



DARAJA

Impact

Results

Endline Data Analysis
December 2020



Dar Es Salaam



Nairobi



Key Indicators for Data analysis:



% Access

In what ways do people regularly access/ receive weather climate information (E.g. weather forecasts or warnings)?



% Preference

Why do respondents prefer receiving/accessing weather and climate information from specific channels



% Understanding

How well the respondents are able to understand the weather information (e.g. forecast)? (*technical details, advice, probability, impacts, implications*)



% Use

How do people use the information they get through different channels, which are the most common preparatory actions taken

Nairobi



398 HHS respondents



4 areas /1 Informal Settlement



10 Focus Group Discussions

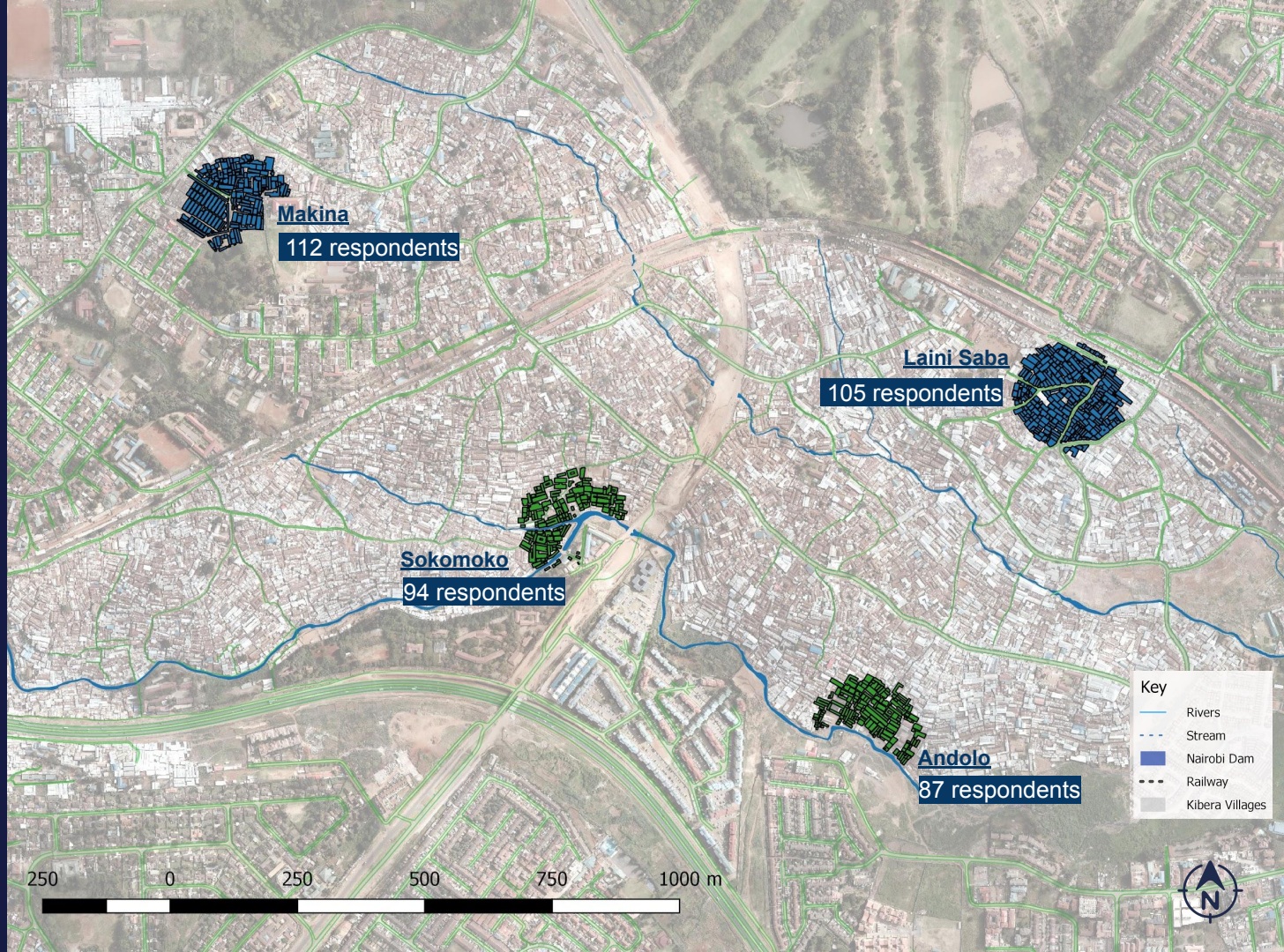


12 Key Informant Interviews



Selected HHS Locations Nairobi

398
respondents



Nairobi



Pilots:

- Community communication system
- City-wide radio station
- Community radio stations
- Social media and awareness campaign

Key Inputs:

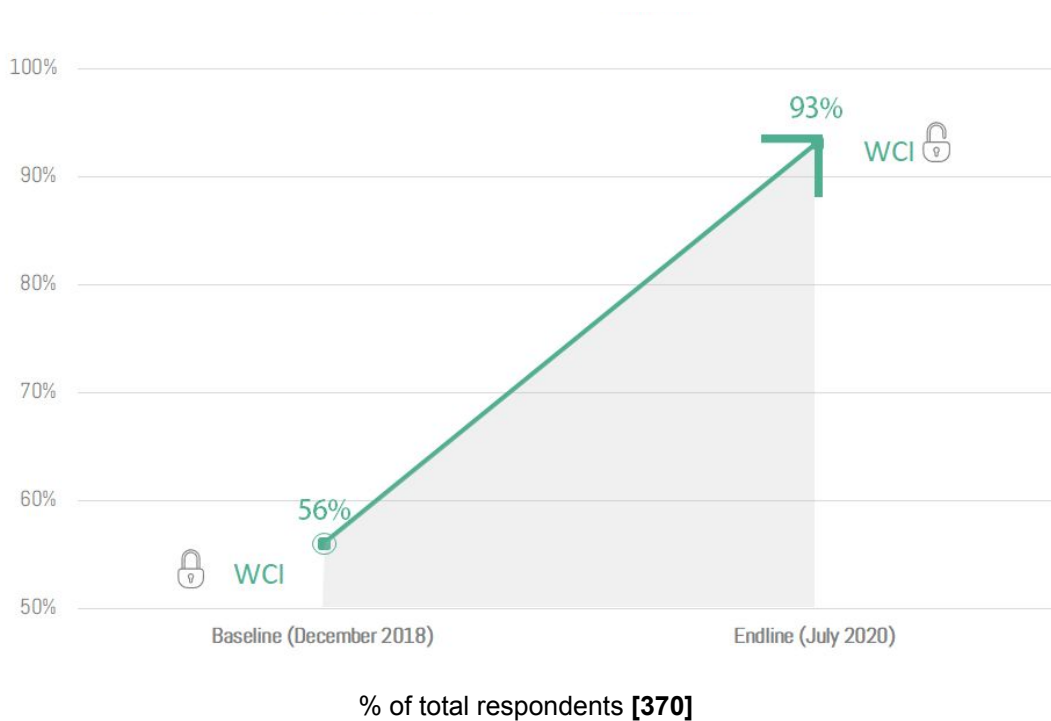
- Daily and weekly forecast
- Terminology reference guide
- Impact description guide
- Re-designed weather icons

Access

93% respondents access or receive weather and climate information.

Compared with 56% of respondents in the baseline.

% Access from the baseline to the Endline



Access

SMS and Radio are the most popular ways to access/ receive WCI.



57%

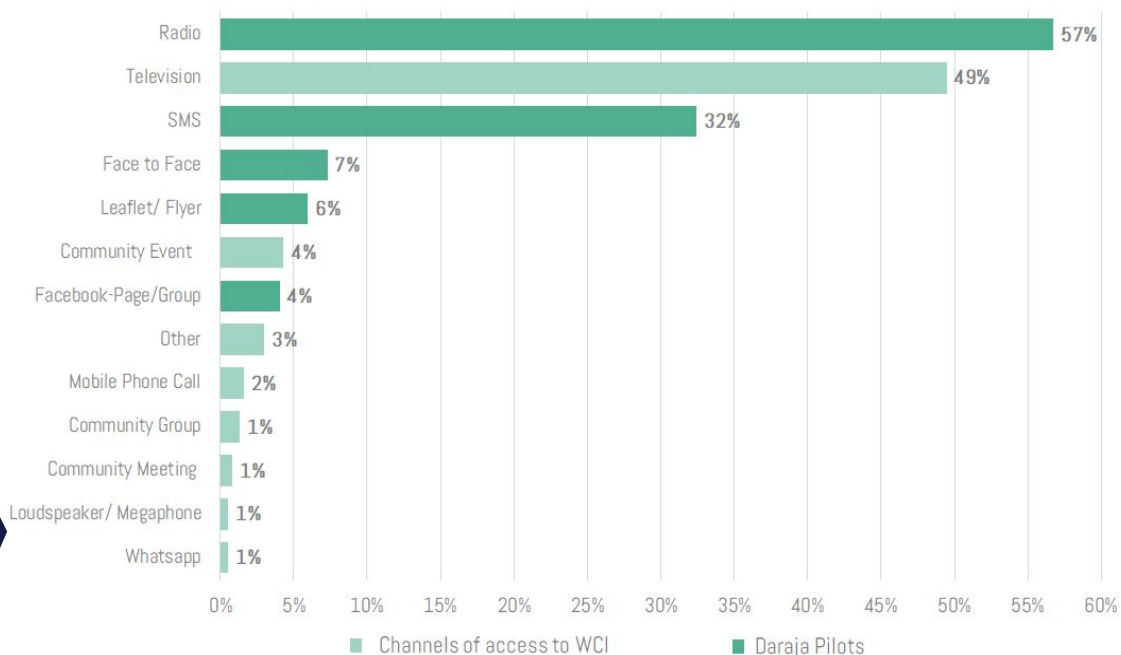
Radio



32%

SMS

% of respondents who access WCI by channel



% of total respondents who access WCI [370 respondents]

Nairobi / HHS Survey Data Results-2020

Access: Pilot channels

54% respondents access or receive WCI through the DARAJA informed services.



31% receive Weather Mtaani SMS



31% listen to WCI on one of the Weather Mtaani participating radio stations



19% by leaflet or community events/ meetings



7% by Habari Kibra Facebook page

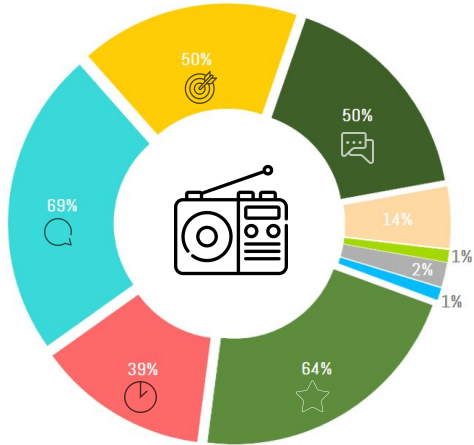
% of total respondents who access WCI [370 respondents]

Nairobi / HHS Survey Data Results-2020

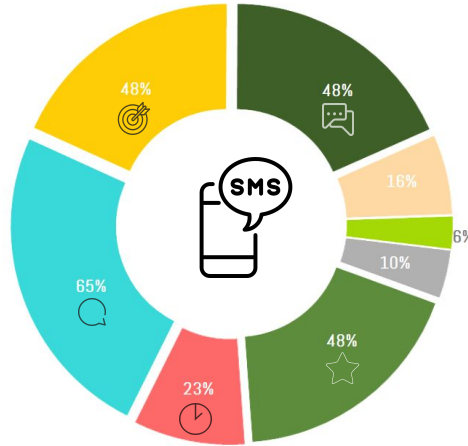


Access: Preference

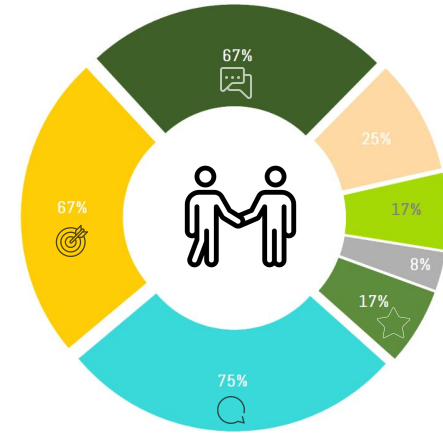
Radio
36 respondents



SMS
31 respondents



Face to Face / Fb / Leaflet
12 respondents



- The information was easy to understand
- Language used
- I trusted the source
- Advice was provided
- Relevant to my area
- Other

- Timing of the forecast (when I received it)
- The information was accurate
- It was relevant to my needs
- Advice provided relevant to me
- Visuals included
- Dont Know

Based on respondents who access WCI through a single channel

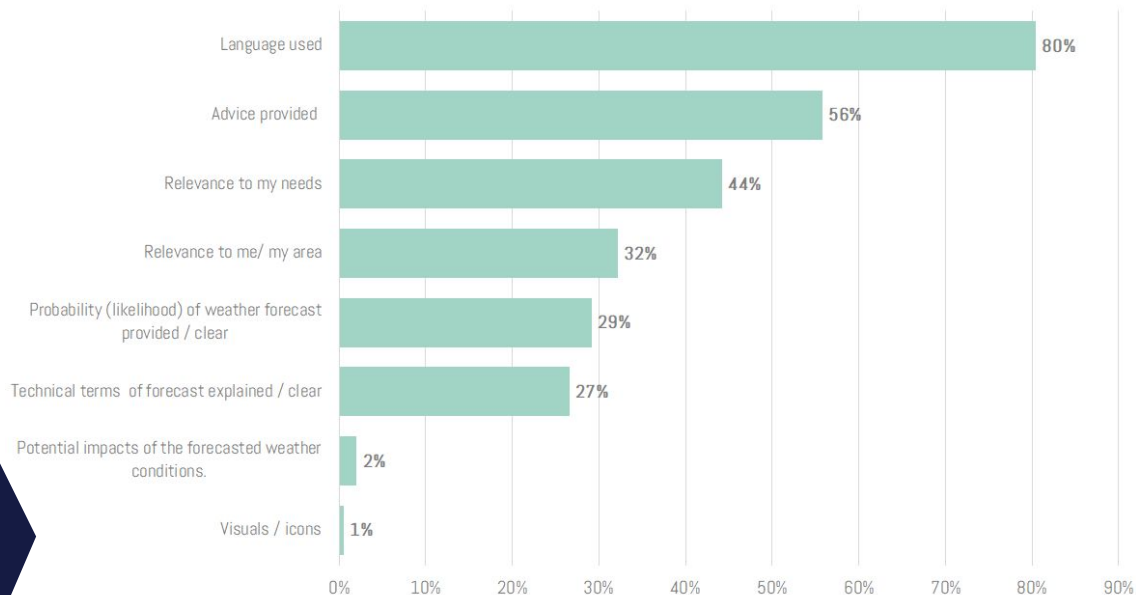
Understanding: Daraja pilot channels

93% of respondents understood information shared through DARAJA pilots **very well**.

