Data-Driven Initiatives for Accelerating Sustainable Development Goals

Showcasing UNDP initiatives in Cambodia and globally

What will be covered?

1. Data Principles for UNDP
2. A snapshot to Sustainable Development Goals
3. How do we leverage open data: Examples from global and country office initiatives
4. Conclusion: How data contributes to accelerating Sustainable Development Goals

Data Principles for UNDP

UNDP was the first in the United Nations system to adopt a Digital by Default approach, which is geared towards fully integrating digital into programming at both the country and corporate strategic levels.

Plan for reusability and interoperability

Ensure data is versatile and adheres to open standards for broader use.

Empower People to Work with Data

Equip individuals with the skills and tools for data comprehension and utilization.

Safeguard Personal Data

Incorporate privacy into data handling and anonymize data prior to sharing.

Uphold the Highest Ethical Standards

Align data practices with the UN Charter and human rights norms for societal benefit.

Manage Data Responsibly

Maintain high-quality, secure, and accountable data management.

Expand Frontiers of Data

Innovate to enhance data access and representation of marginalized groups.

Make Data Open by Default

Share data openly, avoiding unnecessary restrictions.

Be Aware of Data Limitations

Identify and address potential biases and shortcomings in data usage.

Sustainable Development Goals

How UNDP leverages open data

Let’s delve into examples of UNDP data-driven initiatives

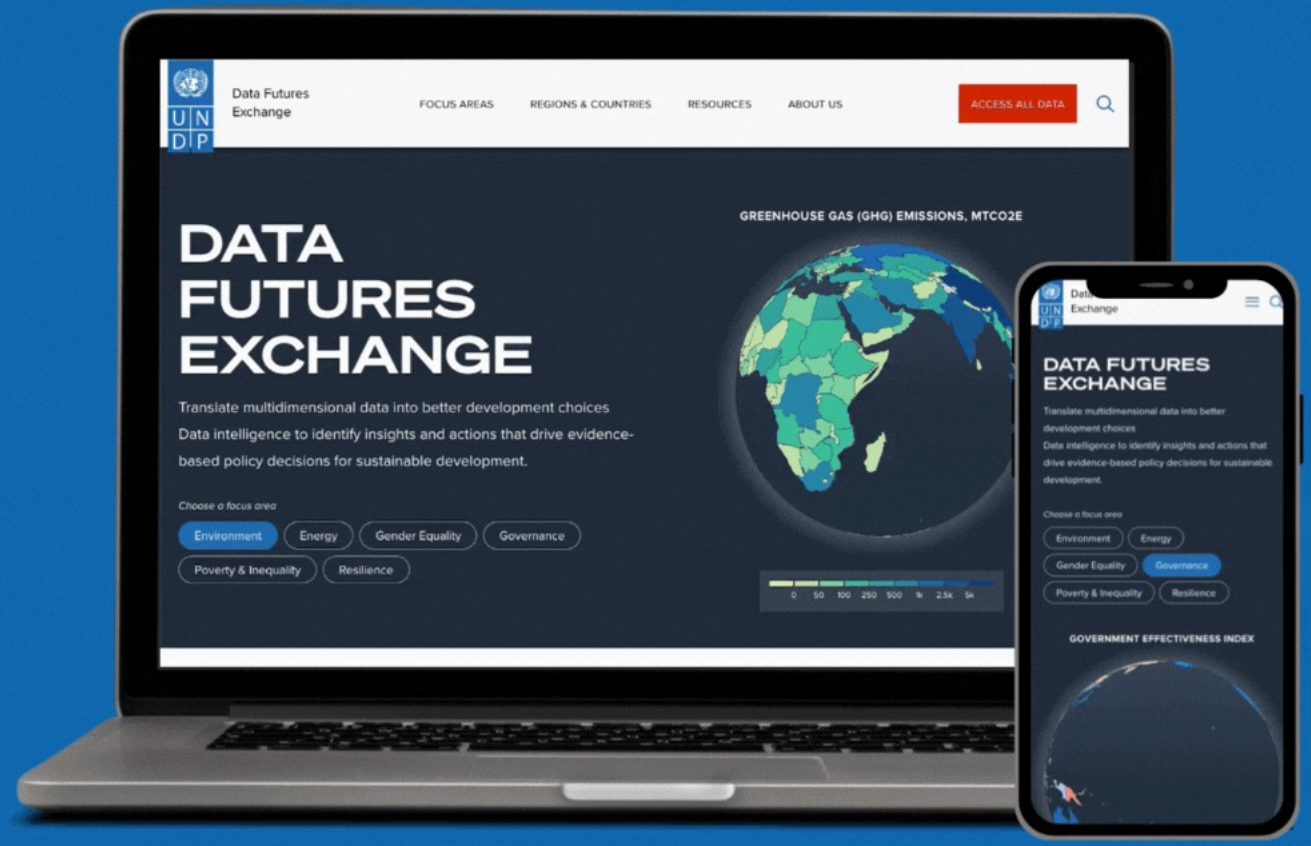
Example 1: Data Exchange Platform (DFx)

