



Climate Information for Grains



**INTERACTIVE COMMUNICATION
PLATFORM ON POST HARVEST
MANAGEMENT**

TRAINING MANUAL





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EAGC further acknowledges the partnership and contribution of knowledge and expertise from the IGAD Climate Prediction and Application Centre (ICPAC), Kenya National Disaster Management Authority (NDMA) and Uganda Ministry of Agriculture, Animal Industry and Fisheries (MAIFF).

The grain value chain stakeholders richly contributed to the development of the CI4G tool where a value chain needs assessment conducted at the start of the project established that there was a need for real time climate information that includes precipitation, temperature, and wind speed availed nearest to the value chain actors' locations.

Efforts led to the development of CI4G and therefore EAGC would like to extend a special acknowledgement to the value chain stakeholders for their contribution.

Finally, EAGC acknowledges all grain value chain stakeholders who have been providing feedback on the utilization of the tool which indicates that they have been able to take appropriate action using the crop advisories received through the EAGC CI4G platform such as when to prepare for planting or harvesting, drying among others leading to reduced transaction costs and post-harvest losses while at the same time creating market opportunities for their produce.



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BACKGROUND

The Climate Information for Grains -CI4G portal is an interactive platform that allows grain value chain stakeholders to access weather information and relevant real time advisories on post-harvest management, trade and agronomic advisories. The platform collates and disseminates area specific Climate Information for Grains as well as related crop advisories currently for maize, beans, sorghum, and green grams value chains, as one of the services in the EAGC Grain Trade Business Hubs (GHUBs).

The GHUBs are a one stop centre owned and operated by smallholder farmer groups which facilitate their access to farm inputs such as seeds, fertilizer, mechanization, trainings and information for market and climate, as well as aggregating their produce and selling collectively through the EAGC's GSOKO grain trading system. Grain Value Chain actors receive advisories based on their Hubs with weather forecasting engine provided by ICPAC covering a 9-mile radius. The weather forecasting information is updated daily.

The Ci4g.net website has a content management platform that is used to post agronomic advisories which are generated by EAGC field officers and our project partners. The platform is also linked with the EAGC SMS broadcasting portal that is used to send weather messages to farmers associated with the existing hubs.

This training manual will therefore be utilized to train grain value chain stakeholders on the CI4G tool and its utilization so that they can make the most out of the platform by taking appropriate action such as deciding on when to prepare for planting or harvesting, drying, storage among others resulting in reduced transaction costs and post-harvest losses while at the same time creating market opportunities for their produce.

