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Spatio-temporal monitoring of blast-fishing in Tanzania: recent trend & impact of governance and enforcement efforts

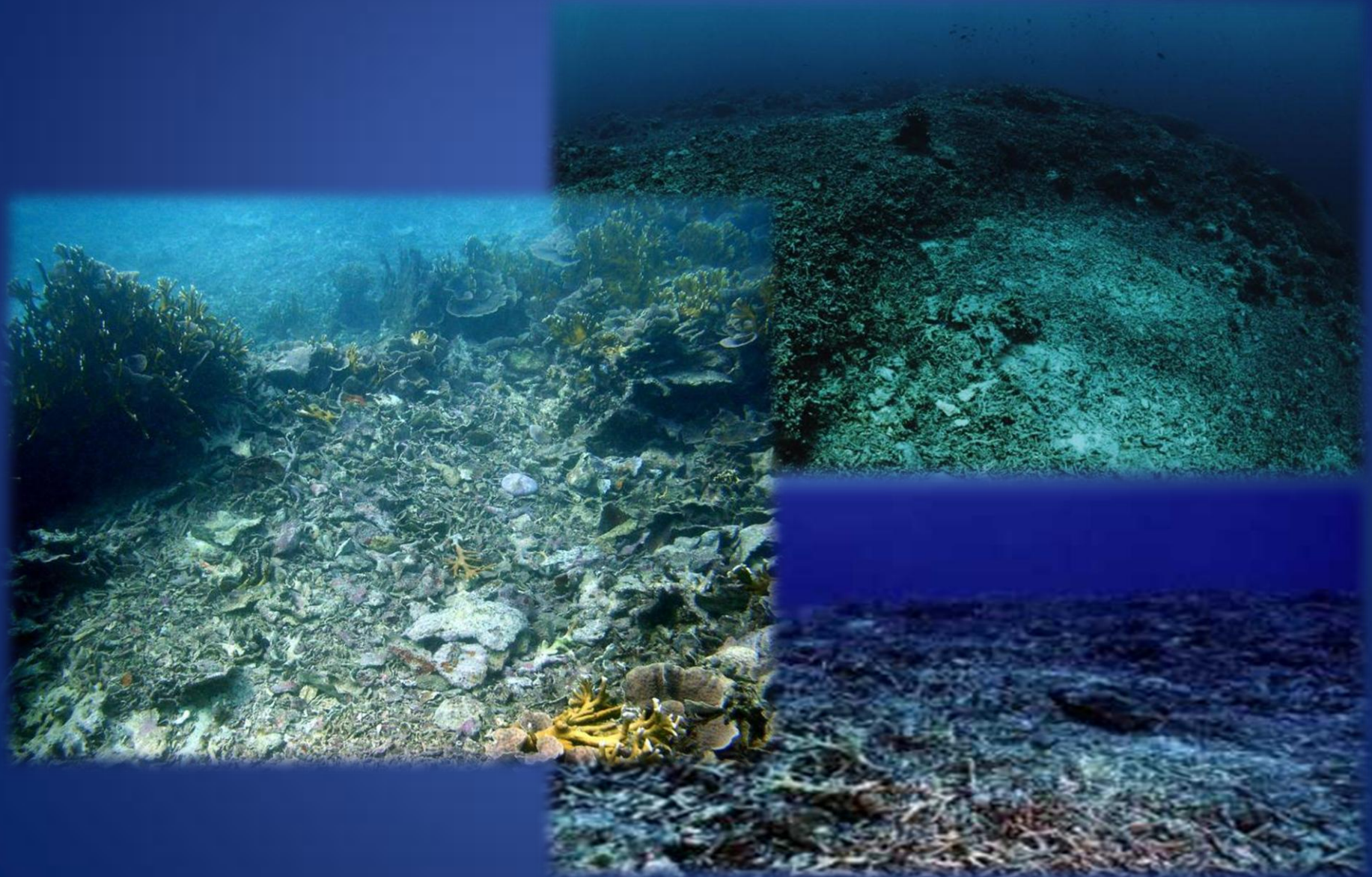
WIOMSA Symposium, Dar es Salaam
November 2017

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Lorna Slade, Ali Thani, Lindsey West

Blast-fishing refers to the use of explosives by fishers to catch fish for food



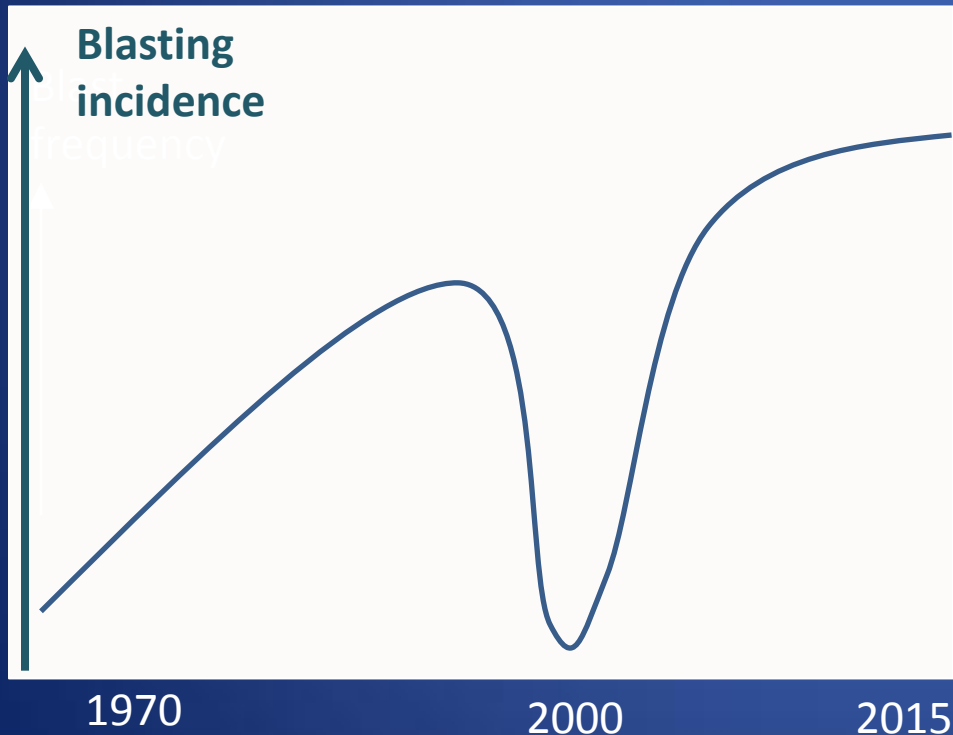
Impact on eco-systems & fisheries productivity poorly studied in Tanzania but likely to be substantial



Situation 2 years ago at last WIOMSA symposium, 2015

By 2015, a 12-13 year rising trend with relatively little effective enforcement and **little or no systematic, quantitative information** on spatio-temporal patterns of blasting

Indicative historic trend of blast fishing in Tanzania



Drop in blast fishing from 1997-2002 followed Navy *Operation Pweza* and subsequent deployment of Navy camps in Tanga.

Navy personnel were recalled to permanent bases in 2002 which immediately led to a resurgence in blast fishing, starting in Tanga.

TANZANIA BLAST MONITORING NETWORK

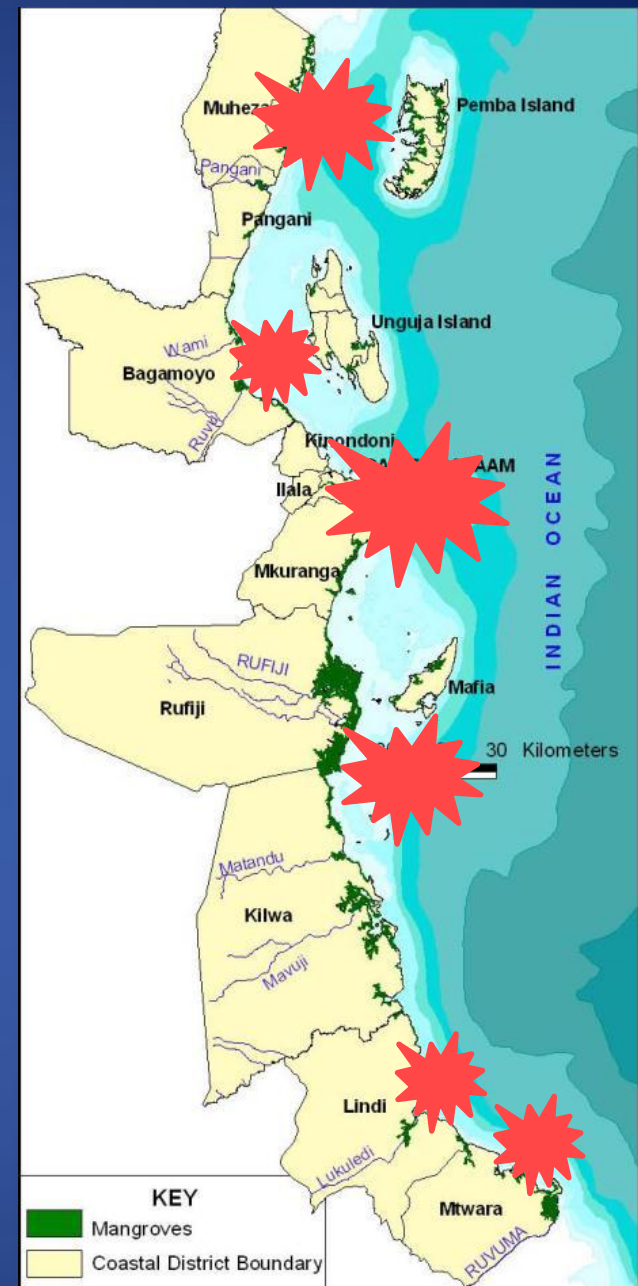
- 1) **Operational launch on 01 May 2016**
- 2) **Objective to address information gap** by generating information to support efforts to eliminate blast-fishing by Govt authorities
- 3) **Implemented by a coalition of 3 NGOs** with extensive experience with coastal communities & 2 technical partners
- 4) Built on lessons from 3 month pilot by Mwambao in Tanga



