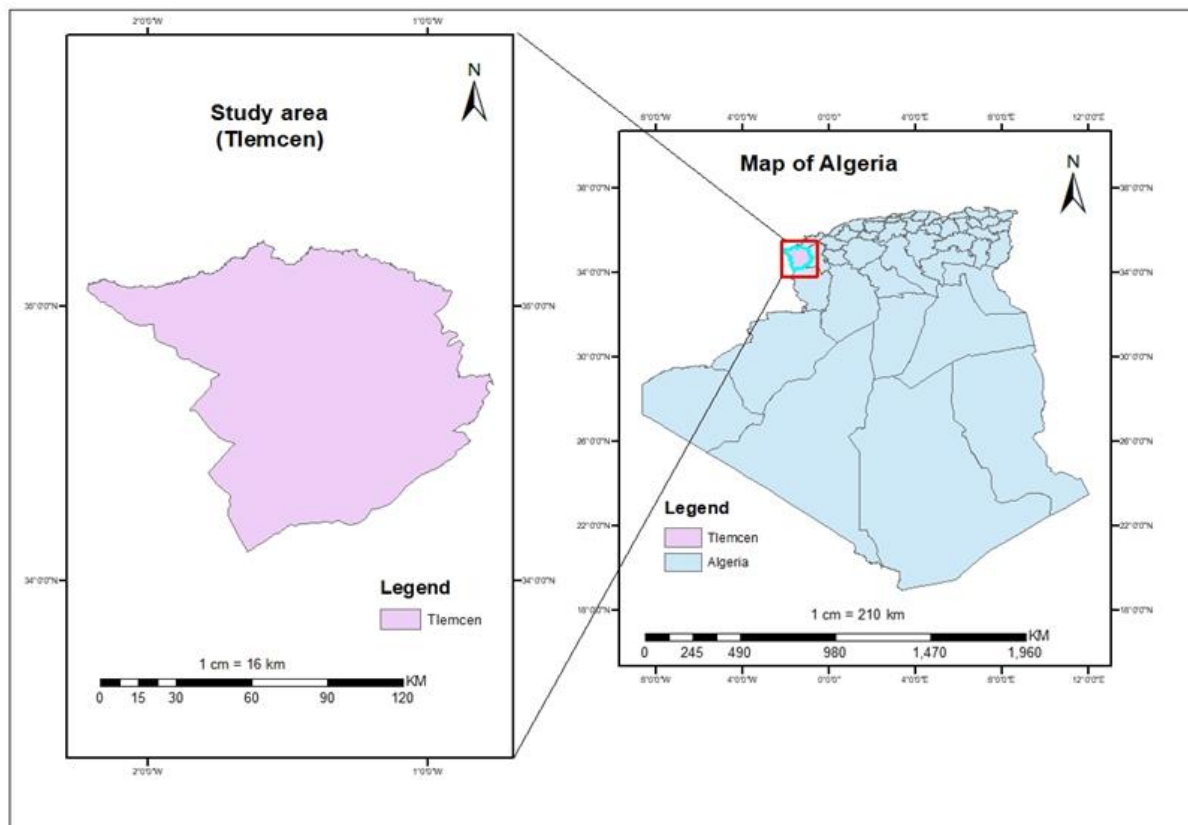


Figure 1: Map of the study area (Tlemcen, Algeria)

Survey Methodology

The design used for the study was a survey method where questionnaires were employed to engage the target population within the study community. The design enabled us to collect demographic information and insights about respondents' knowledge, perceptions of, and involvement in climate change. To avoid bias and ensure a diverse representative sample, a simple random sampling technique was administered to 30 respondents.

The variables used in the study are shown in the table below.

Table 1: Survey Questionnaire

RESPONDENTS		
QUESTIONS	1	2
Age Verification (15-24)		
Gender	Male/Female/Other	Male/Female/Other
Level of Education	High school/Undergraduate/postgraduate	High school/Undergraduate/postgraduate
CC education	Yes/No	Yes/No
Understanding of CC	Poor/Fair/Good/Excellent	Poor/Fair/Good/Excellent
Perception of CC	Denial/sceptical/Concerned	Denial/sceptical/Concerned
Impact of CC in Algeria	None/Little/Moderate/High	None/Little/Moderate/High
Future impact awareness	Low/Moderate/High	Low/Moderate/High
Engagement in CC activity	None/Some/Active/Very active	None/Some/Active/Very active



Figure 2: A survey section during the youth engagement

Survey Results

The results obtained from the survey (figure 3) provided a valuable insight into the current state of climate change awareness and youth engagement in climate change issues in Tlemcen:

