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Case scenarios for 'best practices'

The mapping of nutrition education programmes linking to aquaculture production showed that in the 11 countries limited examples were found on direct and specific links between nutrition education and aquaculture programmes. The task of identifying 'best practices' for maximizing the nutritional outcome of aquaculture practices through nutrition education was based on a discussion session during the second AFSPAN workshop (Nairobi September 2014). Especially the material available from impact monitoring of cases where aquaculture programmes could have impact on nutritional status is scarce, and in the present mapping limited to one programme, the SHOUHARDO project in Bangladesh. Practices for public health approaches to promote fish consumption in general, either through public recommendations or awareness campaigns or through e.g. school feeding programmes feeding are more diverse. However, these programmes in general also lack impact monitoring that can qualify rigorous evaluations for 'best practices'.

Case 1- Bangladesh: Nutrition and health program linking with aquaculture promotion: SHOUHARDO project.

Programme description

SHOUHARDO (Strengthening Household Ability to Respond to Development Opportunities) was implemented by CARE Bangladesh, and sponsored by USAID and Government of Bangladesh. The programme reached around 400,000 households in rural Bangladesh in first round from 2004-2010. It is now followed up by SHOUHARDO II following the same successful model of SHOUHARDO I. SHOUHARDO compiles 5 strategic objectives:

1. Livelihood;
2. Health, Hygiene and Nutrition;
3. Empowerment;
4. Institutional strengthening;
5. Disaster Risk Reduction and Climate Change Adaption.

The primary goals are to reduce child malnutrition, poverty and food insecurity. Implemented in a population of two million people, the program was carefully targeted to the most remote and vulnerable areas of the country and, within these areas, to the poorest households.

Activities related to nutrition education

The activities implemented to reach the objectives related to nutrition education were embedded with a package of activities targeting Mother and child health and nutrition (MCHN). The project's most direct nutrition intervention was the provision of food rations to children from 6 months to 2 years of age and to pregnant and lactating mothers (children were eligible to receive food equivalent to 250 kilocalories per day, their mothers 1,900 kilocalories per day). Health and nutrition education was provided through 'mother's' group sessions, with topics covering optimal breastfeeding, complementary feeding and weaning practices, care for mothers during pregnancy and delivery, and

hygiene practices. Additional interventions were targeting other health issues, micronutrient supplementation and immunisation.

The specific nutrition education activities were conducted as ‘court yard’ sessions in the villages, and also include e.g. growth monitoring of the children. The nutrition education was reported to be modified during the project. In some villages, SHOUHARDO implemented Demonstration Feeding Sessions (DFS) that were targeting to mothers to learn together to practice active feeding, good hygiene, and preparation of affordable locally available foods into appropriate meals for very young children. The participating mothers contributed all the food and materials used in these sessions, held once or twice a month. During the final evaluation, mothers repeatedly expressed their appreciation for the DFS and the learning, and their desire to continue the sessions (SHOUHARDO I endline report).

Activities related to aquaculture

Activities implemented related to aquaculture were a component under the package of activities addressing *Poverty and food insecurity alleviation*. A suite of interventions was introduced to address the extreme poverty and food insecurity in the project area. To increase food production and incomes, training and inputs were provided to promote field crop and fisheries production, homestead gardening and livestock rearing, and cash income generating activities. The specific aquaculture activities were implemented by WorldFish Center, Bangladesh, and covered different production systems. One system was integrated pond fish culture combined with growing vegetables including vitamin –A rich “orange fleshed sweet potato” production. Large size fingerling of fast-growing fish such as carp, catla and rohu, or freshwater prawns and tilapia were grown to market size, alongside horticultural produce on pond dykes. The micronutrient-rich small indigenous fish species “mola” (*Amblypharyngodon mola*) were included in carp polyculture ponds. Another system was rice-fish culture systems where the improved GIFT strain of tilapia, as well as a number of carp species, was used to produce fingerlings in the dry season. During the wet season, large fingerlings were grown up to market size in the rice fields. Also cage culture systems using the GIFT tilapia and silver carp were being tested (source: WorldFish web).