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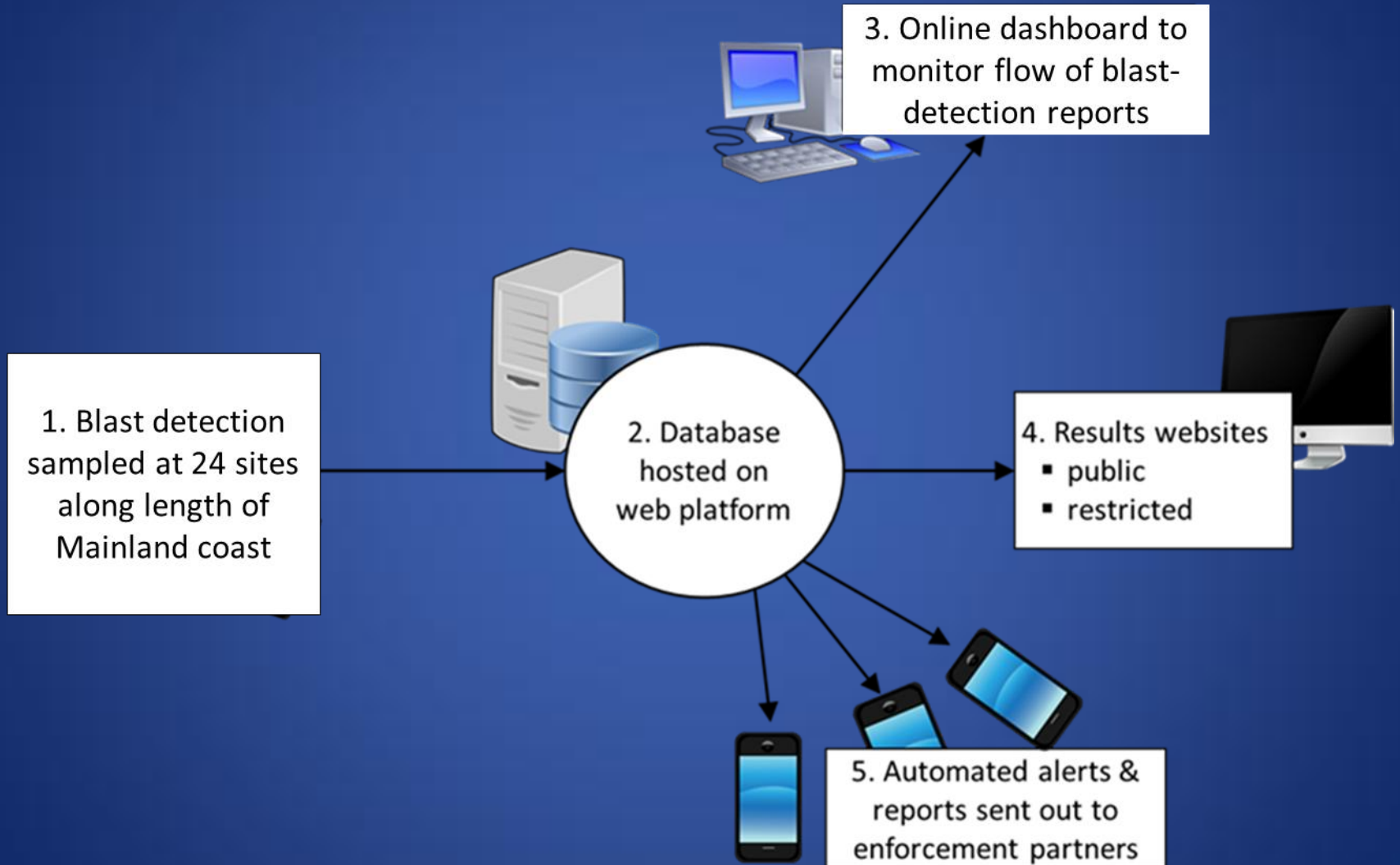
STUDY OBJECTIVES:

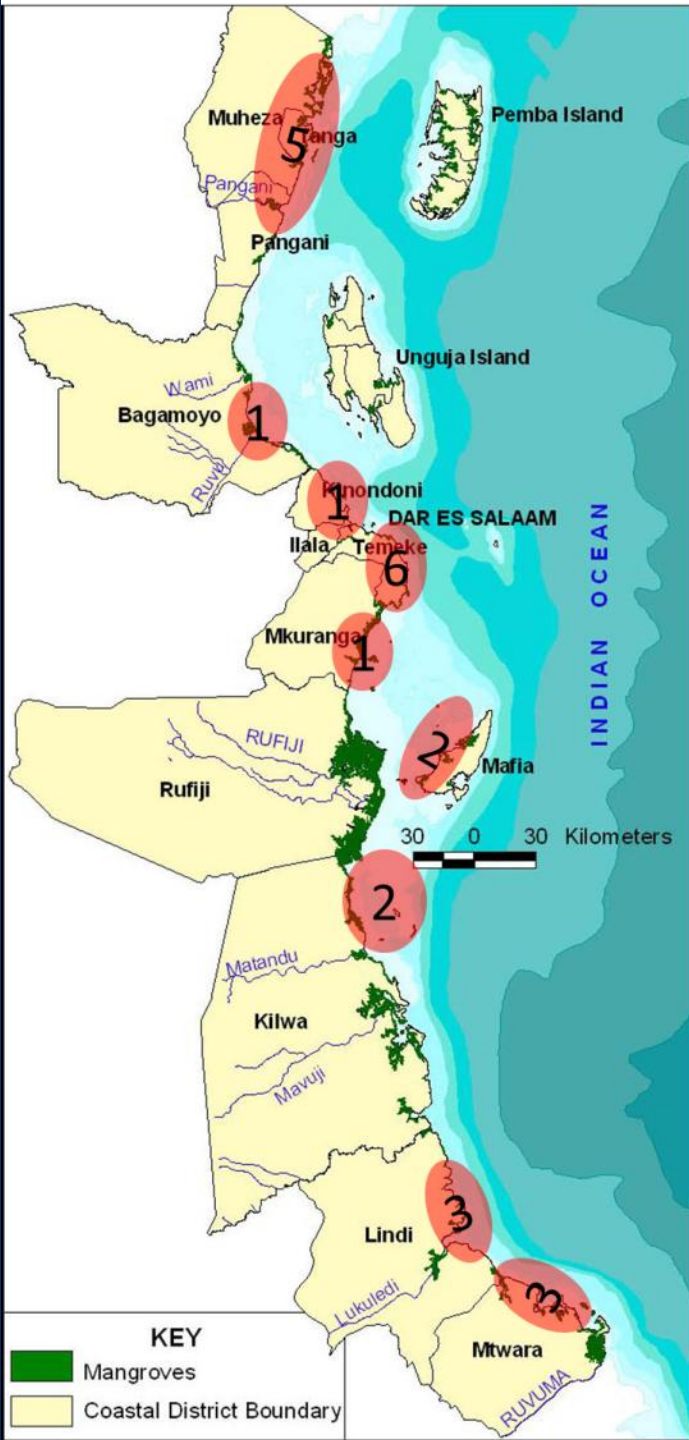
1. Monitor spatial and temporal patterns in incidence of blast-fishing along Mainland coast of Tanzania
2. Assess impact of enforcement or other interventions aimed at reducing or eliminating blast-fishing



METHODOLOGY 1

5 elements of blast-monitoring information system





1 = Mkinga1
 2 = Mkinga2
 3 = Muheza/TACMP1
 4 = Muheza/TACMP2
 5 = Pangani1

6 = Bagamoyo1

7 = Kinondoni1
 8 = Kigamboni1
 9 = Kigamboni2
 10 = Kigamboni3
 11 = Kigamboni4
 12 = Kigamboni5
 13 = Kigamboni6
 14 = Mkuranga1

15 = Mafia1
 16 = Mafia2
 17 = Kilwa1
 18 = Kilwa2

19 = Lindi1
 20 = Lindi2
 21 = Lindi3
 22 = Mtwara1
 23 = Mtwara2
 24 = Mtwara3

Distribution of 24 blast-detection locations

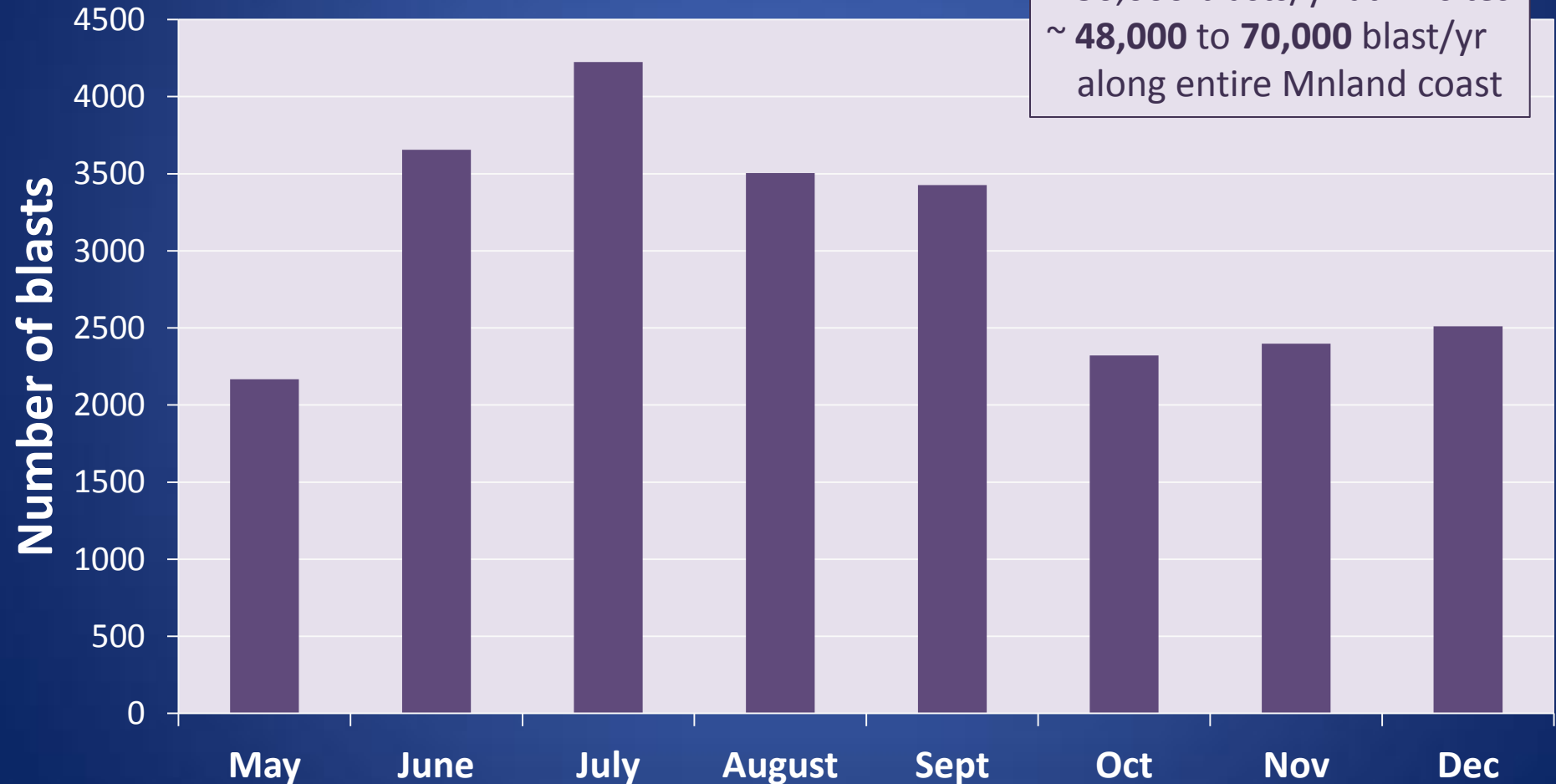
Consultations on reasons for trends

1. Community informants
2. Ministry of Livestock & Fisheries
3. Vice-President's Office
4. Multi-Agency Task Team (MATT)
5. District Fisheries Officers
6. Coastal tourism operators