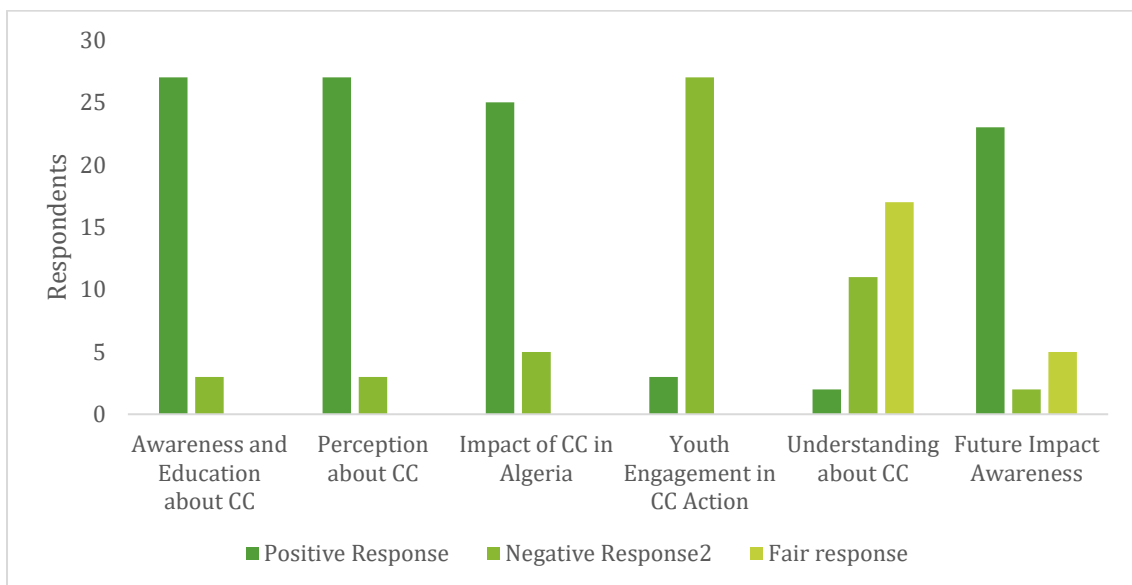


Figure 3: Survey results

Results Discussion

a) Awareness and Education

Findings from the survey show that 90% of the youth have heard about climate change, mostly in schools where it is often referred to as "global warming", while 10% have learnt about climate change on the internet.

b) Understanding of Climate Change

Also, 55% of the respondents assessed their understanding of climate change as fair, 40% maintained the opinion that their knowledge of climate change was inadequate and only 5% said they understand climate change very well.

c) Perceptions of Climate Change

The study revealed that 90% of the respondents hold the opinion that climate change is real and caused by anthropogenic activities while 10% believe its solely an act of God.

d) Impact on Algeria

Some of the respondents (17%) are of the opinion that Algeria is affected by climate change, stating the soaring temperatures and reduced rainfall as primary impacts. However, 83% are unaware of other impacts of climate change.

e) Future Impact Awareness

It was discovered that 77% do not know the future impact of climate change.

f) Engagement in Climate Activities

From the study, it was found that 90% were not involved in any climate change mitigation or adaptation activities. The primary reasons were lack of knowledge on actions to take, unwillingness and the absence of platforms to facilitate such engagement. Of the 90% which is not involved in any climate change activity, 84% are willing to be participate in climate action. The remaining 10% are involved in activities like tree planting, cleaning, and recycling.

Significant gaps in youth engagement and education regarding climate change in Tlemcen were evident in the survey. Although most people are aware of climate change, not many people have a deep grasp of it or actively participate in climate action. This emphasises the requirement for a specific platform that offers youth an opportunity to participate in worthwhile climate-related activities, professional advice, and education. By providing children with the information and tools they need to effectively address climate change, our project seeks to close this knowledge gap.

1.1 PROBLEM STATEMENT

The African continent faces substantial threats from climate change, and this underscores the need for robust climate education. In Algeria specifically, youth aged 15 to 24 years are particularly vulnerable to the adverse impacts of climate change (Heeren et al., 2022; Miara et al., 2022), yet they often lack the necessary knowledge, skills, and resources to effectively address these challenges in their various communities (Bouba Oumarou & Li, 2022). While there are numerous climate change education initiatives in Algeria, there is a noticeable gap in practical climate education programs for Algerian youth. According to the survey above, 40% of the youth have inadequate knowledge on climate change and a whopping 90% of the respondents have never engaged in any climate intervention project. This gap hinders their ability to participate fully in climate action, mitigate local environmental issues, and contribute to sustainable development. Current approaches fail to offer young people the chance to collaborate with their peers across the country or regionally and share knowledge, skills, and concerns regarding climate change. Additionally, existing initiatives lack avenues for the youth to make input into decision making processes such as the Annual National Climate Statement. Therefore, there is an urgent need to develop a comprehensive climate change education program that is specifically designed to address the needs of youth, equipping them with the requisite knowledge, skills, and resources required to promote climate resilience and sustainable communities through collaboration while also providing a platform for their diverse perspectives and voices to be heard.

1.2 SOLUTION STATEMENT

To address the critical gaps in climate change education for youth in Algeria, we propose the implementation of a comprehensive climate change education program called **CLIM@TES**. **CLIM@TES** is an innovative double-edged initiative with an on-site education programme and an online platform designed to empower Algerian youth aged 15 to 24 to effectively address climate change challenges. This inventive initiative will offer young people well designed courses on climate change and sustainability, help build their skills towards tackling climate change through mentorship, connect with experts, peers and possible funders. They will be able to voice their concerns about climate change, offer their input into policy documents and build synergy with elderly members of the society through the online and on-site events. This will be achieved through two approaches:

On-site events: structured training programs and skill development through outreach and seminars, youth-led community-based adaptation and mitigation projects to promote hands-on experiences, mentorship and networking, and the appointment of climate change ambassadors in communities and schools.

Online Platform: A digital community where youth can network with peers and share climate change issues affecting their communities, access resources such as newsletters and short courses, engage with experts, find sponsorship for community-based projects, join online webinars, and celebrate successful climate actors and initiatives.