Most popular features that made understanding easier:

1. Language Used (**80%**)
2. Advice Provided (**56%**)
3. Relevance to their needs (**44%**)

% of features which made understanding easier
Daraja Pilot Channels



% of respondents who state they understand the WCI very well **[199 respondents]**

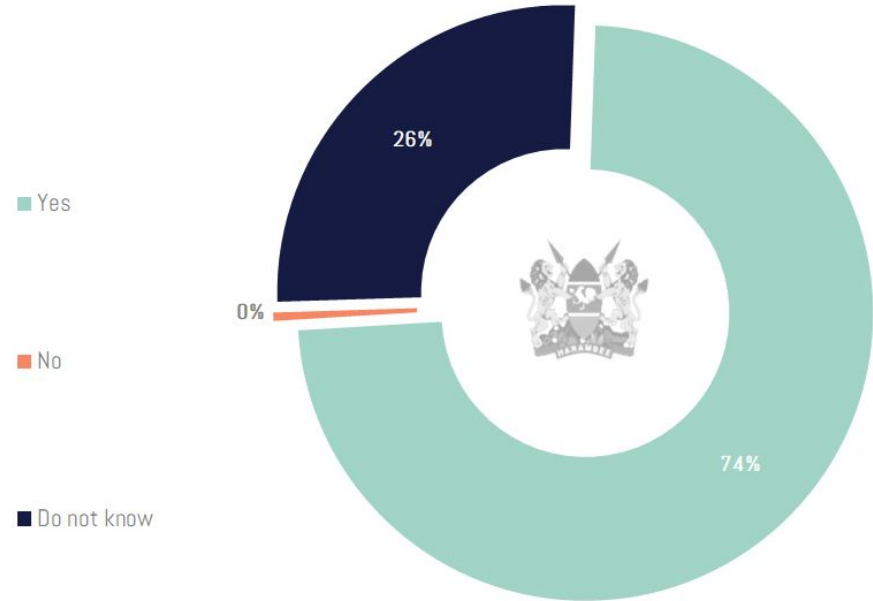
Nairobi / HHS Survey Data Results-2020

Understanding: Daraja pilot channels

77% know the source of the information.

74% are aware the source of the information is KMD.

% of acknowledgment of KMD as source of WCI



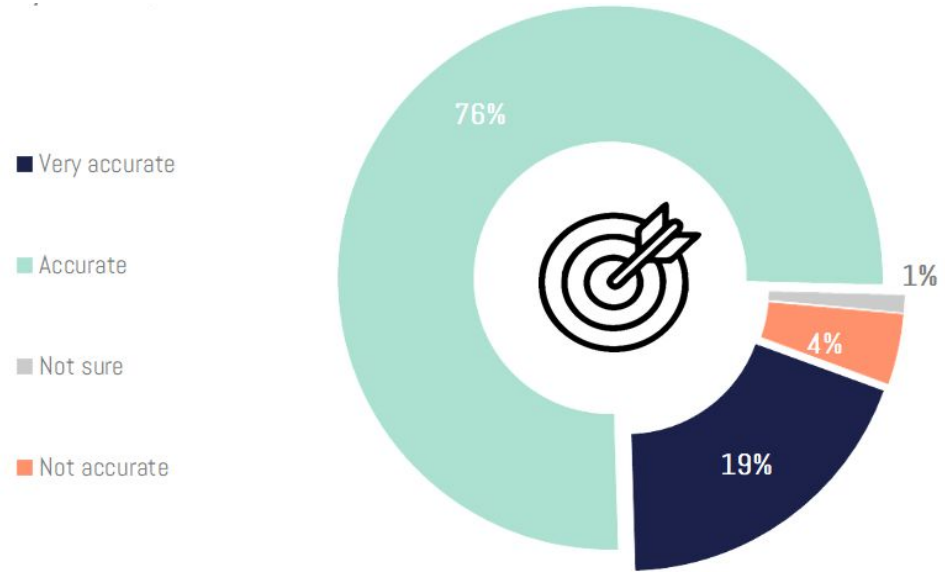
% of respondents who access WCI through Daraja services **[215 respondents]**

Nairobi / HHS Survey Data Results-2020

Accuracy

76% of respondents stated they found the information through the DARAJA services to be **accurate**, and an additional 19% found it to be **very accurate**

% Accuracy of the WCI received



% .of respondents who access WCI through pilots **[215 respondents]**

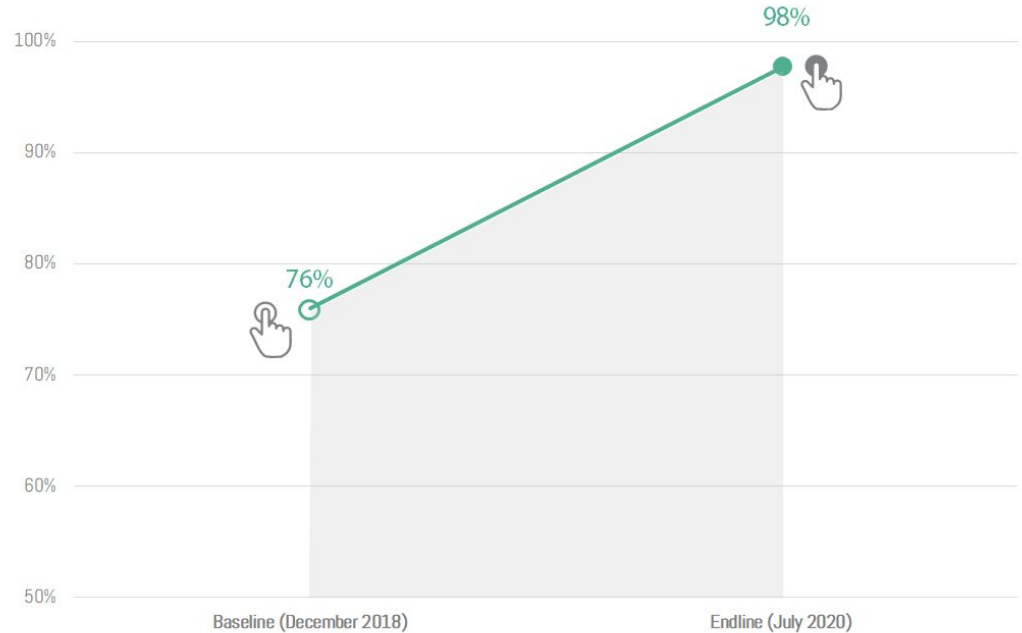
Use:

98% use the information through the DARAJA pilots to take preparatory action.

Compared with 76% in the baseline.

85% share the information with their household, friends and family.

% of respondents who use WCI



% of respondents who access WCI through pilots **[215 respondents]**

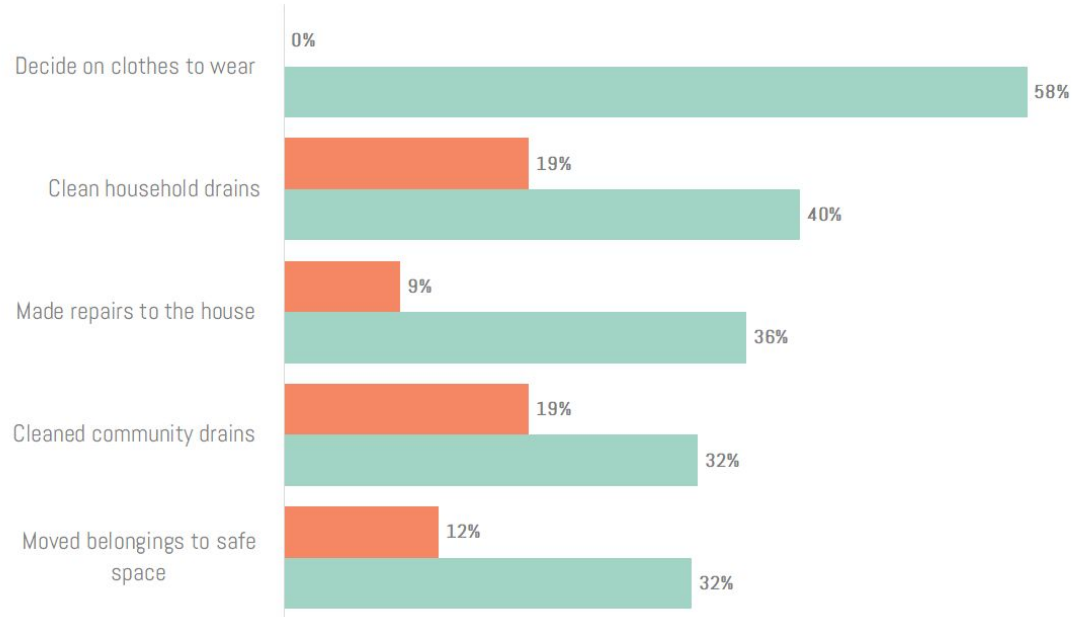
Nairobi / HHS Survey Data Results-2020

Use: Most common actions taken

Common actions taken

1. Decide on clothes to wear*
2. Clean household drains (+110%)
3. Made repairs to house (+300%)
4. Clean Community drains (+68%)
5. Moved belongings to a safe place (+166%)

% most common ways of use, from the Baseline to the Endline



Baseline [300 respondents]

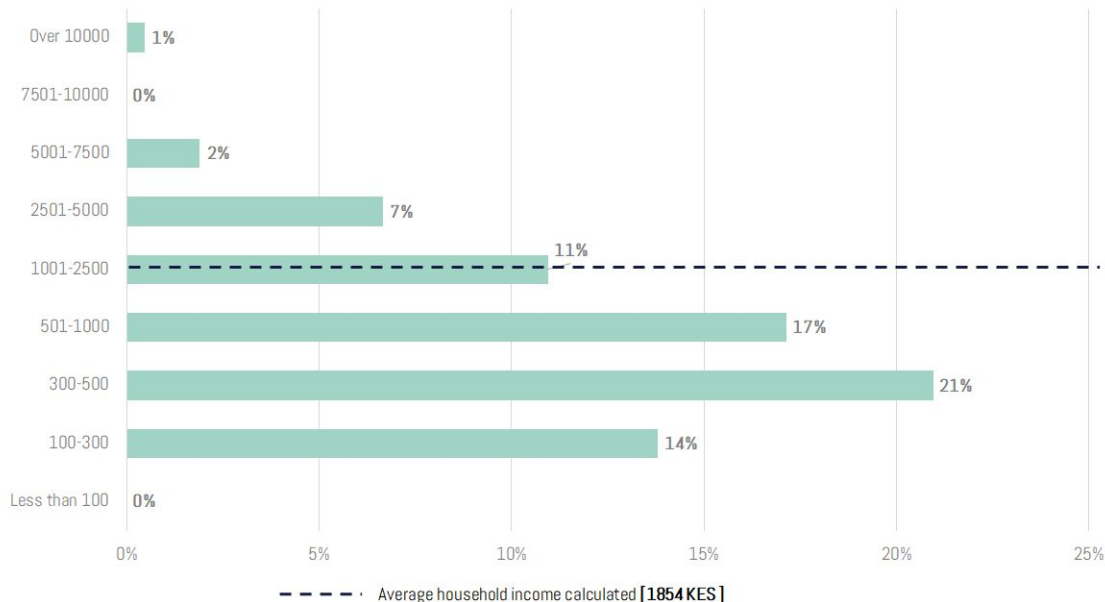
Endline [210 respondents]

Use: Avoided Damage & Loss

76% felt the actions they took saved their household income.

76% felt they were able to protect their assets and valuables, most commonly their clothing, radio, TV, bed, food, food and furniture.

% of approximate saved income per week, by receiving WCI
Kenyan Shilling (KES)

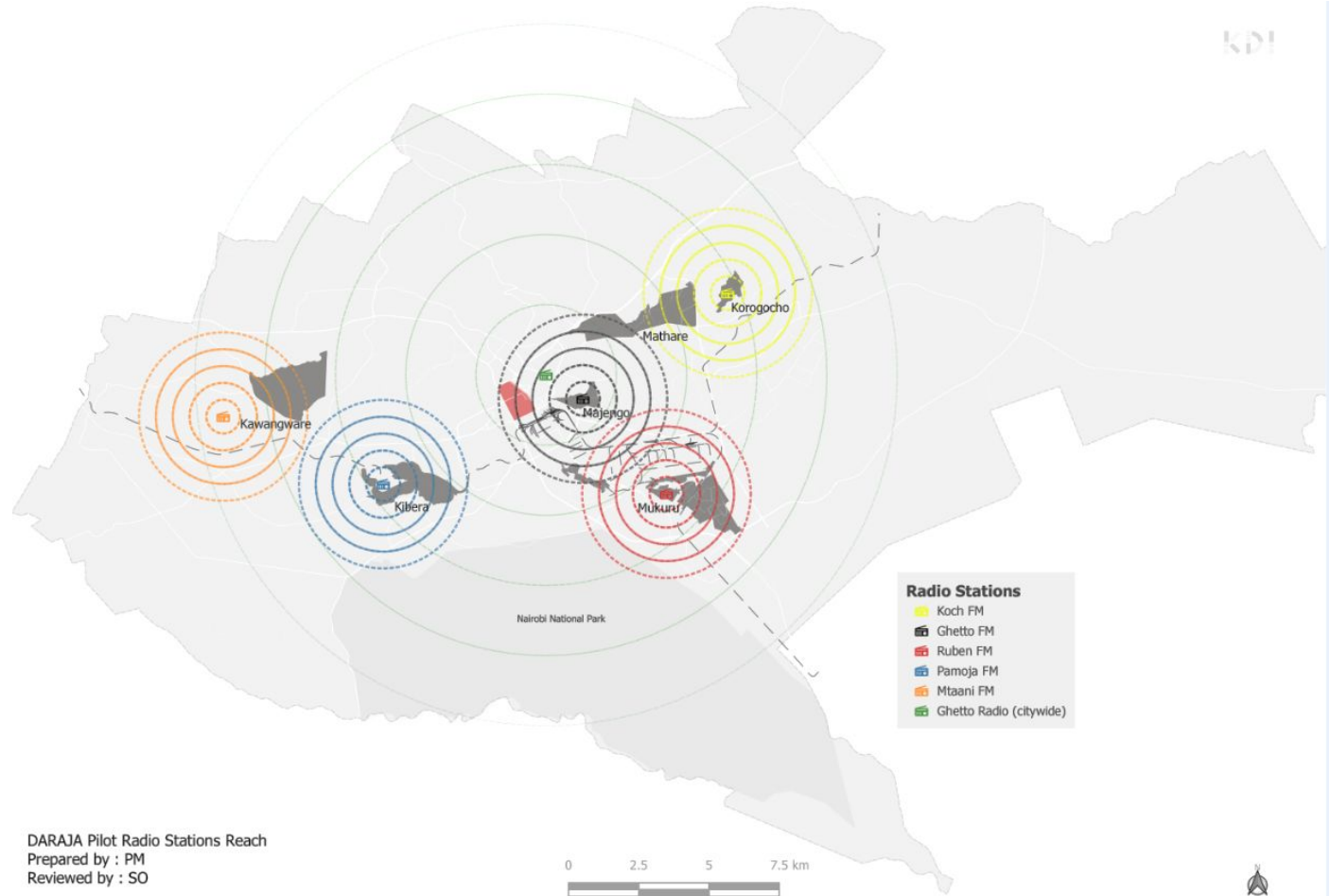


% of respondents who use WCI accessed through Daraja Pilots [210 respondents]

