



**MULTI-STAKEHOLDER CONSULTATION FOR ANTI-DYNAMITE FISHING  
CAMPAIGN TANZANIA**

**MWAMBAO COASTAL COMMUNITY NETWORK APRIL 2014**



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**PHOTOGRAPHS** on title page courtesy of Alexander Riefer, Sea Breeze Dive Centre and were taken offshore of Dar es Salaam.

### NOTE ON TERMINOLOGY

The commonly termed 'dynamite fishing' describes many kinds of fishing using explosives. Dynamite sticks are used for blasting fish and most commonly nowadays, home-made explosives are used utilising a mixture of granular fertiliser, diesel or petrol and varying amounts of explosive gel, combined within a plastic bottle with detonator cap. The terms 'dynamite fishing' and 'blast fishing' have been used interchangeably in this report.

Similarly Mwambao Coastal Community Network has been referred to either as MCCN or on occasion 'Mwambao'.

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## EXECUTIVE SUMMARY

Fishing using explosives is common in Tanzanian waters in all sections of the coast from Mtwara in the south to Moa in the north. It is currently considered to be more widely practiced in Tanzania than at any other point in history to the extent that is becoming 'fishing as usual'. Mwambao Coastal Community Network team carried out a multi-stakeholder consultation along the Tanzanian coast over two weeks in April 2014, visiting stakeholders from Mtwara on the southern border with Mozambique to Moa on the northern border with Kenya. Consultations were held with villagers, fisheries officers, government officers, private hoteliers, dive operators, fish processors, NGOs and other key individuals. Comments and recommendations were noted and wherever possible, testimonies were recorded on video. Findings are summarised in this report and as a one-hour video film.

Major towns such as Mtwara, Dar es Salaam and Tanga appear to be the hubs from which most of the 'dynamite fishing' originates with powerful businessmen financing the operation and using local villagers as crew. These locations are also the final market destination for fish caught in this manner. Village fishers also engage in the practice at a local level on their own, both with and without use of local boats. Coastal investors are concerned about the impact on the environment as well as their businesses, not to mention the safety of their guests. Recreational divers in the water feel unsafe and their physical wellbeing is at risk. Visitors to the country find it hard to comprehend how the practice is allowed to continue. There is real concern that Tanzania's reputation as a safe tourist destination is in jeopardy.

The consultation summarised past and present initiatives in combating dynamite fishing and reports stakeholder views on their efficacy. Key enabling factors for the operation of fishing using explosives include **easy availability of cheap materials** for making explosive devices, **wealthy 'godfathers'** who finance the operation and market the fish, **lack of local marine resource 'ownership'** i.e. inoperational BMUs, **ineffective law-enforcement** at the district level as a result of corruption of local magistrates and a lack of perception as to the seriousness of the crime, **and lack of political will** at all levels. In addition there is an understandable lack of willingness for the Fisheries Development Division to address such a serious security issue on their own without backing from other law enforcement bodies; there is confusion and denial with regard to enforcement roles, there is also lack of clarity as to which laws should be used for prosecution. Hard-line and indiscriminate tactics such as those taken by the navy, have been effective in the short-term but are not welcomed as 'the solution'.

Alternative income generating activities and provision of boats, revolving funds etc. have not proved to be effective. Fishers have difficulties repaying loans, and often it is the 'criminal' who is rewarded for bad practice rather than the bona fide fisher who uses sustainable fishing methods. Fishers are well aware of the detrimental effects of blast fishing on the environment – they continue because they are 'poor', are tempted by the quick returns and are operating largely as 'pawns' in a larger game. Local poverty and lack of 'marine resource ownership' are conducive to the continued use of explosives for fishing.

Urgent short-term solutions have been identified as:

- tracing the supply chain of bomb-making materials in particular explosive gel and detonator caps
- awareness raising and lobbying of decision-makers at the national level
- clarification and enforcement of legal procedures i.e. which laws and penalties apply and who should enforce them

Longer term but equally important solutions have been identified as

- Magistrate, enforcement and inspection officer training
- BMU and VLC capacity building to allow local control and decision-making
- Promotion of good practice at village level
- Promotion of multiple inspection points in each coastal district

A healthy, safe and prosperous coastal environment with an active business climate and without destructive fishing, relies on political will at all levels, upholding of the law through a non-corrupt judicial system, timely and appropriate punishment of offenders, an empowered and 'supported' local community, no access to 'bomb-making' materials, regular inspection of landed fish, no markets for dynamited fish and a clear idea of roles and responsibilities for monitoring and surveillance. Without tackling these key enabling factors, fishing using explosives will continue to flourish in Tanzania's coastal waters to the detriment of its people, its environment, its economy, its tourism industry and its reputation as a safe destination.

## INTRODUCTION

Destructive fishing using dynamite to blast the coral reefs and stun fish for capture, has been an ongoing problem up and down the Tanzanian coast since the 1960's. It is considered that currently 'dynamite fishing' may be more widely practiced now than at any other time in Tanzania's more than 50 years history of using this technique. Each blast of dynamite instantly kills all fish and most other living organisms within a 15-20m radius and completely destroys the reef habitat with a radius of several meters, reducing it to rubble (Guard and Masaiganah, 1997). The overall impact of dynamite fishing on Tanzania's coral reefs has been devastating. It has resulted in the permanent destruction of many hectares of coral reef habitat. These reefs were not only home to a myriad of marine organisms including fish, but provided significant livelihood support and also formed an invaluable protective barrier offshore (protecting the land from heavy storms (including tsunamis) and wave action). Coral reefs also form the basis of coastal tourism, a valuable national income sector.

This consultation was initiated through the concern of private investors on the Tanzanian coast who are witness to the recent surge in 'blast fishing' in marine waters. Not only are investors concerned about the damage being caused to the coral reef environment, which forms the basis of many of their businesses, but are also concerned about the increased risk of the use of explosives on the safety of guests both in the water, while snorkelling or diving, and also whilst at their hotels.

Mwambao Coastal Community Network (MCCN) a small Tanzanian NGO based in Zanzibar, was approached to carry out the consultation. MCCN's **vision** is that Tanzanian coastal community livelihoods are improved and sustainably supported by the ecosystem services provided by a healthy bio-diverse coastal environment. In line with this vision MCCN successfully approached IUCN and Lighthouse Foundation to joint-fund the initiative to enable as wide a consultation as possible to include not only investors, but community members, NGOs and government officers. MCCN proposed to carry out 'video-interviews' with key stakeholders along the entire Tanzanian coast to build a body of testimonies regarding the current state of 'blast fishing', incorporating comments, observations and recommendations.

## METHODOLOGY

The consultation took place over 2 weeks in April 2014. A team of 3 MCCN members travelled to Kilwa (Somanga, Kilwa Kivinje, Kilwa Masoko), Lindi, Mtwara, (Mgao, Mkubiru), Temeke (Kimbiji), Dar es Salaam, Tanga (Moa Kijiru, Chongoleani, Kigombe), Pangani and Bagamoyo. Consultations were held with villagers, fisheries officers, government officers, private hoteliers, dive operators, fish processors, NGOs and other key individuals (a full list of interviewees can be found in Appendix 1). All were asked about the history of 'blast fishing' in their area and past initiatives to combat it. They were invited to comment on the underlying reasons why it continues to be practiced and to give recommendations as to what further actions are necessary. The majority of interviews were filmed using a video camera except where the interviewee preferred not to be captured on film (many investors preferred not to be filmed). Video clips were

subsequently edited to produce a film with the aim of documenting stakeholder testimonies.

This report aims to summarise the information gathered in terms of the history of this practice, the current situation in the areas visited, initiatives that have been successful and those that have not, and recommendations from stakeholders as to actions that are needed to combat the practice.

## **BACKGROUND: A RESUME OF THE LAW AS IT PERTAINS TO FISHING USING EXPLOSIVES**

A dynamite fisherman taken to court is potentially faced with several counts of crime including illegal possession of explosive material, fishing without a license, using an illegal gear and fishing with dynamite, all of which can result in severe punishment. Haule (2013) was commissioned by WWF to conduct a review of issues surrounding investigation and prosecution of fishing with explosives in Tanzania. Findings from this review of legislation is summarised in the box below and individual laws are listed in Appendix 2.

### **Summary Findings on Review of Legislations**

Nine pieces of legislation, namely the Fisheries Act No. 22 of 2003, Fisheries (Amendment) Regulations, 2009, Marine Parks and Reserves Act 1994, Explosive Act No. 56 of 1963, Penal Code Chapter 16 of the Laws (Revised) (Principal Legislation), Environmental Management Act, 2004, Arms and Ammunition Act no. 2 of 1991 no.19 of 2007, Prevention of Terrorism Act, 2002 as well as the Economic and Organized Crime Control Act, 1984, were found out to have provisions and penalties applicable to the illegal use of explosives including dynamite. These pieces of legislation were reviewed and some observations presented. Penalties for different offences related to explosives within the different legislations range from one year to twenty years.

## **BACKGROUND HISTORY**

Various reports indicate that dynamite fishing has been practised in Tanzania since the 1960s. This was confirmed by various elders in Mtwara and Kilwa including Mzee Omari Ali Kionga of Somanga in Kilwa District. According to Mzee Omari, fishermen from Mtwara were the first to practice dynamite fishing in their coastal waters and soon the practice spread further north and reached Kilwa. The practice was promoted by the collaboration of business individuals from Dar es Salaam who came with dynamite supplies and cool boxes for collecting fish. These fishers from the “South” soon moved to other coastal waters of Tanzania from Msimbati in Mtwara and Moa in Tanga.