The various gaps identified in climate change education and climate change action will be addressed by **CLIM@TES** through several well-coordinated on-site and online activities. The activities have been categorised under six objectives meant to fill these gaps as shown in the table below:

Table 2: Objectives and expected outcome of CLIM@TES

OBJECTIVE	ON-SITE ACTIVITY	ONLINE ACTIVITY	EXPECTED OUTCOME
Increase climate change literacy	<ul style="list-style-type: none"> • Outreach and Seminars, • Awareness Campaigns 	<ul style="list-style-type: none"> • Short Courses on CC • Periodic Newsletters 	<ul style="list-style-type: none"> • Better understanding of climate change, increases CC literacy among the youth by 25% in the quarter implementation
Build skills through climate action	<ul style="list-style-type: none"> • Clean up campaigns. • CSA Techniques • Recycling techniques training 	<ul style="list-style-type: none"> • Creating posts for advertisement; getting the experts for the trainings 	<ul style="list-style-type: none"> • Youth that are actively involved and skilled in mitigating and adapting to CC, such as installing solar panels, recycling, and community clean-ups
Empower the youth for climate change decision making	<ul style="list-style-type: none"> • Youth Forums • Paper based signed petition. 	<ul style="list-style-type: none"> • Access to National Climate Change Documents • database for youth inputs into policies and online petitions are essential for addressing climate change. 	<ul style="list-style-type: none"> • An annual national youth statement on CC. • Within a year, 5 out of 10 youth in Algeria should have participated in policy activity at community level • Developed skills like organisation, research, policy
Build synergy between young and elderly people	<ul style="list-style-type: none"> • Training • Mentorship • Expert engagement 	<ul style="list-style-type: none"> • Webinar for experts and elders to share with the youth. 	<ul style="list-style-type: none"> • Intergenerational knowledge transfer. • Inspired youth willing to take action.
Enable collaboration with like-minded youth across the continent	<ul style="list-style-type: none"> • Periodic network meetings for youth to share ideas, collaborate, and socialise. 	<ul style="list-style-type: none"> • Social media community for sharing climate change related concerns, build networking with peers. 	<ul style="list-style-type: none"> • A community of support with a strong network for youth

2.0 The CLIM@TES Application:

In designing and developing the CLIM@TES App and website, user research was conducted. The persona and their goal statement are shown below.

2.1 PERSONA



Kateb, Humuhyran

Age: 18
Education: High School
Hometown: Tlemcen, Algeria
Family: Large extended family
Occupation: Student

“18-year-old African female, Humuhyran, the Tech-Savvy Changemaker, Aspiring community Leader”

Goals

- Sustainable future: A community that is climate resilient
- Education and opportunity
- Gender equality
- Getting her voice heard

Frustrations

- Climate impacts
- Limited education
- Lack of opportunities
- Lack of skills to take action
- Inability to partake in decision-making
- Gender Barriers

“We may not have all the answers, but we have the power to learn, share, and act together. We can build a brighter future for our village and our planet.”

“18-year-old African female, Humuhyran, the Tech-Savvy Changemaker, Aspiring community Leader”

Goals Statement

- As a tech-savvy and passionate youth leader in my community, I want to use technology and my creativity to access climate related information, share knowledge, and connect with others to find solutions for the climate challenges impacting my community and build a more sustainable future for ourselves and future generations.

SPECIFICS

- **Easily access reliable information:** Learn about climate change, sustainable practices, and adaptation strategies relevant to my region.
- **Connect with others:** Find and connect with other young people and community leaders working on climate solutions in Africa.
- **Share knowledge and resources:** Share my own experiences and knowledge with others in my community and learn from their expertise.
- **Advocate for change:** Use my voice and skills to raise awareness about climate change and advocate for policies that support sustainable development in my community.
- **Develop practical solutions:** Collaborate with others to develop and implement solutions that address specific climate challenges faced by my community, such as water scarcity or heatwaves.

Figure 4: Persona Description

2.2 PROTOTYPE

2.2.1 User Interface (UI)

The platform offers user-friendly experience based on in-depth usability studies. This easy-to-use platform provides a pleasing and interactive interface with accessibility for all users. It is designed to comfortably accommodate users aged 15 and above. We prioritised simplicity in the design of features in both the app and web versions. This was to ensure maximum functionality and promote interaction among users. Essential features like post, search, help, sign in and many more are intuitively accessible. With the issue of internet connectivity problems in some communities, part of the features of the app, such as the short courses and learning features, will still be operational even offline. We incorporated simple and straightforward languages to allow for easy comprehension for all our users.