RESULTS - Situation to Dec 2016

Estimated total blasts per month at 24 sites

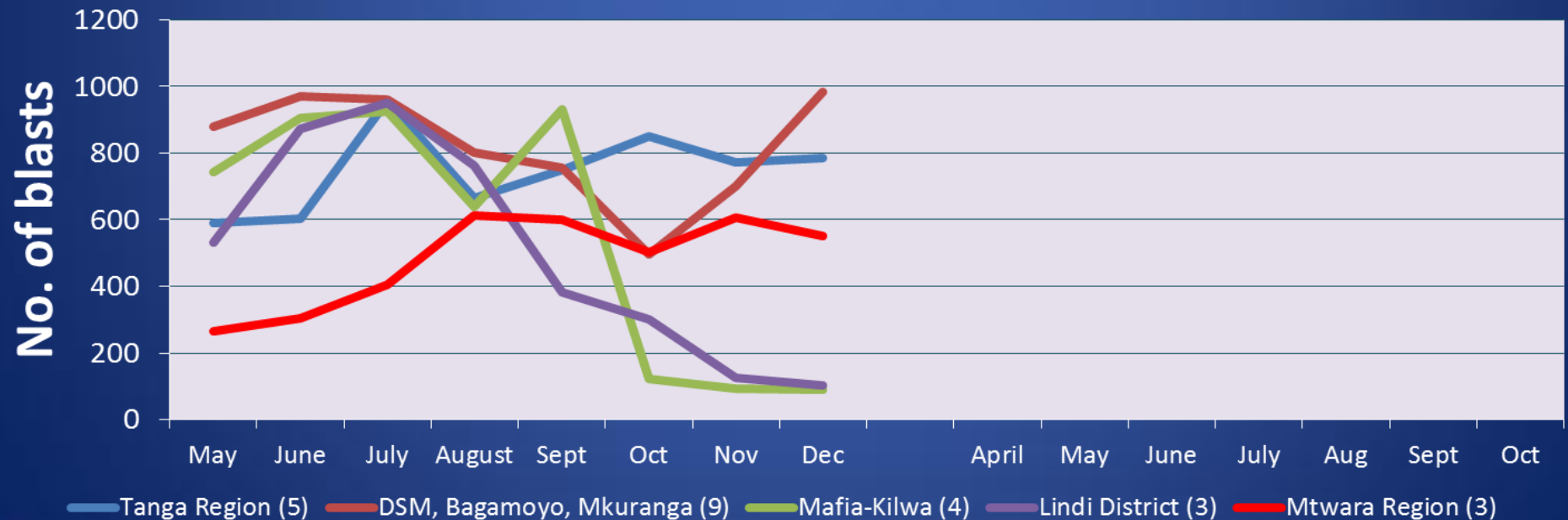
May to December 2016



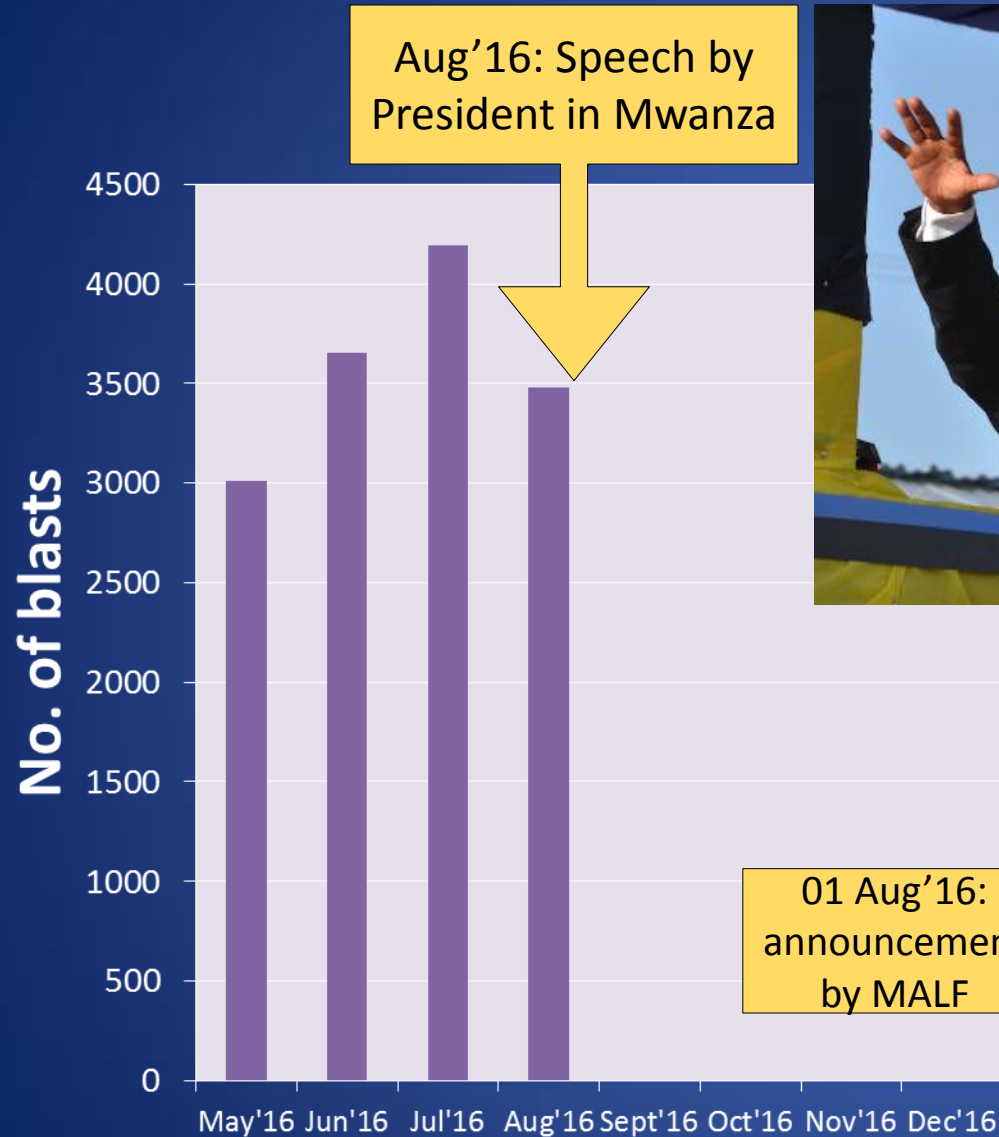
Possible sources of error and/or variation

1. detection range/coverage
2. seasonal factors, esp. sea conditions
3. sampling frequency

Above factors not likely to be significant in assessing overall trends across sites over 18 months



Public intervention by State House



Marine security urged to control counter piracy in Indian Ocean

By Correspondent James Kandoya

DEPUTY Minister for Agricultural, Livestock and Fisheries William Ole Nasha has ordered marine security organs to establish surveillance patrols along the Indian Ocean to control dynamite fishing.

He issued the directive at the weekend when he visited the aquaculture projects owned by private individuals at Kigamboni suburb in the city.

He said dynamite fishing had adverse impacts to the environment, tourism and the people as well.

Ole Nasha said recently several groups of people had been engaging in the illegal business which was dangerous to the life of people and nature of the aquatic animals.

He insisted that unless stern measures were taken the problem would far from solving it.

"I call upon Police marine to collaborate with the navy unit to ensure day to day patrols along the Indian Ocean. Stern measure should be taken to those involved in such type of fishing which is dangerous to our health and aquatic animals," he said.

The deputy minister said that there are speculations that some fishermen use explosives near the ferry fish market, and that they are known. He ordered authorities to arrest them.

He said the fisheries sector had a great contribution in the nation's economy if all people were involved in the management of the sea resources.

Ole Nasha explained that we should teach the citizenry on importance of

protecting the environment so that the next generation can also benefit from its resources.

Abdu Kamugisha and other people who practice aquaculture in Kigamboni District said that they were currently facing a number of challenges including high prices of animal fish feeds.

"I call on the government to set a subsidy in fish feeds as in the agro-inputs like fertilizers and seeds in order to attract more aquaculture groups and reduce operational costs," he said.