Besides being outlawed by Tanzania Government in 1970, the practice has become strongly rooted among a few individuals who have taken this to be their normal fishing practice. There is no record as how this practice was brought to Tanzania, but according to comments from residents in Kilwa and Mtwara, it was brought to the

country by fish buyers from Dar es Salaam aiming to get rich, and who trained several young fishermen how to use dynamite. In Somanga, an ardent campaigner against dynamite in the southern region, Mr Mohamed Mgeni admitted to being one of those whose families were lured into the practice initially.

The practice has caused significant socioeconomic and environmental damage. It is considered to be *the* most destructive of all human impacts on coral reefs (Wagner 2004). Each blast completely reduces the reef to rubble within a few metres of the blast site, while killing all fish and most other organisms within a 15-20 m radius (Guard and Masaiganah 1997). In addition, dynamite fishing has a profound impact on coral recruitment, as blasts remove all viable seed populations of corals (Nzali et al. 1998). Scientists have stated that it may take coral reefs many decades to recover from the impacts of dynamite fishing, and some may never recover (Guard and Masaiganah 1997). The resulting decline in fish catch that most of coastal residents are currently experiencing is the result of the destruction of coral reefs, the most productive ecosystem in nearshore waters. Apart from environmental damage, the practice has resulted in several deaths and some fishers losing their limbs. Mama Mwanashuru Oga, who was the founder of SHIRIKISHO, a once strong anti-dynamite group in Lindi and Mtwara, narrated that when it was introduced in Mtwara and Lindi, many families lost members as a result of dynamite fishing.

## **INITIATIVES TO CURB DYNAMITE FISHING**

There have been several initiatives to curb the use of dynamite along the coastline both by communities, government and donor funded projects. Some of these initiatives were successful to the extent that between 1999- 2003 there were significantly fewer incidents of blast-fishing along the coastline.

### **Rural Integrated Project Support (RIPS) Mtwara**

This project which was funded by the Finnish Government established and implemented a marine protection programme in response to the deterioration of the marine environment resulting from the overuse of destructive fishing practices especially dynamite fishing. Through slides shows, training lectures, participatory video and film shows and technical assistance, the project mobilized communities in three coastal districts of Mtwara, Lindi and Kilwa which resulted in a community based management strategy. In February 1994, 40 fishermen from 12 villages gathered on the beach in Sudi for a weeklong meeting together with four District Fisheries Officers and two consultant facilitators from RIPS. The meeting concluded with what has historically become known as the Sudi Declaration and signatories of this declaration vowed to stop dynamite fishing in the three districts. They established a local umbrella organisation known as SHIRIKISHO. Through this community based organisation the project established a community based monitoring scheme that included assessing marine habitats and conducting community-based patrols to fight dynamite fishing. Community representatives progressed a community-produced video statement through tiers of government ending with a presentation to the President. Action was taken and the government sent in the Navy to the region for a period of approx. two years to arrest those who were taking part in the practice. This was controversial but it



successfully reduced dynamite fishing in the two regions to almost zero. According to Mama Mwanashuru Oga, the initiative was so successful because of collaboration between the local community and the government with funding and technical support from RIPS. However the success was short-lived and was not sustained. After the project, the collaboration between the government slowly started to weaken and SHIRIKISHO started to fragment into small district based organisations with no support from the government. Today in Mtwara there are two NGO's KIMWAM of a younger generation and SOZOKOMAE which has retained some dissuaded elder members from SHIRIKISHO. Gradually there has been a resurfacing of dynamiting with an eventual gain of momentum such that the small organisations were no longer able to contain it.

### **Tanga Coastal Zone Conservation and Development Project (TCZCDP)**

Tanga Coastal Zone Conservation and Development Project which was established in July 1994, is one of the initiatives which strived to curb dynamite fishing in Tanga Region. Through funding from Irish Aid and technical support from IUCN, this programme was initiated following the observed deterioration of marine resources. Under this program, the local community were the key group in conserving the marine environment.

The villagers formed village committees to take actions to deal with fisheries related issues especially the enforcement of regulations, such as the Kamati ya Doria (Patrol) at Kigombe, the Kamati Ulinzi na Usalama (defence and security) at Kipumbwi. These committees became the focal points for planning and implementation of agreed actions. District personnel (Natural Resources Officer, Fisheries Officer and Community Development staff) and Programme staff provided technical assistance to the village committees.

Like RIPS, TCZCDP was successful in addressing illegal fishing practices including reducing dynamite fishing. The underlying reasons for the success were based again on the collaboration of community, government and provision of technical support from the project. The community being key, the programme focused on building their capacity in governance of natural resources through the establishment of management structures both at village level and division level. Established Committees undertook and agree upon the followings actions:

- Users defined the area in which management action will be implemented and who needed to be involved.
- The management committees developed the principles of management to be applied;
- Users developed the overall management objectives, purpose of the action plan, results and indicators.
- Users identified, analysed and agreed actions to be taken to meet results. Actions discussed and agreed included: reef closure; special rules to apply to closed area(s); general rules to apply to the larger area; and other actions to support management objectives i.e. trial of fish aggregating devices, trial of exchange of seine nets, and identification of future actions for control of trawlers.

- The village management committees defined how rules will be enforced, who will do what, what are the penalties, and what training is required for effective enforcement.
- The village management committees defined a programme for monitoring and review including who will do what and what training is required.
- The village management committees identified who should be informed and how this will be done. In meetings with the villagers and village governments of other villages with a stake in the area, the village committees presented their management objective, results and actions (particularly the reef closures). Each of these villages approved and supported the closure of these reefs which was confirmed by written agreements which eventually resulted into establishment of Collaborative Fisheries Management Area which was coordinated by a Central Coordinating Committee.

The navy was also enlisted in Tanga region to help fight dynamite fishing and together with TCZCDP helped to reduce blasting to low levels between 1997 and 2003. The navy was withdrawn following this period (see further discussion below).

### **Friends of Maziwe**

Maziwe island located close to Pangani was once inhabited island back in the 70's but due to a number of reasons including deforestation and climate change, the island became submerged. The island was and still is an important breeding site for sea turtles. Surrounded by coral reefs, it is a major tourist attraction where tourists from Ushongo visit the area for diving and snorkelling. Due to these important ecological services the government gazetted it in 1975. During the start of implementation of the Tanga Coastal Zone Conservation and Development Program (TCZCDP) in 1994, Maziwe Island marine reserve was incorporated into one of the programmes Collaborative Management Area Plans (CMAP), the Ushongo Collaborative Reef and Reef Fisheries Management Plan (Mangora et al. 2012).

Like other reef areas, the island has become the focus of dynamiters, and a significant portion of the reef area has been damaged and reduced to rubble. Realising the threat to Maziwe Island and its socioeconomic importance, the government embarked on an education campaign where a series of meetings were conducted. This culminated with the decision of vesting the responsibility of managing the area under the two communities of Pangani East and Ushongo and decided to establish an informal organization known as Friends of Maziwe, the objective being the protection of the ecological services within and adjacent to Maziwe Island. The communities with support from hoteliers conduct regular joint patrols in the area. The communities also received training from Sea Sense and with guidance from Sea Sense Conservation Officers, engage in the translocation of turtle eggs from Maziwe to safe nests on the mainland before being damaged by sea water. Friend of Maziwe managed to contain dynamite fishing practices in the area to the extent that notorious dynamiters dared not to go to Maziwe and moved elsewhere (according to Athman Hamza, the chairperson of the Friends of Maziwe). "Our joint patrol was a threat to dynamiters and they started complaining that we are preventing them from fishing in the area". In recognition of their effort, the Coelacanth Marine Park based at Kigombe donated a boat for facilitating

patrols. However, due to the usual conspiratorial schemes of dynamiters, the boat was stolen while anchored in Ushongo and that demoralised the group and as a result they could not continue with the same vigour and eventually, they ceased going out on patrol. With no patrol in the area, the area and other productive fishing grounds in Pangani are under intensive dynamite fishing of a magnitude never observed before (A, Hamza pers. comm.).

### **Mkubiru Village**

This village is located within the Mnazi Bay Ruvuma Estuary Marine Park (MBREMP). Mkubiru is a showcase of a community based initiative that has successfully contained dynamite fishing in their coastal waters. The community in this village, after realising that their fish stock has declined drastically to the extent that women (who in most cases are also fishers) could not get fish for their family, jointly convened a village assembly meeting where a resolution was passed to fight against dynamite fishing in the village. They started with prohibiting village members to engage in the practice. A group of young fishers volunteered to conduct patrols to deter dynamite fishers from other villages. Due to laxity of the police and the judiciary whereby culprits were regularly released, the village decided to take their own action of “finishing” the case within the village. Any dynamite fisher found or caught is punished as the village deems fit and the fishing vessel and all associated gear are destroyed on the spot. The dynamiters often take revenge by destroying the fishing gears of the volunteer patrol group, and when this happens an emergency village meeting is convened and all the villagers take the responsibility for compensating the group with new gear. The village has had some support from MBREMP (they were given a patrol boat), but otherwise it is among the few if not the only village, where, for three years it has managed to reduce the use of dynamite for fishing to almost zero. It is a good example where good leadership and the willingness of community can make ‘the seemingly impossible become possible’.

