



Hand-in-Hand

Assessing the Data 'Quantum' Leap in Agriculture and food Systems , Consultations for new strategic directions

13 February 2023, IFAD

Give Feedback





Support countries to:

Identify and prioritize the biggest opportunities in agriculture and food and bring in investments to reduce poverty, improve food security and nutrition.

60 countries to date, focus on agro food value chain investments.

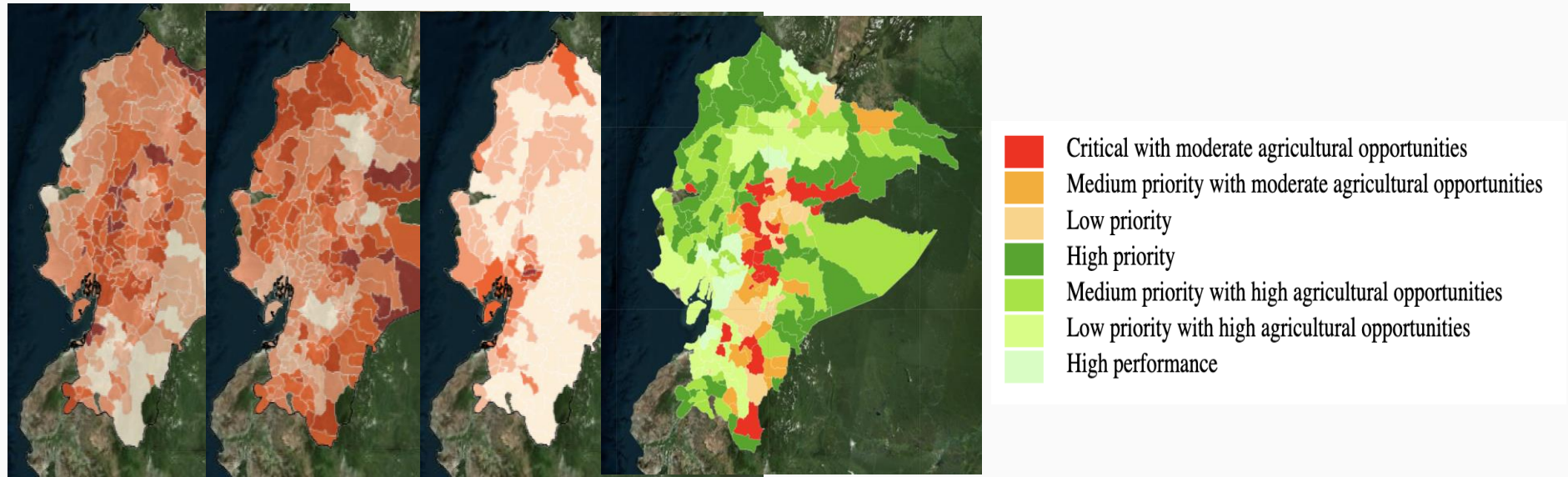


1. The Geospatial Platform - federated data and analysis

1. The Datalab - data scraping, intelligence, analysis

1. HIH Dashboard - progress and investments

Micro-regional level innovation opportunities, bottlenecks and investment gaps are identified.

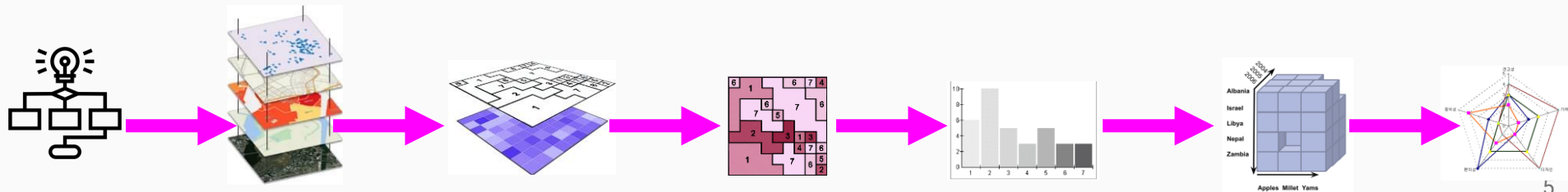




1. HIH Geospatial Platform

Integrates many dimensions of reliable, timely, high resolution data to support identifying opportunities, designing interventions, monitoring progress, and evaluating impact.