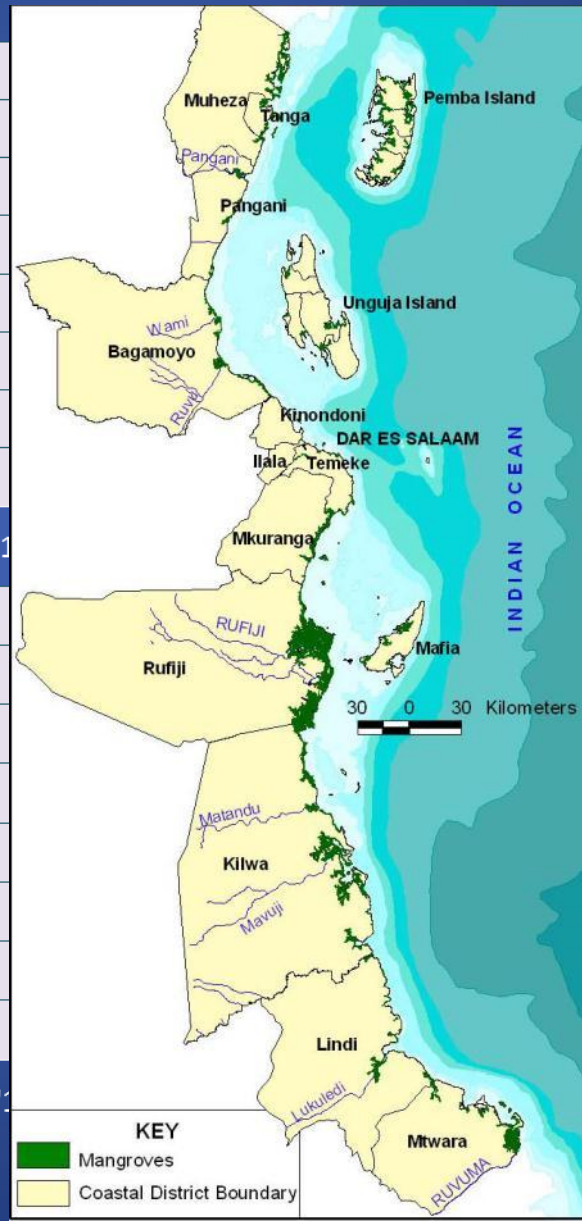
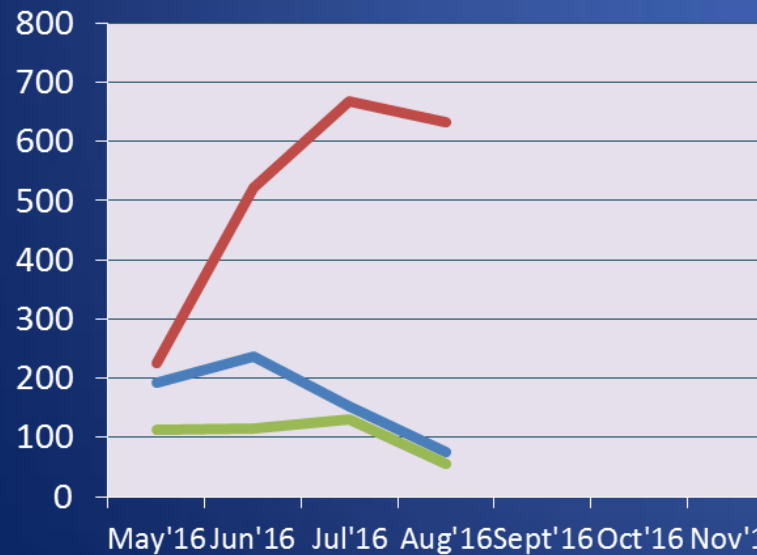
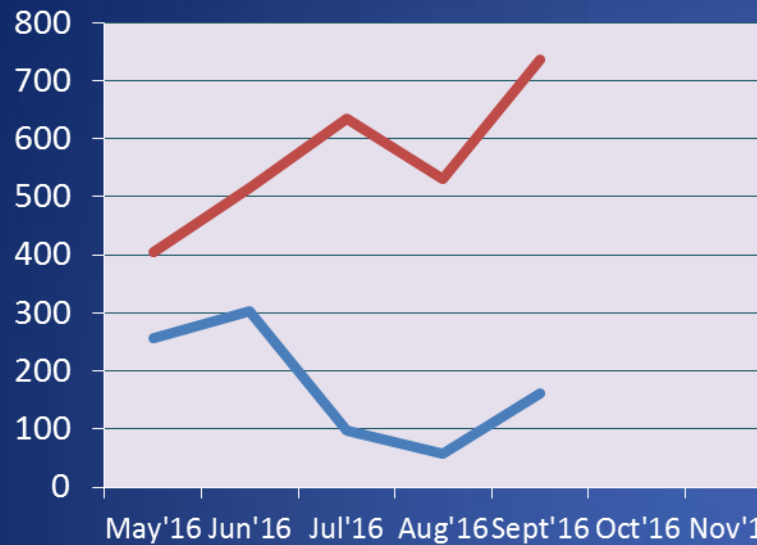
Kigamboni district commissioner Hashim Mgandilwa urged the community to reveal all those people engaged in illegal fishing.

He said plans were underway in the district to open a fish market.

5/8/2016 1/8/2016

Trends in estimated total blasts per month, May'16 to Oct'17

Kilwa District (2 sites) & Lindi District (3 sites)



Kilwa1
Kilwa2

Lindi1
Lindi2
Lindi3

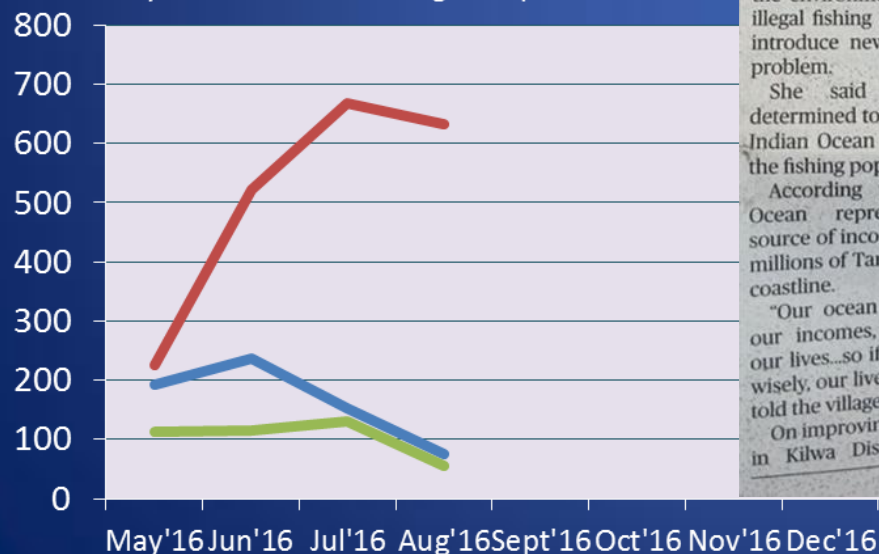
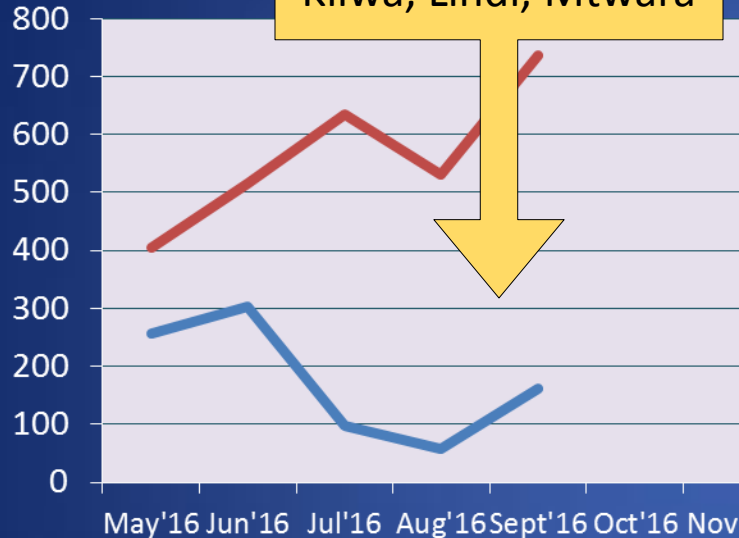
Aug'17 Sept'17 Oct'17

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Trends in estimated total blasts per month, May'16 to Oct'17

Kilwa District (2 sites) & Lindi District (3 sites)

Sept'16: VP visit to
Kilwa, Lindi, Mtwara



08 September 2016

Government set to boost fight against illegal fishing

By Guardian Reporter

THE government plans to go a step further in its fight against illegal fishing activities which destroy fish breeding sites and have led to a serious reduction of fish stock in the Indian Ocean, vice president Samia Suluhu Hassan said yesterday.

Speaking to the people of Nangurukuru village on her way to Mtwara region for a four-day official visit starting today, the VP said environmental experts will be sent to assess the damage done to the environment so far as a result of illegal fishing activities and thereafter introduce new measures to end the problem.

She said the government is determined to end illegal fishing in the Indian Ocean for the sustainability of the fishing population and industry.

According to Suluhu, the Indian Ocean represents an important source of income and employment for millions of Tanzanians living along the coastline.

"Our ocean is the main source of our incomes, and our incomes are our lives...so if we don't use the ocean wisely, our lives will be in trouble," she told the villagers.

