

GEOENGINEERING: THE VIEW FROM THE SOUTH OF THE WORLD – EXPLORING SUSTAINABLE ALTERNATIVES INNOVATIONS

DR CHADEN DIYAB

Geoengineering: the view Nature-based methods to cool the climate innovation inspired by nature



World Academy of
Art and Science





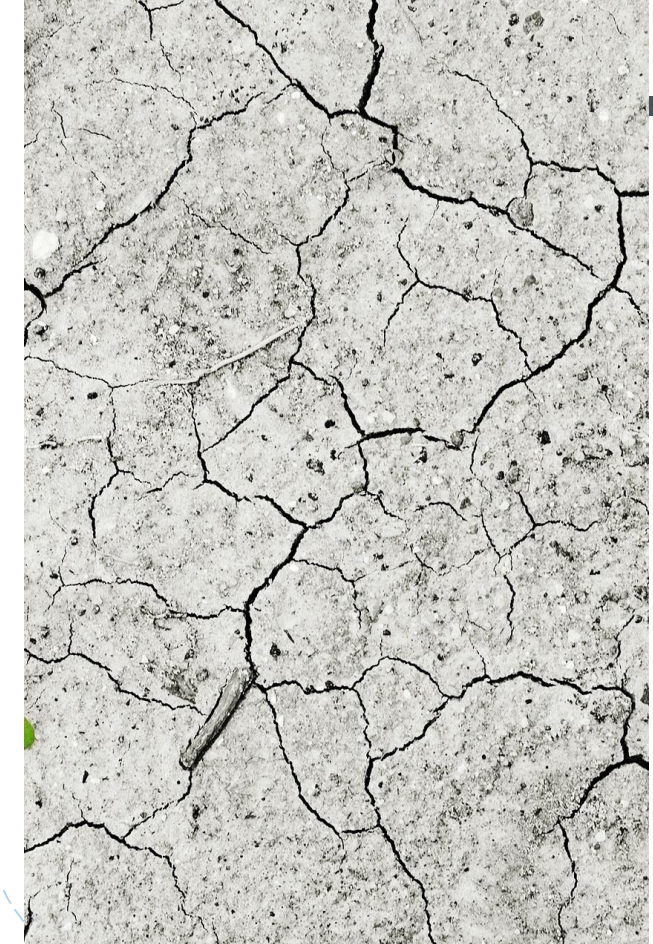
8 rue pasteur
94270 kremlin Bicetre france
www.formationenvironnement.com
tel : 0033625267994

Creating Change For The World
And Its People Using Innovation



حقوق الملكية الفكرية محفوظة لمنظمة حوار لمشروع التبريد
Fikri mülkiyet hakları, Dialogue vakfının Green Education projesine aittir.





CLIMAT CHANGE

Dr Chaden DIYAB

OUR NEW COMMON CHALLENGE



The deliberate exercise
of human choices is the
essence of responsibility,
the essence of life when
making decisions...


Choice Decision is:

Tradition, ?

logic, ?

or habit?

As humans navigate through a variety of decisions,
Choosing repeatedly and persistently,
With their responsibility towards the planet,
Humans accept this responsibility,
Their responsibility towards embracing risks and even defeat.
Accepting a decision also means accepting risks,
Whether of failure or success.



The climate crisis is, in reality, a consequence of human activities that have led to changes in the global climate. However, some consider that these climate changes are a response, an "expression," of the Earth to human actions. Our daily decisions related to consumption, politics, construction, industrialization

The number of climate refugees worldwide is projected to reach 1.2 billion by the year 2050.