An array of additional activities was implemented addressing the remaining objectives, all contributing to a synergetic impact on multiple levels.

SHOUHARDO impact on improving nutrition – did aquaculture make a difference?

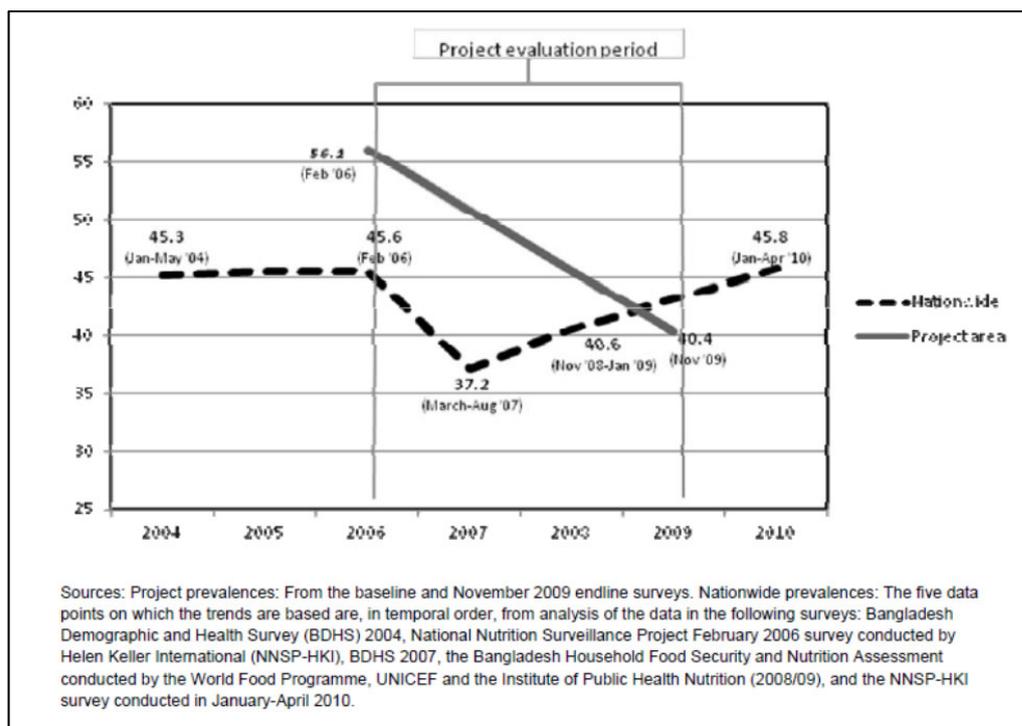
The phase I of SHOUHARDO was, unlike the majority of development programmes, evaluated in an independent impact assessment (Smith et al. 2011) scaled to assess impact on predefined indicators. All five strategic objectives were measured with several variables; weight and height measures of children 6-23 months of age, dietary diversity of mother and child, household food security and breastfeeding practices were some of the nutritional indicators.

The independent impact assessment concluded that the program overall had a major impact on child stunting age 6-23 months with a total decrease during the 3.5 years project period of 16 percentage points. This was an annually drop of 4.5 percentage points, which is far higher than the national decrease of 0.1 percentage points for the

same age group during the same period. The sampling for the monitoring of the programme (3,200 children per round) was sufficient to detect difference.

The programme was implemented across the 2008 global food price crisis which induced dramatic external factors affecting household economy and food security. The 2008 crisis was reflected in the national trend in stunting prevalence which after a period with modest but steady improvement, reversed to a trend of increasing stunting in Bangladesh. However, the impact assessment concluded that the evidence for that the program did have a marked impact on reducing stunting is solid, and also that the marked success in reducing stunting could partly be attributed to that the programme targeted the poor and extreme poor households where malnutrition was high. A blanket coverage including also better off households was expected to have less total impact on reducing stunting.

Figure 1. Change in stunting prevalence among children 6-24 months: project area versus nationwide (rural). Figure copied from Smith et al. 2011 page 20.