### **Government/Navy Anti-Dynamite Patrol**

When it seemed that dynamite fishing was becoming out of control in the country, following SHIRIKISHO’s delegation travelling to Dodoma and having an audience with Prime Minister Frederick Sumaye (where they submitted the list of names of core dynamiters), the Government had to pull muscle and enlisted the assistance the Navy Brigade of the Tanzania People Defence Force. The well-trained and heavily armed soldiers were deployed and combed the whole coast and indiscriminately meted out on site corporal punishment to suspected collaborators in villages that were suspected to harbour dynamiters. The two years of the operation from 1998 to 1999 witnessed dynamiting being reduced almost to zero. However due to the high cost of financing the operation and for other political reasons, it only lasted for two years and was suspended. It did however leave behind a legacy in all coastal villages that will be remembered for a long time. All the stakeholders that were interviewed from Mtwara to Moa recognised the success of the operation but did not consider the ‘indiscriminate use of force’ in this way to be the answer to combating dynamite fishing.

### **Monitoring Surveillance Control Unit of the Division of Fisheries**

Monitoring, control and surveillance (MCS) is one of the core competencies of the Fisheries Division. The national MCS programme includes the issuing of fishing licences, the prevention of illegal fishing, and the enforcement of laws pertaining to fishing equipment and other restrictions. Enforcement is executed at national and local levels, thus involving local authorities. However the de facto current open access nature of fisheries in most locations hampers the ability of government to manage fishery resources. Taking the example of Tanga, the Fisheries Division has stationed a team of three Fisheries Officers to manage MSC for the Northern Zone. Tanga alone has a coastline of 180 km spanning from Buyuni in the south to Moa/Kijiru in the North. It is difficult if not impossible to manage all the MSC activity mandated, let alone dynamite fishing. There is only one boat and minimum financial resources to operate adequate patrols to crack down on the well-established network of dynamite fishing practices in this northern zone.

The patrols that are being currently being carried out are not participatory in approach as used to be the case with initiatives during RIPS and TCZCDP. This most probably contributes to the low success that the MSC station in Tanga has achieved in the northern zone in bringing to justice dynamite fishers. There is also an atmosphere of intimidation experienced by the MSC officers when carrying out their work – this is a result largely of an incident in 2013 when a fisheries officer who was in the forefront of cracking down on dynamiters was attacked with acid in his face while in Tanga town.

In Kijiru and Chongoleani stakeholders raised their concerns regarding the limited number of patrols carried out by the MSC station in Tanga. Mr Sheha Kombo Fakhi of Kijiru Moa, Tanga stated that “we are living within our neighbourhood with those carrying out this illegal activity, we know them as some are our relatives; we know where they like to go, it would have been wise if we were involved in planning and carrying out sea patrols so that we can guide the fisheries officers in pinpointing areas notorious for dynamiting and the timing. If you don’t respect their value and their contributions for addressing issues, the coastal community normally will just stand aside and look at you”.

The chairperson of Kijiru village in Moa, Mzee Kombo explained that the MSC patrol and Navy in based in Tanga have not been productive because the dynamiters network are well organised and use cell phones to communicate. “When a patrol team sets off in Tanga, they are closely observed and immediately using mobile phones, the news is spread and no dynamiter goes out fishing”. This was confirmed by Mr Kalombo Hassan, the Assistant RAS for Tanga, “it is difficult for the patrol team to catch dynamiters these days as they use cell phones to inform each other at the outset of a patrol. On reaching the village, they find innocent people carrying out normal village life activities”.

## **CURRENT SITUATION**

Fishing using blasting techniques was evident in all locations visited with it being most evident in Dar es Salaam/Temeke and Tanga region. The practice is also on the increase in Mtwara region. It was generally acknowledged that technologies have changed over recent years increasingly enabling villagers to engage in the practice with affordable

home-made explosive devices and that the availability of mobile phones means that tip-offs and evasion of patrols is relatively easy.

This section provides a summary of statements from key stakeholders interviewed during the consultation. Appendix 1 lists all interviewees.

## Government personnel statement and Recommendations

The Mwambao team had the opportunity of meeting with fisheries officers in Kilwa, Lindi, Mtwara, Tanga and also a team of MSC Fisheries Officers at the Fisheries Division of the Ministry of Livestock and Fisheries, Dar es Salaam. All those interviewed recognised that dynamite is a huge problem and need a concerted effort to curb it. The escalation of the practice according to government officials, can be attributed to a number of reasons, but predominantly due problems of governance and secondly due to the socioeconomic setting of coastal communities.

The governance of marine and fisheries resources in Tanzania is hampered by several factors including but not limited to:

- Lack of proper resource allocation, including financial and human capacity to adequately execute management functions. This was raised mostly by local government fisheries officers. In all the Districts, there is very few fisheries staff to manage vast stretches of the coastline under their jurisdiction. In Lindi there is only one fisheries officer based in the District HQ and one located at Nchinga ward. “It is very difficult managing the whole coastline alone ” said Joyce Kazana, the District Fisheries Officer for Lindi. “I cannot be in all the landing sites to carry out data collection and inspect fisheries products”. This coupled with inadequate funding allocation to carry out patrol limits the capacity of District Fisheries Officers to curb dynamite fishing practices in their areas. Ms. Kazana did mention that not all patrol has to be carried out at sea, there is a lot that can be carried out on land as many of the suspects are known. The Fisheries sector is one of the major contributors of District revenue. In Kilwa Kivinje, the Fisheries Officer revealed that the station is able to collect TSh. 40 million as revenue from the sale of sardines alone, but none is reallocated for management of fisheries resources. “We would like to enforce all the stipulated regulations pertaining to fisheries management, but we are limited by lack of funds to carry out our responsibilities” said Steve Samwel Yohana, Kilwa Kivinje Fisheries Officer. Dynamite fishers in Kilwa waters are basing their illegal fishing practices in three Islands; Nyuni Okuza, Fanjove and Simaye within the SongoSongo archipelago. A speed boat is needed with adequate fuel to reach these places, which the fisheries officers at Kivinje cannot get from the Kilwa District Council.
- The ‘de facto’ open access to fisheries is a problem, limiting the control government has on fisheries management. While there are Beach Management Units in theory, in practice much of the access to marine resources can be regarded as ‘open’ i.e. not controlled or monitored. Co-management initiatives in Tanzania correctly attempt to bring local communities and resource users into the process of fisheries management, but it is clear that they do not have the capacity and the necessary resources to execute the management responsibilities

devolved to them. It may be the case that local communities are given an unfunded mandate through co-management initiatives, and responsibility is handed over to them precisely because the government does not have the resources to carry out effective management itself.

- Lack of integration between the local and national levels of fisheries management.
- Lack of sectoral integration in dealing with dynamite fishing. “Dynamite is not a fishing gear, it is a weapon just like a grenade and other weapons of war. Fisheries officers are trained in resource management and have no experience in weaponry. It is for the state security agencies that have been trained to take charge and collaborate with us. But to our dismay, the same agency sometimes calls a fisheries officer when they hear a blast in marine water, but they don’t do the same when they hear the same blast on land, in most case all the security agency hurriedly respond. This is very discouraging” commented Mr Julius Mairi, a senior fisheries officer at Fisheries HQ.
- Lenient sentences and fines given to dynamiters by the judiciary system are considered to be another factor contributing to the persistence of dynamite fishing practices. Most of the stakeholders interviewed vehemently raised their concerns regarding this. There are several reasons given including the lack of awareness of the impact of dynamite on the environment by most of the magistrates. They think dynamite results in only killing fish and therefore ‘why should they give stiff sentence for just killing a fish?’. On the other hand, weak prosecution is pointed out as another reason that makes magistrate fail to find a person guilty of a crime. Most fisheries officers fail to frame charges appropriately to convince the judiciary beyond doubt that a person has committed a crime “We do not have basic knowledge of the law and that is why most of our cases end up with short sentences or release of the culprit” commented Mr Suleiman Ngaweje, and Steve Samweli fisheries officer in Lindi and Kilwa respectively.
- There are strong socioeconomic reasons why dynamite fishing persists. The use of dynamite is a social issue and its solution can partly be based on a social approach. Historically it is clear that the practice was introduced into coastal communities by few greedy individuals from urban settings who wanted to get rich using easy methods that do not require extensive investment. These few individuals took advantage of the abject poverty that prevailed in most coastal communities especially the southern regions which coupled with poor communication and infrastructure made them vulnerable to these businessmen. There is also a traditional link in Tanzanian artisanal fisheries that is difficult to break. This link is between a person who actual goes out fishing, and the buyer/middle person (who in most cases is the supplier of fishing gear and own the gear and the fishing vessel). Fishers have historically developed a dependence on being given fishing gear with the condition that all the catch has to be either bought by the middle person or the sales are divided into percentages with the major percentage going to the owner of the gear and vessel. There are several gears and craft that fishermen use during fishing, some are simple and cheap, these include hook and line using dugout canoe. But some are very expensive and need high investment - it has been difficult for simple fishermen to invest in expensive gears which in normally have high returns in

fish catch and revenue. With the cost of gear increasing it has set the scene for looking into cheap investments that have high returns. Consultations during this study revealed that a tube of explosive gel with all its accessories cost less than TSh. 15,000.00 and is sufficient to cause blasts that can kill fish worth TSh. 300,000. Using the conventional technique of hook and line, even at time when the marine habitat was till pristine, fishermen often end up with a catch of less than TSh. 15,000. A common scenario is when fishing in a group the proceeds are divided as follows; one third is divided equally between all fishers, one third goes to the owner of the net and the final third goes to the owner of the boat. A fisherman ends up getting between TSh. 5,000 to 10,000. The economic return from the use of dynamite is high compared to conventional legal fishing practices. This was confirmed by Julius Mairi of the Division of Fisheries.