On improving health service delivery in Kilwa District, Suluhu said the

TURN TO PAGE 2

Apr'17 May'17 Jun'17 Jul'17 Aug'17 Sept'17 Oct'17

Kilwa1

Kilwa2

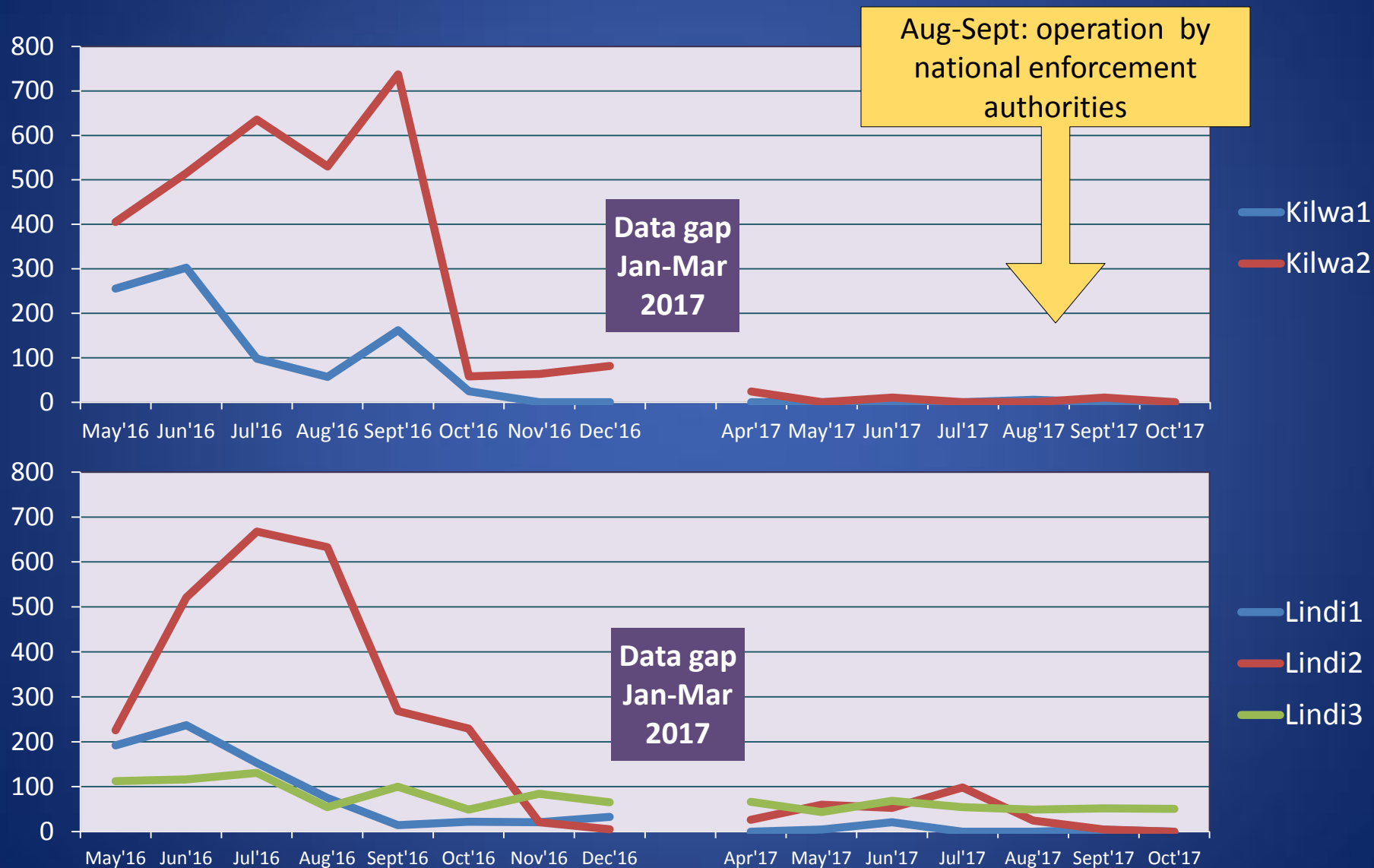
Lindi1

Lindi2

Lindi3

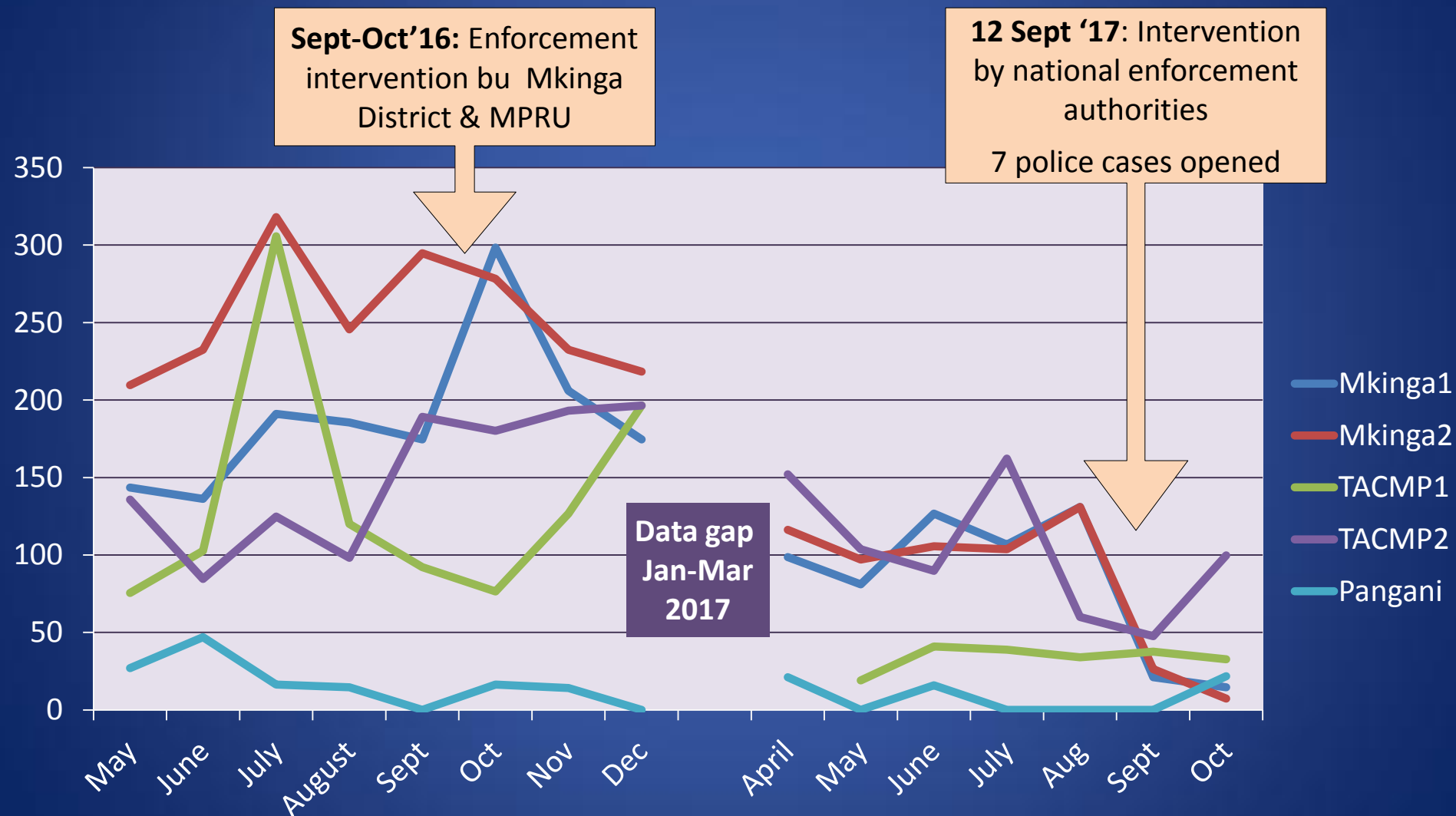
Trends in estimated total blasts per month, May'16 to Oct'17

Kilwa District (2 sites) & Lindi District (3 sites)



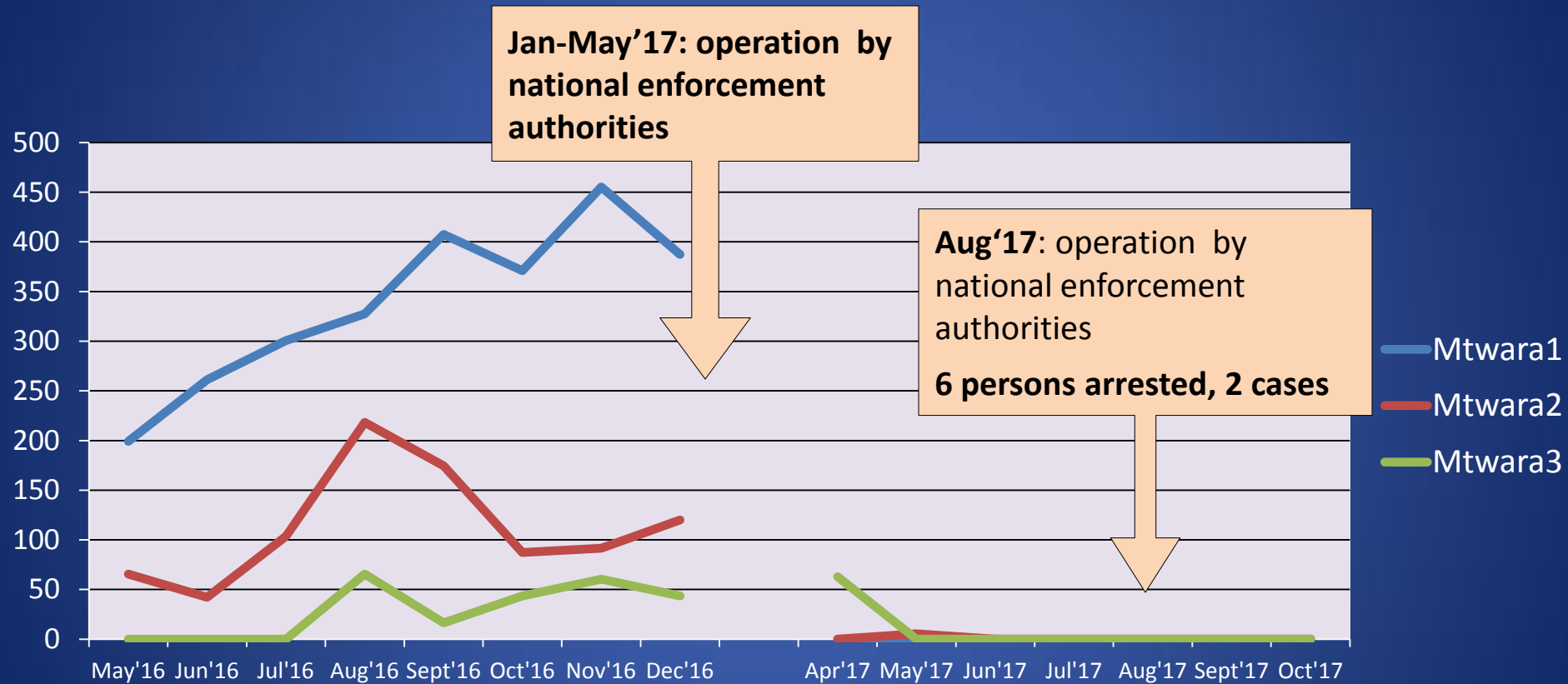
Trends in estimated total blasts per month, May'16 to Oct'17

Tanga Region (5 sites)



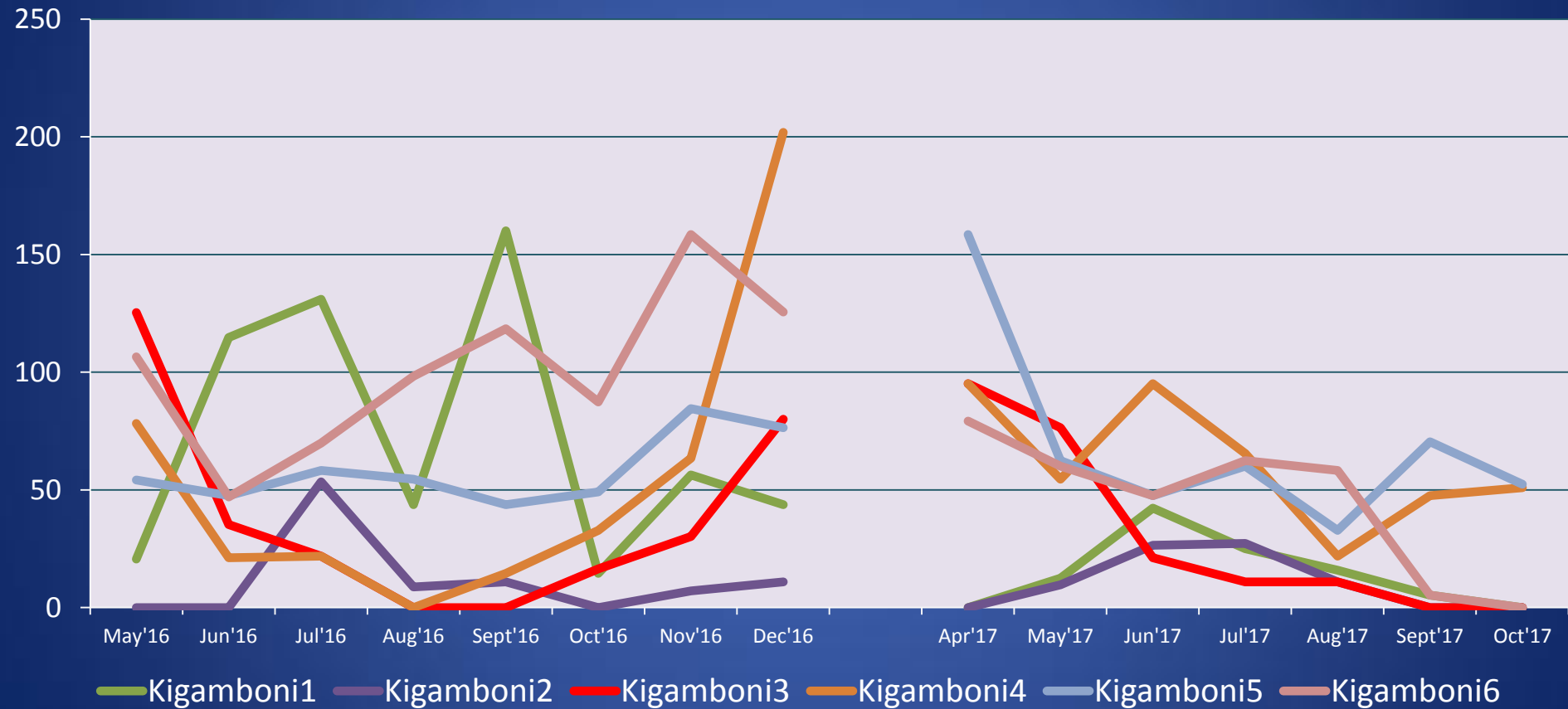
Trends in estimated total blasts per month, May'16 to Oct'17