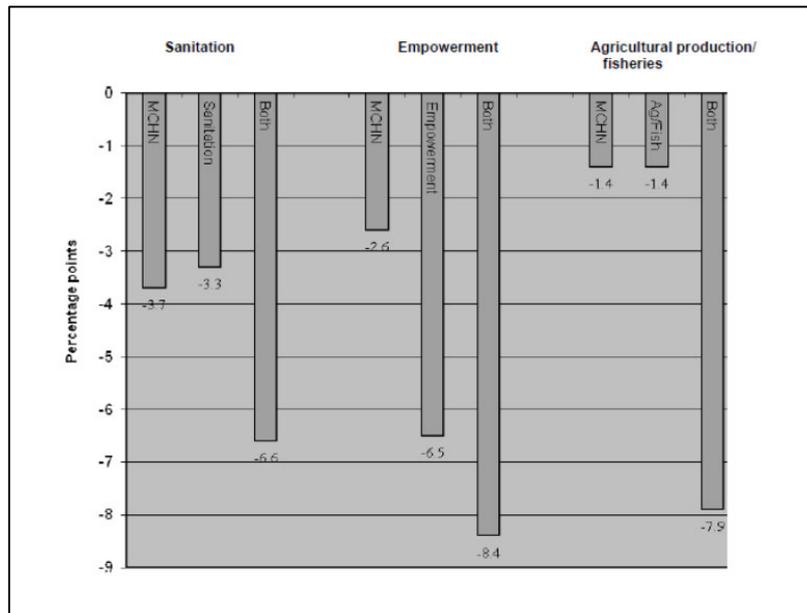


Disaggregating the overall impact of the SHOUHARDO program on stunting to which specific activities or project components that had the major impact needed to take any recruitment bias into account. Not all households engaged in all activities and the recruitment was based on voluntary decisions by the households. To account for selection bias, first the possible direction of enrolment in different program activities was estimated. Positive bias means that more motivated and skilled participants would engage, while negative bias means that the household in most need would engage. The bias estimates are needed to conduct a 'propensity score matching', which can compare the impact of interventions taking the risk of recruitment bias into account. For the specific activities in focus in for nutrition education and aquaculture, the interventions were grouped as Mother and Child Health and Nutrition (MCHN) activities, under which

nutrition education was one component, together with e.g. food distributions. These activities cannot be separated based on the analysis. Also, fisheries activities were assessed as one group of different aquaculture production systems and other fisheries related activities, so impact of specific aquaculture systems could not be isolated. However, the results of the propensity score matching is shown in Figure 2, where also MCHN activities were matched with sanitation and empowerment activities. The matching with aquaculture/fisheries activities showed the most marked impact of the combined interventions, where households engaged in both groups of activities would reduce stunting for the children age 6-24c months by 7.9 percentage points.

Despite the lack of a true control group, Smith et al. (2011) have evaluated which elements of the SHOUHARDO activities had the most impact on childhood stunting, by comparing with a group randomly selected from larger national surveys. It was found that being included in MCHN alone or crop production/fishery alone did not decrease the prevalence of stunting; however, for households enrolled under both activities the stunting prevalence decreased significantly.

Figure 2. Multiple treatment propensity score matching estimates of synergistic impact from combining interventions on stunting among 6-24 months old. Figure copied from Smith et al, 2011 page 31.



Lessons learned

The SHOUHARDO program is a demonstration of a success of a multi-sectorial intervention strategy under which nutrition education and aquaculture were implemented in combination with a range of other activities all targeting five well defined objectives. The program was subject for an independent impact evaluation scaled to assess possible impacts on pre-defined indicators, including stunting among children age 6-24 months of age. The impact assessment showed clearly that the combination of an intervention package for Mother and Child Health and Nutrition (MCHN) which included nutrition education such as cooking demonstrations and a package of aquaculture/fisheries had a marked impact on stunting prevalence, also when adjusted for bias that may occur in which households that self-recruited to which interventions.

The important learning from the SHOUHARDO program is that in a setting where aquaculture is already established as a common practise, such as in Bangladesh, the integration of aquaculture extension and health and nutrition interventions including nutrition education (e.g. good feeding practices for infants and young children) can contribute to improved child nutrition that goes beyond the achievement of the aquaculture program and the nutrition education program, if implemented alone.