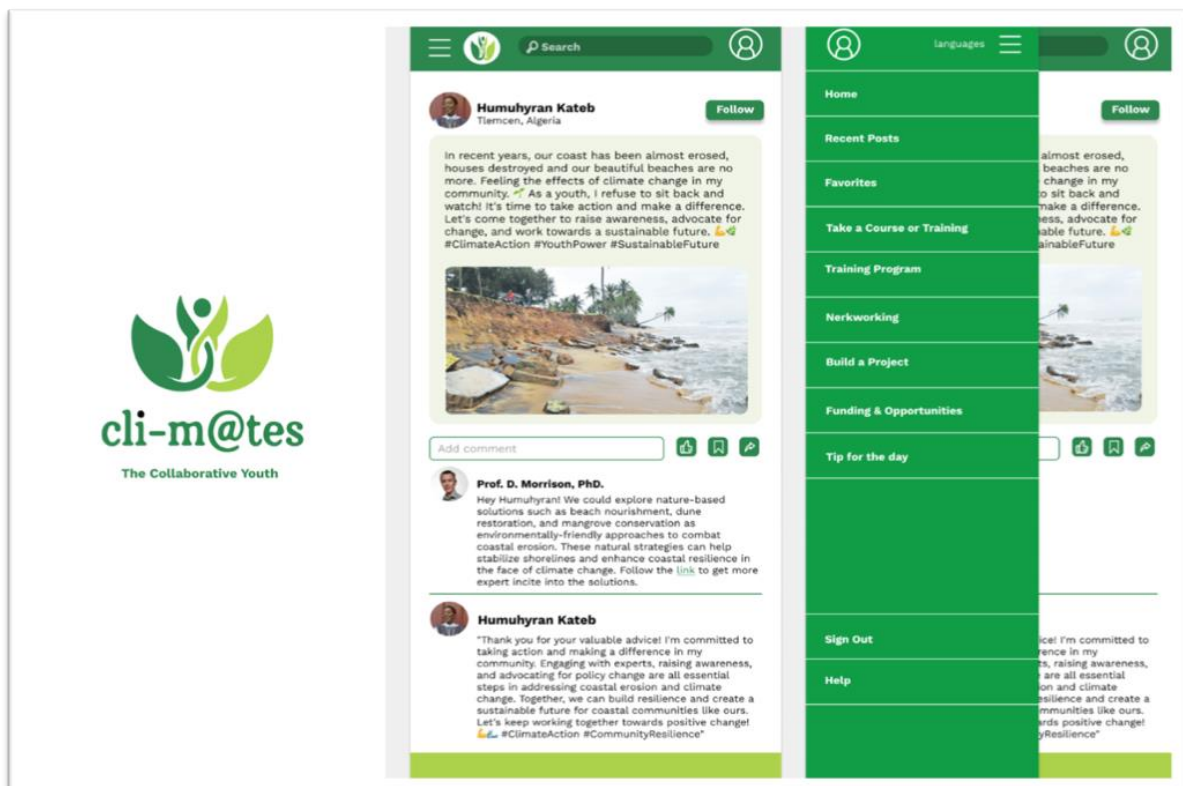




Figure 5: App interface

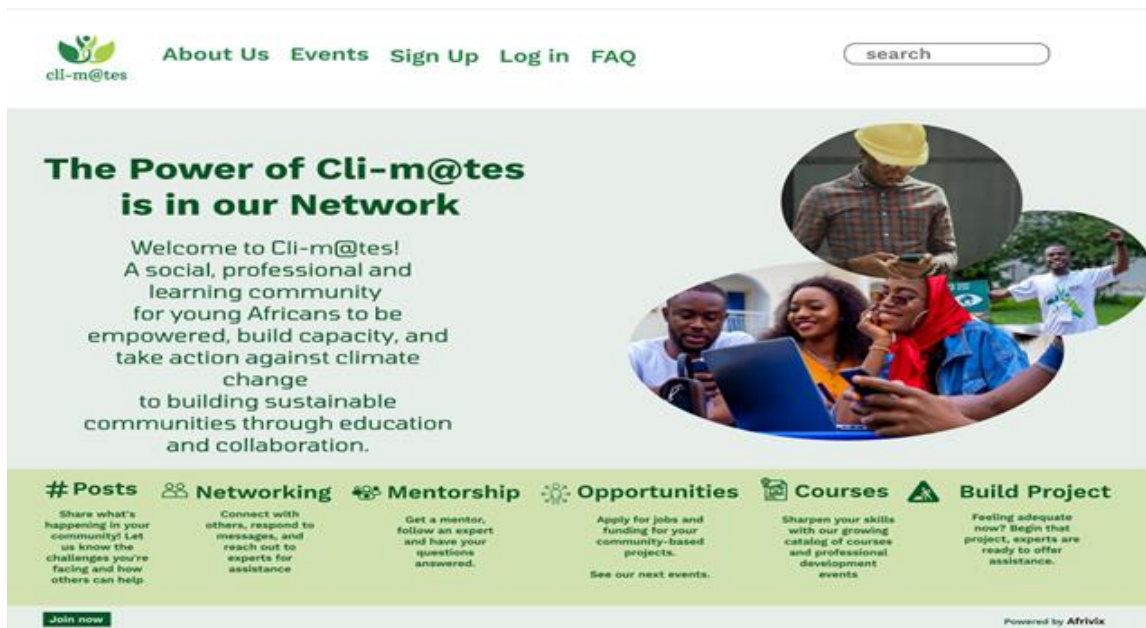


Figure 6: Desktop Web interface

2.3 VALUE PROPOSITION OF CLIM@TES

The CLIM@TES Initiative is designed to empower youth in combating climate change through climate change education, knowledge sharing, collaboration, community engagement and building youth-led community-based projects. This initiative offers the following key benefits:

Collaboration and Knowledge Sharing

- Facilitates the exchange of best practices and lessons learned in climate adaptation and mitigation among youth in different communities.
- Connects youth with experts and peers to foster innovative solutions and collaborative efforts in addressing climate challenges.
- Youth are able to share their concerns about climate change, a platform that is currently unavailable to them.

Free and Accessible Educational Resources on Climate Change and Sustainability

- Provides free, interactive, and online educational materials on climate change and sustainability accessible to diverse audiences across various geographic and socioeconomic backgrounds.
- Ensures that climate education is inclusive, reaching youth in underserved and marginalised communities.

Public Awareness and Community Outreach

- Promotes public awareness campaigns and community outreach programs to instil a culture of environmental sustainability and climate protection among the youth.
- Empowers individuals to take meaningful climate action in their daily lives through engagement.

Support for Implementing Adaptation Strategies

- Funding opportunities, mentorship and skills for youth to be able to implement tailored adaptation strategies for vulnerable communities, addressing climate related challenges like water scarcity, desertification, and extreme weather events. Support for local solutions that are context-specific and sustainable.

Youth-Led Initiatives and Projects

- Creates an enabling environment for youth-led innovation and collaboration, including climate summits and hackathons.
- Encourages youth leadership in climate action by recognizing and celebrating young climate ambassadors in various communities.

Access to Climate Information and Tips

- Facilitates access to crucial climate information to help communities prepare for the impacts of climate-related disasters. This builds community resilience in face of climate disasters.

With the combination of these values, CLIM@TES will build a global network of informed, skilled, and motivated youth dedicated to sustainable development.

