A BRIEF ON THE PROPOSED KMFRI RESEARCH & FARMERS TRAINING CENTRE – KAKAMEGA COUNTY

1. Kenya Marine and Fisheries Research Institute (KMFRI)

Kenya Marine and Fisheries Research Institute (KMFRI) is a state corporation established in 1979 by the Science and Technology Act Cap 250 of laws of Kenya, which has since been replaced by the Science, Technology and Innovation Act No.28 of 2013. The Institute is mandated to undertake research in "*marine and freshwater fisheries, aquaculture, environmental and ecological studies, and marine research including chemical and physical oceanography*", to provide scientific data and information for sustainable development of the Blue Economy. The Institute is also mandated to "*co-operate with other organizations and institutions of higher learning in training programmes and on matters of relevant research*".

2. Role of KMFRI in the National Development

The role of KMFRI is to contribute to the realization of national strategies of food and nutrition security, poverty alleviation, clean environment, and creation of employment as provided for under Third Medium Term Plan (MTP III) of Vision 2030, National Oceans and Fisheries Policy 2008, Fisheries Management and Development Act 2016, Africa Agenda 2063, Africa's Integrated Maritime Strategy-AIMS2050 and the Sustainable Development Goals (SDGs).

To achieve the aforementioned and to promote Blue growth, KMFRI has identified strategic research on:

(i) Economic valuation of marine and coastal resources;
(ii) Development of appropriate post-harvest technologies, value addition, marketing and techniques for sustainable exploitation of national fisheries resources;
(iii) Identification, assessment of the potential, and enabling access to new and under exploited stocks, especially in Lake Turkana, the offshore pelagic and deep water fisheries;
(iv) Development of environmental friendly fishing technologies and to allow the access deep water fish stocks;
(v) Development, improvement and transfer of adaptive aquaculture and mariculture technologies for production and management of quality fish feeds and seed;
(vi) Adaptation of indigenous knowledge and livelihood enhancement;
(vii) Monitoring and Evaluation of the integrity of the aquatic ecosystems (critical habitats), for restoration and sustainable fisheries and aquaculture development;
(viii) Climate change and physical oceanographic processes monitoring and development of bathymetric maps;
(ix) Marine geology and marine spatial planning; and
(x) Riverine ecosystems, satellite lakes and dams.

3. Justification

Over the past 20 years, the aquaculture sector in Kenya has evolved from having a relatively minor role to playing a mainstream part in the National fish food system. To achieve rapid transformation of the aquaculture industry, there is need to upscale modern technologies, innovations, and management practices (TIMPS) to realize sustainable development envisaged in the SDGs. Kakamega county has just over 6,000 fishponds and other sources such as River Yala, Nzoia and Isiukhu.

In light of the importance of awakened awareness on aquaculture, and as part of Aquaculture Business Development Programme (ABDP) implementation activities, KMFRI was supported to carry out baseline research in selected Small Water Bodies (SWBs) and dams in Kakamega County to establish their biological, ecological, and socioeconomic carrying capacities for species introductions. The study identified the small water bodies with potential for aquaculture and established the carrying capacity for fish production in each SWB.

To have a clear picture of the entire fisheries resources, studies on such ecosystems are vital to have a robust approach to the worthiness of Blue Economy and its resources. This will be necessary in generation of information on the sustainability of the rivers and natural resources within the County. This informs the Institute need to enlarge its scope of projects and programmes in Kakamega County and its environs.

4. Project site

The proposed KMFRI Research and Farmers Training Centre will host an **Expansive Research Facility, Farmers Training Centre and Technologies Demonstration Centre** for technologies transfer and its operations will stretch the whole of Kakamega County. The Centre is estimated to sit on **20 – 25 hectares** to achieve its intended vision.

5. County and Community benefits

The benefits of establishing a functional research centre with a hatchery are numerous including improved food security, further diversification of the economy, employment creation for the local communities and increased opportunities for the Blue economy in terms of aquaculture development and expansion. Directly the County and community of Kakamega will benefit from:

(i) Availability of high-quality fingerlings and fish feeds;
(ii) Employment opportunities at the KMFRI Research Center;
(iii) Seed production for restocking the depleted areas in the wild;
(iv) Increased investments in the aquaculture and fisheries sector to create alternative sources of livelihood;
(v) Expansion of other high-value species that will evolve rapidly after seed is available;

(vi) Increase willingness and interest for community of community to adopt fish farming;
(vii) Ecotourism;
(viii) Increased food security (through increased production of fish from aquaculture); and
(ix) Training opportunities for the farmers.