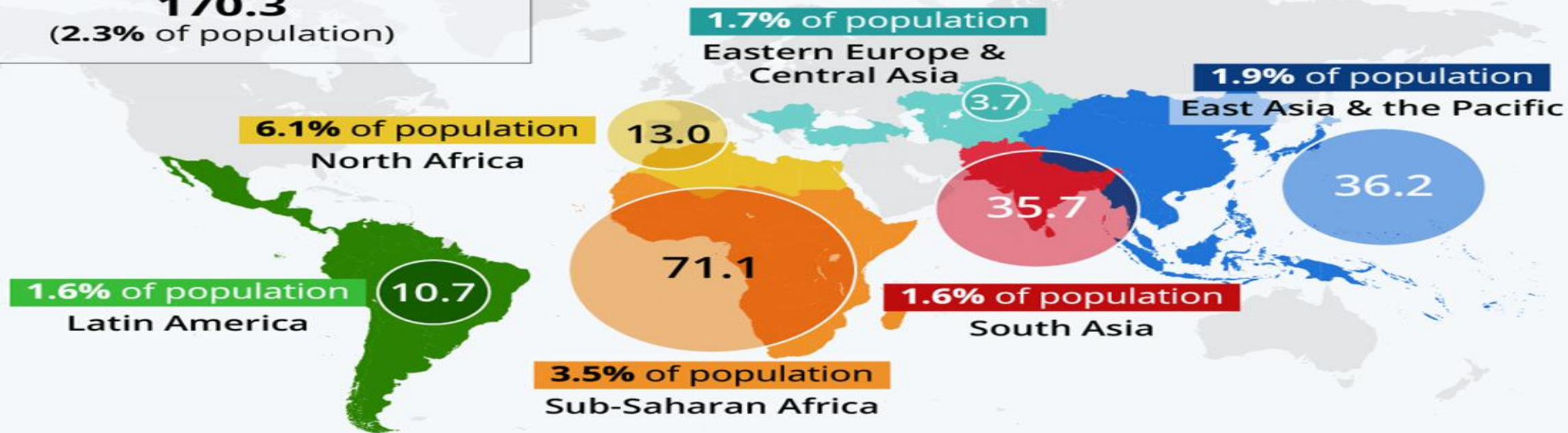
Climate Change, the Great Displacer

Average number of internal climate migrants by 2050 per region (in millions)*



Total in surveyed regions

170.3
(2.3% of population)



* Modeled on pessimistic reference = High emission & unequal development scenarios concerning water availability, crop productivity and sea-level rise

Source: World Bank



NATURE AND THE PHYSIQUE OF HEALING



GREEN EDUCATION
CHANGE AND INNOVATE

Nature has been defined as the first principle of motion and rest in that to which it belongs essentially rather than accidentally" (Avicenna , "The Physics of the Healing," p. 40

published it in 1027.

Avicenna
The Physics of *The Healing*
Books I & II

A parallel English-Arabic text
translated, introduced, and annotated by
Jon McGinnis



Nature can have its own-based solutions to produce healthy ecosystems and protect the environment ?

Could it mean that we ignore this aspect of the nature of dialogue and regeneration?

How can we apply the concept of **Nature-based Solutions (NbS) and frugal innovation** to maybe be inspired by our means in the climate crisis and make intersection sustainable ? permanent,

A new study updates the planetary boundary framework and shows human activities are increasingly impacting the planet and, thereby, increasing the risk of triggering dramatic changes in overall Earth conditions

Date: September 13, 2023

Source:

University of Copenhagen - The Faculty of Health and Medical Sciences Katherine Richardson,



Orbiting Carbon Observatory - 2

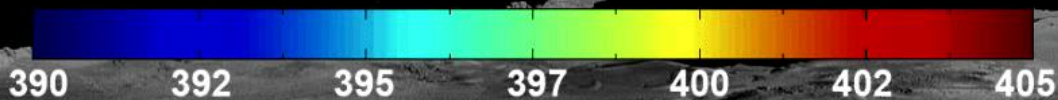
XCO2 Data (5/14/15 - 8/16/15)



The Orbiting Carbon Observatory-2 satellite is providing NASA's first detailed, global measurements of carbon dioxide in the atmosphere at the Earth's surface. OCO-2 recently released its first full year of data — critical to analyzing the annual cycle carbon dioxide concentrations in the atmosphere.

Credits: NASA/JPL-Caltech

Parts Per Million by Volume



06/08/2015 to 06/25/2015

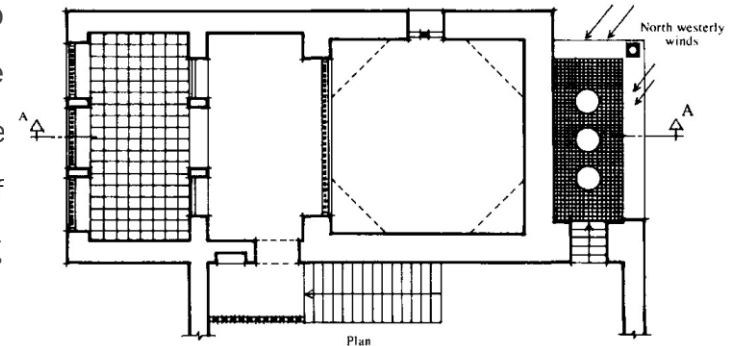
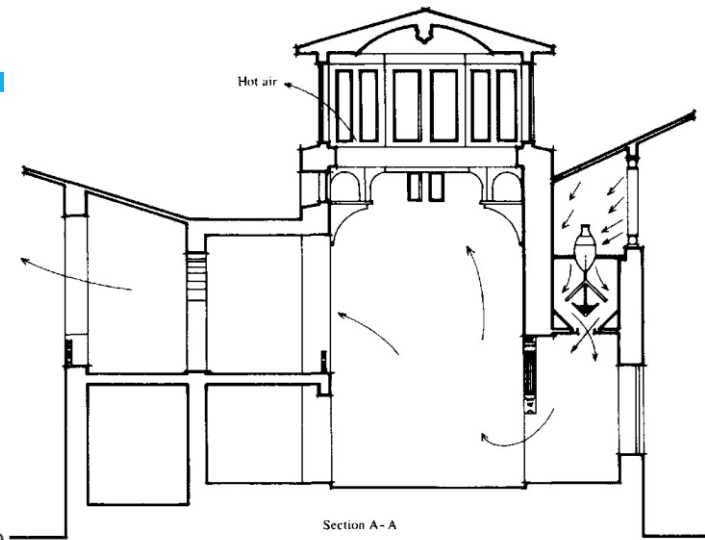
NATURE-BASED SOLUTIONS (NBS) AND CLIMATE CHANGE CHALLENGE