SHOUHARDO is the only identified program in the 11 AFSPAN partner countries where these combined and multi-sectorial interventions have been successful implemented and, importantly, been followed up by a scaled up impact assessment on pre-defined indicators.

Case 2 - Chile: Programme for promoting healthy diet including fish through school feeding – the School Feeding Programme

Programme description

Since Chile has gone through a nutrition transition over the past generation with undernutrition being eliminated and obesity has emerged as a primary problem, the public health efforts to improve nutrition has focus on overnutrition. As an effort to reduce poverty and encourage school attendance a national school feeding programme has been implemented by the government for decades. Following the transition of the nutritional problems towards obesity rather than undernutrition, the School Feeding Programme has been adjusted to also address healthy diets for prevention of obesity related diseases. In 2000 the programme reached 1.2 million children at almost 10.000 schools (Kain et al 2002). The programme is managed by National Board of School Assistance and Scholarships (Junta Nacional de Auxilio Escolar y Becas or NBSA), financially under Ministry of Education. Previously NBSA was managing the programme, but now the logistics is sourced out to private suppliers while NBSA's role is supervisory. It develops the technical standards for the programme, controls the quality of the services and also defines the nutritional criteria. Under this mandate, the school meals are required to include fish.

Table 1. Menu guidelines for school feeding in Chile. Source BasesTechniques Food Program, JUNAEB. Tender 35-2011

Requirements for fish (kind, presentation, frequency and quantity) in standard menus for school feeding programme					
Level	Meals	Fish Kind	Presentacion	Frequency	Quantity
Kindergarten	First course (salad)	Tuna	Canned o pouch	1 monthly ration (1 monthly ration like tuna)	60 gr per serving (min)
	Lunch	Jurel, tuna, merluza, salmon, blaquillo or another	Canned, steak or pouch. Concerning to Tuna this must be lomito type	4 monthly rations (1 monthly ration like tuna)	50 gr per serving (min)
Elementary	First course (salad)	Tuna	Canned o pouch	1 monthly ration	10 gr min
	Lunch	Jurel, tuna, merluza, salmon, blaquillo or another	Canned, steak or pouch. Concerning to Tuna this must be lomito type	4 monthly rations (1 monthly ration like tuna)	60 gr per serving (min)
Secondary	First course (salad)	Tuna	Canned o pouch	1 monthly ration	15 gr min
	Lunch	Jurel, tuna, merluza, salmon, blaquillo or another	Canned, steak or pouch. Concerning to Tuna this must be lomito type	4 monthly rations (1 monthly ration like tuna)	70 gr per serving (min)
Vacation school	First course (salad)	Tuna	Canned o pouch	1 monthly ration	10 gr min
	Lunch	Jurel, tuna, merluza, salmon, blaquillo or another	Canned, steak or pouch. Concerning to Tuna this must be lomito type	4 monthly rations (1 monthly ration like tuna and 1 monthly like croquette)	60 gr per serving (min)

Source: BasesTechniques Food Program, JUNAEB. Tender 35-2011

Activities related to nutrition education

The guidelines for fish in the diet per age group are shown in Table 2. The children will accordingly receive a weekly serving of fish for lunch, and additionally a salad with tuna monthly. Serving sizes are slightly adjusted to the age groups.

Information about to which extend these menu guidelines are exactly followed by the suppliers of meals to the school was searched for this case study, but was not found. Some indications from stakeholder contact indicated that fish was regarded as an expensive food to include and there could be deviations from the recommendations to follow the allocated budget.

However, the provision of guidelines specified on fish servings represents an effort to directly support fish consumption to a broad population group of school children. The fish consumption in Chile is generally low, and the school feeding programme is a direct structural intervention which makes fish directly offered for consumption for a large proportion of the school children. If the recommended portions of fish are followed, the children will on average receive around 13 g fish per school attendance days, or 8.5 g fish per day in months of school attendance. This is a modest enhancement of fish consumption. However, even a low but steady increase in fish consumption has the potential of positive health impact in populations with low fish consumption. An experimental school feeding programme in Danish school children demonstrated that a weekly serving of a fish meal increased that mean daily fish consumption from 15 g/d to 25 g/d (Damsgaard et al 2014). Some of the increased fish consumed originated directly from the offered school meal, but in addition, the exposure to being served fish at school resulted in that the children would increase their fish consumption at home. If the increased fish consumption of 10 g/d was dominated by fat fish, it could result in increased intake of 1 g long-chained PUFA (poly unsaturated fatty acid) per day, and amount sufficient to have potential of lowering blood pressure (Damsgaard et al. 2014).