Mtwara Region (3 sites)



Trends in estimated total blasts per month, May'16 to Oct'17

Kigamboni District (6 sites)



Trends in estimated total blasts per month, May'16 to Oct'17

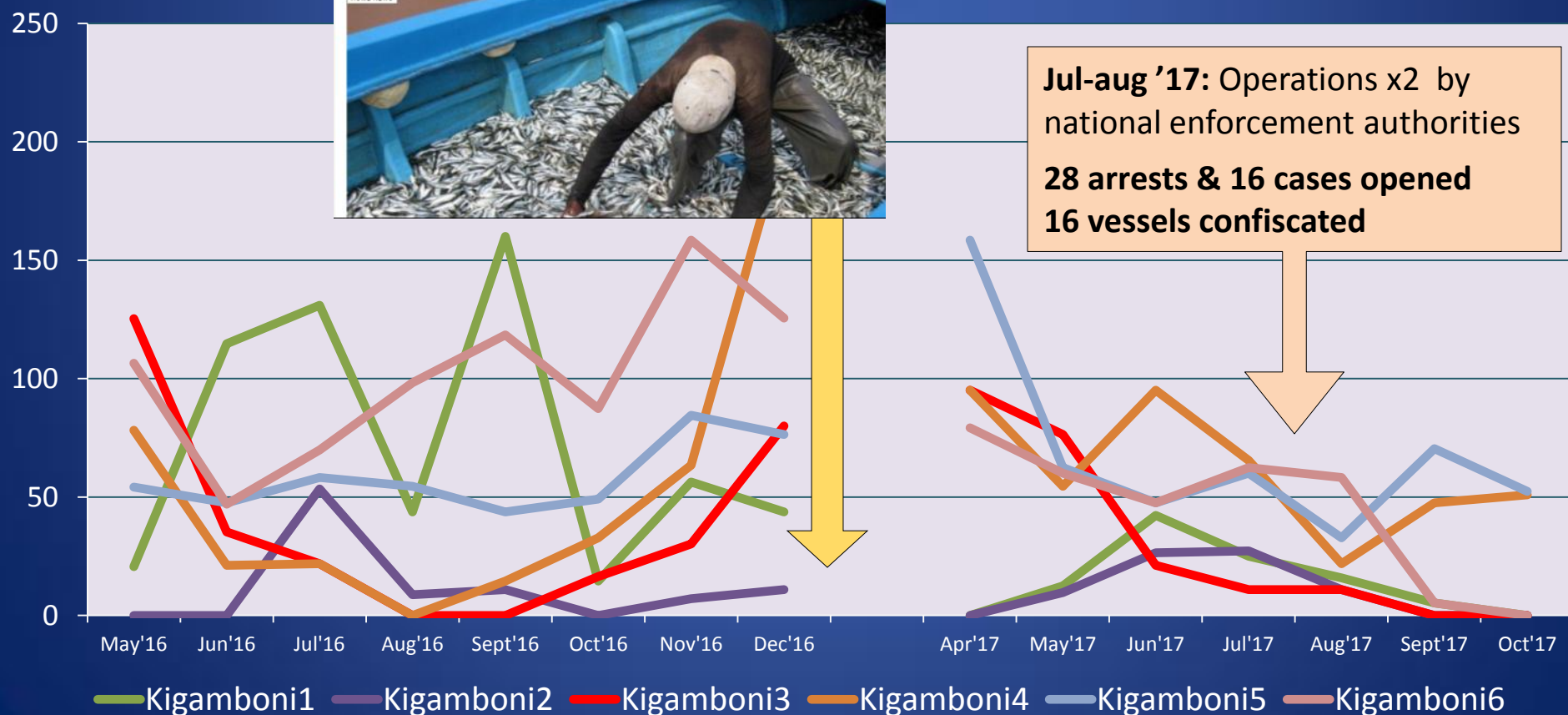
Kigamboni District (6 sites)

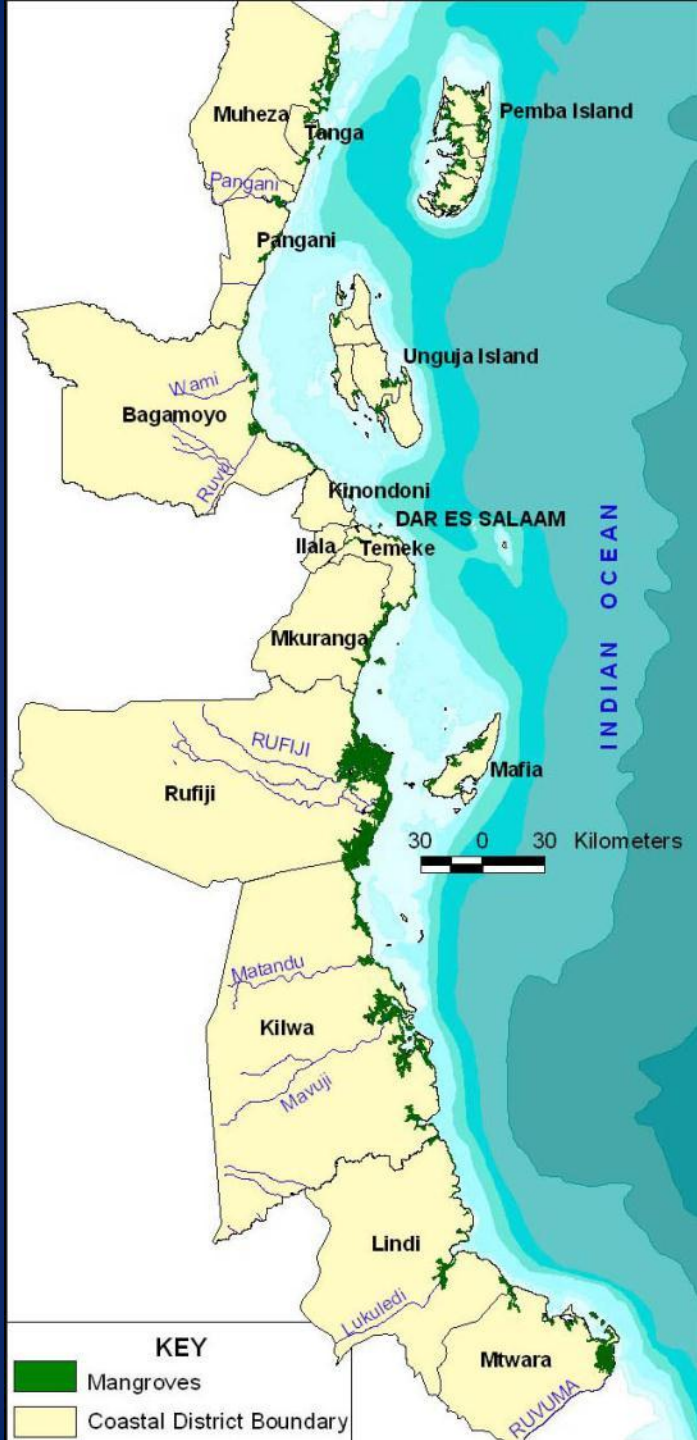


Jan-Mar '17: Operations by national enforcement authorities

**Sinda to Mapanya Islands
9 arrests & 6 cases opened**

Jul-aug '17: Operations x2 by national enforcement authorities
28 arrests & 16 cases opened
16 vessels confiscated





Tizeba condemns dynamite fishing as serious threat

Tanzania's leading online News Edition (The National Newspaper). Get access to the most current and latest authoritative news on local issues, politics, events, celebrations, editorial, columnists, features, people and business

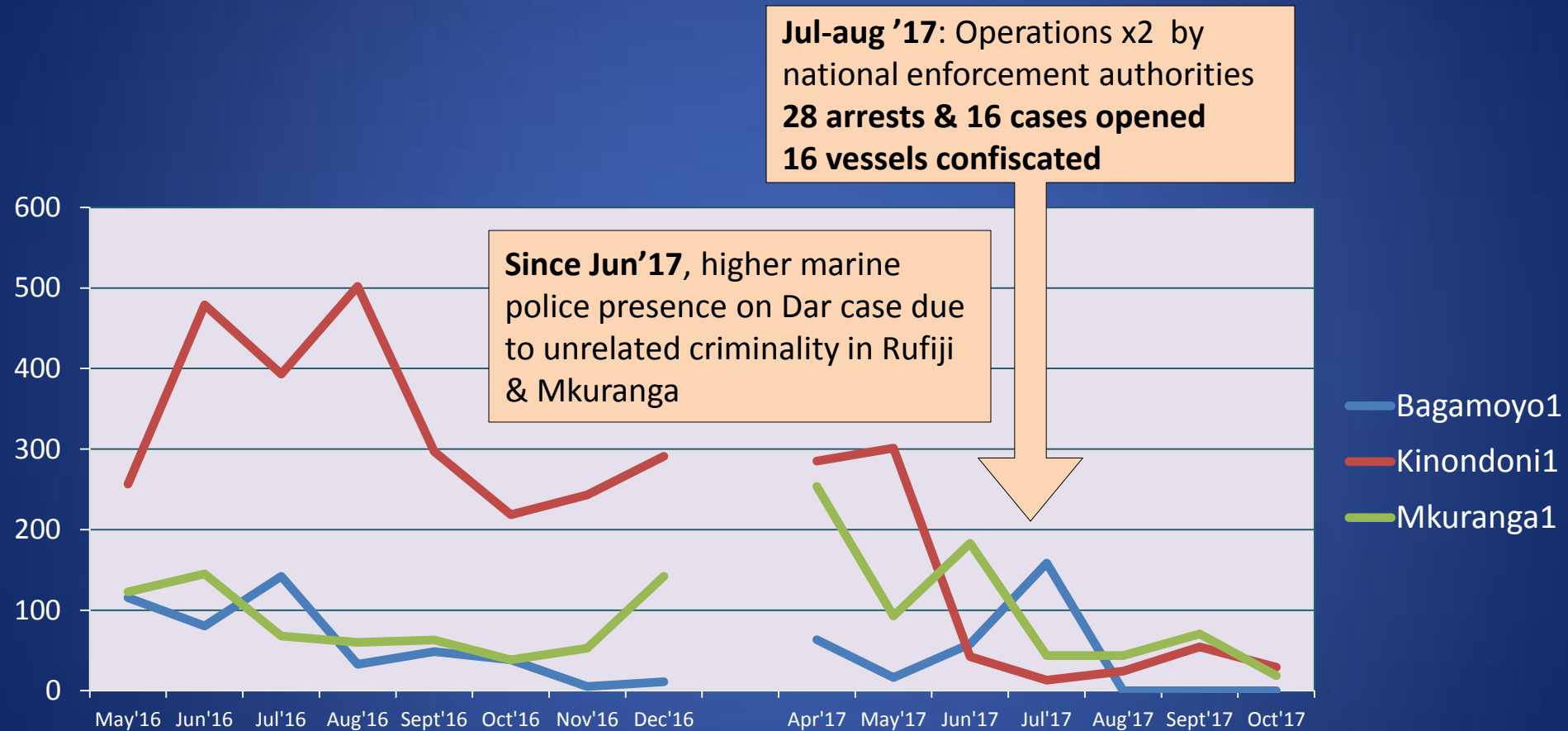
DAILYNEWS.CO.TZ 22 November 2016

Dr Tizeba warned fishermen who champion the outlawed explosive fishing in the country's waters, saying deterrent legal measures await the culprits.