Nairobi / HHS Survey Data Results-2020

Reach: Radio stations

Ghetto Radio	800,000 - 1 million
Pamoja FM	460,000
Ruben FM	300,000
Ghetto FM	200,000
Mtaani FM	300,000
Koch FM	500,000



Radio Stations

- Koch FM
- Ghetto FM
- Ruben FM
- Pamoja FM
- Mtaani FM
- Ghetto Radio (citywide)

DARAJA Pilot Radio Stations Reach
Prepared by : PM
Reviewed by : SO



City-wide Radio pilot: Matatu survey findings

66 Matatu drivers surveyed



On routes:

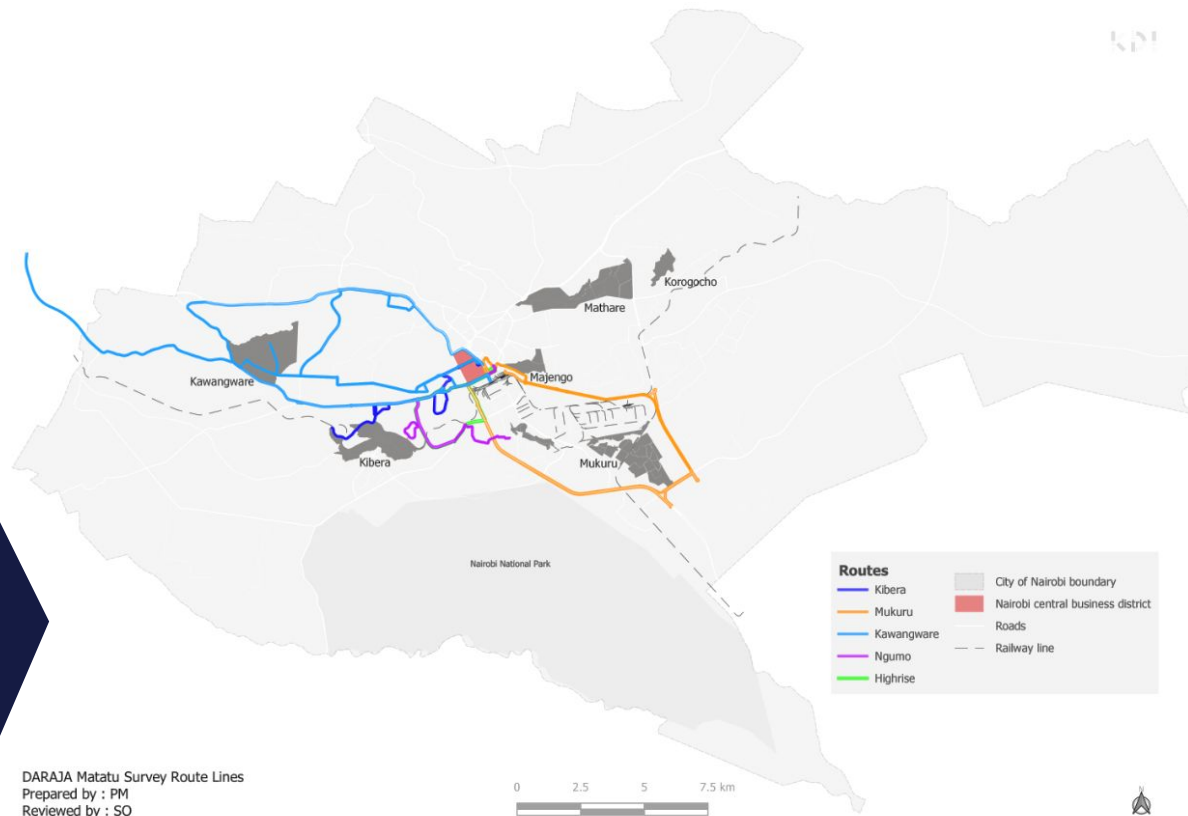
Kawangware to CBD

Mukuru to CBD

Kibera

Ngumo

Highrise

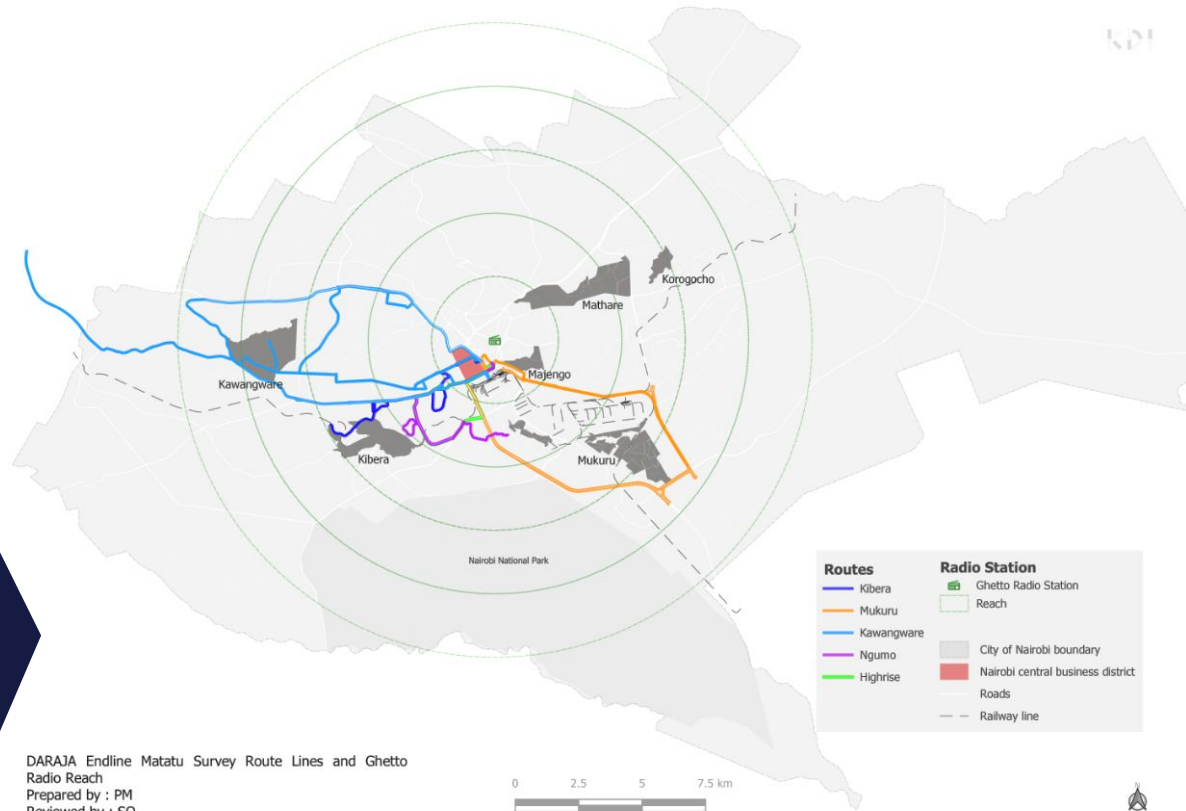


City-wide Radio pilot: Matatu survey findings

65% listen to Ghetto Radio everyday

94% have taken note of the weather forecast on Ghetto Radio

% of total respondents [66]



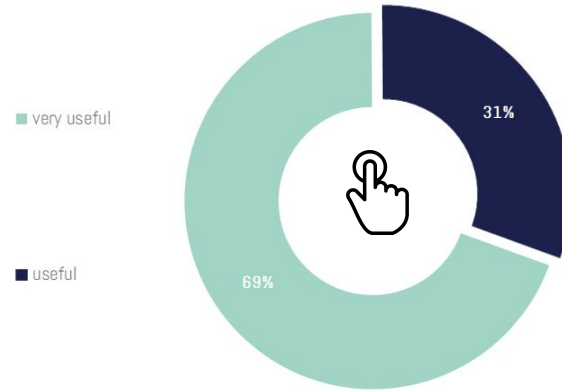
DARAJA Endline Matatu Survey Route Lines and Ghetto Radio Reach
Prepared by : PM
Reviewed by : SO

City-wide Radio pilot: Matatu survey findings

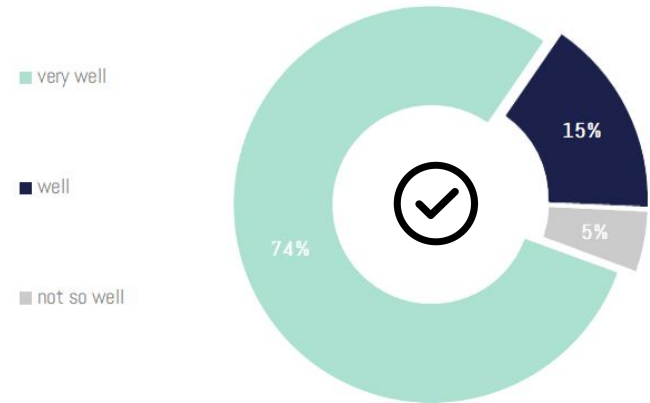
69% find the weather announcement to be **very useful**. The remaining drivers found it to be **useful**.

74% understand the weather announcement **very well**. An additional 15% understand it **well**.

% of respondents who find WCI useful



% understanding the message given



% of total respondents **[66]**

Dar Es Salaam



106 HHS respondents



1 settlement



5 Focus Group Discussions



6 Key Informant Interviews

Dar Es Salaam



Pilots:

- Community communications system
- Schools Programme
- Clouds FM radio
- Local municipality partnerships and community training

Key Inputs:

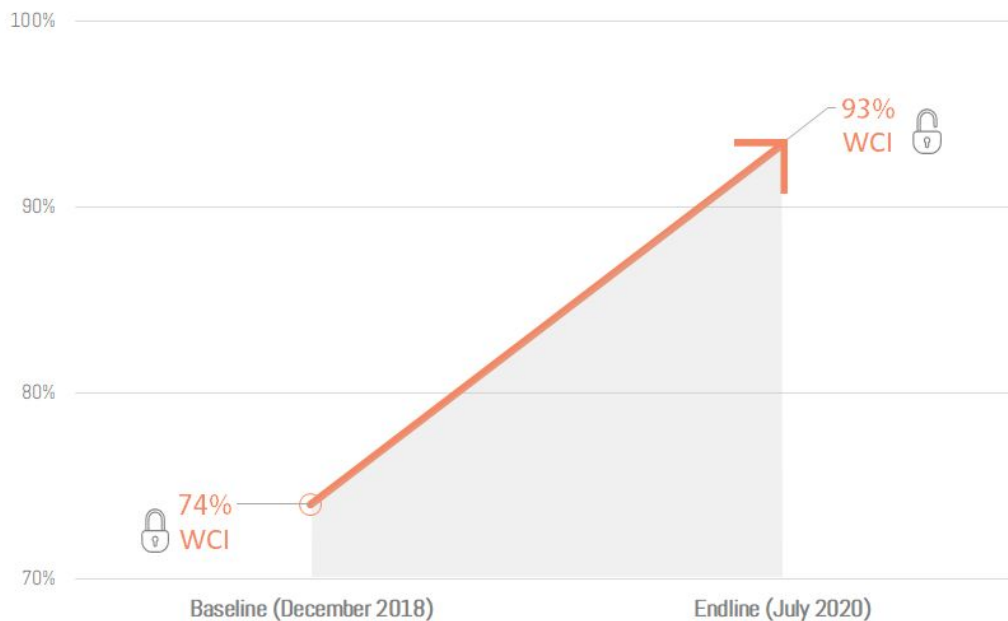
- Rolling 5-days forecast
- Terminology reference guide
- Impact description guide

Access

93% respondents access or receive weather and climate information.

Compared with 74% of respondents in the baseline.

% Access from the baseline to the Endline



% of total respondents [105]

Access

79% respondents use the DARAJA pilots with SMS being the most popular channel.