6. Strategic Partnerships

For technical support, partnerships agreements are being sought with international similar facilities in China, Philippines, Canada, USA and Israel where they will partner with us to offer technical assistance and training. Other strategic partnerships in will be sought in especially Public Private Partnerships to sustain the development and growth of the venture and expansion of hatcheries. Consultancies to develop business cases will be sought and/or local universities to do training in business development along the fisheries value chain in Kakamega.

7. Funding

Funding of the Centre's is majorly from National Government and Development Partners such as World Bank and African Development Bank (ADB).

8. Ongoing similar KMFRI Projects in other counties

i) Kwale County

The National Mariculture Resource and Training Centre (NAMARET Centre) which will incorporate: a marine hatchery, wet and dry laboratory, training resource center, administration block, accommodation, museum and nature trail (see ANNEX 1). The Centre was allocated 15 acres by the Kwale County Government and has attracted Government of Kenya and World Bank support of KShs. 1.880 Billion as part of the Blue Economy flagship projects.

ii) Tharaka Nithi County

The National Riverine Aquaculture Research and Farmers Training Centre which will incorporate: a fish hatchery, wet and dry laboratory, training resource center, administration block, accommodation, museum and nature trail (see ANNEX 2 and 3). The Centre was allocated an initial 10 acres to start the project by the Tharaka Nithi County Government. The County government is processing another 20 acres to the project for establishment of Technologies Demonstration Centre along Mutonga River.

iii) Laikipia County

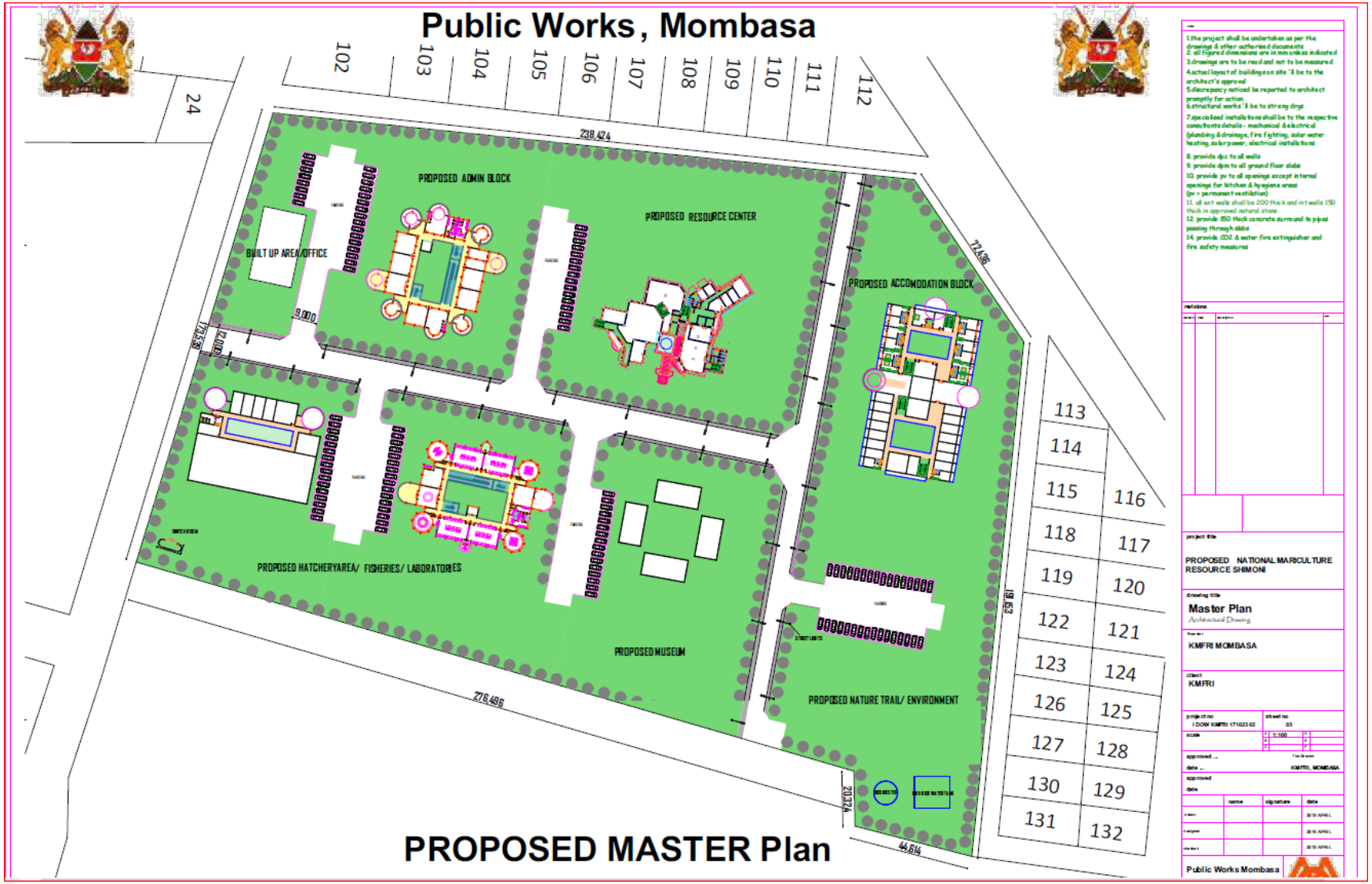
The Laikipia Aquaculture Research and Farmers Training Centre which will incorporate: a fish hatchery, wet and dry laboratory, training resource center, administration block, accommodation, technologies demonstration centre, museum, and nature trail. The Centre was allocated 43 acres by the Laikipia County Government, and it will serve the entire Ewaso Ng'iro North River Basin.