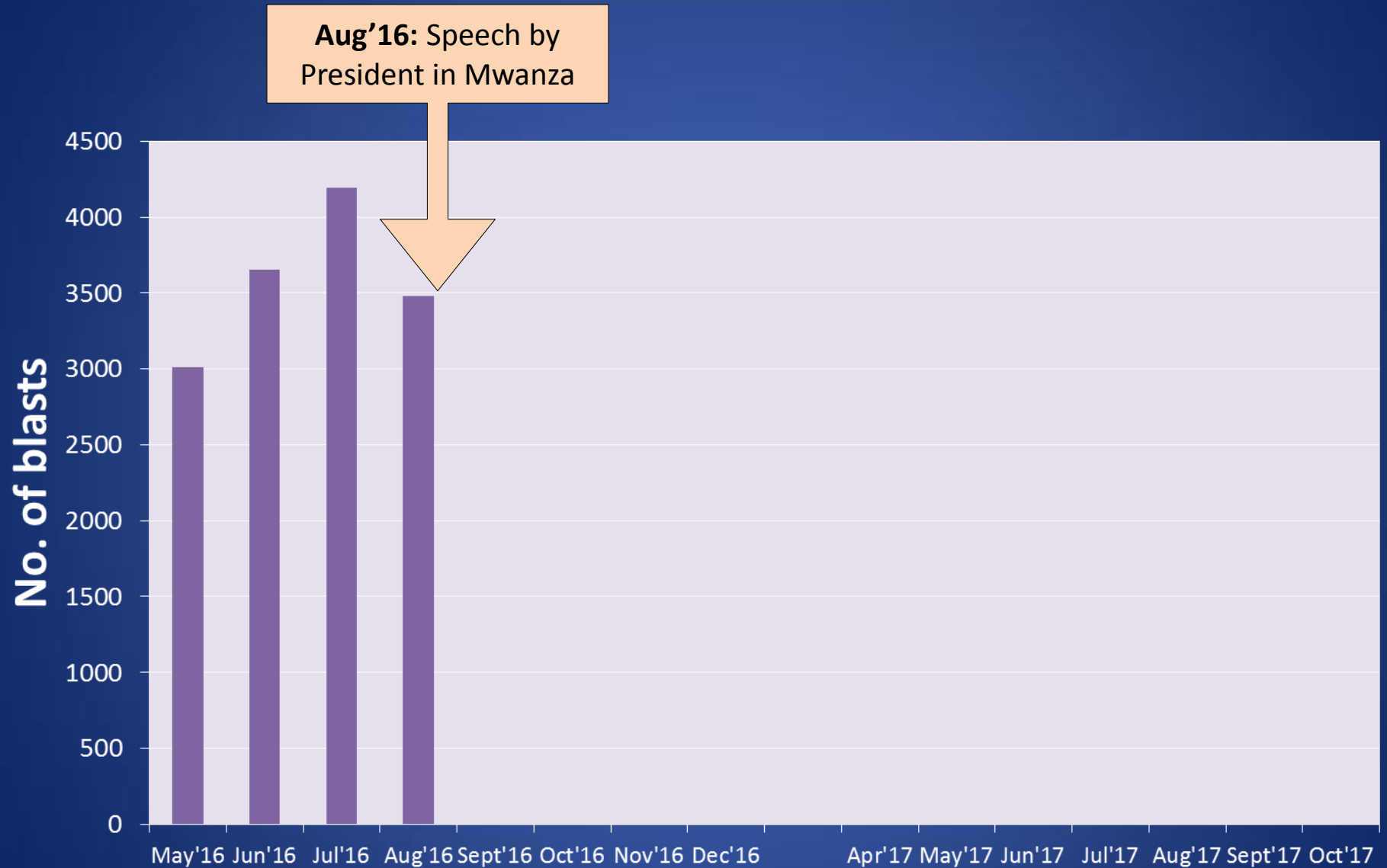
He sounded the warning while officiating at the World Fisheries Day at Ferry Fish Market in Dar es Salaam, adding that blast fishing was equally dangerous to all living organisms in the ocean. The Fisheries Day is celebrated yearly on November 21 throughout the world by the fishing stakeholders.

Trends in estimated total blasts per month, May'16 to Oct'17

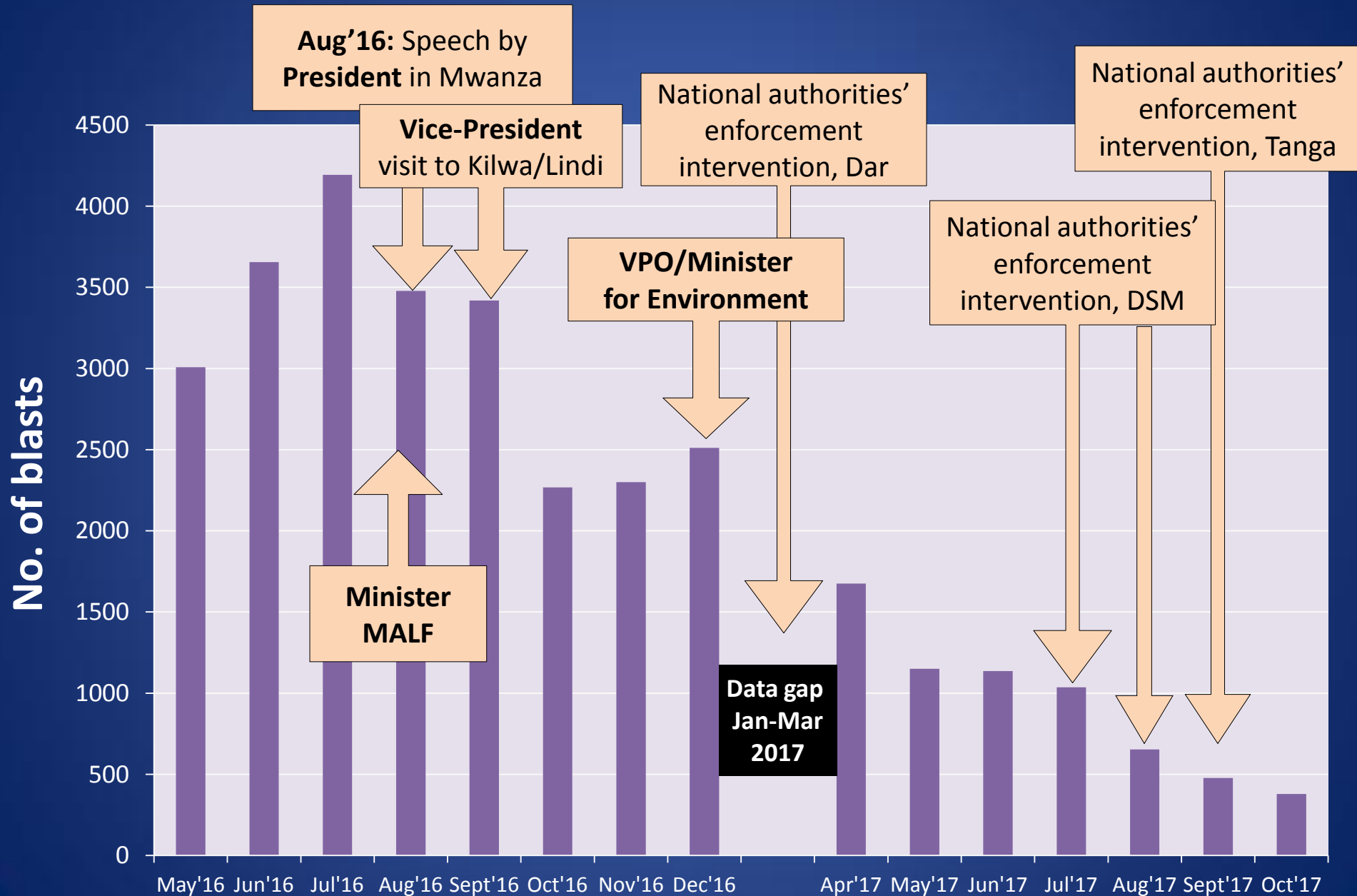
Coast Region - other (3 sites)