Unlocking the power of data

UNDP Global Initiative

DATA.UNDP.ORG

THE DATA FUTURES EXCHANGE (DFx)



THE DATA FUTURES EXCHANGE

'THE' GO TO FOR DEVELOPMENT DATA IN UNDP

1M
PAGE VIEWS SINCE INCEPTION

250k
USERS SINCE INCEPTION

5k
INDICATORS

80+
DATA STORIES

250-
COUNTRIES OR REGIONS

INFORM

Helps practitioners understand complex issues using problem diagnostics and the power of data

LEAD

Actionable data-driven insights to analyze potential impacts of different combinations of policy choices before investments are locked in

EMPOWER

The backbone of policy support services in UNDP

A WIDE ARRAY OF PRODUCTS AND TOOLS FOR DECISION-MAKING

INNOVATIVE TOOLS AT YOUR FINGERTIPS

FOSTER INFORMED DECISION-MAKING
TOPIC PAGES

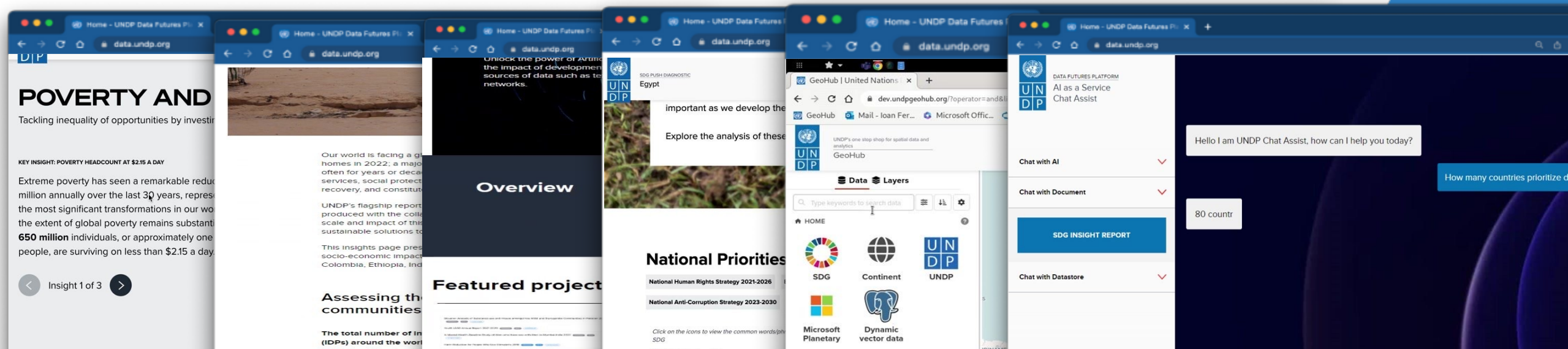
INTEGRATE FINDINGS INTO PROGRAMMING
INSIGHTS PAGES

CONNECT KNOWLEDGE AND KNOWHOW
SERVICE PAGES

MAP NATIONAL PRIORITIES USING ML
SDG PUSH DIAGNOSTIC

PINPOINT ROADBLOCKS AT HYPERLOCAL LEVEL
GEOHUB

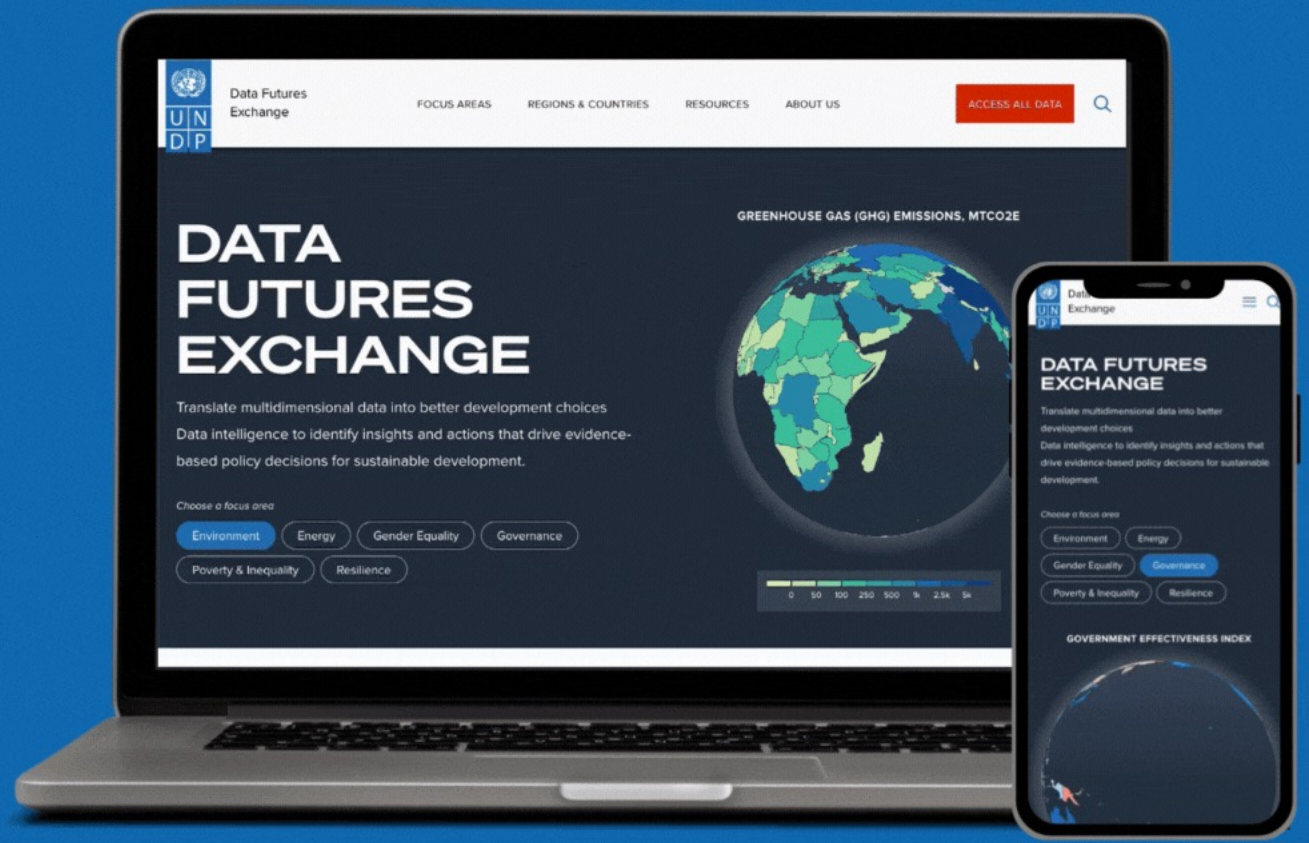
QUICK ANSWERS TO YOUR DEVELOPMENT QUERIES
AI CHAT ASSIST



A demo to the DFx

DATA.UNDP.ORG

THE DATA FUTURES EXCHANGE (DFx)