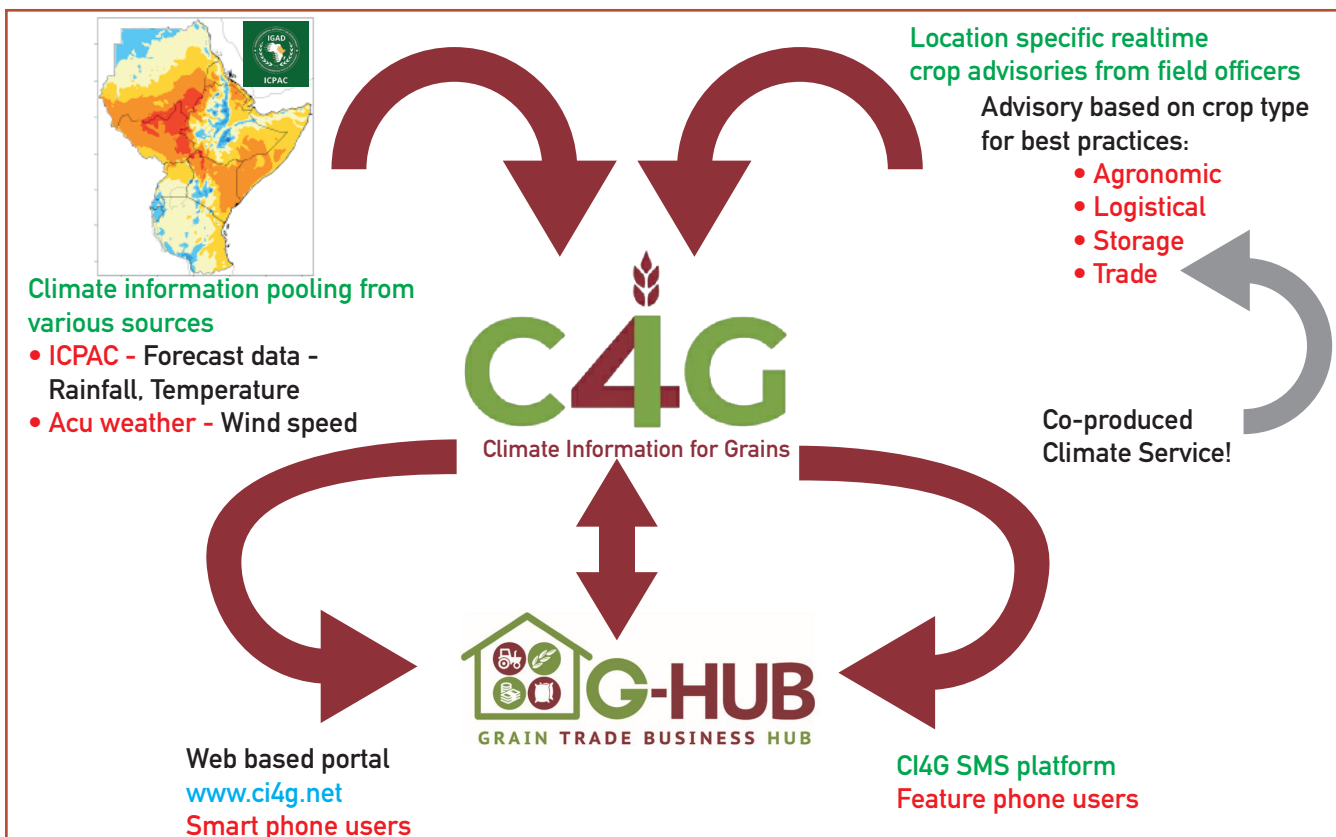
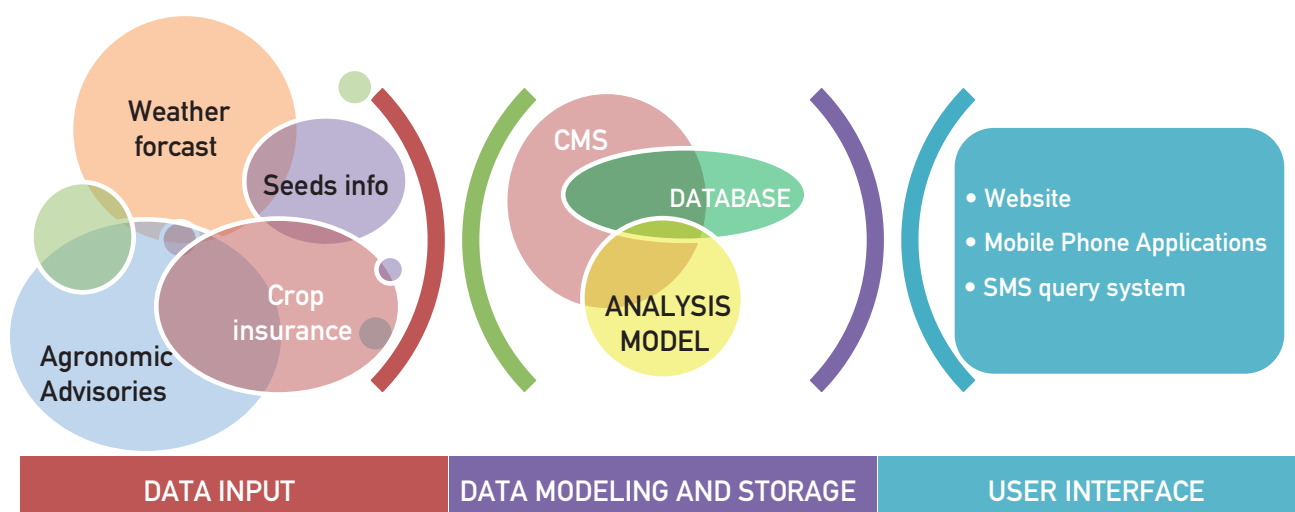


Figure 1: CI4G functionality

INTRODUCTION TO THE CI4G PLATFORM

Module 1: Introduction to the CI4G platform

The CI4G platform is conceptually made of three components, data input where information is generated or acquired, data modeling where the acquired data or information is processed into easily understood information which is posted in a database. The synthesized information is then posted for user access through a number of channels with SMS and CI4G website being the primary user interfaces for data access.