SMS

69%



Face to Face

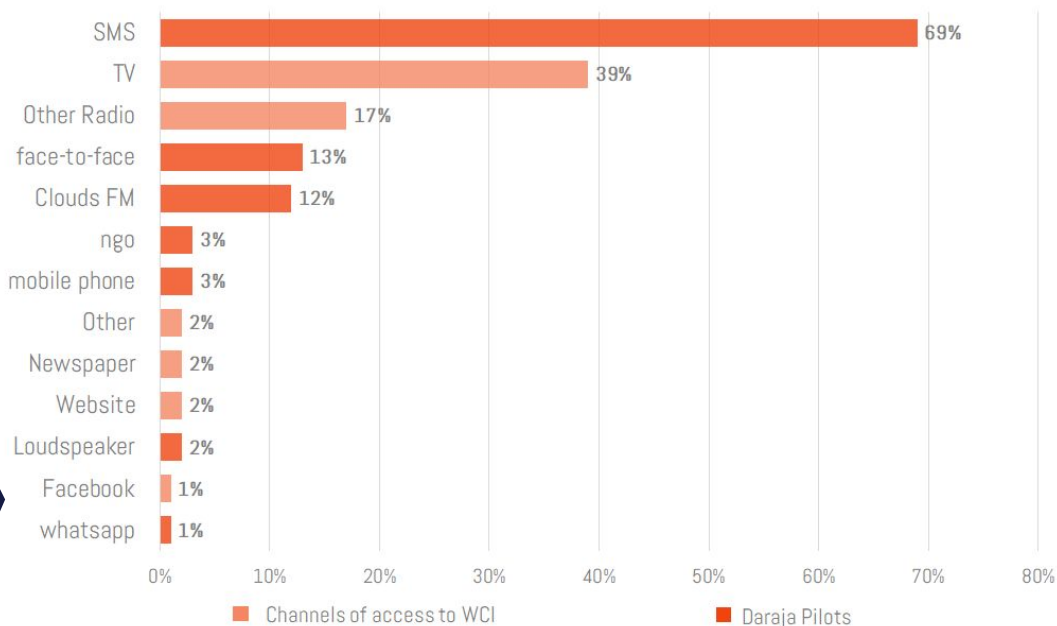
13%



Radio

12%

% of respondents who access WCI by channel

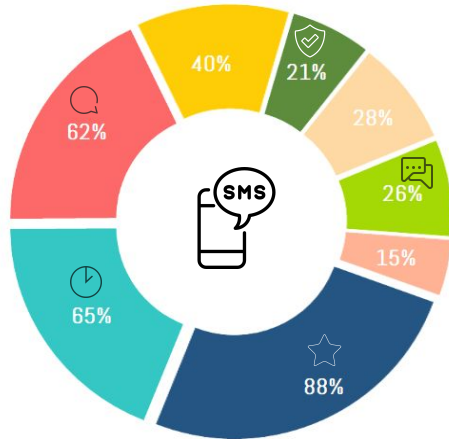


* % of respondents who access WCI [99 respondents]

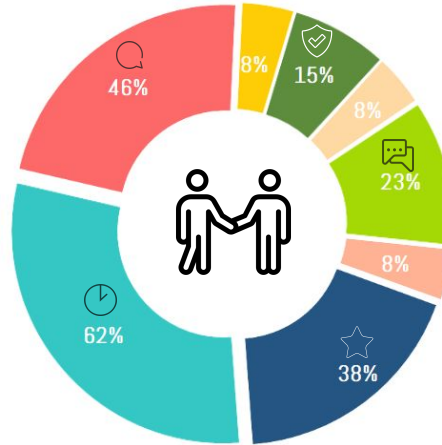
Access: preference

Reason for preferring pilot channels to access WCI

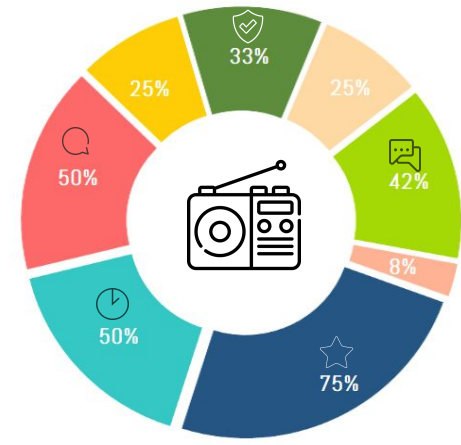
SMS Pilot
69% of respondents



Face to Face
13% of respondents



Clouds Fm Radio
12% of respondents



- ★ The information was easy to understand
- 🗨️ Language used
- 🛡️ I trusted the source
- 💬 Advice was provided
- 📺 Visuals included

- 🕒 Timing of the forecast (when I received it)
- 🟡 The information was accurate
- 🟠 It was relevant to my needs
- 🟡 Advice provided relevant to me, Relevant to my area

% of respondents who access WCI [99 respondents]

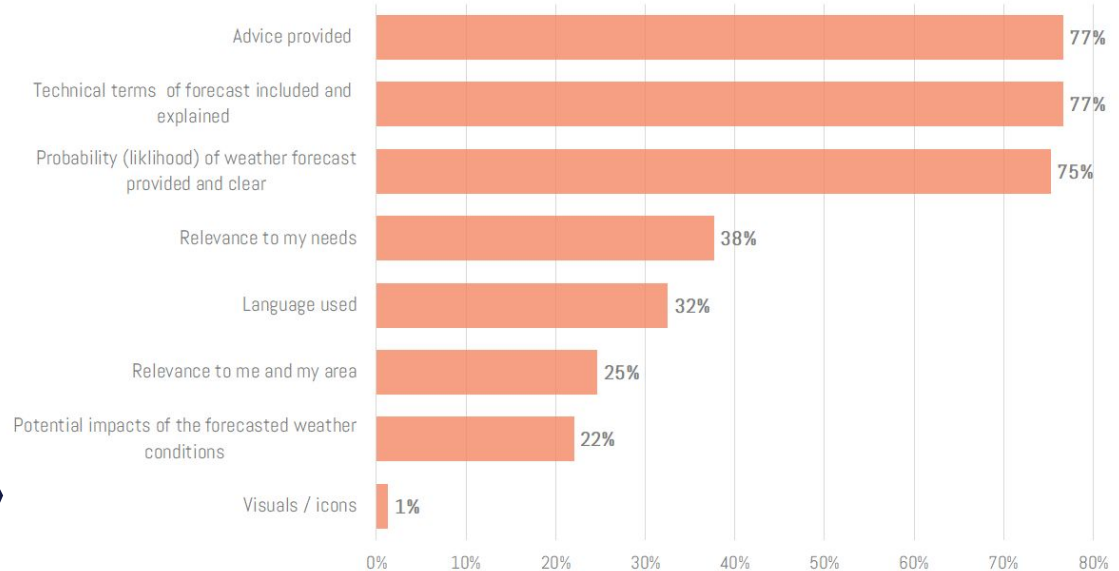
Understanding

Overall, **91%** of respondents state they understand the information received through pilot channels very well.

Most popular features that made understanding easier:

1. Advice provided (**80%**)
2. Technical terms of forecast explained (**80%**)
3. Probability of weather forecast provided and clear (**78%**)

% of features which made understanding easier



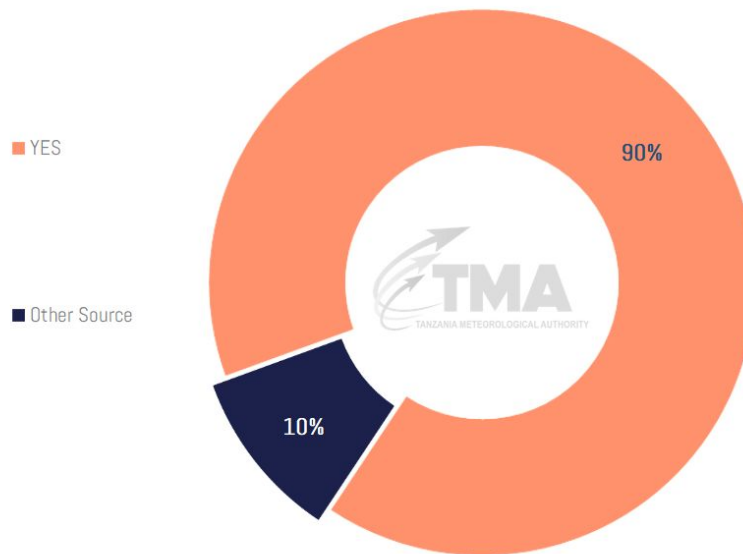
% of respondents who state they understand the information very well through Daraja pilots **[77 respondents]**

Understanding

90% stated the source of the WCI as TMA.

Compared with 72% of respondents in the baseline who were aware TMA is the mandated WCI provider.

% of respondents who indicate TMA as source of WCI

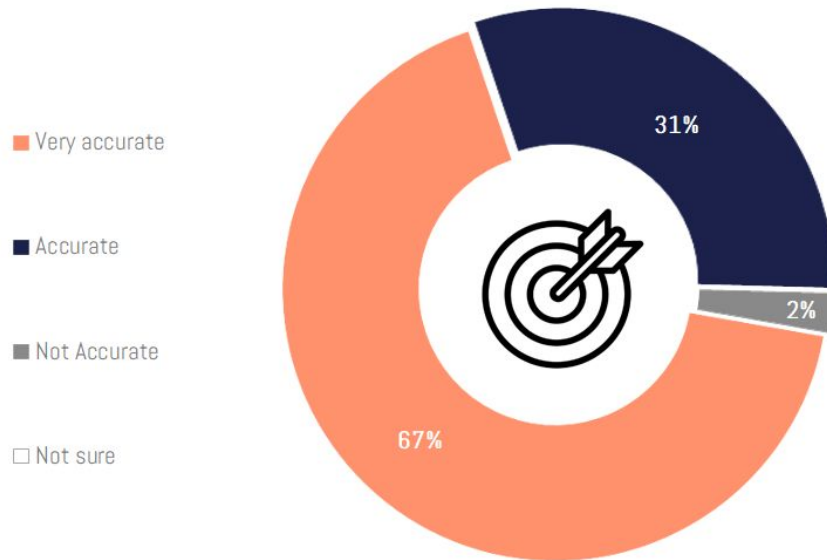


% of respondents who access WCI [99]

Accuracy

67% of respondents stated they found the information through the DARAJA services to be **very accurate**, and an additional 31% found it to be accurate.

% Accuracy of the WCI received



% of respondents who access WCI through Dararaja Pilots **[85 respondents]**

Dar Es Salaam / HHS Survey Data Results-2020

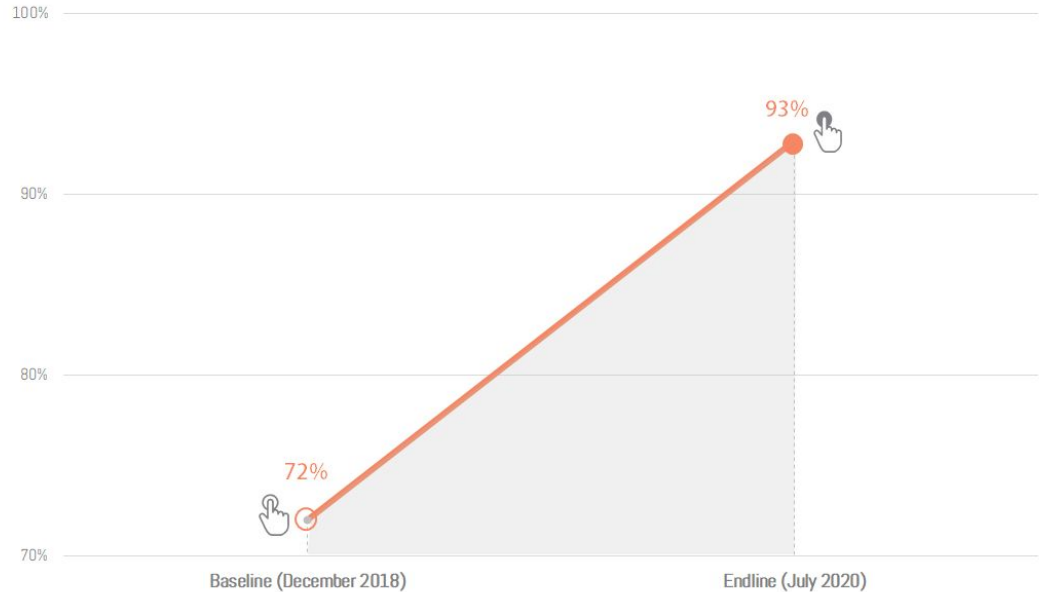
Use

93% use the information through the DARAJA pilot services to take preparatory action.

Compared to 72% of respondents in the baseline.

80% of those share the information at work, with their household, other family and with friends.

% of respondents who use WCI



% of respondents who access WCI through Daraja Pilots **[85 respondents]**

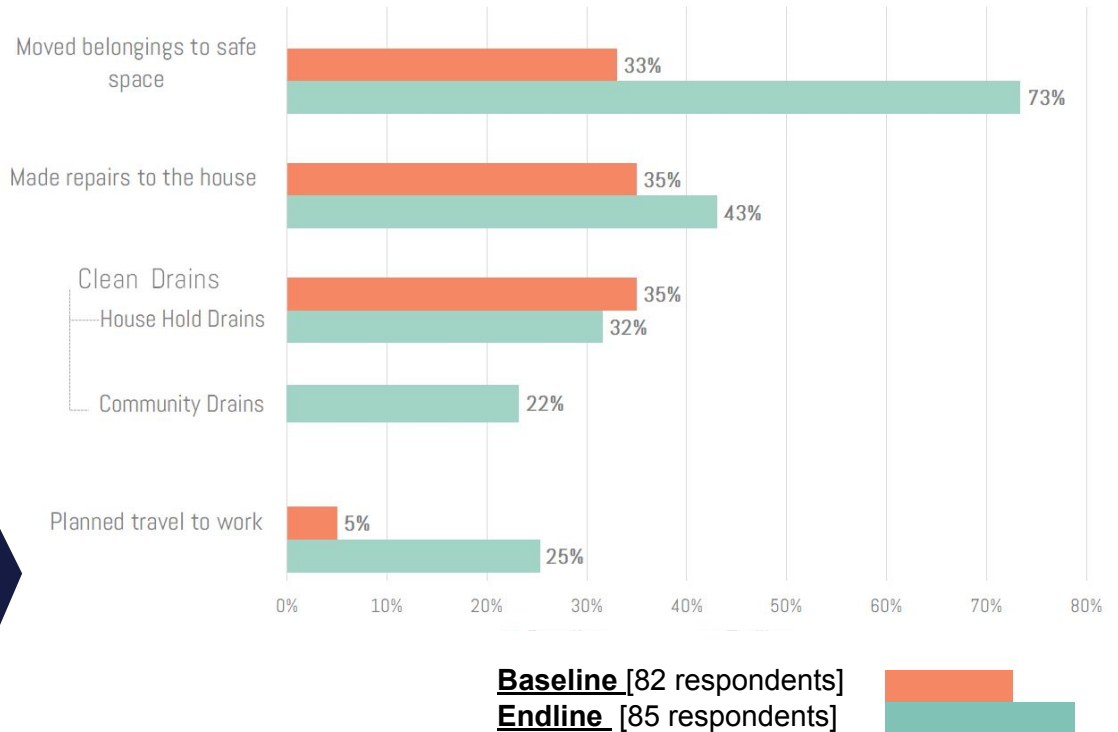
Dar Es Salaam / HHS Survey Data Results-2020

Use:

Common actions taken

1. Moved belongings to safe space.
2. Made repairs to the house.
3. Clean household drains.
4. Planned travel to work.
5. Clean community drains.