https://data.undp.org/

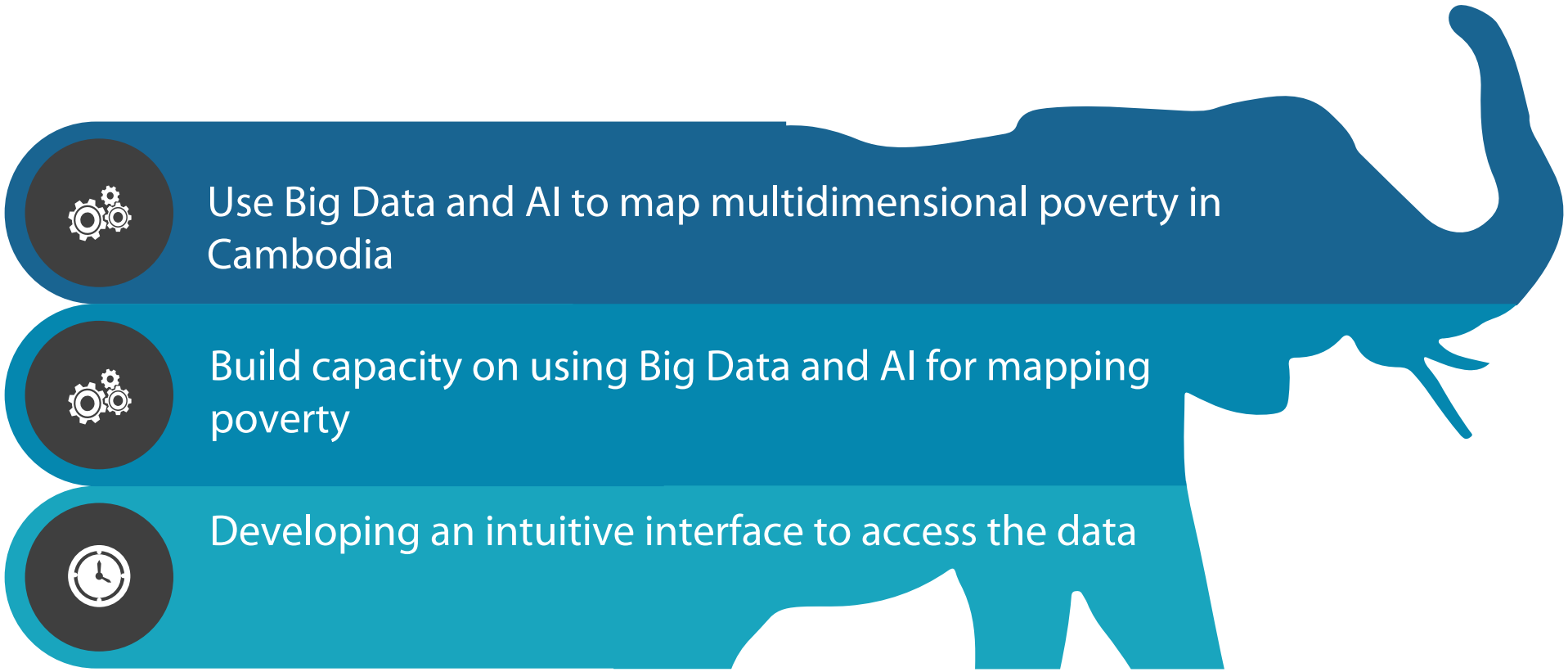
Example 2: AI for Poverty Mapping

Big data and artificial intelligence for mapping vulnerability in Cambodia

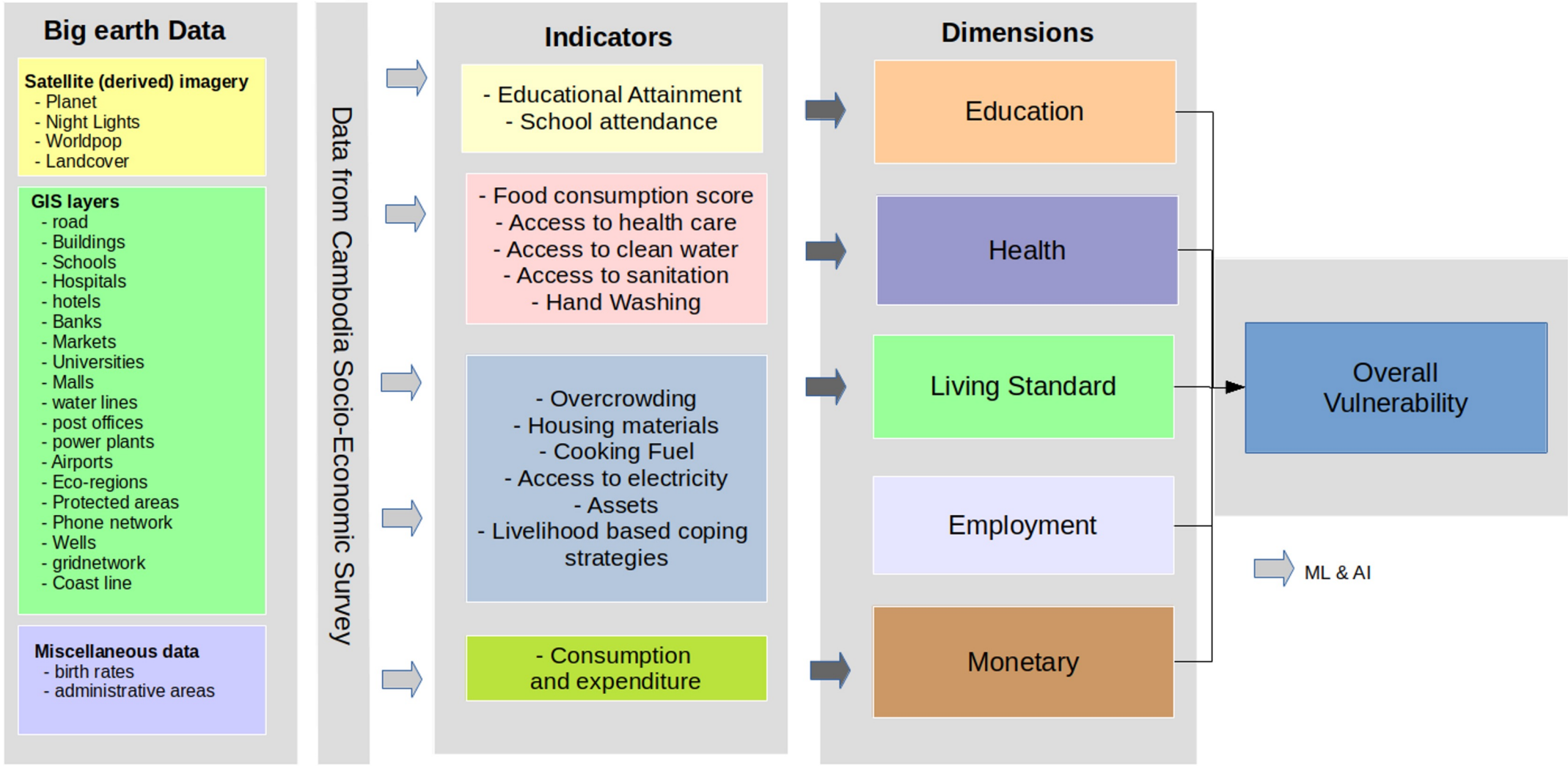
UNDP Cambodia Initiative

POVERTY MAPPING FOR CAMBODIA
HOME
MAP
METHODOLOGY
ABOUT
PROBABILITY MAPS
POVERTY ANALYSIS
SATELLITE IMAGES
GIS LAYERS
POVERTY VULNERABILITY
Selected Area: Tbong Khmum
Legend for probability maps
0
20
40
60
80
100
Buildings
Education
Food
Water
Sanitation
Hand Washing
Health
Overcrowding
Housing