Objectives of the module

This module aims at exposing CI4G users to better understanding of the platform information acquisition, processing and information sharing. Users will get a comprehensive understanding of the CI4G data generation, processing as well as how to access it.

Review questions:

1. How is CI4G data generated?
2. Who are the primary target audience for the CI4G data?

MAJOR CI4G SYSTEM COMPONENTS

MODULE 2: THE CI4G WEBSITE

Introduction of the module

In this module, users will be trained on how to navigate the CI4G website which is the primary data access interphase where the users can access weather forecasts and advisories.

Objectives of the module

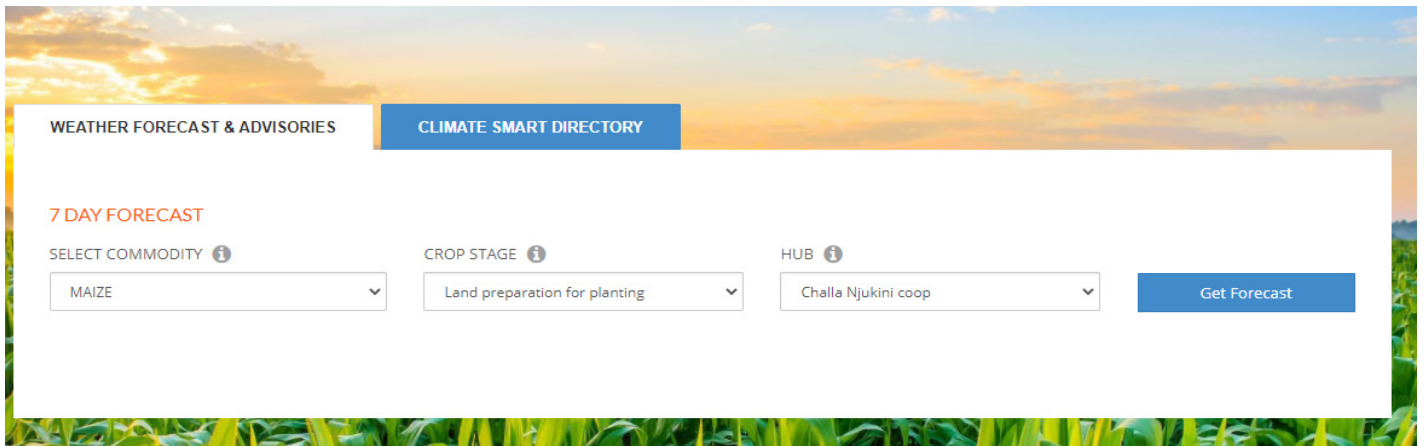
To build the capacity of users on how to navigate the CI4G website

Content of the module

- Selection of locations
- Interpretation of weather forecast information

The website

a. To Navigate go to ci4g.net



b. To receive weather forecast

- i Select commodity
- ii Select crop stage
 - Land preparation
 - Planting and vegetative growth
 - Weeding
 - Cobbing and maturing
 - Harvesting and Post Harvesting
- iii Select the Hub or the Location
 - Challa Njukini Cooperative
 - Marungu Kupojo Coop
 - Tharaka Cereal Growers Coop. Society
 - Makandi Mwangaza CBO
 - Kabisaga CBO
 - Naima CBO
 - Smart Farmers Mathangauta Cooperative
 - Msinduka Cooperative
 - Kitise Farmers Cooperative
 - Katheka CBO
 - Indatwa Cooperative
 - Coopamuja Coop
 - Gwiza Coop
 - Katerera
 - Katine Hub
- iv Click on Get Forecast Button
 - Daily temperature in degree centigrade and precipitation in millimetre.
 - The temperature ranges with display of a high and a low.
 - Wind direction and speed.
 - Relative humidity.
 - 7 Day weather forecasts for each grain hub made of temperature and precipitation.
 - Weather Advisories including seasonal weather forecasts.