3.0 PROJECT IMPLEMENTATION

3.1 STAKEHOLDERS ANALYSIS

CLIM@TES is rooted on the basis of collaboration, it seeks to recognize the role of the various stakeholders and their influence on the success of the project. These stakeholders are: Climate change professionals, Tlemcen youth, leaders and community elders, local government, donors and NGOs.



Figure 7: Stakeholder Analysis

3.2 SWOT ANALYSIS

The potential of CLIM@TES has been assessed with a SWOT analysis. By evaluating the internal (Strengths, Weaknesses) and external (Opportunities, Threats) aspects that affect the project, the SWOT analysis helps identify how the project will be placed on the market and which risks it is projected to encounter in the future (Pickton, 2017).

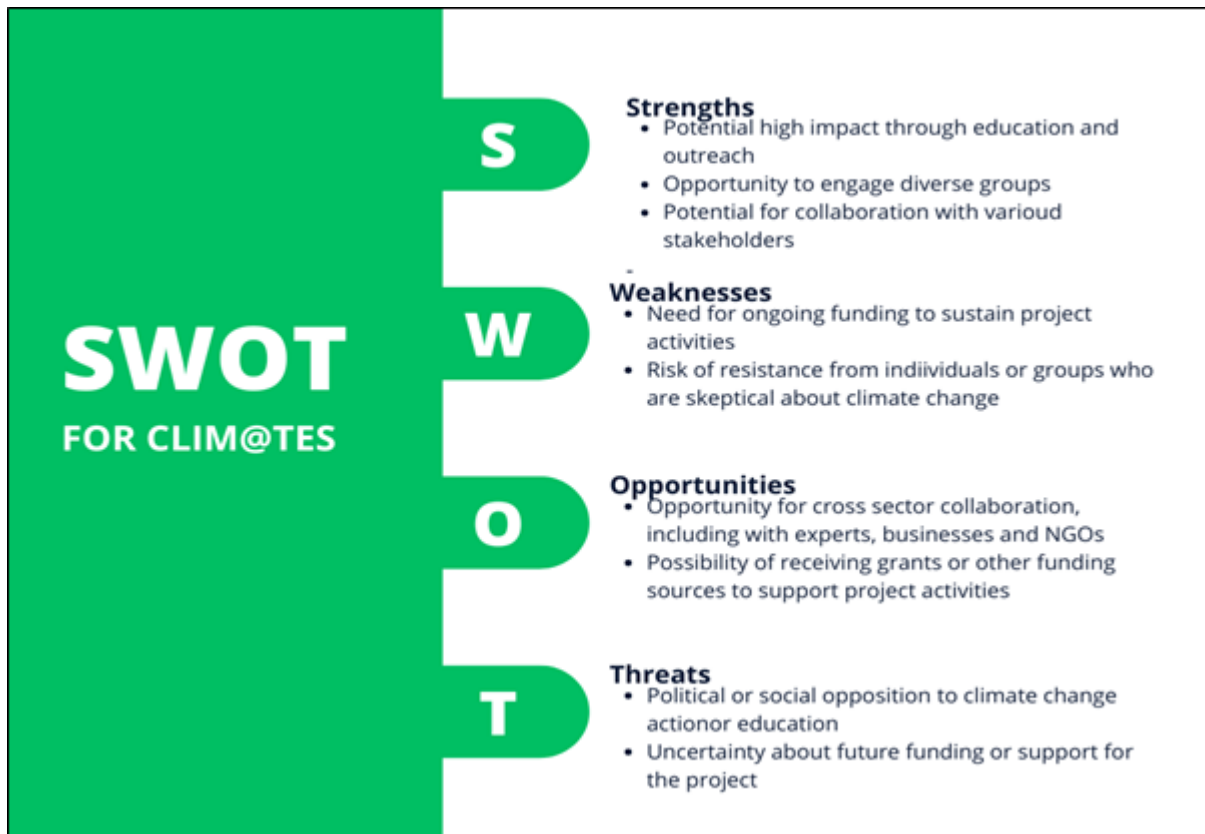


Figure 8: SWOT Analysis

Table 3: Expected challenges and solution

Challenges	Severity	Solution
Access to technology: Despite the rise in internet penetration in Algeria, there still exists a considerable level of digital illiteracy and limited access to technology which would impede the full participation of the youth.	High	Apart from providing offline access to the platform for areas with low internet connectivity, it is also important to provide necessary training for the youth through seminars and outreach. We would also collaborate with schools to bridge the technology divide.
Cultural differences: Content on the platform including educational materials and posts may conflict with the culture, norms and beliefs of the local people. Language barrier is another expected challenge on both online and at on-site events	Medium to High	Content would be tailored to accommodate all cultures, meet local understanding and linguistic preferences. This can be done by constantly engaging local resource persons to continuously refine the platform and its content.
Capacity Building: Measuring the impact of the online capacity building programs, including educational courses on the platform would be challenging.	Medium	In-person training sessions would be provided from time to time to give access to those without internet access. Periodic surveys would be conducted by independent bodies to fully understand the level of impact, avoid biases and receive honest feedback for improvement.
Sustainability: One challenge could be the means to ensuring long term viability of the platform and in-site events.	Medium	We would explore various funding sources from local governments, corporate organisations and international donors. We would also reduce costs by making room for volunteerism and pro-bono service by our experts.
Safety: The issue of internet safety has become a greater concern in recent times.	Low	As an educational social media platform, there would be a strong adherence to age limits, secure data protection and check internet fraud by employing excellent cyber security services.

3.3 THE GO-TO-MARKET APPROACH

CLIM@TES will be launched in phases. The initial pilot phase will focus on the physical climate change education which will focus mainly on the youth of Tlemcen. The pilot phase will also be used as a feedback mechanism feeding on to the wider rollout of Phase 2 which will be the application and website. Finally, CLIM@TES will expand to other regions of the continent.