Nutrition education component

The school feeding programme does not include a universal nutrition education programme in terms of information dissemination about benefits of fish consumption, or other dietary changes. It cannot be excluded that this happened in some of the many beneficiary schools, but it is not a formal component of the school feeding programme. However, the provision of fish as a part of the school meals are to be regarded as a nutritional education activity since the exposure to eat fish can promote behavior change so that the children get fish incorporated in their habitual diet, also at home. Despite that the vast coastal zone in Chile provides access to marine fish, the national average fish and seafood supply is only 37 g/cap/d while animal source food consumption is dominated by meat.

Table 2. Coverage of the School Feeding Programme

Type of Beneficiaries	Caloric Content of the daily meals (Kcal)	Number of meals per day
Primary Schools	700	589,496
	1000	236,040
	250	10,161
Secondary Schools	350	41,390
	650	156,847
Student's Homes		
For boys	2400	6,300
For girls	2100	700
Pre school children	650–1000*	30,074

* Depends on the child's age.

Source: National Board for School Assistance 2000

If the private suppliers of school meals to the public school feeding programmes actually followed the guidelines and provide a weekly serving of 50-70 g of primarily fat fish, in addition to a monthly serving of a tuna salad, the total annual fish supplied from the school feeding programme for 1.2 million children is roughly 2 800 tonnes, counting 40 weeks of school attendance per year.

Independent of the school feeding programme, Chile has implemented an information campaign promoting fish consumption for better health including cognitive performance.

Figure 3. Information material from national campaign to promote fish consumption in Chile. The campaign is not integrated with the school feeding programme, but the programmes may be synergistic in impacting the perception and attitude to fish, and result in increased fish consumption



Lessons learned

There are no evaluations or impact assessments available for the impact of providing menu plans which include fish in the school meals. The potential impact can be on cognitive performance associated with increased intake of long-chained PUFA, or it could be on risk indicators for life style diseases such as blood pressure, cholesterol level or glucose tolerance. Of non-clinical indicators for impact, the inclusion of fish meals in school feeding programme could influence the attitude and perception of fish among a generation of school children, and hereby stimulate a future increase in fish consumption. The parallel national campaign promoting fish consumption for better health may have synergistic effect with the school feeding programme. However, a study among consumers in five European countries on the determinants of fish consumption found that most consumers were well aware of the health benefits for fish. The survey concluded that the consumers' belief in that eating fish is healthy and their objective fish-related nutrition knowledge did have a positive influence on fish consumption frequency, but that the influence was weak. Subjective knowledge was found to be a stronger predictor of fish consumption than the formal knowledge and that fish consumption frequency was also determined by factors other than health-related beliefs and consumers' knowledge.

Including fish in menus for school meals in Chile serves as scenario case of exposing a generation of children to fish meals through a public school feeding programme. The programme do not distinguish the origination of the fish to aquaculture or open water fisheries and the fish species mentioned in the menu plan can be both (salmon from aquaculture and e.g. tuna from fisheries). A future scenario of a population impacted by the school feeding experiences and a public campaign promoting fish consumption may stimulate increased awareness of the fish available on the domestic market, also about specific health related qualities of specific species, such as fatty acid composition in farmed salmon or risk of toxins from tuna. Impact assessment of the school feeding programme in Chile on nutritional education indicators such as knowledge and attitude to fish consumption as well as actual behaviour change towards increased fish consumption would be a highly valuable contribution.