The screenshot shows the weather details page for 'THARAKA CEREAL GROWERS COOP. SOCIETY'. The page includes a navigation menu at the top with links for HOME, ADVISORIES, SMART CLIMATE DIRECTORY, MAP, HISTORICAL, and CONTACT. The main content area is divided into two columns. The left column displays the current weather for 'Today' with a temperature of 16.83°C, clear sky, and wind speed of 0.62 M/s. It also shows the forecast for 'Tuesday' with a temperature range of 26.35°C to 16.83°C and light rain. The right column displays 'Rainfall Categories observed within 24 hours' in a table format and 'Some Key Words used in Weather Forecast' with three categories: Mostly Cloudy, Partly Cloudy, and Few Clouds.

Range	Categories
<1mm	Trace
<5mm	Light Rain
5-20mm	Moderate Rain
20-50mm	Heavy Rain
>50 mm	Very Heavy

Some Key Words used in Weather Forecast:

- Mostly Cloudy: Amount of clouds covering 60% to 100% of the sky
- Partly Cloudy: Amount of clouds covering 30% to 60% of the sky
- Few Clouds: Amount of clouds covering 0% to 30% of the sky

C4G
CLIMATE INFORMATION FOR THE GRAIN SECTOR

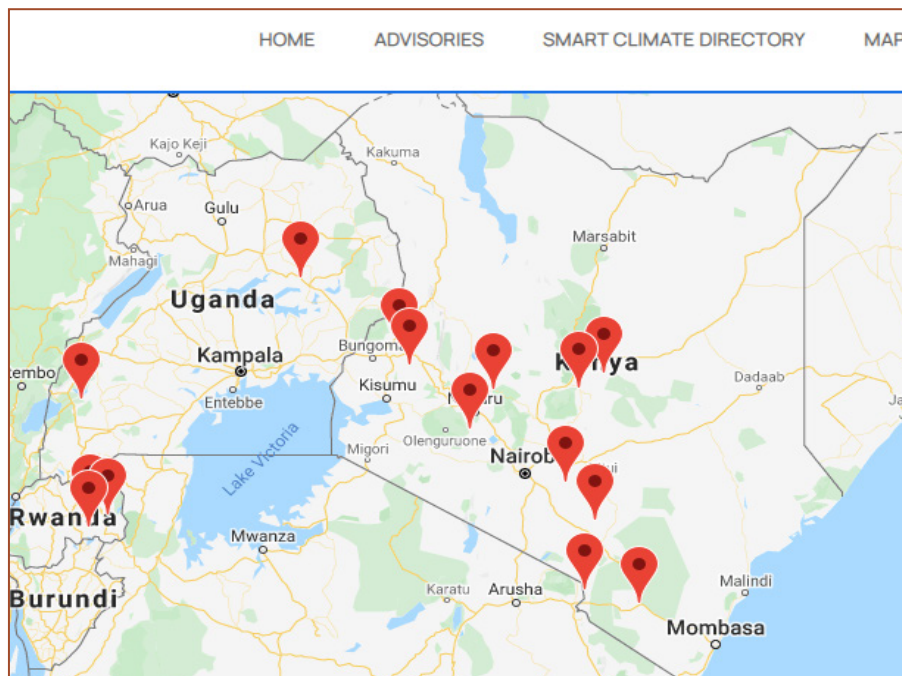
HOME ADVISORIES SMART CLIMATE DIRECTORY MAP HISTORICAL CONTACT

AGRO - ADVISORIES [HOME / AGRO ADVISORIES](#)

Showing 1-20 of 105 items.

#	Location	Ward	Crop	Crop Stage	Advisory
1	Tharaka Cereal Growers Coop. Society	Tharaka Nithi	BEANS	Land preparation for planting	Prepare land with minimal soil disturbance e.g using rippers and Plant certified and drought tolerant seeds since low rainfall is expected
2	Challa Njukini coop	Taita Taveta	MAIZE	Harvesting	The farmers need to start aggregating good quality grains engage traders on structured negotiations for trading in grains.
3	Challa Njukini coop	Taita Taveta	MAIZE	Harvesting	The farmers should repair, clean and fumigate stores and aggregation centres/warehouses in preparation for storing grains.
4	Marungu Kupojo Coop	Taita Taveta	MAIZE	Harvesting	The farmers should repair, clean and fumigate stores and aggregation centres/warehouses in preparation for storing grains.
5	Tharaka Cereal Growers Coop. Society	Tharaka Nithi	MAIZE	Harvesting	The farmers should repair, clean and fumigate stores and aggregation centres/warehouses in preparation for storing grains.
6	Makandi Mwangaza CBO	Meru	MAIZE	Harvesting	The farmers should repair, clean and fumigate stores and aggregation centres/warehouses in preparation for storing grains.
7	Kabisaga CBO	Nandi	MAIZE	Harvesting	The farmers should repair, clean and fumigate stores and aggregation centres/warehouses in preparation for storing grains.