Soil, Land, Water, Climate, Fisheries, Livestock, Crops, Forestry, Trade, Social and Economics and much more





Concepts and Types of Data

Formats and Interface: Tabular, Raster and Vector Data

Structure: Flat Attribute List / Multi-Dimensional Cube

Federated (Standards) / Ingested (Publish)

Static (Manual) / Stream (Automation)

Observed, Measured, Calculated, Modeled



Search for locations



Explore Data



DATA SETS [2]

Remove All



Country Boundaries



Agricultural Stress Index (ASI) - Near
Real Time (Global - Dekadal - 1 Km) -
ASIS

Zoom To Extent

About This Data

Split

Remove

Opacity: 60 %

Season

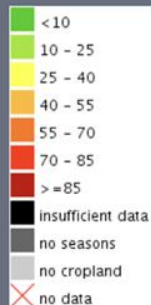
Season 1

Land

Cropland (ha)

Time:

20/02/2021, 01:00:00



Food Security

Crops and Vegetation

Livestock

Trade and Production

Land

Water

Climate

Fishery

Forestry

Done

Socioeconomic and Demographic

Novel Coronavirus (COVID-19)

Boundaries and Backgrounds

Tools

My Data



Search the catalogue

Hotspots (Countries with unfavourable prospects for current crops)

Production, Yield and Harvested Area

Agricultural Stress Index (ASI)

Agricultural Stress Index (ASI) - Near Real Time (Global -
Dekadal - 1 Km) - ASIS

Agricultural Stress Index (ASI) - Annual Summary (Global - Annual
- 1 Km) - ASIS

Historic Agricultural Drought Frequency (Global - 1 Km - ASIS)

Crop/Pasture Phenology (Global - 1 Km - ASIS)

Vegetation Condition Index (VCI) - Near Real Time (Global -
Dekadal - 1 Km) - ASIS

Vegetation Condition Index (VCI) - Monthly Summary (Global -
Monthly - 1 Km) - ASIS

Vegetation Health Index (VHI) - Near Real Time (Global - Dekadal -
1 Km) - ASIS

Vegetation Health Index (VHI) - Monthly Summary (Global -
Monthly - 1 Km) - ASIS

Mean Vegetation Health Index (Mean VHI) - Near Real Time
(Global - Dekadal - 1 Km) - ASIS

Mean Vegetation Health Index (Mean VHI) - Annual Summary

DATA PREVIEW



Agricultural Stress Index (ASI) - Near Real Time (Global - Dekadal - 1 Km) - ASIS

Description

Agricultural Stress Index (ASI) - Near Real Time is a quick-look indicator that facilitates the early identification of cropped land with a high likelihood of water stress (drought). It depicts the percentage of arable land, within an administrative area, that has been affected by drought conditions from the start of the season up to the current dekadal. It differs from ASI Annual product which describes the drought conditions over the entire crop season.

The Index is based on the integration of the Vegetation Health Index (VHI) in two dimensions that are critical in the assessment of a drought event in agriculture: temporal and spatial. The first step of the ASI calculation is a temporal averaging of the VHI, assessing the intensity and duration of dry periods occurring during the crop cycle at the pixel level; this calculation includes the use of crop coefficients, which introduces sensitivity of a crop to water stress during each phenological phase. The second step determines the spatial extent of drought events by calculating the percentage of pixels in arable areas with a VHI value below (this value was identified as a critical threshold in assessing the extent of drought in previous research by Kogan, 1995). Each administrative area is classified according to the percentage of

Give Feedback

23/06/2021, 15:00:00

23/06/2021, 15:00:00

10/12/1989

08/12/1999

05/12/2009

03/12/2019



2. The Data Lab



Hand-in-Hand
Initiative

The Data Lab was created to **fill data gaps** in FAOSTAT and the HiH Initiative by **generating new information and analytics**.