% common ways of use, from the Baseline to the Endline

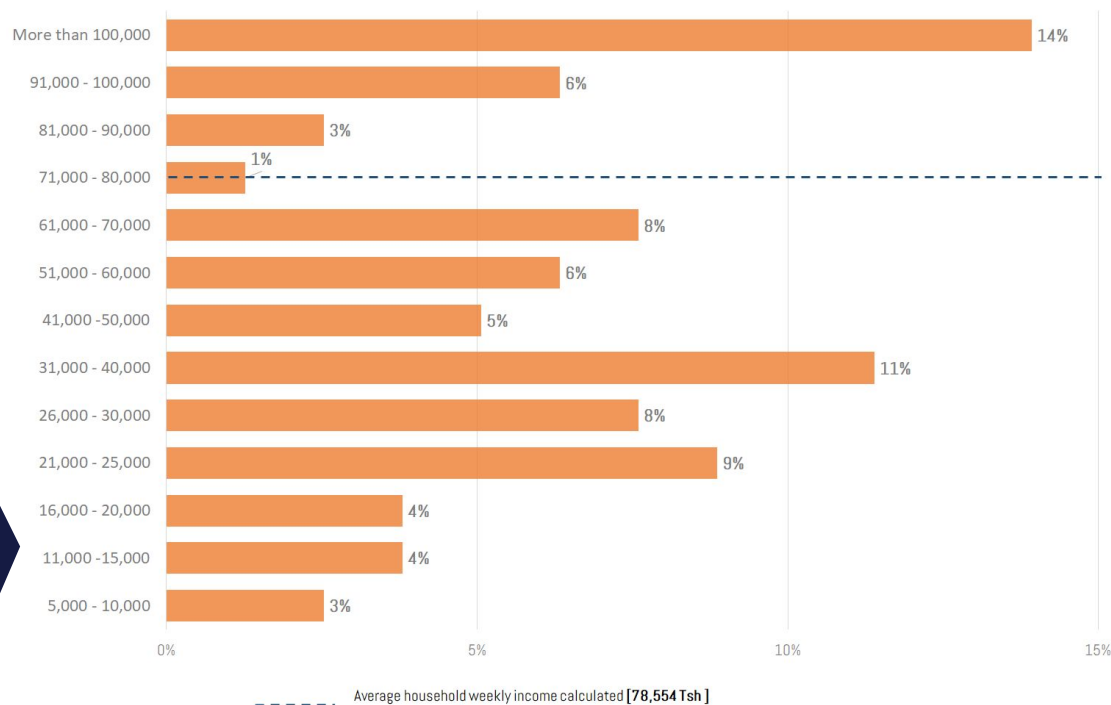


Use: Avoided Damage & Loss

81% felt the actions they took saved their household income.

81% felt they were able to protect their assets and valuables, most commonly their TV, small furniture, food and clothing.

% of approximate saved income per week, by receiving WCI
Tanzanian Shilling (Tsh)



% of respondents who used WCI through Daraja Pilots **[79 respondents]**

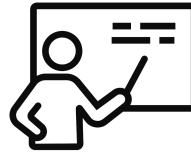
Dar Es Salaam / HHS Survey Data Results-2020

School pilot:

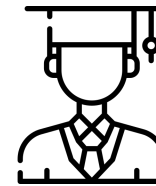
Teachers and school children as an intermediary in Weather Climate Information Services (WCIS).

Teachers were trained on WCI and implemented design modules and training classes for the students.

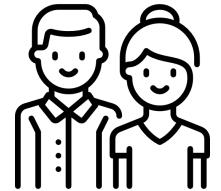
Tools like notice boards and school assemblies during school hours were used to share information.



Teachers trained
Total 19



Students trained
Total 240



Student-led awareness campaign

With 1 Teacher Coordinating Programme

An additional 13,711 students across the 8 schools have received the information

Information was shared within households, and with family and friends

School pilot:

Feedback survey from **153 students** from **5 schools**

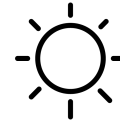
KII with teachers



153 students

76% More understanding of WCI

69% Take actions to protect themselves & community

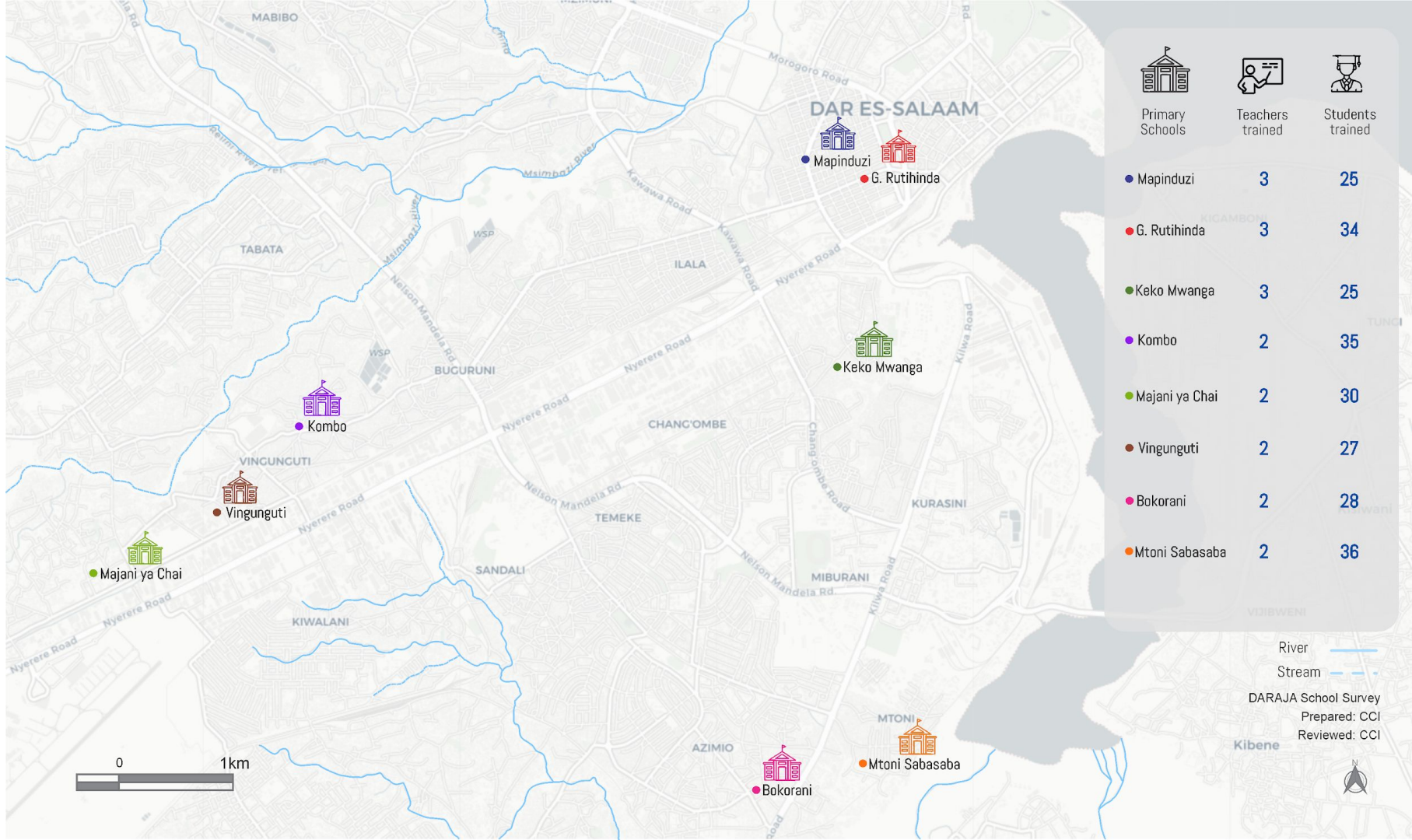


- Drink water
- Sit in shade
- Loose clothing
- Relocate
- Avoid playing in stagnant water
- Protective clothing & umbrella



57% Parents follow up on WCI through children & media

Schools: save budget on healthcare, books & resources, building maintenance



Primary Schools





Teachers trained



Students trained

● Mapinduzi	3	25
● G. Rutihinda	3	34
● Keko Mwangi	3	25
● Kombo	2	35
● Majani ya Chai	2	30
● Vingunguti	2	27
● Bokorani	2	28
● Mtoni Sabasaba	2	36

River 
Stream 

DARAJA School Survey
Prepared: CCI
Reviewed: CCI

Kibene



Nairobi



Information
Ecosystem Maps





 **Aim:**

1. **Identify channels** that people use to gain information
2. Establish **multi-way communication** between TMA and users
3. **Diagnose blockages** to the flow of WCI
4. Develop practical measures to **remedy blockages**

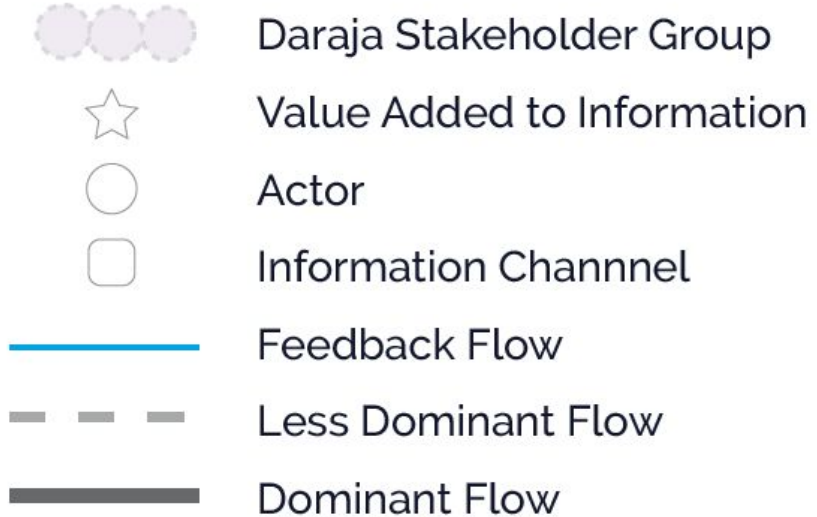
Concept:

Diagrams show:

- Actors
- Channels used
- Frequency and popularity of info flow

Additional for Endline:

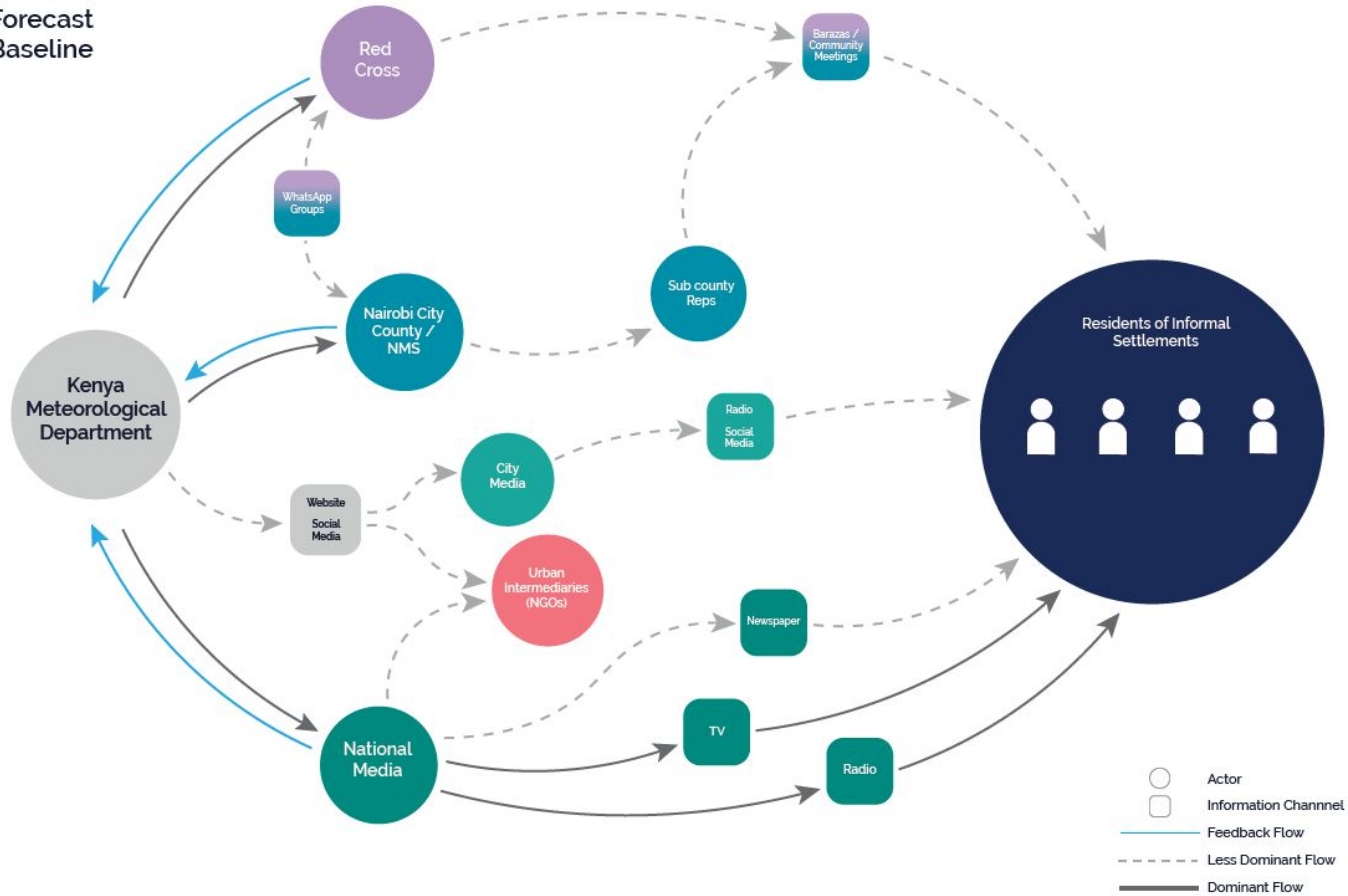
- Coordination of actors
- Value added through interpretation and locally relevant advice