## Recommendations from the Government

- There should be multi-sectoral and multi-disciplinary engagement in tackling dynamite fishing.
- Dynamite should be considered as a weapon and not a fishing gear and hence prosecution should be based on illegal possession of a weapon and be categorised as treason.
- The local government's capacity to manage marine waters under their jurisdiction should be facilitated with adequate financial resources and enough human resources
- Fisheries Officers should be provided with a basic knowledge of the law.
- The judiciary should be trained on basic knowledge of marine ecology and the impact of destructive practices (as happened during TCZCDP).
- Stiff sentences should be given to those found guilty as stipulated in the Fisheries Act of 2009.
- The Coast Guard Agency should be established with a clear mandate of marine security. The Agency should have enough manpower and adequate modern vessels to ensure they are on guard all the time.
- A mobile Fisheries Court or Natural Resource Court should be established for dealing with cases related to natural resources as is the case with land-related issues.
- Communities should be empowered to own and manage their resource base including capacity building and strengthening of Beach Management Units.

## Community statement and recommendation

The Mwambao team had the opportunity of meeting coastal communities to seek their views on dynamite fishing. The team visited and met community in Kilwa Somanga and Kilwa Kivinje in Kilwa District, Mkibiru and Mgao in Mtwara Rural, Kigombe in Mheza District; Chongoleani in Tanga and Kijiru/Moa in Mkinga. Apart from communities the team also met representatives of community based organisations; SOZOKOMAE/SHIRIKISHO; KIMWAM based in Mtwara, Friends of Maziwe and Sea Sense in Pangani.

The majority of coastal communities live in poverty and depend on fishery resources for both protein and for their livelihood, sustenance, and cultural traditions. More than 500 fish species are utilized for food, with reef fish being the most desired for eating by coastal people. Also it is a fact that the small-scale fisheries in Tanzania accounts for 98% of total fish production, 1.3% of GDP (ASCLME, 2010). While its contribution to GDP may appear marginal, the sector is a vital source of food security, employment and income for coastal communities, which subsequently stabilizes the five coastal regions which, when including all sectors, make up 32% of Tanzania's GDP (ASCLME, 2010).

During consultation with communities, the majority admitted that fisheries resources are being fully or over-exploited and noted that the catch per fisherman as well as the variety and the average size of fish caught were decreasing. They also complained that their income from fishing had declined. The community clearly attributed the decline to the use of illegal fishing methods, especially dynamite fishing. Fishers from Mgao village near Mtwara stated 'the sea belongs to everyone – it is our responsibility to look after it, but the numbers of fishers have really increased and the BMUs do not function as there is no training'. One challenge is being able to control access to the resources 'We can't refuse access to outsiders to our marine waters as we also fish in the areas of others'.

Communities admitted that dynamite has resurfaced with great vigour in the last five years. It has become normal to hear between 20 to 50 blasts a day. They complained that dynamite fishing practices have affected their means of living as they depend on fishing as a livelihood. In Mwa Kijiru where community patrols were effective during TCZCDP, fishers are now joining in the dynamite fishing as they have 'given up' trying to stop it. Here seaweed farmers complained that dynamiters apart from blasting coral reefs are now moving into sea weed farms and destroying ropes and seaweed. "Seaweed has been our source of income for many years, supporting family in essential expenditures such as school fees and medical bills. Now the burden is going back to our spouses" stated Rehema Juma Ally in Kijiru. Akida Sharif Omari from Chongoleani also lamented that there are very few fish catches at the landing site, making life difficult for most women fish processors. "We barely get enough fish for our frying business."

Many of the villagers realise that they are being compromised and that they are pawns in a larger game. In villages once part of TCZCDP for example, they are fully aware that dynamite fishing is destroying everything they have worked for together with their current and future livelihoods. There are number reasons that community pointed out as to why dynamite fishing has been so persistent:

- The greed of few community members who are lured into the practice.
- An active and powerful network of dynamiters making it difficult for community to cope without outside support.
- Cheapness and availability of dynamite compared to the conventional gear.
- Laxity of the security force especially police and the judiciary system in dealing with cases of dynamite fishers.
- The tendency of some households not to cooperate in revealing dynamiters who are related to them fearing family apathy or retribution (kinship).
- Withdrawal of the Navy brigade



Also communities provided reasons as to why community initiatives have failed to curb dynamite fishing in their coastal waters. These include:

- Inadequate support from higher authorities to community initiatives
- Most dynamiters have motorised boats and carry out the activity in deep water and community cannot reach the scene and arrest them using dugout canoes.
- Low participation/involvement of communities in patrols

Communities proposed the following recommendations.

- Establishment and strengthening of community based fisheries co-management (BMUs)
- Reviving and supporting the previous anti-dynamite campaign that involves community as key players.
- Strengthening BMUs through training to understand clearly their role and responsibilities
- Initiating inspection of fish products at landing and transport check points by training and stationing members of the BMU.
- Monitoring and closing all illegal/unauthorised fish markets adjacent to the Ferry market and at Buyuni.

### Private sector statement

The coastal and marine environment in Tanzania has continued to attract business investments ranging from coastal tourism, fisheries resource processing, and most recently the oil and gas extraction industry. Tourism is an important component of the Tanzanian economy, accounting for 17.2% of GDP, making up 25% of foreign exchange earnings. While much of this activity is concentrated around wildlife-based tourism in the hinterland, coastal tourism is witnessing expansion, evident in the number of beach resorts constructed along the coastline and on islands. The potential for coastal tourism is still enormous. There are a number of fish product processing plants located in Tanga, Dar es Salaam, Kilwa Masoko and Mafia. All these depend on fish harvested by the artisanal fishery industry; some of the product goes back to hotels while much is exported. The profitability and business basis of all these industries (excluding oil and gas) depend on the productivity of the coastal and marine environment especially the coral reef ecosystem.

Recently the coastal and marine area has been a center of focus due to ongoing exploration for oil and gas that is being carried out. Currently there are gas rigs in Songosongo and Mtwara and there is a plan to construct another in Mkuranga after finding an extensive reserve of gas nearby.

Coastal tourism is one of the industries dependent on the existence of a healthy ecosystem especially coral reefs, sea grass beds and lagoons. Pristine coral reef attracts diving, snorkeling and also sport fishing. Dynamite is considered to be *the* most destructive of all human impacts on coral reefs (Wagner 2004). In addition, dynamite fishing has a profound impact on coral recruitment, as blasts remove all viable seed populations of corals (Nzali et al. 1998). It may take coral reefs many decades to recover

from the impacts of dynamite fishing, and some may never recover (Guard and Masaiganah 1997).

In 1968, the reefs of the Tanga region were described as being among the best along the Tanzanian coastline (Ray 1968). However, by 1987, a study by the World Conservation Union (IUCN) concluded that the Tanga reefs were extensively damaged, with on average less than 20% live coral cover, less than 10% in some areas and as little as 1% on one reef (IUCN 1987). A wider survey in 1995 found that, of 58 coastal and patch reefs studied, 12% were completely destroyed, 64% in poor or moderate condition and only 24% in good condition (Horrill 1996). The highest concentrations of damage corresponded to those areas adjacent to the highest human population densities, and the majority of the damage to the north of the Pangani River could be attributed to dynamite fishing (Horrill 1997). Recent underwater research findings (this study) have revealed that extensive areas of reef have been turned in rubble (Eco2 dive school Mtwara, Dar Yacht Club Dive Section, Peponi Beach Resort, Fish Eagle Point Resort Moa pers. Comm.).

The escalation of dynamite fishing is having widespread negative impact, and acts as a deterrent to private sector investments. The Tanzania Dynamite Fishing Monitoring Network (TDFMN) (now largely non-operational) which was set up in 2005 by a group of people from conservation organizations, the private sector, government, donors, and local marine resource users, showed that the situation gradually escalated over the years it was operational. The Mwambao team was made vividly aware of the current situation with 4 blasts heard nearby while carrying out a 45 minute interview in Temeke.

A fish processing plant operator in Kilwa Kivinje stated that at least on one occasion he had been presented with a boatload of dynamited fish that he had refused to buy on the advice of the local Fisheries Officer. As a company that trades in fish for both the local and export market, they are very aware of the importance of sustainable fishing.

While in Mtwara the team met with several hotel and dive operators who strongly raised their concerns as to how dynamite is likely to ruin coastal tourism in Tanzania if left unchecked. Tourists on diving and snorkelling expeditions are subject to explosions in the water, the vibrations rocking the scuba tanks on their backs and on occasion affecting their hearing. Visitors to Tanzania are shocked and cannot understand how this practice is allowed to continue and have remarked on Trip advisor about the tragedy of the situation on the Tanzanian coast. This same experience was echoed by hoteliers in Dar es Salaam, Tanga (south), Bagamoyo and Moa. Some statements from investors have been included in Appendix 2. Investors are worried for the future of tourism on the coast. Hotels who take guest's snorkelling south of Tanga remark that 'we used to have 10 reefs to take guests, now there are only 2 remaining'. They have had guests walk out of the hotel in disgust after witnessing blast fishing just offshore of the hotel.

Divers in Dar es Salaam have witnessed regular dive-sites completely destroyed with dead fish scattered on the bottom of the ocean amongst the blasted coral (see photograph on report cover). They report hearing blasting daily with 10-15 blasts

heard during a one-hour dive. One diver stated 'on the last dive we even gave up counting the blasts'. A diver who last dived in Dar in 1999 stated that when compared with recent dives the difference is 'huge – there are vast areas of dead coral and no big fish or turtles'. A Dar dive operator states that they can no longer take guests to these 'dead areas' – he compares the situation to bombing in the middle of Ngorongoro crater but because 'no-one sees the damage under the ocean, no-one cares'.