Today, its activities also include:



Analytics on
Policy
Documents

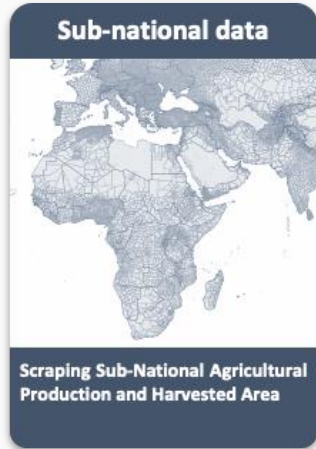
Use of **text mining tools** to generate **quantitative and objective analyses** on **policy and legislation** documents.



Early Warning
Indicators

Use of **advanced Data Science methods** applied to **non-conventional and social media data** to build early warning indicators for anticipatory action.

2. The Data Lab for the HiH Initiative

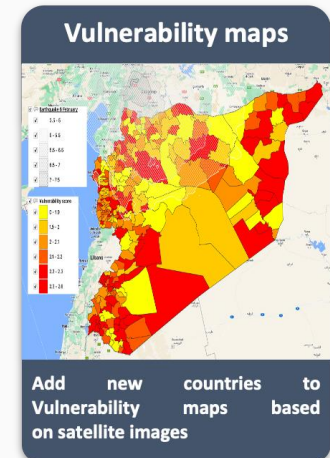


Filling data gaps for countries where little data is available

- Scraping and collecting agricultural production and harvested data at subnational level using text mining tools
- Data is automatically imported into the HiH Geospatial platform

Building Vulnerability Maps using satellite imagery and context data

- Combining socio-economic indicators, household surveys and land data cover to generate vulnerability maps at regional and district level
- Maps are shared with country teams for expert validation



Hand-in-Hand Initiative
Monitoring and Evaluation
Dashboard of HiH
2023



IN 2023

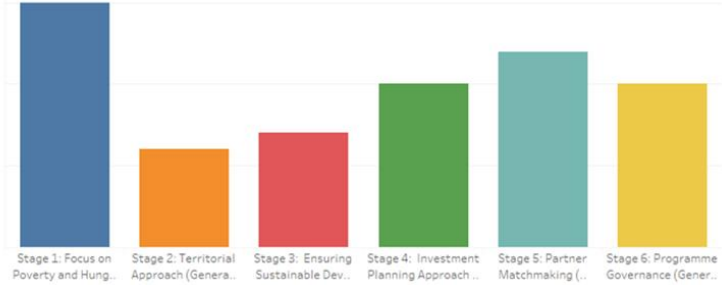


64 Target Countries
60 Active Countries

FAO member countries supported by Hand-in-Hand Initiative

HiH Stages completed
IN 2023

60
COUNTRIES



INVESTMENT FORUM
IN 2023

\$3.0 Billion

Bangladesh

\$590M

Direct Beneficiaries
1,664,300

Indirect Beneficiaries
4,017,500

Cost per beneficiary
\$104

[Click for more...](#)

Ecuador

\$134M

Direct Beneficiaries
22,500

Indirect Beneficiaries
122,900

Cost per beneficiary
\$1,933

[Click for more...](#)

Solomon Islands

\$40.5M

Direct Beneficiaries
6,880

Indirect Beneficiaries
73,000

Cost per beneficiary
\$507

[Click for more...](#)

Zimbabwe

\$754 M

Direct Beneficiaries
479,417

Indirect Beneficiaries
2,020,583

Cost per beneficiary
\$302

[Click for more...](#)

Yemen

\$190M

Direct Beneficiaries
438,250

Indirect Beneficiaries
00000

Cost per beneficiary
\$433

[Click for more...](#)

60 Capacity development for the
Member countries

1064

People trained
on Geographic
Information
System (GIS)



560

People trained
on Stochastic Frontier
Analysis





Lessons Learnt and looking forward

- Complexity for some countries - necessity for capacity building and support.
- Usefulness and applicability for mobilising large-scale investments, Bangladesh (US\$543 million), Ecuador (US\$45 plus US\$145 pipeline) - opportunities for more and better targeted investments.
- Need national scale data to complement core global data sets - verification and country engagement essential for reliability.
- A lot of data is still untapped but every country has a different information base.
- Increased need for sound methods and Artificial Intelligence to exploit the data, identify the nuances and derive early warning signals for anticipatory action.
- Quality data and analysis urgent needed for interventions on food emergencies - advance planning.
- M and E - long term automation and systems integration planned.
- HIH Investment Forum, October 2023 - welcome!