Fuel
Electricity
Assets
Livelihood Based Coping
Living Standard
Consumption
Overall Vulnerability
Select administrative level
Province
Clear Selected Region
Thailand
Vietnam
Total Population
Pouthisat
25146
Number of Buildings
Pouthisat
79809
DEPRIVED
Percentage of Deprived
Pouthisat
60.31%
MacBook Pro

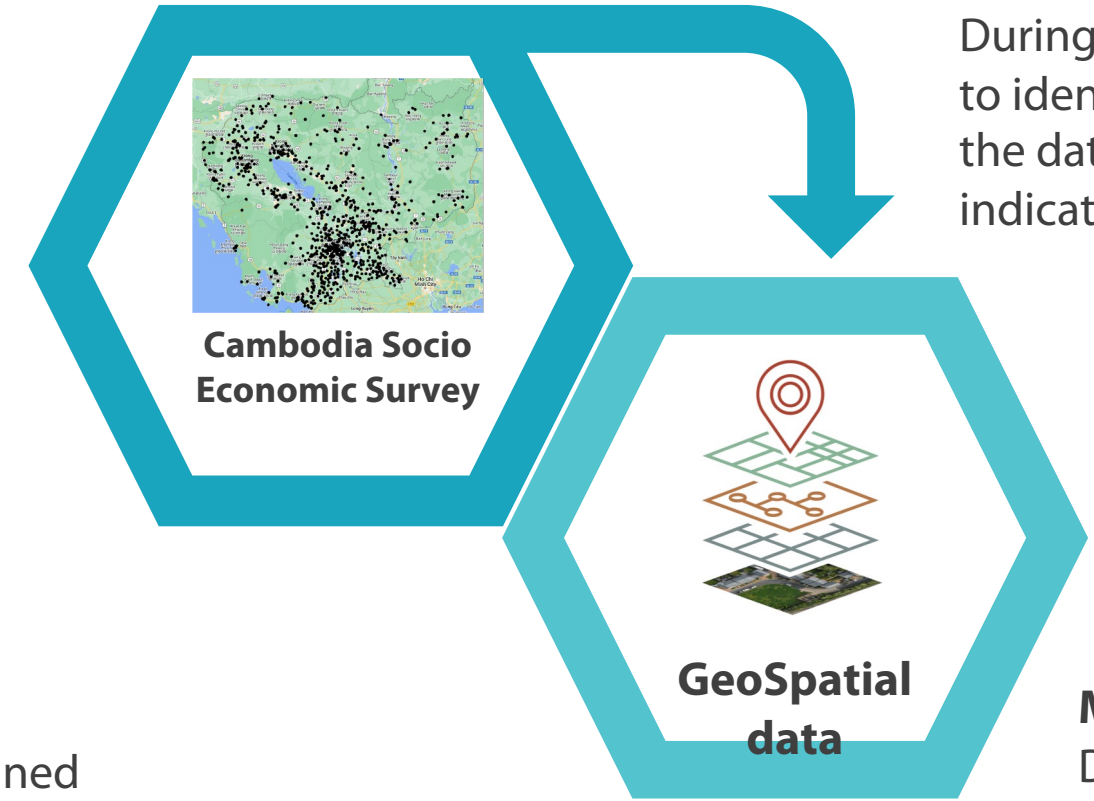
Objective


Use Big Data and AI to map multidimensional poverty in Cambodia
Build capacity on using Big Data and AI for mapping poverty
Developing an intuitive interface to access the data