Hotel operators in Dar es Salaam report dynamite fishing directly in front of the hotels, in full view of guests. One hotelier said 'it does not create a good image of the country'. Safety is key concern, an hotelier in Bagamoyo area has been threatened personally and threats have been made to blow up his hotel. One investor describes the situation as 'a national catastrophe'.

The team met with the Tanga investors' network known as Tatona. One key recommendation from Tatona was the need for the reestablishment of CMAPs or collaborative fishery area plans established during Tanga Coastal Zone Project. These were Mtang'ata, Boma Mahandakini, Deep Sea Boma, Kipumbwi, Sange Boza Sange and Mwarongo Sahare. As explained earlier, the implementation of these plans was participatory with communities in these areas being key in establishment and implementation. Communities were involved in identifying and designating reefs and adjacent areas as no-take zone areas. It also involved the establishment of central coordinating committees as a local legal institution for managing the management areas. The community-based fisheries management was mentioned by investors as being a key factor in curbing dynamite fishing practices in Tanga.

It is worth mentioning that many investors and tour operators were unwilling to be filmed during this consultation or mentioned by name because of fear of reprisals on them personally and on their hotels.

### **Private investor statement and recommendations**

Eco2 Diving state 'We promote our dive centre in Mtwara on the underwater paradise of the area". We strongly ask that whatever needs to be done, be done to stop dynamite fishing so that future generations of visitors and local people can enjoy the beauty and wealth we see every time we go diving'.

The Kilwa fish processor operator located on the seashore near the fish market observed that many illegal fish are landed after government working hours. He recommended that there be no fish landings after 6pm so that they can be properly inspected.

Private investors have in the past loaned boats for patrol and provided fuel. They have also played an important role in monitoring levels of dynamite fishing through Tanzania dynamite fishing monitoring network. Many hotel owners are willing to assist with patrols although not all are willing to have armed personnel aboard vessels. All are willing to report incidents promptly to the correct official and indeed have been doing so.

## NGO statement

The team met with several small NGOs including Kimwam and Sozocomae in Mtwara, the follow-up organisation to Shirikisho formed after the Sudi Declaration.

Representatives from Kimwam made the point that people are tired of ‘education’ about the harm of dynamite fishing – as fishers they are fully aware of the destructive effects. Commenting on past initiatives including a revolving fund that was set up to help fishers get new gear, the chairman of Kimwam said that ‘revolving funds are difficult as fishers find it very hard to repay the loans; it is very difficult for people to save – they spend today what they earn today’. He recommended an education initiative on savings. In terms of the past effectiveness of the navy he said that ‘force is not the answer’.

## DISCUSSION OF ENABLING FACTORS

The schematic diagrams in Appendix 3 illustrate the dynamite fishing chain and list ‘enabling factors’ at each stage of the supply chain summarised from the consultations during this study.

All factors contribute to the continued use of explosives for fishing to the extent that it has become accepted as a normal fishing practice. The charts suggest key entry points for intervention as summarised in the table below:

ENTRY POINT	ACTIONS INDICATED
Restrict availability of explosive materials	<ul style="list-style-type: none"> <li>- Identify source(s)</li> <li>- Prosecute illegal suppliers</li> <li>- Identify and patrol selling points</li> <li>- Work with magistrates to clarify sentencing for possession of explosives</li> <li>- Work with police and other law enforcement officers to clarify penalties for possession of explosives and chain of evidence requirements</li> </ul>
Effective patrols	<ul style="list-style-type: none"> <li>- Community enabled to patrol through active BMUs and identification of revenue sources to fund activity sustainably</li> <li>- Fisheries officers enabled to respond to alerts</li> <li>- Marine patrols carried out randomly and strategically</li> <li>- Involve investors in reporting incidents and support to patrols</li> <li>- Work with Tanzania coastguard and others to identify avenues for collaboration</li> <li>- Marine Park patrols need to collaborate with villagers</li> </ul>
Effective sentencing	<ul style="list-style-type: none"> <li>- Investigate possibility of mobile fishery courts</li> <li>- Work with magistrates to clarify sentencing for offenders</li> <li>- Ongoing education programme for magistrates regarding impacts of blast fishing</li> <li>- Training of fisheries officers on basic natural resource</li> </ul>

	<p>management related laws</p> <ul style="list-style-type: none"> <li>- Ongoing education at all levels regarding collection and presentation of evidence</li> <li>- Institute national system for monitoring cases involving use of explosives for fishing (including possession)</li> <li>- Clarify what level of punishment can be carried out at village level – promote best practice and success stories i.e., Mkubiru</li> </ul>
Fish inspection at landing sites	<ul style="list-style-type: none"> <li>- Training BMUs on identification of dynamited fish</li> <li>- Identify whose responsibility to inspect</li> <li>- Decide on ‘landing hours’ – investigate rota?</li> <li>- Prosecution of offenders</li> </ul>
Fish inspection on transport routes	<ul style="list-style-type: none"> <li>- Training on identification of dynamited fish and evidence chain</li> <li>- Identify whose responsibility to inspect</li> <li>- Prosecution of offenders</li> </ul>
Fish inspection at marketplace	<ul style="list-style-type: none"> <li>- Identification of exact location of key markets and when dynamite fish are being sold</li> <li>- Patrolling and closing all markets of dynamited fish</li> <li>- Training on identification of dynamited fish</li> <li>- Identify whose responsibility to inspect</li> <li>- Prosecution of offenders</li> </ul>
Identification of ‘ringleaders/godfathers’	<ul style="list-style-type: none"> <li>- Surveillance is needed to identify who the business patrons are</li> <li>- Identify effective means of bringing them to justice</li> </ul>
Engender political will	<ul style="list-style-type: none"> <li>- Awareness raising at all levels of government but particularly at the national level</li> <li>- Raise national security as an issue</li> <li>- Reiterate negative impact on coastal tourism</li> </ul>
Streamline coordination between central, local government and law enforcement agencies	<ul style="list-style-type: none"> <li>- Clearly identify responsibilities with regard to transgression of the law i.e. law enforcement roles – fisheries vis-a-vis police, marine police etc.</li> </ul>

## KEY THEMES

There are several key themes which must be addressed, some require urgent short-term tactics and others present a longer-term approach.

### Control of Explosives

The easy availability of explosive materials presents a threat to national security. The source of these materials needs to be identified as a matter of urgency and the supply chain uncovered. Those in possession of explosive materials must be prosecuted under the law and companies who have legal access to these materials must be held accountable for inadequate control measures in stocking and using the materials. There

must be recognition of the fact that explosives in the wrong hands are effectively weapons and a similar level of strict control and licensing is required.

## Judicial system

The effective operation of the judicial system is key to all successful entry points in breaking the 'dynamite fishing' chain. In the absence of effective punishment, small penalties will be regarded as a 'business expense' as part of 'business as usual'. An effective system must:

- Recognise the seriousness of the activity and ensure that 'the punishment fits the crime'. There must be support from the 'top to the bottom' of the national judicial system for effectively addressing the crimes perpetrated. There must be a clear understanding and streamlined system as to how (under what laws) dynamite fishers are to be prosecuted.
- Corruption must be stamped out at the local magistrate level – one suggestion for doing this is a national reporting and monitoring system of all cases brought to court involving dynamite fishing. There also could be an independent authority to which villagers can appeal should offenders be seen to be released without due punishment.

## Arrest of offenders

Monitoring, control and surveillance of fisheries is the responsibility of the Fisheries Development Division of the Ministry of Livestock and Fisheries Development (MFLD). Licencing and MCS are the responsibility of the Fisheries Resource Protection Section (FRP). In practice most MCS functions have been devolved to District Officers in the 16 coastal districts. However as senior fisheries officers have stated we are in effect dealing with a 'weapon' that can be used for terrorism thus appropriate and high-level law enforcement officers need to be involved. These will include:

- Marine Police
- Tanzania Peoples Defence Force (which include the Navy Brigade and the Zanzibar's KMKM (coastguard))
- Marine Parks & Reserves Unit and its three marine park operations
- Surface and Maritime Regulatory Authority (SUMATRA)

## BMU capacity building

Without effective BMU operation, local villagers will not perceive any 'ownership' or 'control' of their marine resources. The BMU system allows for local by-laws controlling illegal fishing and also allows for local patrols. The BMU governance system also allows for revenue collection through collection of licence fees and so on – once operational, BMUs will be able to at least in part, fund their own patrols. It is also possible for a certain level of law enforcement to be carried out at village level as demonstrated by the village of Mkubiru, Mtwara. Support and back-up from government and courts for any village action including arrests is however, paramount. Villages within the previous

TCZCDP area have full experience of how effectively the system can work. Long-term and sustained support to BMUs at the village level is needed to control **all** illegal fishing.

### **Village Liaison Committee Capacity Building**

Likewise, in areas where there are Marine Parks, village liaison committees (VLCs) need capacity building such that they can actively participate in marine management. Again the village of Mkubiru is a successful example.

### **Streamlining government support**

Apart from contributing to the GNP through revenue collection, currently there is scant reallocation of financial resources for management of fisheries both from the central and local government. Fisheries management activities should be streamlined into the annual development plan with adequate allocation and actual disbursement of funds.

### **Political will**

No effective control of dynamite fishing will take place until there is sufficient political will at all levels. This can only be encouraged through awareness raising, focusing on the following:

- The link between easily accessible explosives and the potential threat to national security
- The potential loss of national income through the threat to coastal (and linked to this, national) tourism
- The loss of reputation for Tanzania as a safe destination
- The vulnerability of the Tanzanian coastline as a result of loss of coral reef protection

Film clips gathered during this consultation can be used to prepare appropriate awareness raising and lobbying material to be presented to the highest level of decision-maker. Film material can also be appropriately edited to create clips for use on TV.