Timeline of interventions

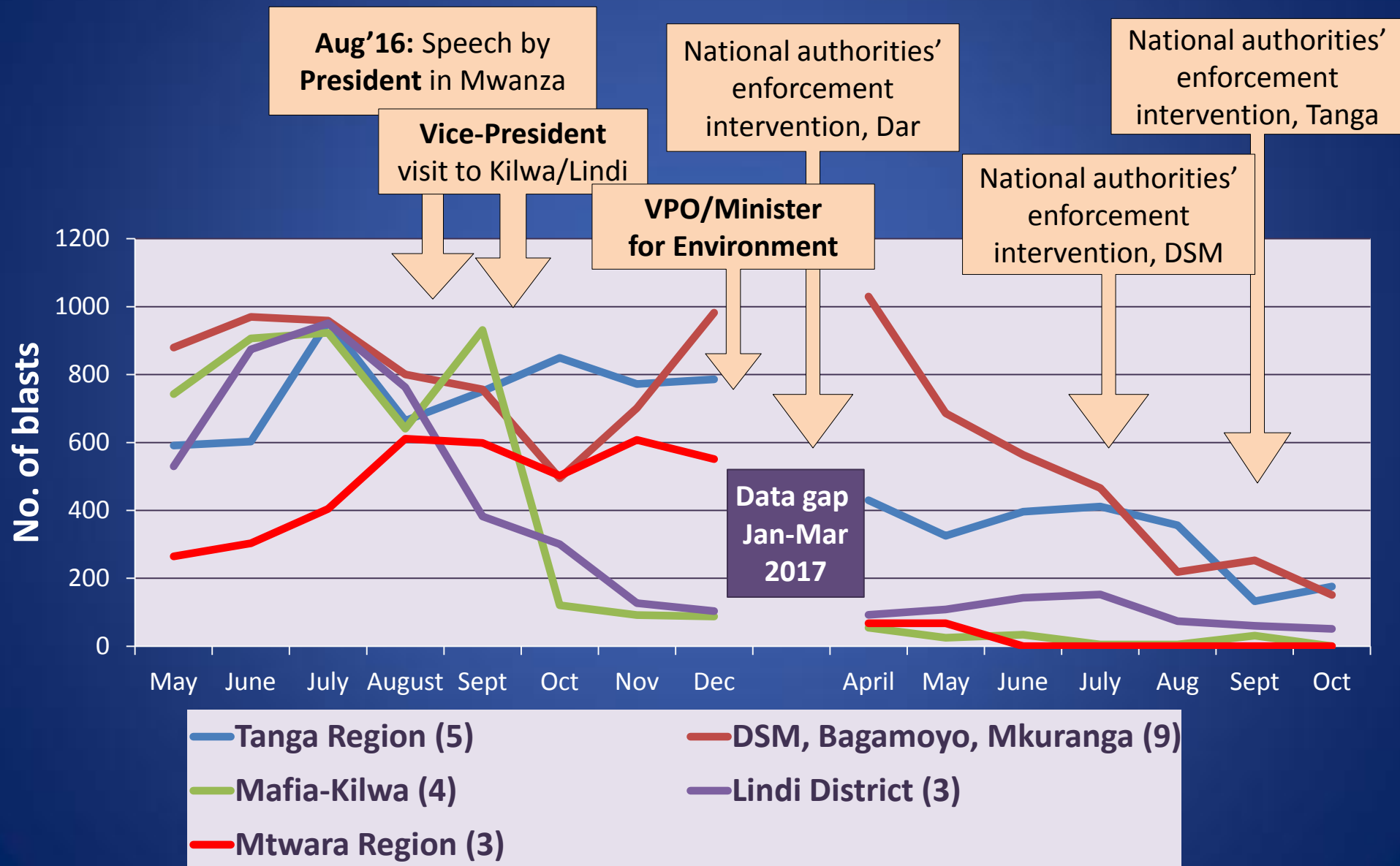


Timeline of key interventions



Trends in estimated total blasts per month May'16 to Oct'17

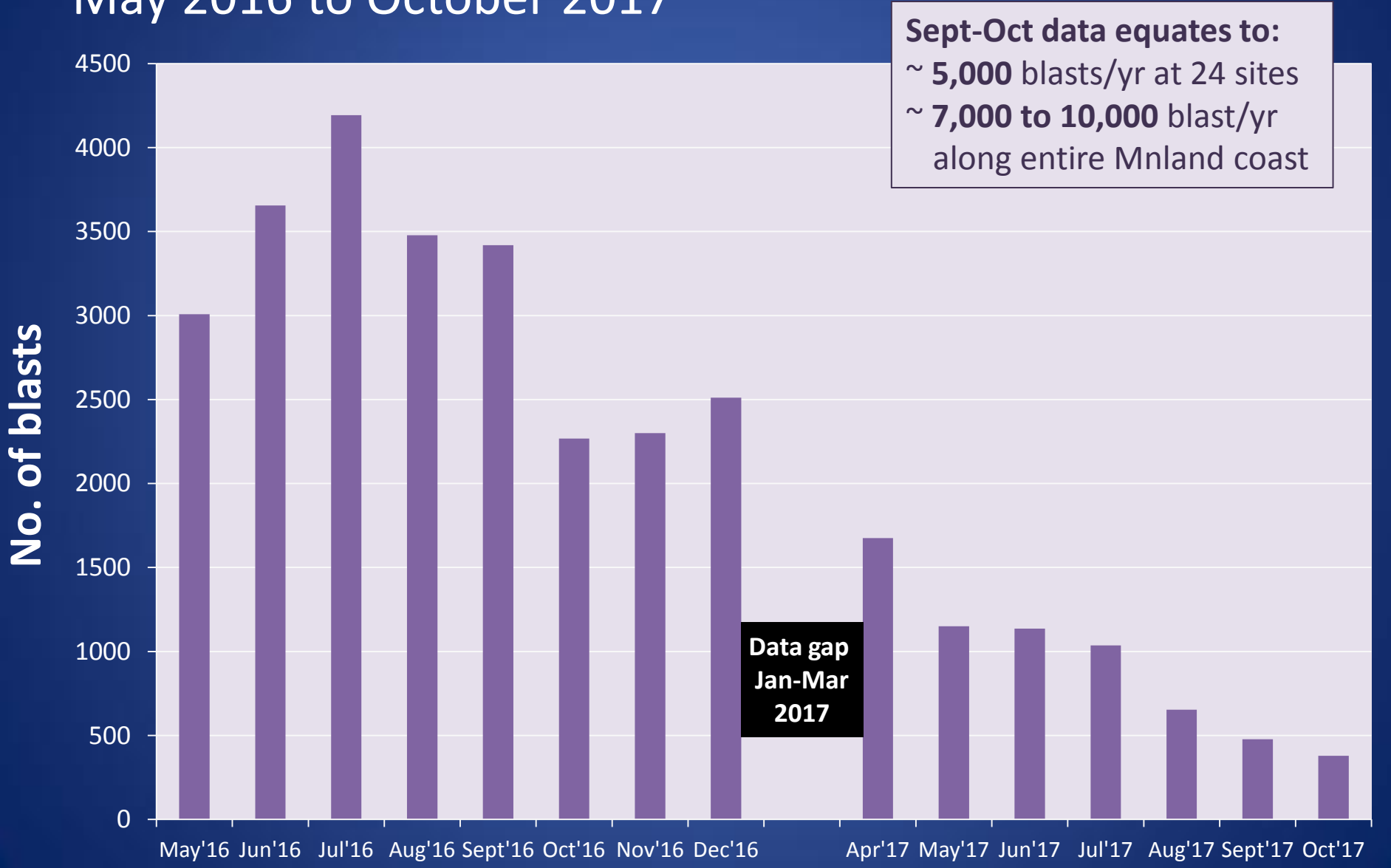
Clustered by region/district



Situation now

Estimated total blasts per month at 24 sites

May 2016 to October 2017



Sept-Oct data equates to:
~ 5,000 blasts/yr at 24 sites
~ 7,000 to 10,000 blast/yr
along entire Mnland coast

Data gap
Jan-Mar
2017

CONCLUSIONS

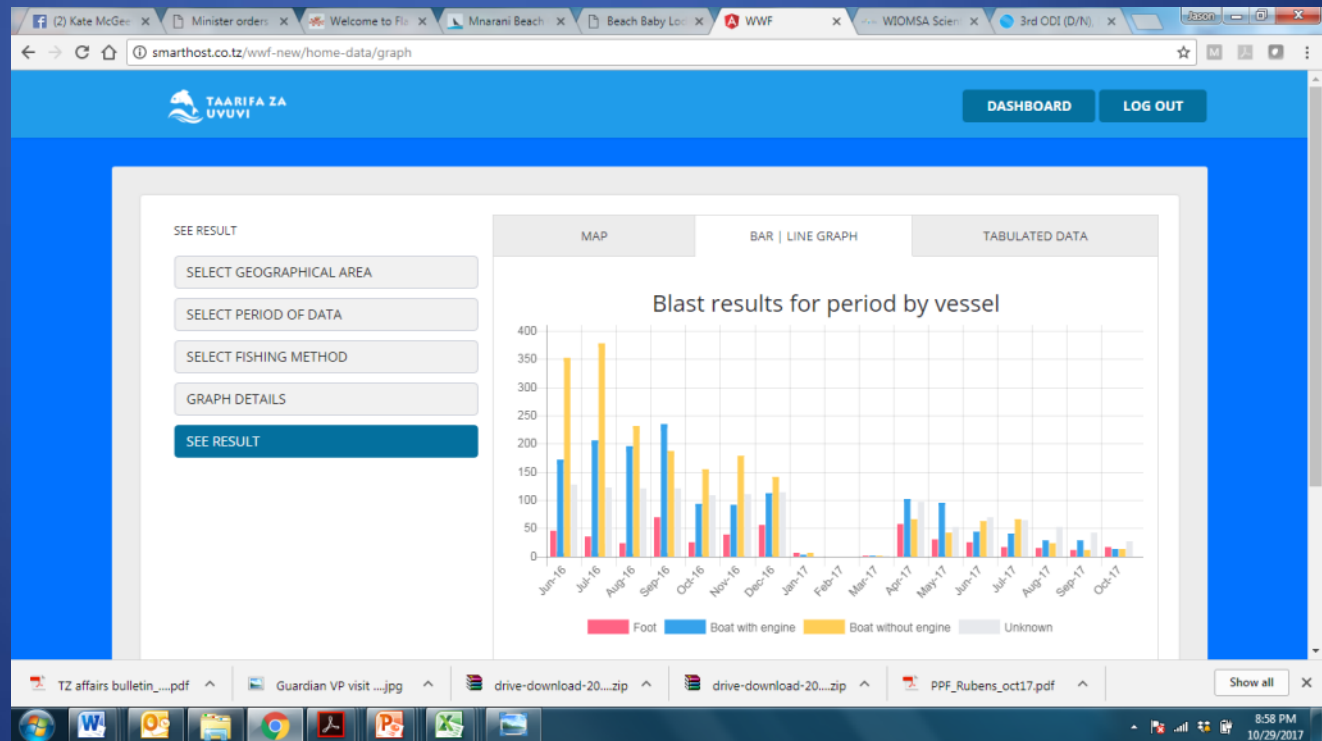
1. **Importance of high level political will** particularly in mobilising and co-ordinating action at regional & district level
2. **Credibility of current Govt** on governance, compared with past
3. **Power of assertion of authority** by regional & district authorities, even without applying force
4. **Physical enforcement** has also played a key role as in 1997-8 and takes time to mobilise

CONCLUSIONS contd

5. **Mobility of blast-fishing effort:** some blast fishers will relocate to less scrutinised areas in response to enforcement
6. **No room for complacency:** still very early days since reduction in blasting. Blastfishing practices are deeply entrenched. Sustained political will, enforcement efforts and monitoring needed to avoid resurgence in 2002 which occurred after 4-5 years of no blasting.

Future plans

1. Continued monitoring
2. Verification of data using acoustics
3. Public launch of monitoring website



Oct'17: Bumper catches of red snappers in Songosongo, attributed by fishers to zero blastfishing since Oct'16



Acknowledgements

FUNDING:



INFORMATION-SHARING:

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Shafii Mohammed, Sea Sense

JK Timur, Mwambao Coastal Community Network