Case 3 - Kenya: 'Eat more fish' campaign - government efforts to increase fish consumption to create market demand for fish and improve nutrition

Programme description – the history of 'Eat more fish'

Rural fish farming in Kenya dates back to 1940s and was popularized in the 1960s by the Government of Kenya through the launch of the “Eat more fish campaign” that helped the spread of fish farming into various parts of the country. The campaign featured a mobile demonstration van that travelled around the country. As a result, fish farming emerged in many parts of Kenya including areas of non-fish eating communities. Farmers in central and Western provinces constructed and stocked ponds with Nile tilapia. During this period, the Fisheries Department placed much importance on the conduct of such a campaign especially in Nairobi and in the areas immediately to the north and to the south-east, where 3,000,000 non-fish eaters lived. The survey conducted during this time confirmed that there was a vital need for such a campaign to enlarge the market for Lake Rudolf fish (freshwater fish) and for marine fish. In the area where the Kikuyu, Embu, Meru and Wakamba tribes lived, there were few fish consumers. The only people who were used to eating fish were those who lived near the rivers. In the lower stretches, Barbus and tilapia and other species were consumed, while in the highlands rainbow trout was introduced. Smoked eel was also available and classed as luxury item.

The early promotion of fish consumption and fish farming encouraged that populations that did not eat fish become accustomed to eating fish. However, there are indications that the trade had failed to develop fish outlets in these areas at that time, to ease access for new consumers. A survey in 1960's showed that Nyeri with a population of 8,000 in the centre of an area with a population of 250 000 and Machakos District, which is in an area inhabited by over half a million people, had no fish on sale in their markets. In Thika, which was a fast growing industrial town of 14 000 people only 25 miles north of Nairobi, had only four dried fish sellers in its new market which had excellent facilities for fish trade. The absence of a significant demand for fish limited those dealers to go into these areas which again constrained the development of consumer preferences for fish.

Even during these early campaigns in the 1960s, one of the recommendations from the government was the necessity to build up local demand through vigorous campaigns, pointing to the nutritional benefits of fish, teaching fish cookery, etc., and to follow the campaign up by making available supplies of fish, if necessary, initially at subsidized prices.

Historical fish consumption pattern in Kenya and initiation of the 'Eat More Fish' campaign

Based on the mid-1965 figure of population, imports for consumption at a rate of approximately 6,000 tons of fish per year, and a domestic production rate for 1965 similar to that of 1964, the estimated per capita consumption of fish in 1965 was about 2.8kg (in fresh fish equivalent). This is a very low figure in comparison with neighbouring Republic of Uganda, where the corresponding figure was 9.7 kg in 1964. This was explained by the fact that approximately one half of the population either did not eat fish at all or did irregularly. Even if one were to assume that the 26 000 tonnes total domestic consumption of fish during this period were consumed exclusively by the traditional fish-

eating tribes, who numbered approximately 4.5 million, then the per capita consumption for these tribes was only 5.7kg. During this period, this amount was considered to be relatively low and bore the conclusion that the potential market for locally produced fish was substantial, both amongst present fish eaters, who may be induced to buy larger quantities, and among tribes who do not traditionally include fish in their diets. The early surveys on acceptability of fish indicated that lack of familiarity and lack of local availability of fish were the principal reasons for the low consumption, rather than any strong prejudice against fish eating. It was recommended that in order to ensure that market absorption capacity expands in step with a rising volume of production, improvements in market organization and fish consumption promotional activities would have to be initiated at an early time.

Historical motivation for 'Eat More Fish' campaign: Malnutrition and poor diets

World Health Organization (WHO) conducted an early nutritional survey during the same period and found that in populations belonging to the tribes in the Central Province area only 50 % of the population consumed meat, milk or eggs, and then only very occasionally. The rest of the population consumed a vegetable diet. Without being surveyed formally, it was estimated that approximately 40,000 cases of kwashiorkor, manifestation of severe malnutrition, occurred in Kenya annually during this period of the mid-1960s. The lack of animal protein in the Kenyan diet very substantial. Any steps which could be taken to increase fish production and consumption, therefore, were welcomed on dietary and medical grounds.

Vigorous campaigns pointing to the nutritional benefits of fish, teaching fish cookery, etc. were launched to build up local demand, and to follow the campaign up by making available supplies of fish. This strategy was inspired by the success of stimulating the demand for tea and coffee in the area by similar campaigns, started by the leading local processors of these products.