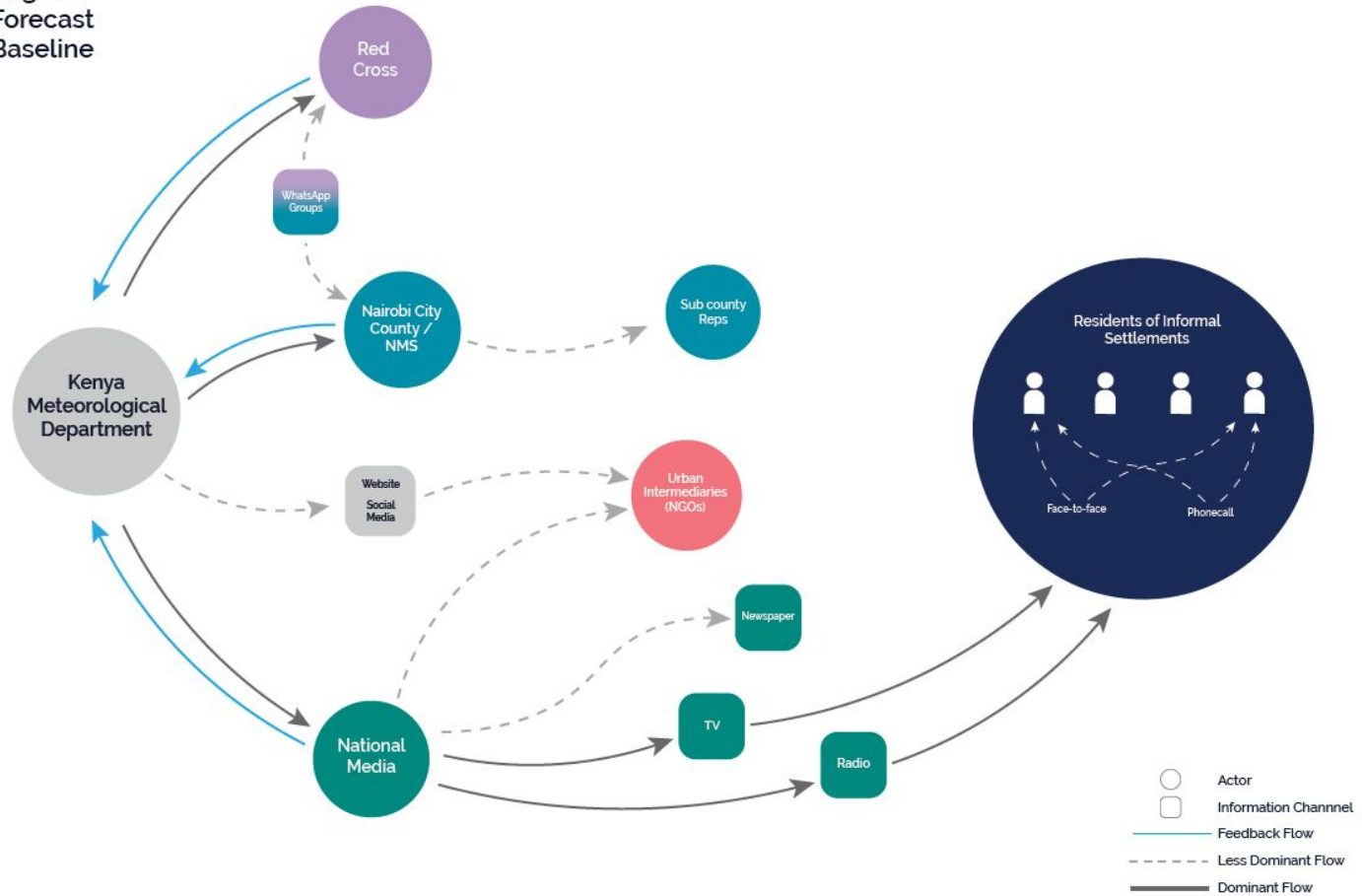
 **Baseline:**



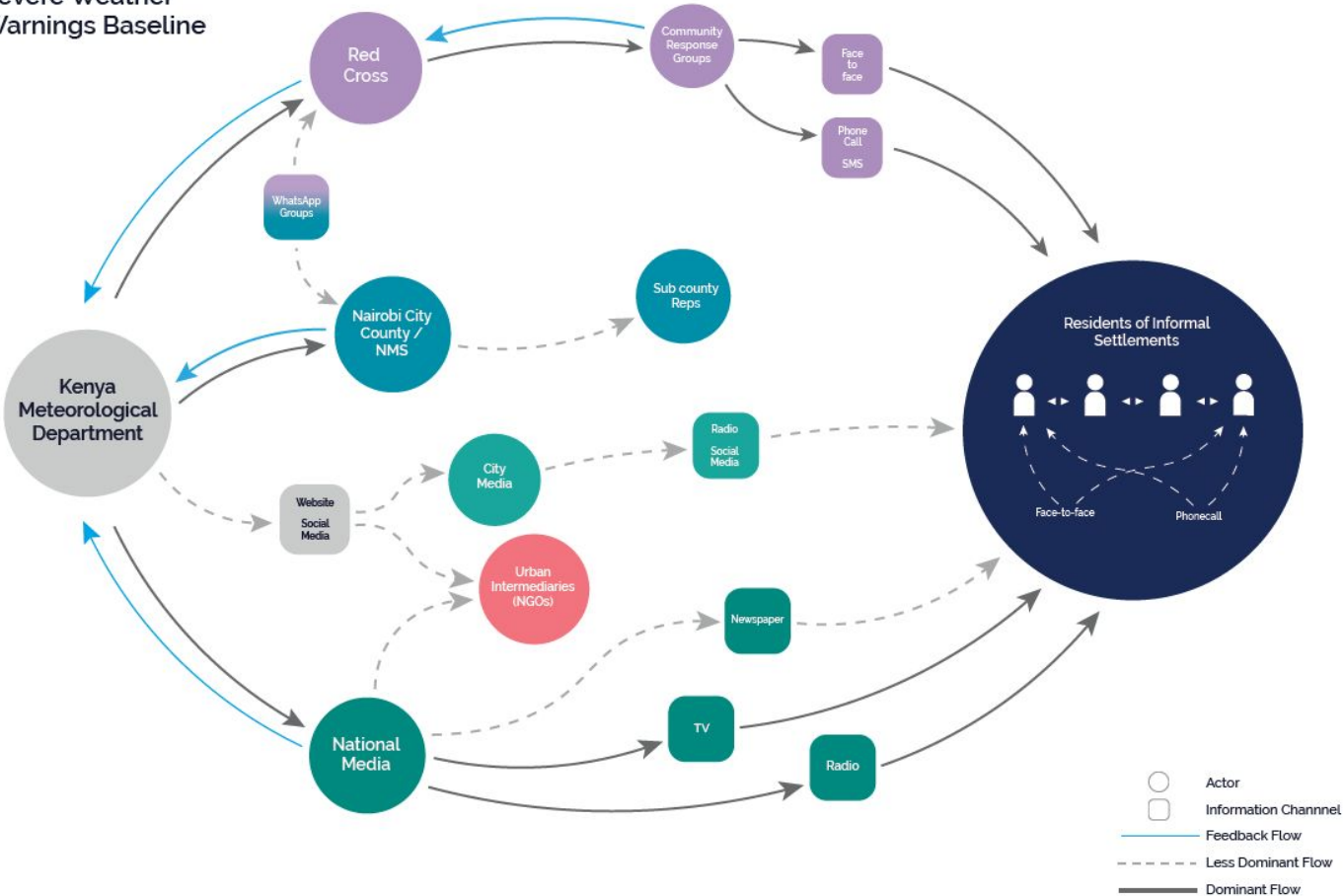
Nairobi:
Seasonal
Forecast
Baseline



Nairobi:
Regular
Forecast
Baseline



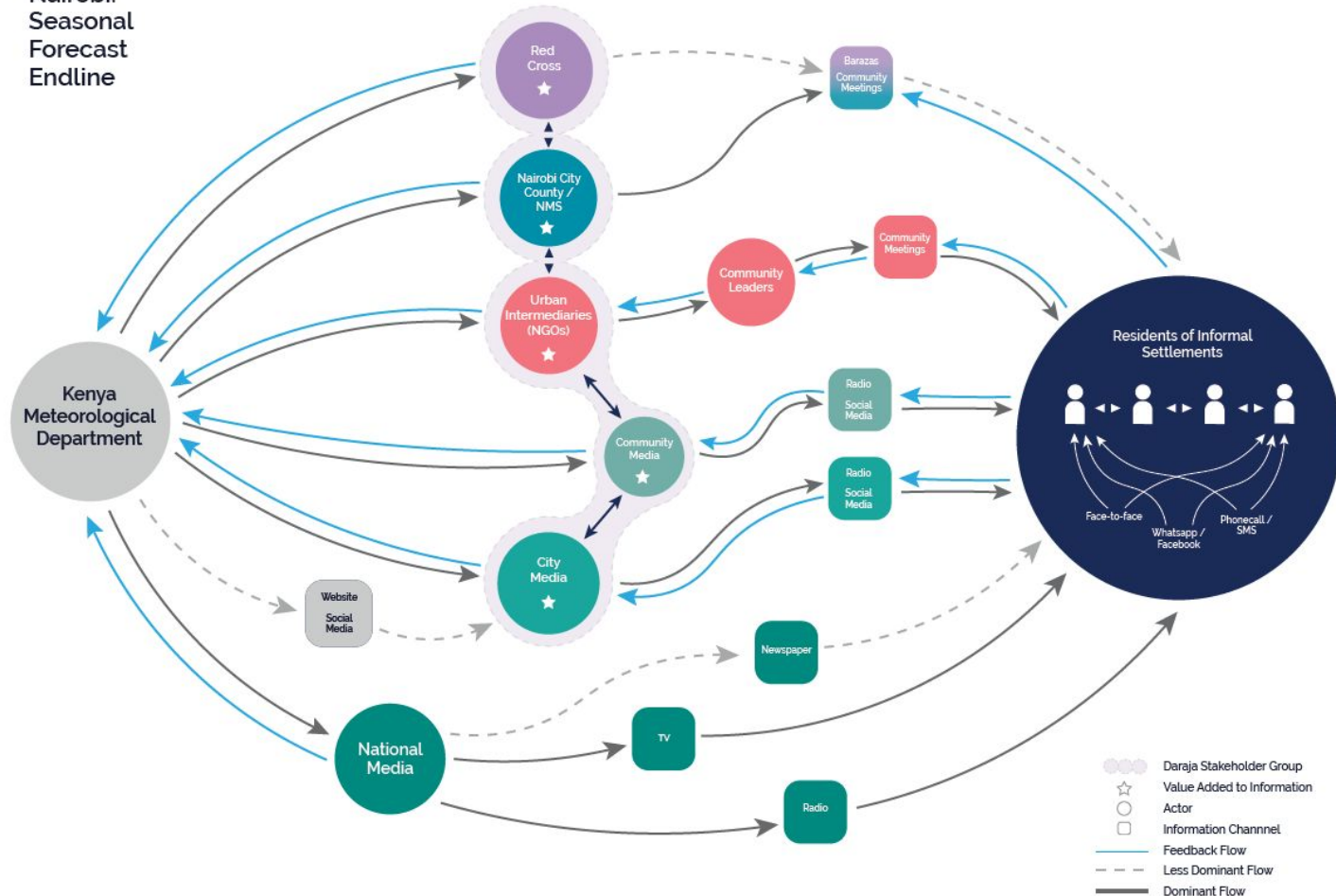
Nairobi:
Severe Weather
Warnings Baseline