Phase 1: Physical Climate Change Education

The main objectives of this phase are to raise awareness, educate the community, promote sustainable practices, foster critical thinking, promote advocacy, and cultivate environmental stewardship on climate change through face-to-face interactions and hands-on activities. These objectives will be achieved through partnering with schools, organizing outreaches, workshops and seminars.

Target Audience: Youth between ages 15 and 24

Phase 2: Online Engagement (CLIM@TES Website and App)

The primary goals of this phase are to create awareness about CLIM@TES, gather user feedback on the platform, identify key partners, capture the attention of the youth in the region, utilize social media platforms like TikTok and Meta apps to promote the initiative. Engaging contents like short videos, infographics, and interactive polls will highlight the unique value proposition of CLIM@TES– empowering them to address climate change, connecting them with experts, and providing access to funding.

A key addition in Phase 2 will be the development of dedicated mobile apps for iOS, Android, Windows, and macOS. This will significantly improve accessibility and user experience, allowing young people to engage with CLIM@TES on the go. The app will offer all the core functionalities of the website, with potential for additional features optimized for mobile use.

Partnering with influencers will further amplify our reach. Building strong local partnerships is crucial. We will collaborate with local authorities to promote the platform and participate in relevant events, workshops, and conferences.

The website itself plays a critical role. Ensuring a mobile-friendly design and translating content into relevant languages will increase accessibility. Clear instructions, tutorials, and success stories will guide users and inspire participation.

The second phase also focuses on recruiting mentors, experts, and funding partners. We will leverage online directories, professional networks, and connections with local authorities to identify potential partners. Highlighting the platform's impact on climate change and youth empowerment will attract stakeholders. Offering incentives like recognition, audience reach, and the chance to contribute to positive change will further incentivize participation.

Gathering user feedback is essential for platform improvement. We will implement surveys, polls, and comment sections on the website and utilize social media platforms to encourage user interaction. This feedback will guide future development and ensure that the platform truly meets the needs of our users.

Phase 3: Global Expansion and Feature Rollout

With a strong foundation established in Algeria, CLIM@TES will be ready for continental and global expansion. Learnings and feedback from Phases 1 and 2 will inform platform enhancements such as online courses, project management tools, and communication channels for user collaboration. Partnering with international organizations and NGOs will expand our reach and build a global network of mentors, experts, and funding partners. Translating the platform into additional languages will cater for a wider audience.

3.4 FINANCIAL ANALYSIS

Developing and implementing CLI-M@TES, like any other project, comes with a financial cost. This cost will be both one time and continuous cost for the development phase and operational phase respectively. Primarily, the cost be from app and development, website hosting, marketing and advertising, administrative and logistics before, during and after on-site events. The breakdown is given below:

Table 4: Financial analysis

ITEM	BREAKDOWN	COST	TOTAL
App Development	Hiring developers or outsourcing development services	\$2,000	\$3,000
	Software licences or subscriptions	\$500	
	Design and user interface (UI) development	\$500	
Website Hosting	Domain registration fees	\$100	\$1,500
	Web hosting services	\$300	
	Security measures and SSL certificates	\$300	
	Content management system (CMS) or website builder fees	\$800	
Marketing and Advertising	Digital marketing campaigns	\$1,000	\$2,000
	Print materials	\$300	
	Public relations and outreach activities	\$500	
	Event sponsorships or partnerships	\$200	
Administrative and Logistics	Office rent and utilities	\$400	\$1,500
	Office supplies and equipment	\$200	
	Salaries and wages for administrative staff	\$600	
	Travel expenses for project team members	\$200	
	Insurance and legal fees	\$100	
Event Costs	Venue rental for on-site events	\$500	\$2,000
	Event planning and coordination services	\$400	
	Catering and refreshments	\$500	
	Audiovisual equipment and technical support	\$400	
	Transportation and accommodation for speakers or participants	\$200	
GRAND TOTAL			\$10,000

NB: Costs are subjected to change due to inflation.

3.5 LEGAL AND INSTITUTIONAL FRAMEWORK

CLIM@TES is not immune to the regulatory frameworks of Algeria. As the project aims to empower youths to take responsibility for offering solutions to climate change problems and begin to shape themselves for the job market, there is a need to establish some codes of conduct for the project to conform with the legal, institutional, and policy frameworks. We are committed to the security of the platform for our target beneficiaries. The platform will be regulated in a manner that does not deviate from the stated objective.

It will be centrally monitored by the project coordinator, who will have oversight responsibility to track the development that goes on the platform. By doing so, we intend to educate our users about the project's aim. This will enable our users to stay on the course. As we progress with the project, concerns raised that are pertinent to the operations and management of the project will be fine-tuned to meet the demands of society and time.

4.0 SCALABILITY AND EVALUATION

4.1 SCALING

After the successful roll out of the pilot phase, the next step will be to start expanding our reach nationally. We predict that as we demonstrate success, demand for the project will increase, assisting in garnering additional financing and resources required for expansion.

Scaling will entail expanding our connections with NGOs, funders, local government, improving our digital platform, and hiring more people to handle the additional administrative load. The project's best quality is the fact that it's an online platform which makes it scalable, so once the platform and processes are established, they can be reproduced in other regions with minimum extra expenditure. Advertising is also going to be done extensively to expand our audience, it is also worth noting that this project will involve mostly the youth and with the power of the internet it can spread really quick which is going to make scaling easy.

4.2 TIMELINE

A baseline study which involved qualitative analysis using questionnaires has been successfully carried out. Prototypes have been created on Figma and the next step is to write the code for the software based on its design specifications.