c. You can navigate to any hub also by using the Map that list the location of all the hubs.



d. You can also access historical precipitation information for 24 locations in Kenya.

C4G
CLIMATE INFORMATION FOR THE GRAIN SECTOR

HOME ADVISORIES SMART CLIMATE DIRECTORY MAP

Showing 1-20 of 7,944 items.

#	Location	Year	Month	Precipitation
1	LODWAR	1981	Jan	0
2	LODWAR	1981	Feb	0
3	LODWAR	1981	Mar	43.2
4	LODWAR	1981	Apr	13.6
5	LODWAR	1981	May	1.7
6	LODWAR	1981	Jun	0
7	LODWAR	1981	Jul	0

Module 2: Review questions

1. How are advisories generated?
2. How are weather forecasts acquired?
3. How do users interpret weather forecasting information?

MODULE 3: CROP ADVISORIES

Introduction of the module

Crop advisories are generated by EAGC data analysts who coordinate the EAGC field agents as well as other climate information experts from partner organizations such as the IGAD Climate Prediction and Application Centre (ICPAC). The advisories are real time and location specific nearest to where grain value chain stakeholders operate. Considering the grain value chain right from farm to folk, the advisories are geared towards triggering effective action focusing on agronomic, storage, logistical and trade advisories.

Objectives of the module :

To understand the climate advisory generation process.

What is to be learnt from this module:

1. How advisories are generated
2. How advisories are posted on CI4G website
3. How advisories are distributed using bulk SMS

EXAMPLES OF ADVISORIES

KENYA

The outlook for October/November 2020 indicates that the Western part of the country is likely to experience near to above average rainfall while the Eastern part is likely to experience below average rainfall. The month of October marks the onset of rainfall in several parts of the country. Over Western Kenya, rainfall will continue from September 2020, while the onset for the rest of the country is likely to be the third week of October to the first week of November 2020.

The forecast indicates that some parts of the Highlands West of the Rift Valley, the Lake Victoria Basin, the Southern and Central Rift Valley and North-western Kenya are likely to experience near-average rainfall with a tendency to above average. The rest of the country is likely to experience below average rainfall.

UPPER EASTERN REGION, THARAKA NITHI, MERU, EMBU

The major crops in the Upper Eastern region include maize, green grams, cowpeas and sorghum. Most of the farmers are in the planting stage, which includes land preparation, seed and fertilizer purchase just but to mention a few.

- The weather forecast indicates that the eastern region will receive below average rainfall. Therefore, farmers are advised to use drought tolerant varieties of seeds that will take a short time to grow in order to mitigate the effects of low rainfall.
- Farmers should use fertilizers sparingly to avoid the risk of rotting or seeds in the case of little to no rainfall. The use of fertilizer should be in line with updated weather forecasts and advise from an agronomist or the Ministry of Agriculture.

WESTERN REGION

The major crops in the western region are maize, beans and wheat. Most of the farmers are currently harvesting, drying and selling.