- NbS in mitigating climate change It is also widely agreed that we need nature-based solutions (NbS), which can provide up to 30% of the mitigation required by 2030 in order to keep the 1.5 °C target in reach. NbS are a collection of nature-based approaches that both reduce and remove emissions, such as avoiding emissions through protected landscapes to limit deforestation or restoring ecosystems for carbon removal from the atmosphere
- Nature-based solutions (NbS) can provide up to 30% of the mitigation needed to limit global warming to 1.5°C above pre-industrial levels by 2030
- diverts attention from the need for massive and rapid
- decarbonization of our economies
- Nature-based solutions (NBS) can help grand challenges, such as climate change and food security, but, as things stand, communities outside of Europe do not stand to benefit from these innovations.

HASSAN FATHY AS EARTH ARCHITECT

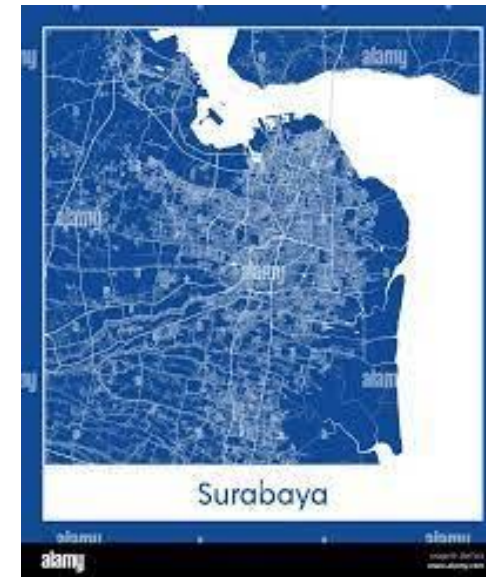
who employed many of the design strategies recommended to maximize passive cooling & natural ventilation, as well as use of native materials in construction among other sustainable design strategies 50 years ago in Egypt.

Hassan Fathy believed that the environment in which the building is located has a significant impact on the architectural and construction design of the building. The term "environment" is all around the site in that part of the earth, including the landscape, whether desert, valley, mountain, etc. It is also all that is found in the seven layers that cover the soil and affect life on its surface. a. The effect of the climate on the architecture environment mainly affects the architectural form in a way that can be seen easily; for example, the ratio of window area to wall area decreases as we approach the equator. In hot regions, people avoid sun-rumbling heat. In the tropical areas, changes in the architectural form are needed to solve problems that result from excessive heat more clearly, the example in Egypt and hot places shaping balconies and overhead casts a long shadow over the walls of the building



Green wall technologies suitable for major transport infrastructure construction projects?

Mexico City's Via Verde project was implemented to introduce greenery to road infrastructure in an attempt to purify the air quality in the urban city. The project consisted of the construction of vertical gardens on over 1000 concrete columns on the Periferico highway over a 27-kilometer distance (Swoboda et al., 2020). The project aimed to filter out 27 thousand tonnes of toxic gases, 5 tonnes of suspended dust and 10 tonnes of heavy metals annually for over 25, 000 residents (Vargas-Hernández et al., 2019). However, Via Verde has come under criticism due to the cost-intensive construction with negligible evidence to show a positive effect on air pollution or to support what the project has promised (Swoboda et al., 2020)



The current main strategy for flood control in **the city of Surabaya- indonsia** focuses on **primary, secondary, and tertiary drainage channels**. The main programs are widening existing channels, maintaining the capacity of current channels, and developing new channels,, However, providing a drainage system **is expensive and would not be profitable from the perspective of business actors**

NATURE-BASED SOLUTIONS (NBS) CHALLENGES



- Social, economic and environmental challenges effectively and adaptively,
- Needs to be supported by the inclusion of dependencies on nature in economic
- Scaling Up
- Recognize that high-quality carbon credits are essential to creating a high-integrity voluntary carbon market. The good news is that initiatives like the Integrity Council for the Voluntary Carbon Market which are aiming to forge a clear path forward towards higher integrity, greater transparency and overall more consistency in the marketplace
- Apply integrated approaches for NbS that coherently link policies, financial mechanisms and technical advances, especially at national and local LLevel
- Scaling local initiatives is key
- tackles the predominant socio-economic drivers of biodiversity loss and landscape degradation, and may include changes in values, policies and institutions. This is effectively a sustainability transition at landscape level,,

Targeted capacity building and support networks for locally-led NbS



Many Thanks for your Listening!

Dr chaden DIYAB

Chaden.diyab@gmail.com

Chaden,diyab@formatioenvironnement.com

<https://www.facebook.com/dr.chadendiyab>