Table 5: Project Timeline

Year	Activities	Number of People to be Impacted
1	<p>Pilot</p> <ol style="list-style-type: none">1. Build the platform, establish strategic collaborations, and secure initial funding.2. Implement a pilot program in Tlemcen district, collect feedback, and improve operational procedures.	500
3	<p>Regional Expansion</p> <p>Expansion to other regions while continuously improving processes based on acquired knowledge and experiences</p>	2500
4	<p>National Rollout</p> <p>Expand the program nationally, continue funding efforts, and further optimize processes for large-scale operation.</p>	10,000
5	<p>International Expansion</p> <p>Set up pilots in other African countries with similar characteristics, such as Tunisia, Morocco and Mauritania.</p>	35,000

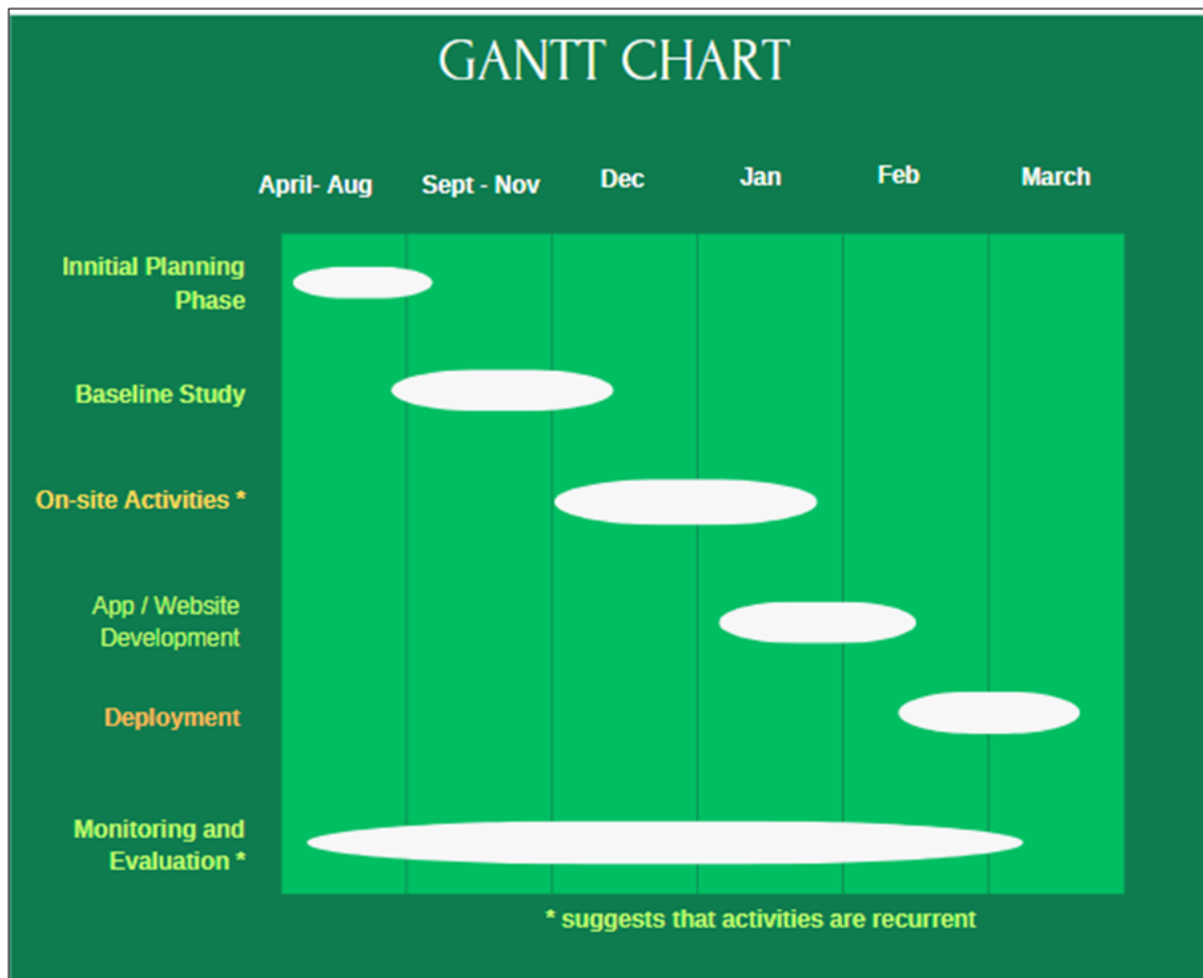


Figure 1: CLIM@TES implementation timeline

4.3 MONITORING AND EVALUATION

A key element of CLI-M@TES' approach to evaluating the efficacy and significance of our programs in addressing climate change and empowering youth is monitoring and evaluation, or M&E. During the M&E phase, we will concentrate on the following:

a) Data Collection

Website & App Usage: We will track user activity on the website and app, including downloads, registrations, login frequency, and time spent on specific features. This data reveals user engagement and platform adoption patterns.

User Feedback Matters: We will regularly conduct surveys and polls to gather user feedback on their experience. This includes questions about usability, satisfaction, and

suggestions. We will utilize website forms, app feedback mechanisms, and social media polls to capture a wide range of voices.

Project Success Stories: We will monitor the progress of youth-led climate projects funded through CLI-M@TES. This includes tracking project completion rates, the environmental impact achieved, and any challenges faced.

Mentor & Expert Network: Our mentor and expert network's efficacy is critical. We will monitor the amount of time mentors and experts spend with young people, how engaged they are, and how much value the youth feel they bring.

b) Developing an Evaluation Framework

Key Performance Indicators (KPIs) aligned with CLI-M@TES' goals will be established as part of the project's evaluation framework.