Present government policies and relations to 'Eat more Fish' campaigns

The early 'Eat more fish' campaigns did not result in a revolutionary change in fish consumption in Kenya. Present government policies build continues to address the unrevealed potential for more fish farming which in return could contribute dietary improvement in a population still suffering from food insecurity and child undernutrition. The Government of Kenya is committed to the policy of sustainable development as demonstrated in the Poverty Reduction Strategies (PSR), the Economic Recovery Strategy (ERS) for Wealth and Employment Creation, as well as the social pillar of the Kenya Vision 2030 and the Economic Stimulus Programme. In particular, the inter-sectoral Economic Stimulus Programme (ESP) was launched to address food insecurity and mitigate the effects of the 2007 post-elections violence and the global economic and financial crisis. The ESP was introduced through the 2009/2010 budget, entitled 'Overcoming Today's Challenges for a Better Kenya Tomorrow' (GOK 2009). The inter-sectoral collaboration and stakeholder participation in identifying and implementing projects allows prioritization of social and development needs and design of home grown interventions to address their respective challenges (GOK 2011). The sectors that benefited from the ESP funds allocated were education, health and sanitation, environment, local government, industrialization, food production and fisheries. The projects in these sectors were intended to create employment, provide essential

services, jobs and business opportunities, including ensuring enough food at the constituency level (GOK 2009).

Fish Farming Enterprise Productivity Programme (FFE&PP) and reintroduction of 'Eat more Fish' campaign

Among the projects funded by the government and implemented by various government ministries under the Economic Stimulus Programme (ESP). The Fish Farming Enterprise Productivity Programme (FFE&PP) began in the financial year 2009/2010 and continued to 2011/2012. Under the implementation several activities have been implemented. In trying to encourage fish farming and sensitization of growing/rearing cooking and eating so as to address the low consumption per capita of fish, the government re-introduced the "Eat More Fish Campaign" which was dubbed "*Kuza, Kula na Kuuza*" campaign - meaning "*Farm, Eat and Sell*" in Kiswahili - throughout the country to teach the communities on how to farm fish, the economic and health benefits, and how to prepare and eat the fish.

The FFE&PP programme entailed the production of fish in fresh water and brackish water systems for food production and commercial purposes. The goal of the programme was to produce food, create employment and generate income, particularly for the young Kenyans and the associated households, through sustainable aquaculture enterprises. Under the programme over 48 000 fish ponds were constructed in 160 constituencies country-wide and were stocked with over 13 million fingerlings. This increased the area under aquaculture from 722 hectares in 2007 to 20 000 hectares and increased national aquaculture production from 4 220 TONNES to 12 154 TONNES, about 7% of the national fish production.

The modern 'Eat More Fish' Campaign

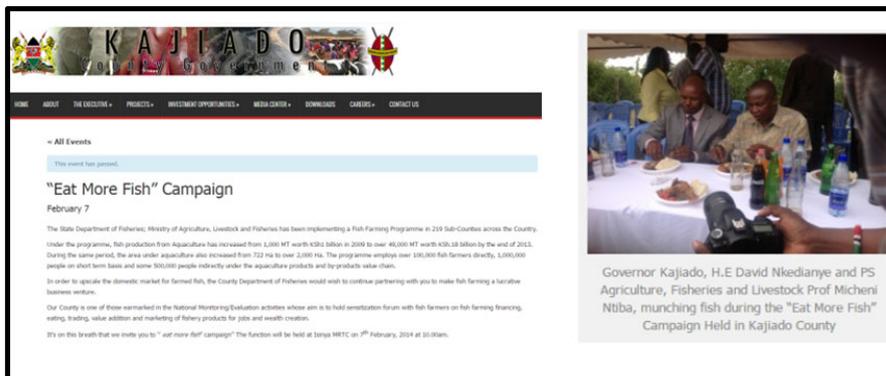
The ministry's campaign to promote consumption of fish comes in the wake of that child undernutrition is persistent in Kenya with at least 35 per cent of pre-school children face chronic malnutrition (stunting – retarded length growth). The campaign has double aim of creating awareness on the importance of embracing fish farming as a competitive venture in Kenya, and at the same time promotes fish demand and consumption by tackling the existing myth, negative attitudes and culture which reject fish as a nutritious food among some communities.