Methods


Big earth Data
Satellite (derived) imagery
- Planet
- Night Lights
- Worldpop
- Landcover
GIS layers
- road
- Buildings
- Schools
- Hospitals
- hotels
- Banks
- Markets
- Universities
- Malls
- water lines
- post offices
- power plants
- Airports
- Eco-regions
- Protected areas
- Phone network
- Wells
- gridnetwork
- Coast line
Miscellaneous data
- birth rates
- administrative areas
Data from Cambodia Socio-Economic Survey
Indicators
- Educational Attainment
- School attendance
- Food consumption score
- Access to health care
- Access to clean water
- Access to sanitation
- Hand Washing
- Overcrowding
- Housing materials
- Cooking Fuel
- Access to electricity
- Assets
- Livelihood based coping strategies
- Consumption and expenditure
Dimensions
Education
Health
Living Standard
Employment
Monetary
Overall Vulnerability
ML & AI

Methods



Model training
During training the model will learn to identify important features in the data and how they relate to the indicators.

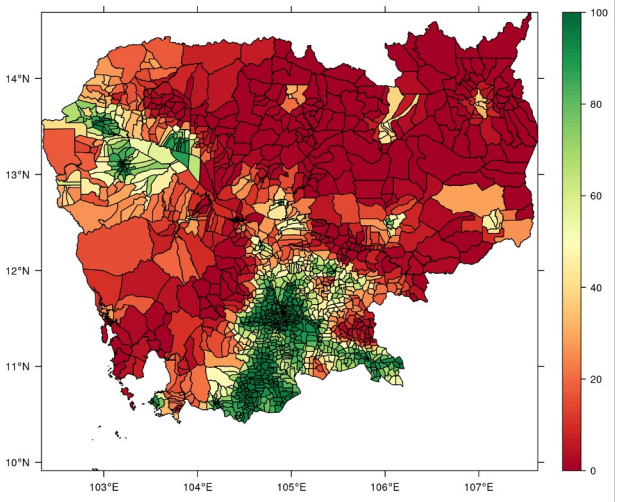
Model inference
During inference or model classification we use the trained model and apply it on the broader dataset.

Model validation
During model validation we use an independent dataset to verify the performance of the model.