## **CONCLUSIONS**

Urgent short-term solutions in combating fishing using explosives have been identified as:

- tracing the supply chain of bomb-making materials in particular explosive gel and detonator caps
- awareness raising and lobbying of decision-makers at the national level

- clarification and enforcement of legal procedures i.e. which laws and penalties apply and who should enforce them

Longer term but equally important solutions have been identified as:

- Magistrate, enforcement and inspection officer training
- BMU and VLC capacity building to allow local control and decision-making
- Promotion of good practice at village level
- Promotion of multiple inspection points in each coastal district

The reasons why dynamite fishing continues unabated are complex as demonstrated by consultations held during this study. To be effective, the recommendations made above need to be built into an integrated approach incorporating an awareness-raising aspect leading to a buy-in of all key stakeholders. The players in an integrated programme include government at district, national as well as village level, the judiciary, law enforcement agencies, marine protection agencies, together with investors and those that can assist either with capacity building or funding such as CBOs, NGOs and larger donor bodies.

Consultations made during this study have revealed current several ongoing anti-dynamite initiatives such as that by WWF (e.g. BMU capacity building in Rumaki and Mtwara, the commissioning of independent studies on relevant current legislation etc.) and Smartfish (MCS initiative Mtwara and Lindi). It has also shown that investors and villagers alike are willing to assist within their means, to bring dynamite fishers to justice. In the lead-up to the anticipated World Bank funded and government-led SWIOfish project (proposed start 2015) in which combating dynamite fishing is a key objective, it is hoped that the findings of this consultation will help to inform and frame project design. Prior to this there is an identified urgent need for engendering political will at the highest level nationally amongst decision-makers to encourage an active fight against dynamite fishing using the many valid arguments and concerns raised during this study, including economic arguments and not least the threats posed to national security, and to Tanzania's reputation as a safe and secure tourist destination.



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## APPENDICES

### 1. LIST OF THOSE CONSULTED/INTERVIEWED

LOCATION	POSITION	NAME
SOMANGA		Omari A. Malungulu
		Ally Y. Gumba
		Hamza A. Gumba
		Omari S. Omari
		Mohamedi I. Mgeni
		Omari A. Kionga
		Fatuma A. Ngweshani
		Yusufu A. Kitelebu
		Yusufu A. Kabwanga
	KILWA MASOKO	Fisheries Officer
KILWA KIVINJE	Tanpesca	Mr Sujesh
	Fisheries Officer	Steven Samwel Yohana
LINDI	District Fisheries Officer	Joyce Kazana
	DED (Acting)	Suleimaj Ngaweje
MTWARA	District Fisheries Officer Mtwara Rural	Oga Dadi Oga
	DED (Acting)	Oscar Ng'itu
	KIMWAM	Mohamedi Ali
		Fidea Ruanda
	MGAO village	Mzee Khamis Lisamba
		Msafiri Joshua
		Amina Mohamed Ali
	WWF	John Mbugani
		Khamis Musa Juma
	SHIRIKISHO/SOZOCOMAE	Mwanashuru M. Oga
	Ahamadi Musa	
	Adija Omari	
	Salumu Mamu	
	Mzee Omari Baruti	
	Mnazi Bay-Ruvuma Estuary Marine Park - Warden	Redford Ngoo
	Mkubiru Village	Village Liaison Committee members
	Eco2Dive Centre, Mikindani	Isobel Pring
	Essential Destinations - Songosongo	Malcolm Ryan
DAR ES SALAAM	Manager -Marine Parks and Reserves Unit (MPRU)	Dr B. Machumu
	FISHERIES DEVELOPMENT DIVISION	

	Acting for the Assistant Director; Fisheries Development	Julius Mairi
	Fisheries Officer	Upendo Amidu
	Captain and Fisheries product Inspector	Ernest Bupamba
	Fisheries Officer	Falaa Balungo
	Fisheries Officer	Bugoma Kimasa
	WWF/Private Consultant	Jason Rubens
	Dar Yacht Club – Dive Division	Alex Reifer (Sea Breeze Dive Centre)
		Mari Pennanen (and others)
	RIPS – Former Project manager	Lars Johannsen
	Ras Kutani Lodge	Charles Dobie
KIGAMBONI	KIMBIJI VILLAGE	
	Village Chairperson	Rajabu Bakari Mgaluka
	Member of BMU	Njiti Shomari
	Member of BMU	Rajaba Ali Rajab
	Member of BMU Chairperson	Hatibu Abdalla
	Member of BMU	Fatuma Hassani
	Member of BMU	Mstapha Ali Kigyufya
	Kigamboni Youth Vision	Mfaume Athman Ali
BAGAMOYO	Lazy Lagoon Hotel	Alex Fox
TANGA	Tatona	Sibylle Riedmiller
		Victor Massawa
		Mr. Olund – Tanga International Conference Centre
	Chongoleani	Omari Kombo
		Akida Shariff
	Moa Kijiru	Sheha Fakhi
		Kombo Alawi
	Fish Eagle Point Hotel	Steve Attwell
	Assistant Regional Administrative Secretary – Regional Secretariat for Natural Resources	Hassan Kalombo
	Regional Commissioner	
	Peponi Beach Resort	Denys Roberts
		Dhow captain
PANGANI	Sea Sense CO	Juma Bakari
	Friends of Maziwe	Athman Hamsa

## **APPENDIX 2. INVESTOR STATEMENTS**

### **Hotelier from Dar es Salaam:**

Today I sailed from Sinda Island to Dar Yacht Club at 3 pm. On the 1 hour sail I saw six blasts. We have been talking this subject to death... at Sinda there is a marine park boat with people 24/7. They do nothing apart from collect money from visitors to the island. There needs to be the sincere will by GOT to tackle this curse before anything can be achieved. .... The laws need to be there that punish this offence with serious jail sentences (20 years) with no bail possible. It would stop fast.

....at Ras Ndege when the sea is calm it's like a war zone out there. Boats come from the ferry area.

In the Ras Ndege area on Sunday 20<sup>th</sup> April I was told there were probably 200 blasts seen and or heard! It IS a national catastrophe.

### **Hotelier from Bagamoyo area:**

In Bagamoyo we had a small war going on many years ago. As far as impacting the lodge, they were dynamiting so close, the floor would shake! The coral was flattened - like a napalm bomb had gone off in a forest. I think the craters in front of the lodge are probably still visible to this day. They dynamited one reef so much, they blew up the mooring of a navigation buoy near Mbegani...

A nearby hotel was robbed several times, they used dynamite to throw around and chase all the askaris away!

We were threatened numerous times and they threatened both our lives and to burn the lodge down.

Tourists who went diving from a hotel in Bagamoyo town were almost killed when the dynamite was thrown in near them!

### **Hotelier near Tanga:**

We have German guests who have been coming to Peponi ever since we opened in 2000. ....They arrived here nearly two weeks ago and have been out diving every single day. Every day on their return from the dive they have told us that they have heard dynamiting very close to them continuously all the time they have been diving..... The day before yesterday there was a blast so close to them that their ears were ringing for several hours and they had problems hearing. Yesterday they were nearly blown out of the water and were extremely frightened! ...These guests are returning to Germany tomorrow much disgusted at this sort of behaviour which does not give Tanzania a good name.

We used to have 10 reefs where we could take guests for snorkelling, now there are only two remaining.