The campaign has been rolled out through public meetings are conducted where the communities are taught on fish farming and the health gains to be realized. Normally the campaign is announced on local television and print media (local dailies). The aimed immediate result is to increase the fish selling points at local shopping locations and hereby create a positive feed-back through increasing demand which can support the fish farming sector to grow.

Nutrition education activities

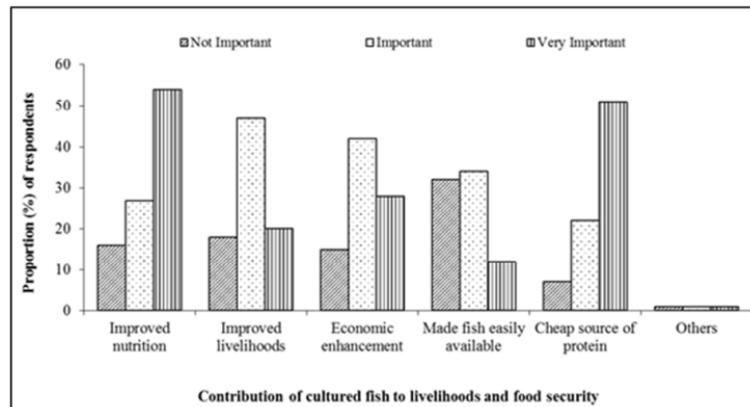
The specific activities under the "Eat More Fish" campaign has been developed and implemented by The State Department of Fisheries. An announcement to the public in Kajiado county that a campaign day will take place is included below.

Figure 4. Announcement to the public in Kajiado county an “Eat More Fish” event on February 7 2014, and the event of fish cooking demonstrations with presence of political leaders.



There is no systematic impact evaluation available for the “Eat more Fish” campaign, and no solid conclusions can be drawn if the approach of public campaign days is an efficient approach to change knowledge, attitude and behaviour of the consumers. A published survey among 157 fish consumers in Kirinyaga and Vihiga Counties provides some indications about the barriers for increasing fish consumption (Obiero et al 2014) which could contribute to elaborate more tailor made campaigns and nutrition education programmes in Kenya. The survey in this specific populations which has limited tradition for fish consumption found that the ethnic determinates for preferences for fish consumption seems to have disappeared with time and fish is now used in many household, and also that fish consumption patterns in many households have shifted from depending on tradition and proximity to taste and availability. The survey had data from a limited number of consumers and better representativeness is needed to draw conclusions. With these limitations, the authors also explored consumers’ perceptions on the contribution from fish farming (Figure 5). A majority associated fish farming with a way to improve nutrition and to access cheap protein, while contribution to livelihood and economy were perceived less important. There are no data in the published survey to track how the consumers had reached to the perception about fish being nutritious. A systematic study to detect if the “Eat More Fish” campaign had influenced would be valuable for the future planning of nutrition education interventions related to fish consumption in Kenya.

Figure 5. Rating of the importance and contribution of cultured fish to livelihood in study sites during the study period. Copied from Obiero et al 2014.



Lessons learned

The “Eat more Fish” campaign launched as a part of the economical stimuli initiative to enhance fish farming in Kenya represent an important case of how nutrition education can be integrated into an aquaculture programme on a national level. The impact of the “Eat More Fish” campaign has not been systematically evaluated which limits drawing conclusions on the feasibility of the specific activities related to nutrition education. The programme is led by The State Department of Fisheries which may be limited in specialist knowledge on public health issues required for designing, implementing and monitoring public health interventions.

The “Eat More Fish” campaign in Kenya has a historical reference to an earlier phase in the 1960-70s which may also provide a source of information to what was successful and what failed since Kenya has remained low in fish consumption. The small study published by Obiero et al 2014 gives indications to what shapes the fish consumer in Kenya and may support that a scaled up impact assessment of the Eat More Fish campaign can be designed.

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