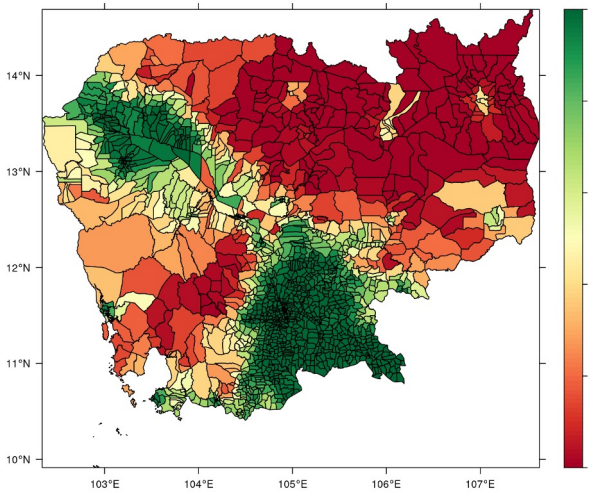
Highlight of results

Percentage of deprived households at the township level

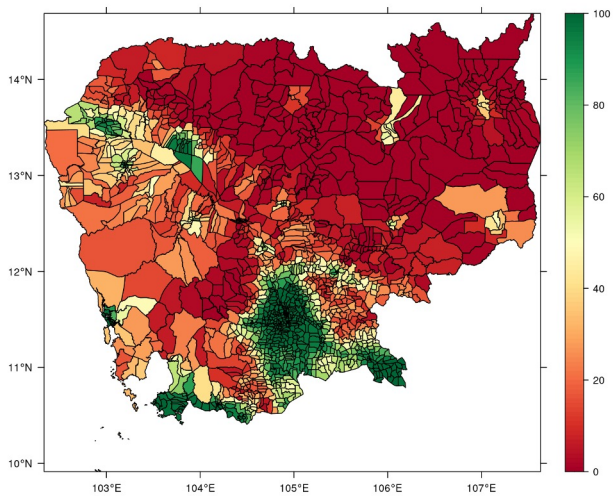
Education



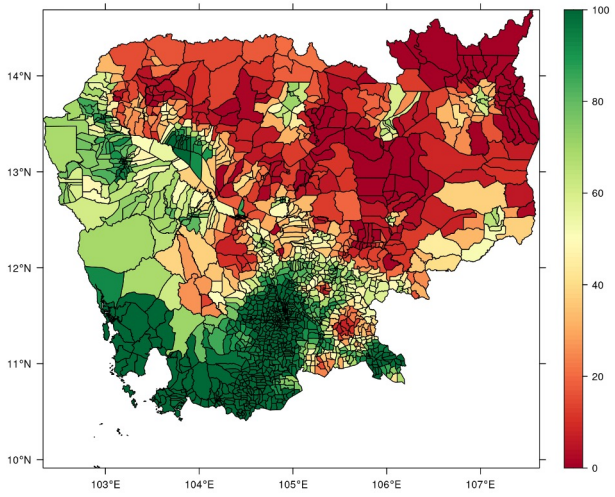
Health



Living standard

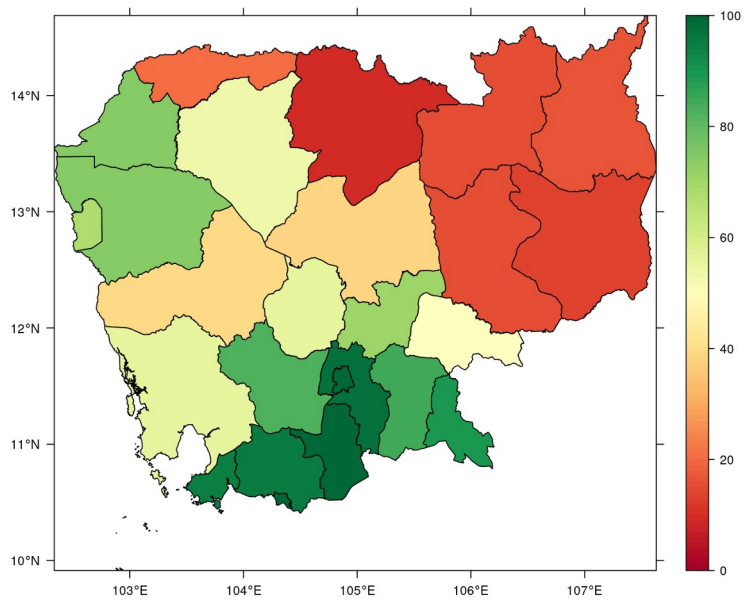


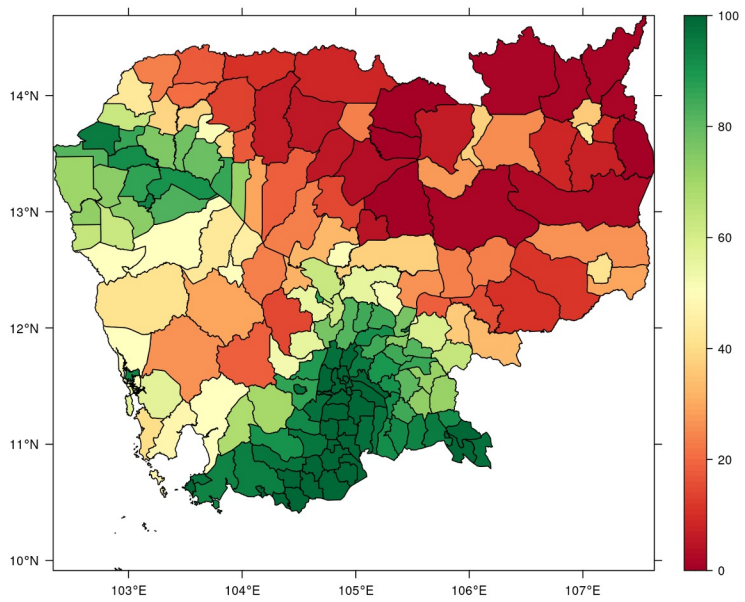
Monetary

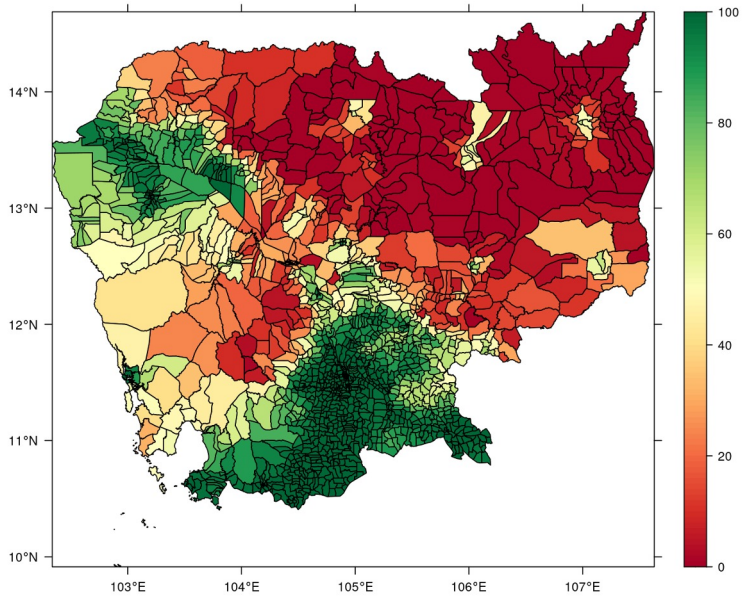


Highlight of results

Percentage of vulnerable households at different administrative levels





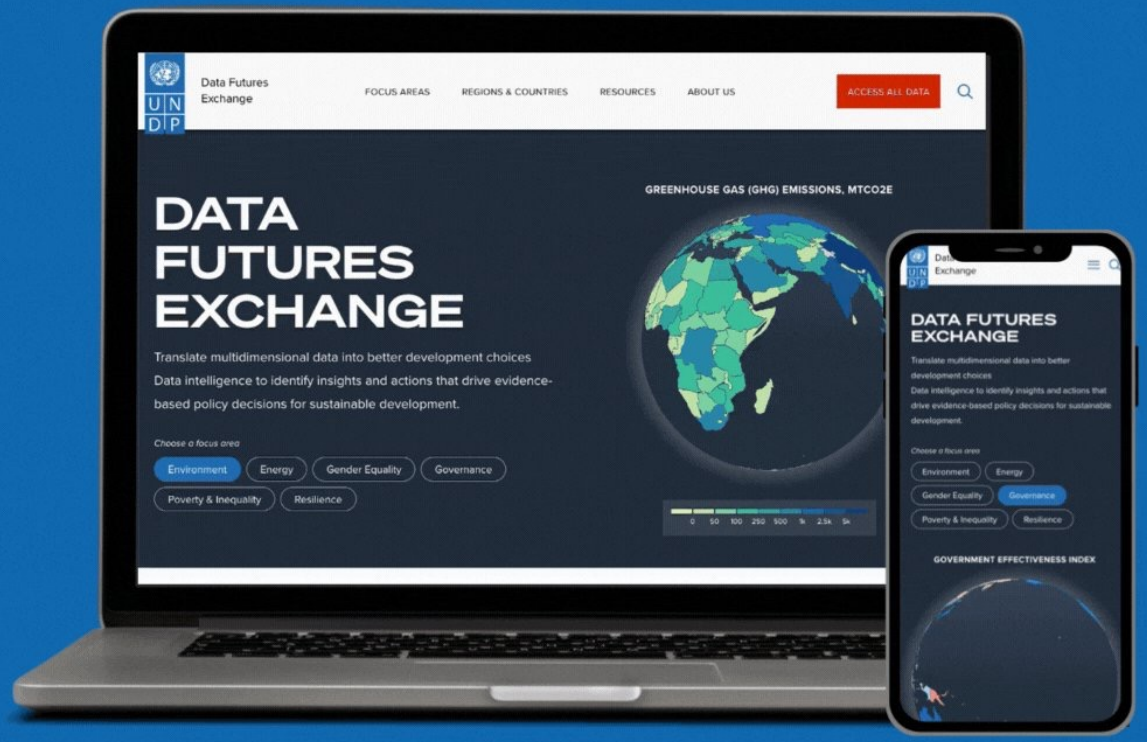


A demo to AI for Poverty Mapping

https://cambodiapovertymapping.sig-gis.com/