9. Proposed Projects

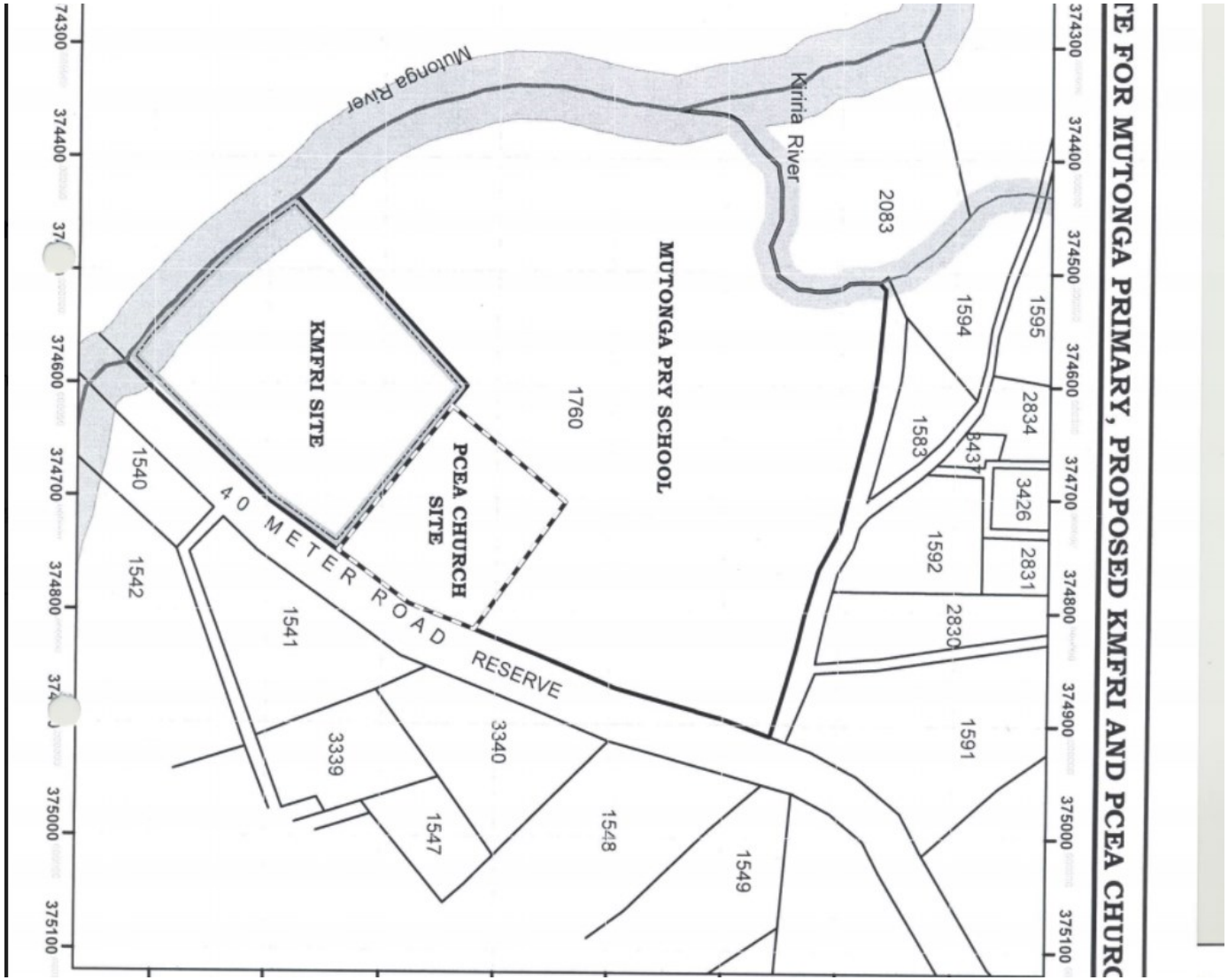
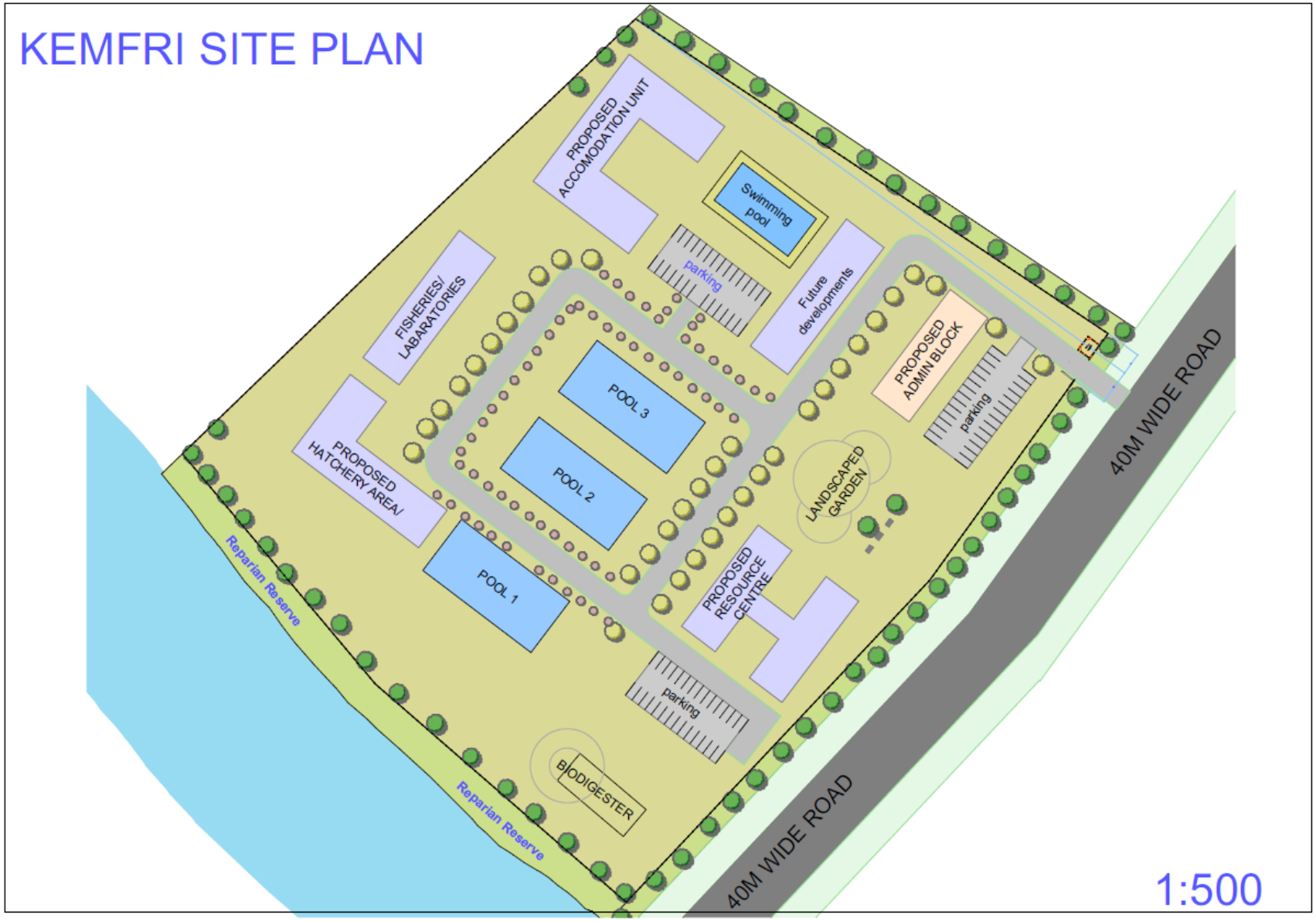
Other similar projects have been proposed to be domiciled in the following Counties due to their potential as the next fisheries and aquaculture frontiers.

i. Taita Taveta County
ii. Kilifi County
iii. Trans Nzoia County
iv. Lamu County
v. Uasin Gishu County
vi. Migori County
vii. Bungoma County
viii. Machakos County
ix. Makueni County
x. Kitui County
xi. Tana River County
xii. Turkana County
xiii. Mandera County
xiv. Busia County
xv. Baringo County

ANNEX 1: The National Mariculture Resource and Farmers Training Centre (NAMARET Centre), Kwale County



ANNEX 1: The National Riverine Aquaculture Research and Farmers Training Centre, Tharaka Nithi County



ANNEX 3: The National Riverine Aquaculture Research and Farmers Training Centre, Tharaka Nithi County