Figure 8: Evaluation Framework

c) Project Planning Matrix (PPM)

This model will help facilitate the planning, implementation, monitoring, and evaluation of the project. It will ensure clarity and accountability throughout the project life cycle. By defining the goal, purpose, output, and activities of the project, it will increase the expectations and participation of the stakeholders for the success of the project.

Table 6: Project Planning Matrix (PPM)

Narrative summary	Performance Indicator	Means of verification	Assumptions
Goal: To empower the youth to address climate change problems.	<ol style="list-style-type: none"> 1. Number of climate change problems reported. 2. Number of climate change solved 	<ol style="list-style-type: none"> 1. Feedback from the beneficiaries. 2. M&E reports. 	<ol style="list-style-type: none"> 1. Skilled obtained instrumental in solving climate change problems. 2. Commitment of stakeholders to support the initiative.
Purpose: Equipped young people with skills, education and training they need to solve climate change.	<ol style="list-style-type: none"> 1. 45% of the youth access the platform. 2. Periodic climate change skill and training sessions organized. 	<ol style="list-style-type: none"> 1. Periodic record of attendance. 2. Feedback from climate change experts 	<ol style="list-style-type: none"> 1. Willingness of the youths to participate in the climate change skill and training seminars on the platform. 2. Experts are willing to regularly engage with the youths on the platform.
Output: Climate change education platform is created.	Platform created	Project reports	Platform created is accessible to the youths
Activity: <ol style="list-style-type: none"> 1. Stakeholder engagements 2. Software design, creation and launching 	Resources: <ol style="list-style-type: none"> 1. Availability of skilled personnel 2. Availability of financial resources. 	<ol style="list-style-type: none"> 1. Receipts and invoices. 2. Report from project team. 	There will be sufficient funding to implement the project.

5.0 CLIM@TES' CONTRIBUTION TO THE SUSTAINABLE DEVELOPMENT GOALS (SDGS)

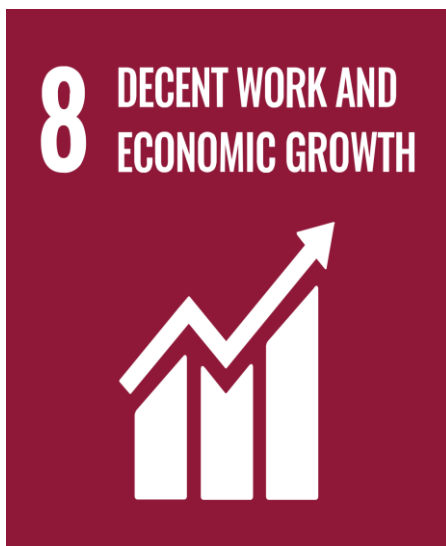
CLIM@TES aims to empower the youth through climate education that resonates with SDGs. The relationship between these educational initiatives and the SDGs is highlighted below:



CLIM@TES will empower Algerian youth with the relevant knowledge and skills to understand and combat climate change. It also aims to improve climate literacy, especially to the youth, by 25% in its first quarter of implementation. This will help shape their critical thinking and problem-solving abilities and would enable them to contribute meaningfully to their society.

Target 4.4 Increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

Target 4.6 Ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy.



Equipping the youth with green skills such as sustainable agriculture, waste management, and environmental protection, CLIM@TES aligns perfectly with SDG 8, which aims to promote sustained, inclusive, and sustainable economic growth. CLIM@TES will not only empower the youth for the green jobs but will also ignite their entrepreneurial spirit to addressing environmental challenges. This would propel economic growth and ensure environmental sustainability.

Target 8.2: Economic productivity through diversification, technological and innovation.

Target 8.3: Productive activities, decent job creation, entrepreneurship and creativity.

Target 8.5: Decent work for young people.

Target 8.6: Reduce youth unemployment.



CLIM@TES will help promote youth education and encourage initiatives at the community level that address the environmental issues, like urban planning for resilience against extreme weather events. Imparting a sense of responsibility through community engagement, this will actively engage ensuring sustainable urban environments.

Target 11b: Inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters.



CLIM@TES seeks to contribute to addressing this by promoting climate awareness and action among the youth. These youth are an important stakeholder in the fight against climate change. Educating the youth about the science of climate change, mitigation strategies, and adaptation techniques, this project will equip them uphold responsibilities and make informed decisions that align with the goals for fight against climate change.

Target 13.1: Strengthen resilience and adaptive capacity to climate impacts.

Target 13.2: Integrate climate change measures into national policies.

Target 13.3: Improve climate change education and awareness.

Target 13.b: Raise capacity for fight against climate change.

17 PARTNERSHIPS FOR THE GOALS



CLIM@TES aims to collaborate with the educational institutions, non-governmental organizations, and governmental agencies. This approach is in line with SDG 17, which seeks to strengthen global partnerships to support and achieve the targets of SDGs. CLIM@TES aims to deepen partnerships with multi-stakeholders, be leveraging on human resources from climate change professionals and networks to strengthen the initiative.

Target 17.17: Promote effective public, public-private and civil society partnerships.

Target 17.19: build on existing initiatives to develop measurements of progress on sustainable development.

CONCLUSION

Climate change education plays an important role in building a sustainable future by empowering individuals and communities to make informed decisions and take meaningful actions. CLIM@TES will, therefore, not only yield to the immediate educational and environmental dividends', but it would also strengthen the global initiatives to achieve the Sustainable Development Goals. The integration of climate change education and awareness creation into the youth will help increase climate change awareness and understanding, promote sustainable practices, empower action, support policy development, foster resilience and a sense of global responsibility and solidarity. This will not only help the youth in their professional development but will also groom a generation of cultured, skilled, and proactive group of young people with the ability to create jobs and promote sustainable development in their respective communities, countries and beyond their national borders.

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