Conclusion: How data contributes to accelerating SDGs

Based on the showcased initiatives



DFx provides a space where policymakers and development community can connect, generate intelligence from data, observe examples of how data have led to decision intelligence, be exposed to different training opportunities, and observe innovative approaches and innovation within UNDP.

AI FOR POVERTY MAPPING

Identifying the need for critical services using big earth data, spatial informatics and AI can go a long way in meeting the targets set out in the SDGs.

The tool provides the means to answer pressing questions regarding the root causes of economic vulnerability within communities: what is the extent and severity of poverty within a given area?

16 PAZ, JUSTICIA E INSTITUCIONES SÓLIDAS
14 VIDA SUBMARINA
13 ACCIÓN POR EL CLIMA
12 PRODUCCIÓN Y CONSUMO RESPONSABLES
11 CIUDADES Y COMUNIDADES SOSTENIBLES
9 INDUSTRIA, INNOVACIÓN E INFRAESTRUCTURA
8 TRABAJO DECENTE Y CRECIMIENTO ECONÓMICO
7 ENERGÍA ASEQUIBLE Y NO CONTAMINANTE
4 EDUCACIÓN DE CALIDAD
5 IGUALDAD DE GÉNERO
3 SALUD Y BIENESTAR
2 HAMBRE CERO
1 FIN DE LA POBREZA
17 ALIANZAS PARA LOGRAR LOS OBJETIVOS
15 VIDA DE ECOSISTEMAS TERRESTRES
6 AGUA LIMPIA Y SANEAMIENTO

Thank You