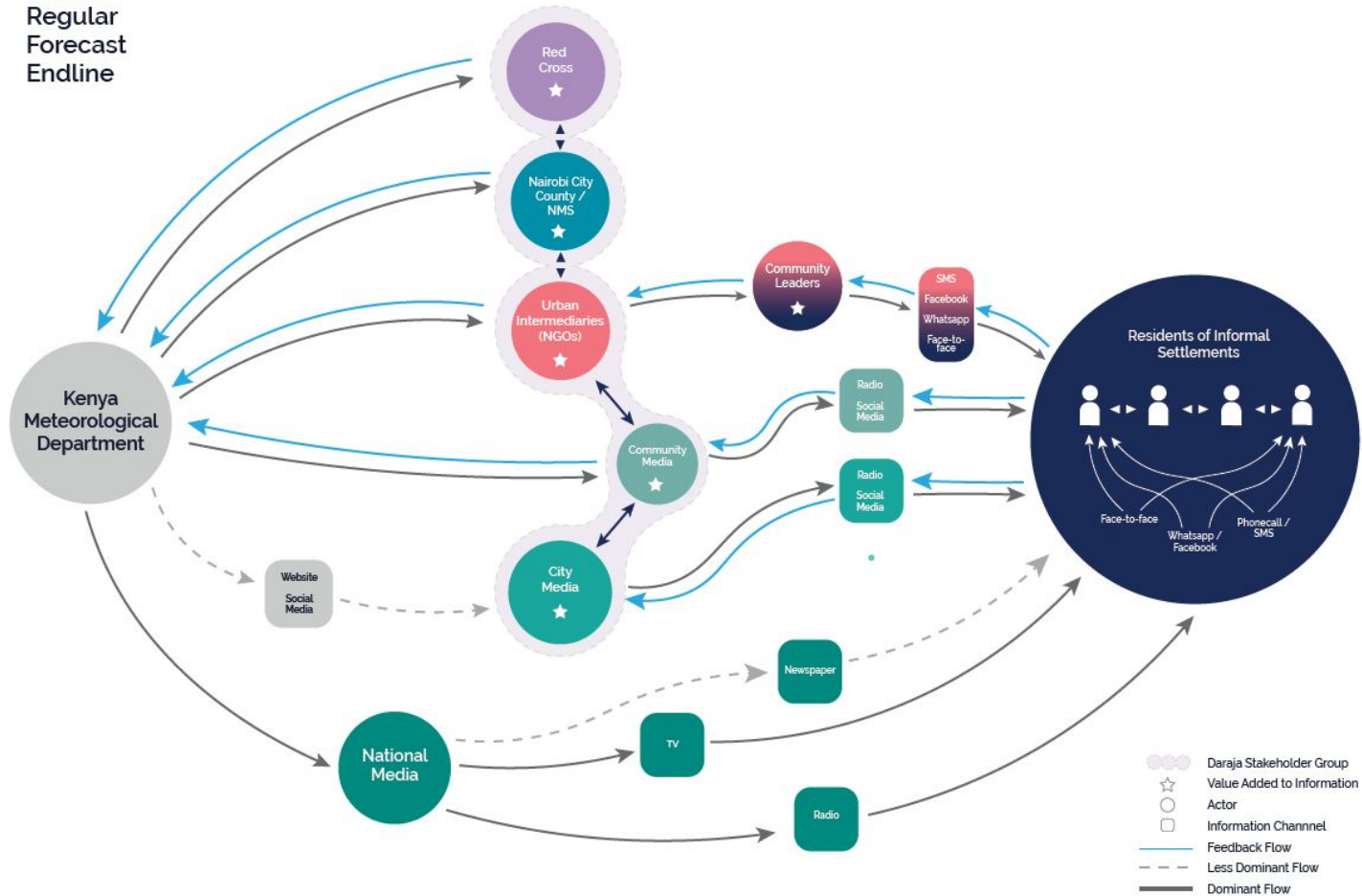
 **Endline:**



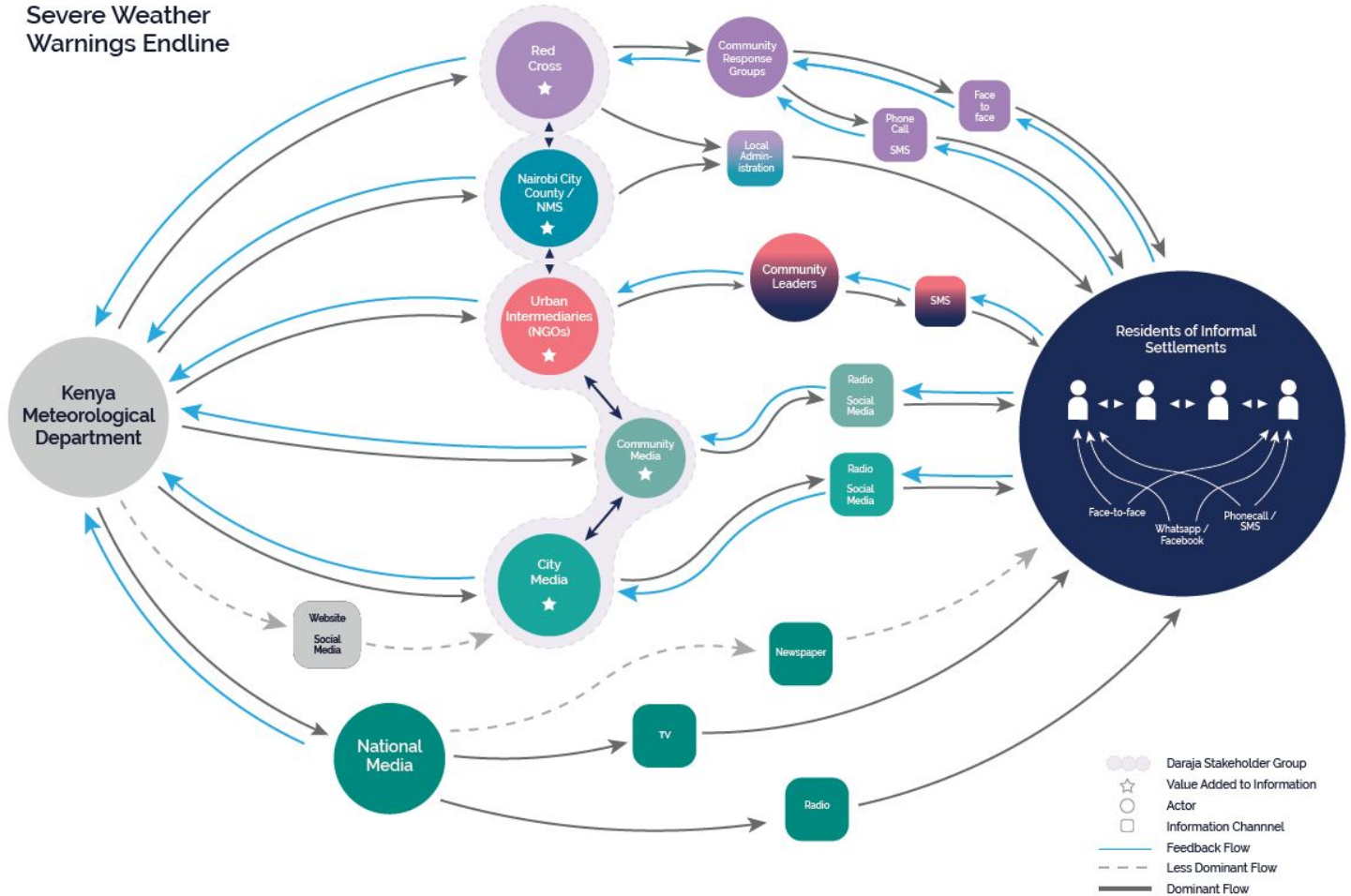
Nairobi:
Seasonal
Forecast
Endline



Nairobi:
Regular
Forecast
Endline



Nairobi: Severe Weather Warnings Endline



Dar Es Salaam



Information
Ecosystem Maps



i **Aim:**

1. **Identify channels** that people use to gain information
2. Establish **multi-way communication** between TMA and users
3. **Diagnose blockages** to the flow of WCI
4. Develop practical measures to **remedy blockages**

Concept:

Diagrams show:

- Actors
- Channels used
- Frequency and popularity of info flow

Additional for Endline:

- Coordination of actors
- Interpretation and localisation of info flow



Daraja Stakeholder Group



Value Added to Information



Actor



Information Channel



Feedback Flow



Less Dominant Flow

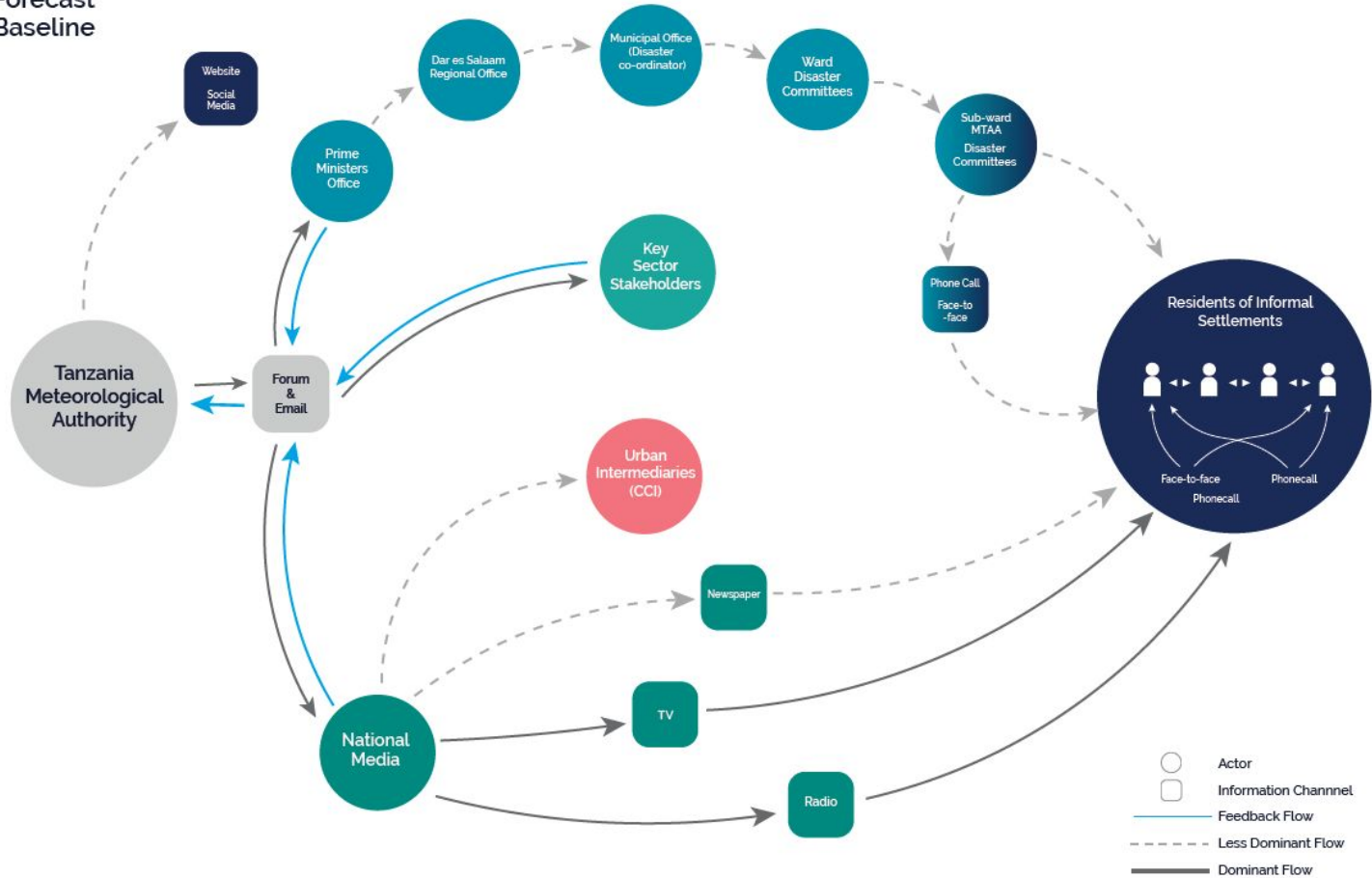


Dominant Flow

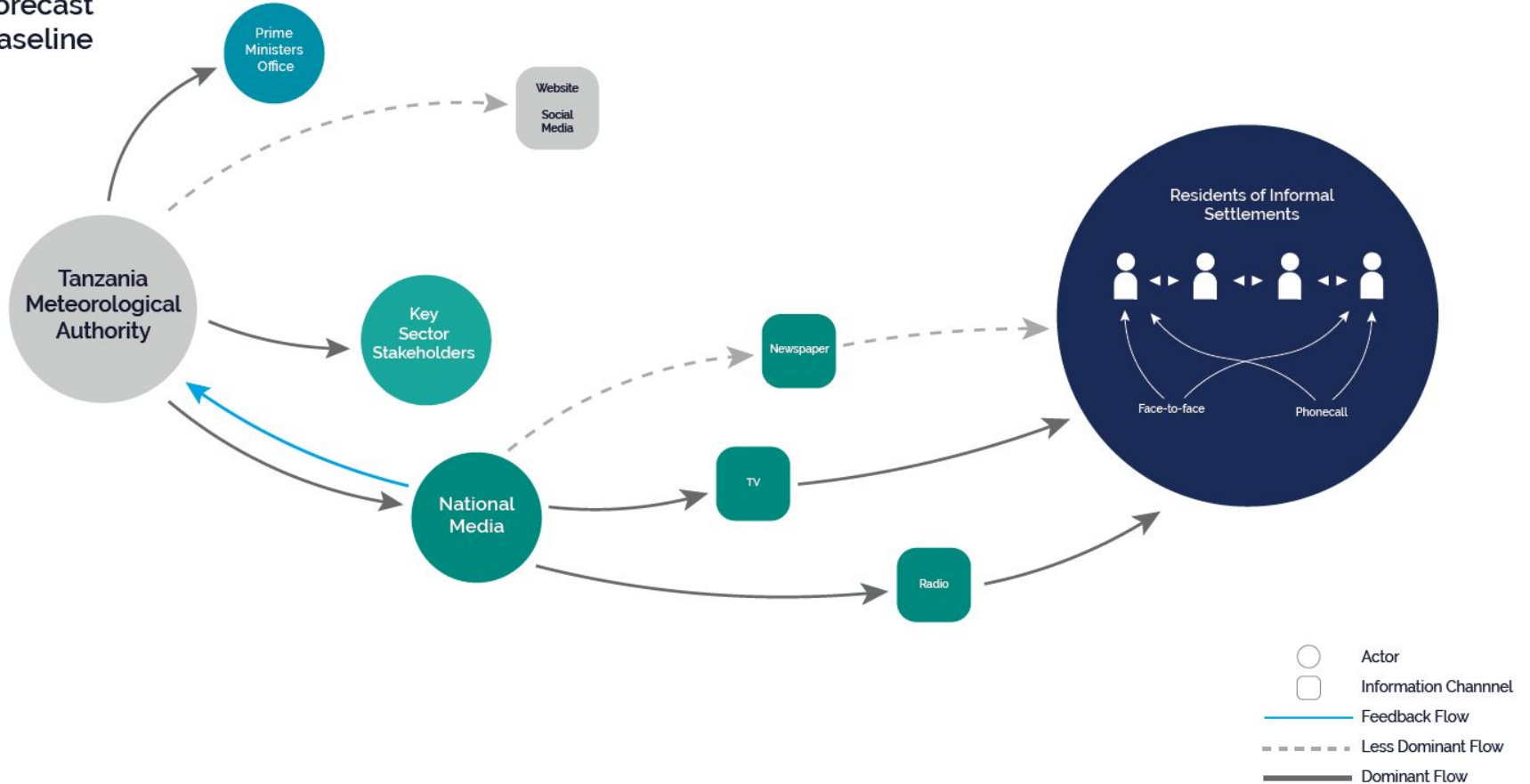
 **Baseline:**



Dar es Salaam:
Seasonal
Forecast
Baseline



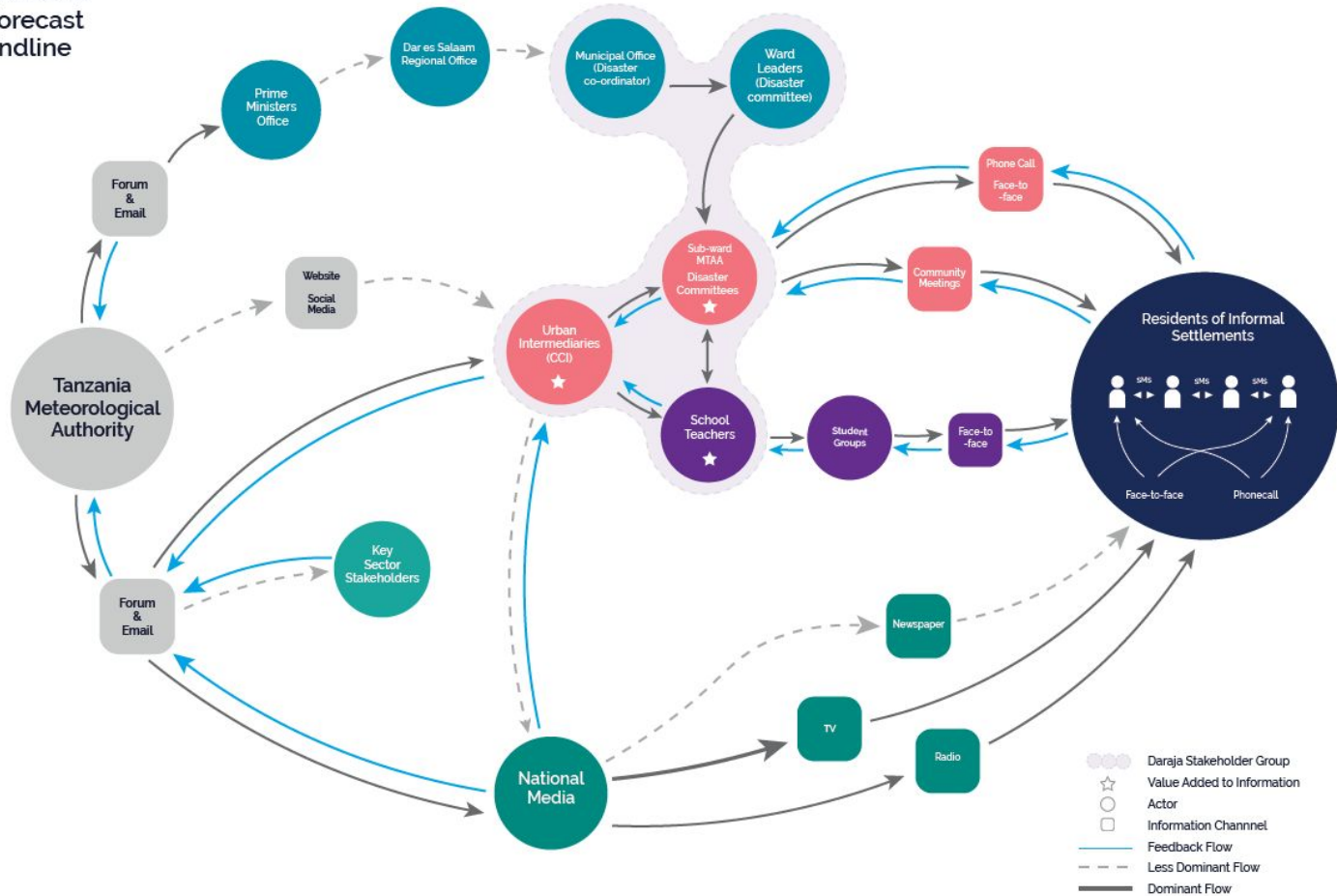
Dar es Salaam:
Regular
Forecast
Baseline