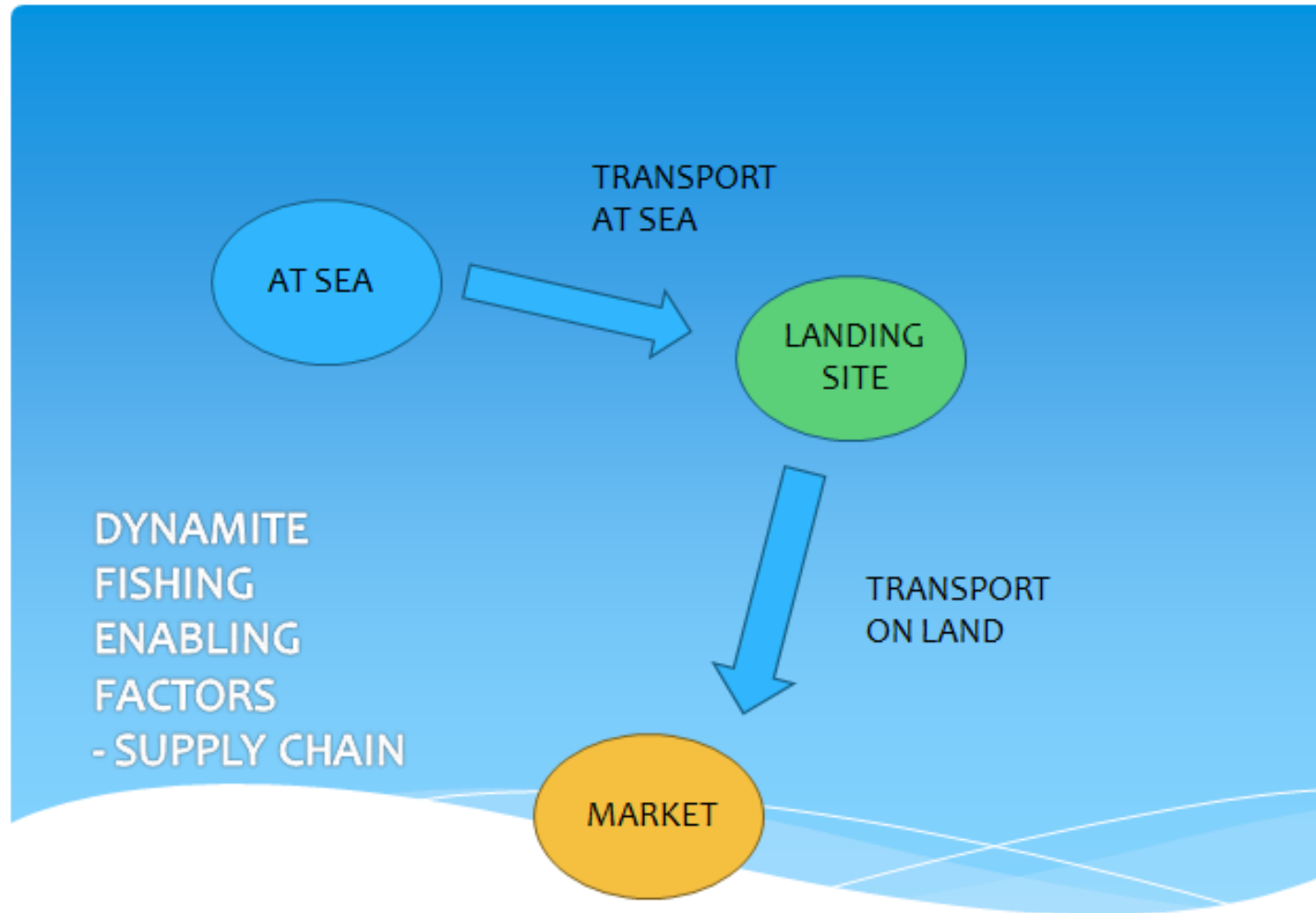
**Investor Songosongo Peninsula:**

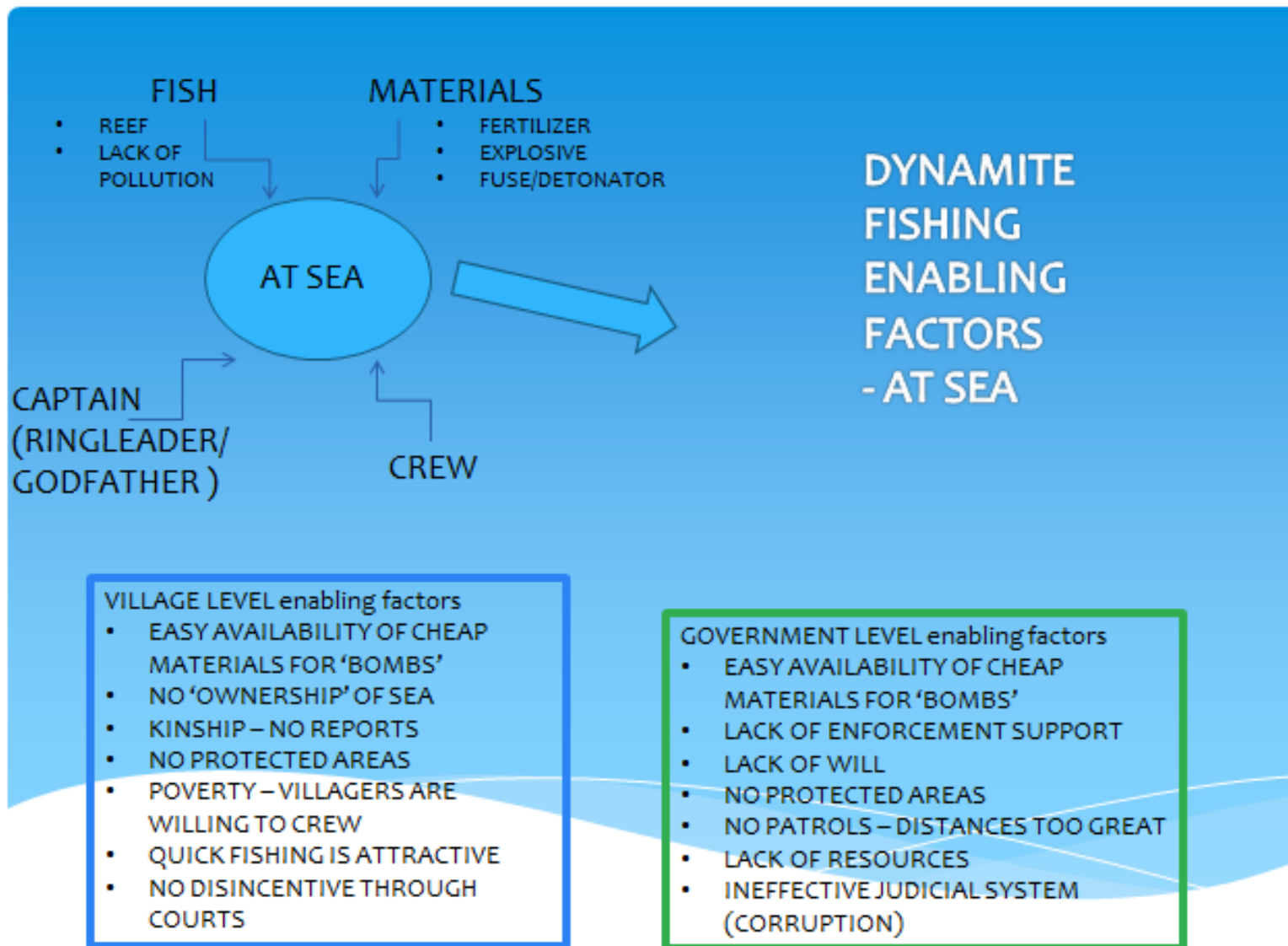
“Dynamite fishing is devastating for the tourism industry. We had guests angry saying they will never come back to Tanzania since a country that cannot take care of its environment does not deserve foreign money.

We work in the south, in Songo Songo archipelago, .....dynamite fishing is totally out of control, with serious risks to national security as well as to the tourism industry. I will not enter in the discussion of the damage to the reefs, ecosystem and environment in general as that is obvious.

On any day the sea is calm the sea becomes a war zone!”

**APPENDIX 3: SERIES OF FOUR DIAGRAMS SHOWING ENABLING FACTORS IN THE DYNAMITE FISHING CHAIN - AT SEA, AT THE LANDING SITE AND AT THE MARKET-PLACE**





VILLAGE LEVEL enabling factors

- KINSHIP – NO REPORTS
- NO DISINCENTIVE THROUGH COURTS

GOVERNMENT LEVEL enabling factors

- DYNAMITE FISH UNLOADED OUT OF GOVERNMENT HOURS
- PERMITTING WITHOUT INSPECTION
- FISH PROCESSED – DRIED/SALTED/FROZEN (THUS NOT RECOGNIZABLE AS DYNAMITED)
- NO ROAD INSPECTIONS OF FISH
- AVAILABILITY OF TRANSPORT FOR ILLEGAL FISH
- CORRUPTION
- PROSECUTION NOT SUCCESSFUL – LOSS OF EVIDENCE

BUYERS



DYNAMITE FISHING ENABLING FACTORS – AT LANDING SITE

PROCESSORS

TRANSPORTERS

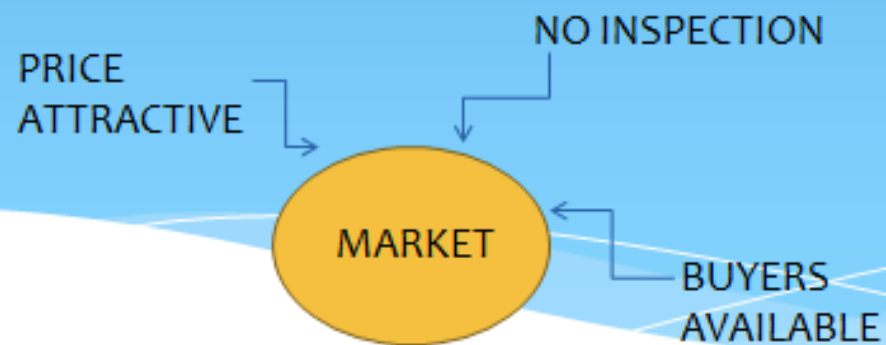
TRANSPORT ON LAND



## DYNAMITE FISHING ENABLING FACTORS - AT MARKET

### GOVERNMENT LEVEL enabling factors

- DYNAMITE FISH UNLOADED OUT OF GOVERNMENT HOURS
- FISH PROCESSED – DRIED/SALTED/FROZEN
- NO MARKET INSPECTIONS OF FISH
- DIFFICULTY IN IDENTIFICATION OF DYNAMITED FISH
- CORRUPTION
- PROSECUTION NOT SUCCESSFUL – LOSS OF EVIDENCE
- LACK OF POLITICAL WILL