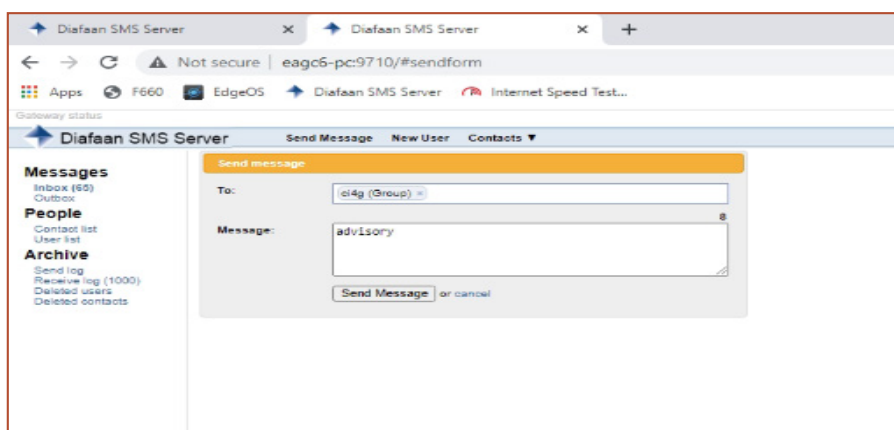
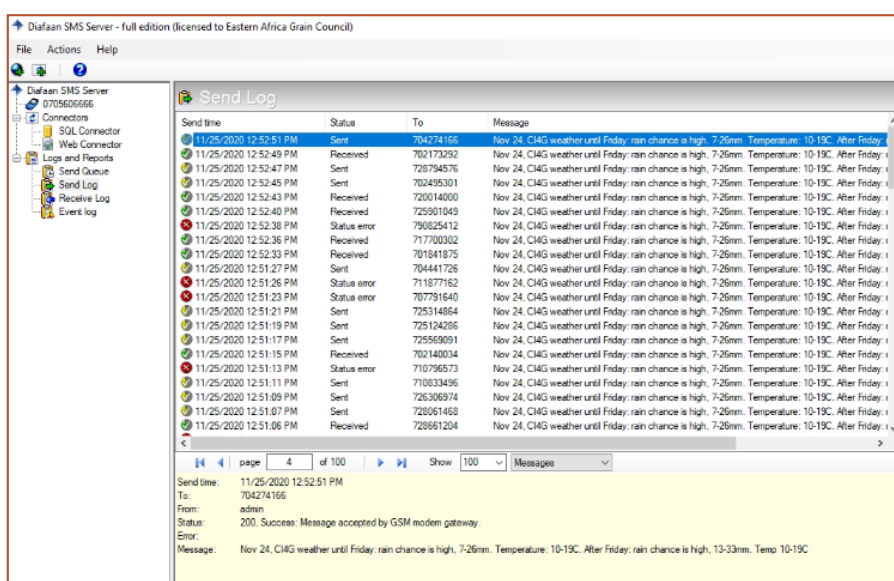
Crop Advisory

- The weather forecast indicates that the region is expected to receive above average rainfall. Therefore, farmers should avoid harvesting and drying during rainy days.
- Drying on tarpaulins highly encouraged and storage in Hermetic storage bags. Grain dryers are also encouraged.
- Farmers to start identifying aggregators near them.
- Farmers should start purchasing harvesting bags, tarpaulins and hermetic storage bags harvesting, drying and storage of beans and maize.

Module 4: The CI4G SMS Platform

Introduction of the module

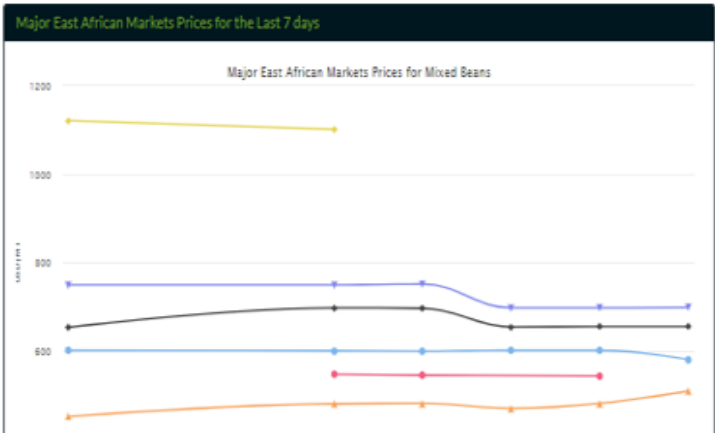
The CI4G users will get an opportunity to understand the SMS platform which is used to send advisories to farmers using the EAGC SMS Servers. The SMS are delivered through an SMS gateway software which is utilized under a variety of configurations by use of an SMS gateway and bulk SMS. The SMS gateway is accessed on a browser and messages delivered through the EAGC's gateway. Farmers from each hub receive a weekly SMS on the weather condition in their region.





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