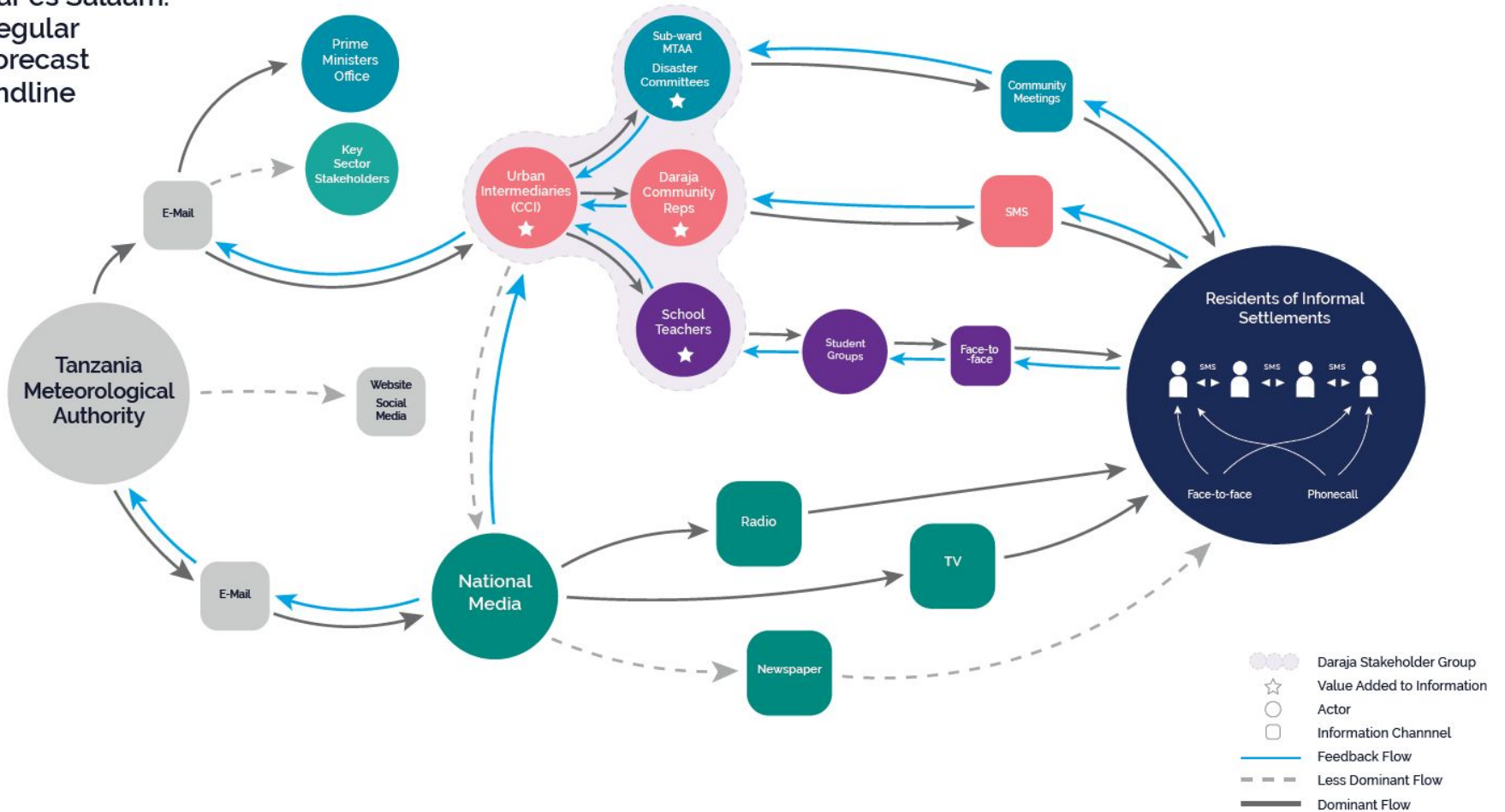
 **Endline:**



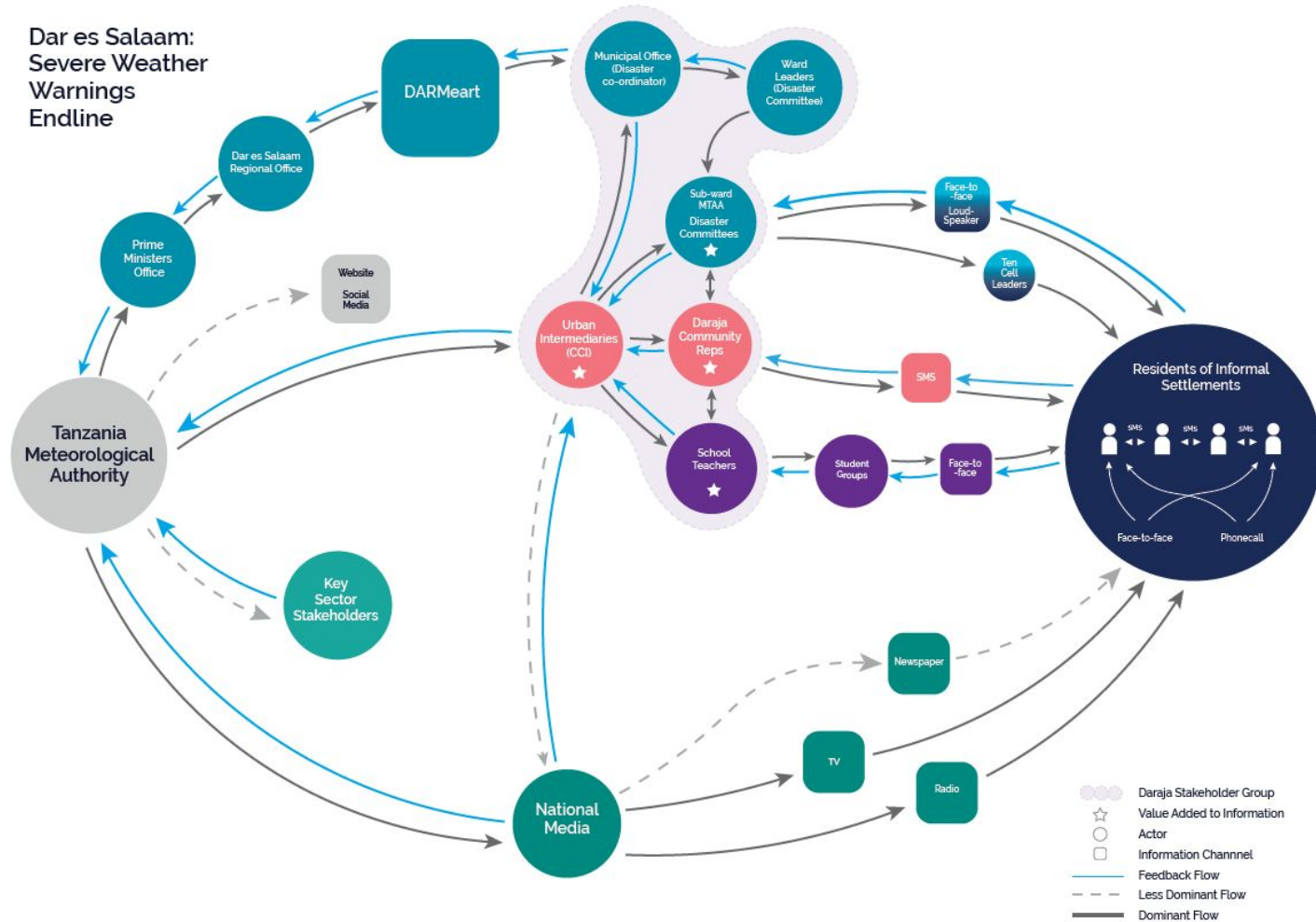
Dar es Salaam:
Seasonal
Forecast
Endline

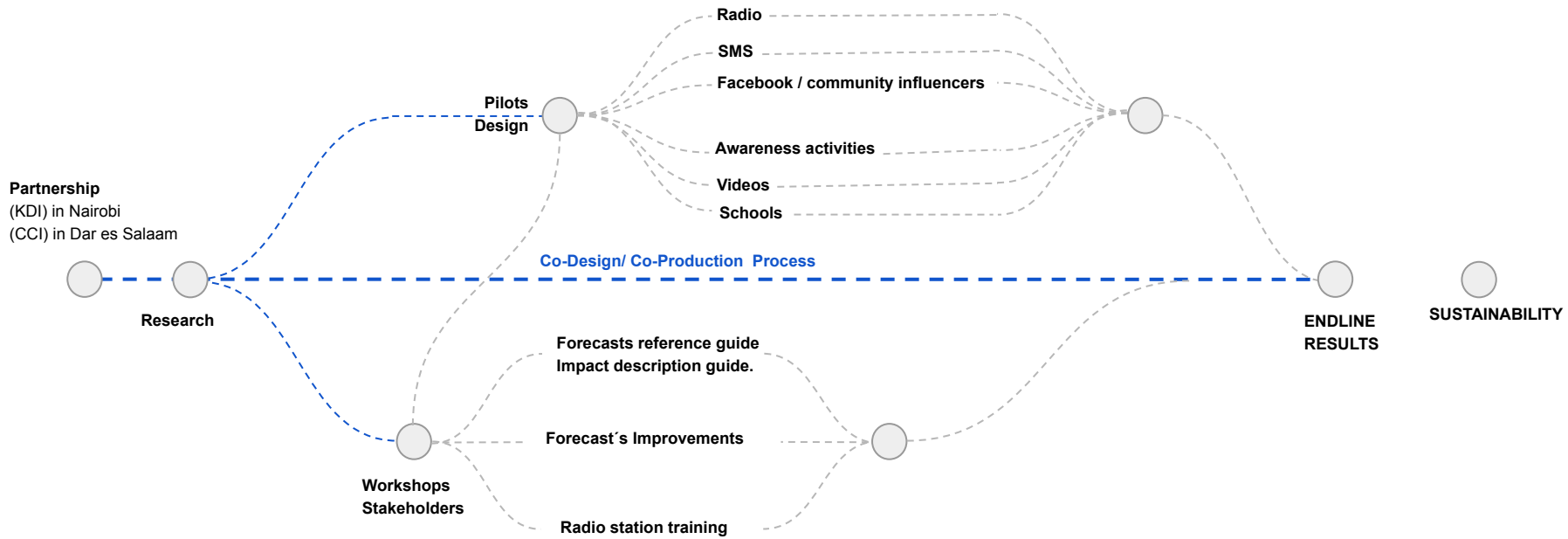


Dar es Salaam:
Regular
Forecast
Endline



Dar es Salaam: Severe Weather Warnings Endline





DARAJA

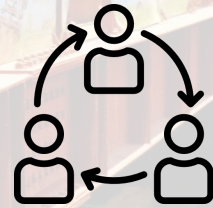
Partnership



**Research and
Data**



Co-design



KIBERA
PUBLIC
SPACE
PROJECT





Partnerships

Kounkuey Design Initiative
(KDI), Nairobi



Centre for Community
Initiatives (CCI), Dar es
Salaam



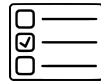
Resurgence Urban Resilience
Impact Ltd



- **Build bridges** between weather forecasters and communities in informal settlements
- **Build resilience** of communities toward high impact weather events
- **Build relationships** with the key actors in the system

Research and Data

Research was done through:



Household Surveys



Interviews



Focus Group Discussions



Information Ecosystem Mapping (IEM)

Informed the **design of the DARAJA pilot services**





Co-design

- Workshops to co-design pilot services
- DARAJA Coordination Group
- Workshops to better understand weather and climate information
- Workshops with TMA and KMD to co-design city forecasts
- Radio training with citywide and community radios

- **Weather Mtaani** pilot services in Nairobi
- **Mimi Na Hali ya Hewa** pilot services in Dar es Salaam
- Reference guide for **forecast terminology**
- **Impact description** guide
- **Improved** citywide forecasts
- **New** citywide forecasts
- **Improved reporting and presentation** of WCI by radio stations



Kaar rada na wleather

WEATHER
MTAANI
#staytogether

Day	Weather	Temp	Humidity	Wind	Clouds
1	Sunny	25°C	65%	10 km/h	10%
2	Partly Cloudy	22°C	70%	12 km/h	30%
3	Cloudy	20°C	75%	15 km/h	50%
4	Light Rain	18°C	80%	18 km/h	80%
5	Heavy Rain	15°C	85%	20 km/h	90%
6	Thunderstorm	12°C	90%	25 km/h	100%
7	Clear	18°C	70%	10 km/h	5%
8	Sunny	22°C	65%	12 km/h	10%
9	Partly Cloudy	20°C	70%	15 km/h	30%
10	Cloudy	18°C	75%	18 km/h	50%
11	Light Rain	16°C	80%	20 km/h	80%
12	Heavy Rain	14°C	85%	22 km/h	90%
13	Thunderstorm	11°C	90%	25 km/h	100%
14	Clear	17°C	70%	10 km/h	5%
15	Sunny	21°C	65%	12 km/h	10%
16	Partly Cloudy	19°C	70%	15 km/h	30%
17	Cloudy	17°C	75%	18 km/h	50%
18	Light Rain	15°C	80%	20 km/h	80%
19	Heavy Rain	13°C	85%	22 km/h	90%
20	Thunderstorm	10°C	90%	25 km/h	100%



Thank you!

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