## APPENDIX 4. LIST OF LEGISLATION APPLICABLE TO ILLEGAL USE OF EXPLOSIVES FOR FISHING (FROM HAULE, 2013)

**Table 2: Provisions of fisheries and other legislation applicable to illegal use of explosives for fishing**

Legal Provision	Provision Adequacy	Penalty	Penalty Adequacy	Recommendations/Comments
<b>The Fisheries Act No. 22 of 2003</b>				
<b>41.</b> Any person, who willfully obstructs, hinders assaults or resists the Director, an authorized officer or a police officer in the exercise of his powers under this Act or under any subsidiary legislation made under this Act, commits an offence ...	The wording requires editing to the phrase "commits an <b>offence</b> " to "commits an <b>offence</b> "	imprisonment for a term not exceeding six years.	The penalty sets the maximum term, without the minimum term. Thus discretion to impose a significant prison sentence is left to the Magistrate.	1. Delete the word "office" and insert the word "offence." 2. The law should be amended by deleting the word "not exceeding" and insert the words "not less than six years and not exceeding ten years"
<b>43.(1)</b> Any person, who uses explosives to kill fish or, destroys aquatic flora, commits an offence..		imprisonment for a term of not less than five years and not exceeding ten years.		
<b>43.(2)</b> If any person, without lawful excuse the burden of proof which shall be on him is found in possession of explosive within or in the vicinity of any water body, shall be guilty of an offence against this Act,..	The word "vicinity" is a subjective measure and is subject to controversial distance decision	imprisonment for a term of not less than one year and not exceeding five years.	A term of not less than one year is not enough because the possession has a potential threat whose gravity is great both in the aquatic and terrestrial environment	1. Imprisonment be set to a term of not less than five years and not exceeding ten years as that recommended under Section 43 (1) of the Fisheries Act No. 22 of 2003 in order to discourage existence of illegal possessors, users and suppliers of explosives
<b>Fisheries (Amendment) Regulations, 2009</b>				
<b>48.- (1)</b> A person shall not possess or use with intent of killing fish, fishing or destroy fishery habita-  (a) an explosives or explosive material; (b) a dynamite; (c) a substance, or a mixture of substances, in a solid, powder or liquid state, which is capable of producing an explosion; (d) any pyrotechnic substance in a solid or liquid state, or a mixture of such substances, designed to produce an		<b>48.- (3)</b> Any person who contravenes the provisions of sub regulations (1) or (2) commits an offence and on conviction shall be liable to imprisonment for a term of not less than five years.	Imprisonment for a term of not less than five years is contradictory to Section <b>43 (1)</b> of the Fisheries Act No. 22 of 2003 which sets the penalty as imprisonment for a term of not less than five years and not exceeding ten years.	1. correct the word "habita" to "habitat" 2. Penalty set by Regulation <b>48.- (3)</b> should be the same as that recommended under Section 43 (1) of the Fisheries Act No. 22 of 2003 because penalties in the Regulations should not supersede those in the Act

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<p>explosion by heat, light, sound, gas or smoke including pyrotechnic substances which do not evolve gases;  (e) any article, device, detonator or fuse used to initiate explosion;  (f) any plastic explosive;  (g) or any other substance or article which the Minister responsible for arms and ammunition may by notice in the Gazette declare to be an explosive.</p> <p>48.- (2) A person shall not possess fish killed by explosives, dynamite or any means provided for under sub-regulation (1).</p>				
<b>Marine Parks and Reserves Act, No. 29 of 1994</b>				
<p>Section 22 (1) No person within a marine park or reserve shall, except in accordance with terms and conditions specified in the regulations or the provisions of this Act-  (d) be in possession of any weapon, explosive, trap or poison;</p> <p>Section 22 (2) Any person who contravenes the provision of this section, commits an offence.</p>		<p>Section 32 (2) penalty for first offence shall be a fine not exceeding TSh 100,000 or a term of imprisonment not exceeding 12 months or for every subsequent offence a fine not exceeding TSh 150,000 or a term of imprisonment not exceeding 18 months.</p> <p>Section 32 (8 ) The court may, in addition to any other penalty order the person convicted of an offence under this section to forfeit to the Government-'  (a) any weapon, explosive, trap, poison,</p>		

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		vehicle or any other instrument used by that person in the cause of committing the offence; (b) any article or thing illegally possessed within a Marine Park or Reserve;		
<b>Penal Code Chapter 16 of the Laws (Revised) (Principal Legislation)</b>				
Section 226. A person who unlawfully, and with intent to do any harm of another, puts any explosive substance in any place whatever, commits an offence.		Imprisonment for fourteen years.		The legal provision is not relevant to dynamite fishing
Section 326 (1) Any person who wilfully and unlawfully destroys or damages any property is guilty of an offence, which, unless otherwise stated, is a misdemeanour,		if no other punishment is provided, to imprisonment for seven years.		The legal provision is not relevant to dynamite fishing
Section 326 (2) If the property in question is a dwelling house or a vessel, and the injury is caused by the explosion of any explosive substance, and if— (a) any person is in the dwelling house or vessel; or (b) the destruction or damage actually endangers the life of any person, the offenders is guilty of a felony,		liable to imprisonment for life.		
Section 327. Any person who, unlawfully and with intent to destroy or damage , any property, puts any explosive substance m any place whatever, is guilty of a felony,		liable to imprisonment for fourteen years.		
<b>The Environmental Management Act, 2004.</b>				
Section 188. A person who (c) disturbs the habitat, of a component of		Liable on conviction to a fine not exceeding ten		There is no minimum penalty, which would seem to be an imperfection

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biological diversity in contravention of guidelines and measures prescribed under sections 66, 67 and 68 or other provisions, of this Act commit an offence.		million shillings or to imprisonment for a term not exceeding five years or to both		in the legislation
<b>The Arms and Ammunition Act no. 2 of 1991 no.19 of 2007</b>				
Section 34 (1) Any person who contravenes any provision of this Act, or any regulation, notice, or order made under it, or the conditions of any licence or permit, commits an offence under this Act.		Except where any other penalty is provided, be liable to imprisonment and any other penal measure provided for under the Economic and Organized Crimes Control Act.		
Section 36 (1) If any person makes or attempts to make any use of a firearm or imitation firearm with intent to resist or prevent the lawful apprehension or detention of himself or any other person, that person commits an offence.		Imprisonment for six years.		Section 3.-(1) of the Arms and Ammunition Act no. 2 of 1991 no.19 of 2007 interprets "ammunition" to include– (e) any explosive when enclosed in any case or contrivance, or otherwise adapted or prepared so as to form a cartridge, charge or complete round of small arms, cannon, or any other weapon, or to form any tube for firing, explosives, or to form a detonator, a projectile, or contrivance other than a firework, which can be used either singly or in suitable combinations, as, or in connection with, a missile;
Section 37 Any arms or ammunition and any vessel in respect of or in connection with which an offence has been committed under this Act may,		if the court thinks fit, be forfeited to the Government.		
<b>Prevention of Terrorism Act, 2002</b>				
Section 4 (3) An act shall also constitute terrorism within the scope of this Act if it is an act or threat of action which;		shall on conviction, be liable to imprisonment for a term not less than		Given the two provisions on (d) creates a serious risk to the health or safety of the public or a section

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<p>(a) involves serious bodily harm to a person; (b) involves serious damage to property;</p> <p>(c) endangers a person's life; (d) creates a serious risk to the health or safety of the public or a section of the public; (e) involves the use of firearms or explosives; (f) involves releasing into the environment or any part of it or distributing or exposing the public or any part of it to;</p> <p>(i) any dangerous, hazardous, radioactive or harmful substance; (ii) any toxic chemical;</p> <p>(i) any microbial or other</p> <p>Section 15. Every person who;</p> <p>(a) uses property, directly or indirectly, in whole or in part, for the purpose of committing or facilitating the commission of a terrorist act; or (b) possesses property intending that it be used or knowing that it will be used, directly or indirectly, in whole or in part, for the purpose of committing or facilitating the commission of a terrorist act, commits an offence.</p>		fifteen years and not more than twenty years.		<p>of the public; (e) involves the use of firearms or explosives; it is worth noting that this legislation has potential for use in cases of dynamite fishing because the public is subjected to eating dynamited fish.</p> <p>This legislation has potential for use in fish killed by dynamite because it could be used in conjunction with the Fisheries (Amendment) Regulations 2009 (Regulation 48 (4) which specifies that "For the purpose of ascertaining whether a fish has been killed by explosives, the Authorised Officer shall use Form 4 set out in the First Schedule for evidence on dynamited fish. (Annex II)</p>
<b>The Economic and Organized Crime Control Act, 1984</b>				
<p>FIRST SCHEDULE of the <i>Economic and Organization Crime Control No 13 of 1984</i></p> <p>5.--( A person is guilty of the offence of leading organized crime who</p> <p>(a) intentionally or wilfully organizes, manages, directs, supervises or finances a criminal racket;</p> <p>(b) knowingly incites or induces others to engage in violence or fraud or intimidation for the purposes of promoting or furthering the objects of a criminal racket;</p>		any person convicted of an economic offence shall be liable to imprisonment for a term not exceeding fifteen years, or to both that imprisonment and any other penal measure provided for in this Act.		The Assignment Team noted that in the definition of terms of the Economic and Organized Crime Control Act, 1984 "explosive materials" includes explosives, blasting agents, detonators and any material used in the manufacture of explosives; and that "wildlife" and "wildlife resources" include resources which comprise wild mammals, wild birds, <b>fish</b> , and all

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				other categories of wild creatures of any kind, and all types of aquatic and land vegetation upon which such wildlife resources are dependent.
<b>The Explosives Act No 56 of 1963</b>				
<p><b>Section 7.</b>(1) No person shall manufacture explosives unless he is the holder of and complies with the conditions of a valid licence granted under section 8 or a valid permit issued under section 9.</p>		<p>Any person who contravenes the provisions of subsection (1) shall be guilty of an offence and liable on conviction to a fine not exceeding five thousand shillings or to imprisonment for a term not exceeding two years or to both such fine and imprisonment.</p>		
<p><b>Section 38.</b>-(1) No person shall use any explosives otherwise than in accordance with the provisions of this Part and with any conditions contained in any permit, licence or authorization issued in respect of such explosives. (2) Any person who contravenes or fails to comply with the provisions of subsection (1) shall be guilty of an offence.</p>		<p><b>Section 51.</b> Any person who is guilty of an offence contrary to the provisions of this Act shall, unless some other penalty is specified, be liable on conviction to a fine not exceeding four thousand shillings or to imprisonment for a term not exceeding one year or to both such fine and imprisonment.</p>		





