Fish Production Constraints In Ethiopia A Review

The important contribution of fi sheries to human well-being is frequently underestimated. This report highlights that contribution. The report focuses on small-scale fi sheries and developing countries because the livelihoods of 90 percent of the 120 million employed in fi sheries are in the small-scale fi sheries, and almost all of those workers, 97 percent, live in developing countries. Many small-scale fi shing communities have high levels of poverty, and poverty reduction is a core focus of the contributing partners to the report.

Integrated farming in Asia is either considered an eco-friendly good that should be preserved for environmental reasons or a poor practice that will soon be superseded by industrial aquaculture. This report finds that most livestock-fish integration is sound business conducted by entrepreneurs accessing urban markets

where the price of fish is relatively low. It can be used as part of a strategy to reduce environmental impacts of intensive livestock production and to produce low-cost food. Farmers have proved adept at both developing their systems to meet their own needs and diversifying the role of ponds, fish and livestock within their complex livelihoods.

Managing Small-Scale Fisheries: Alternative directions and methods

The State of the World's Land and Water Resources for Food and Agriculture is FAO's first flagship publication on the global status of land and water resources. It is an 'advocacy' report, to be published every three to five years, and targeted at senior level decision makers in agriculture as well as in other sectors. SOLAW is aimed at sensitizing its target audience on the status of land resources at global and regional levels and FAO's viewpoint on appropriate recommendations for policy formulation. SOLAW focuses on these key dimensions of analysis: (i) quantity, quality of land and water resources, (ii) the rate of use and sustainable

management of these resources in the context of relevant socio-economic driving factors and concerns, including food security and poverty, and climate change. This is the first time that a global, baseline status report on land and water resources has been made. It is based on several global spatial databases (e.g. land suitability for agriculture, land use and management, land and water degradation and depletion) for which FAO is the world-recognized data source. Topical and emerging issues on land and water are dealt with in an integrated rather than sectoral manner. The implications of the status and trends are used to advocate remedial interventions which are tailored to major farming systems within different geographic regions. Aquaculture for both finfish and shellfish is expanding rapidly throughout the world. It is regarded as having the potential to provide a valuable source of protein in less developed countries and to be integrated into the farming systems and livelihoods of the rural poor. This book addresses key issues in

aquaculture and rural development, with case studies drawn from several countries in South and South-East Asia. Papers included cover topics ranging from production and technical issues (such as pond culture and rice field fisheries) to social aspects and research and development methodology. The book has been developed from a meeting of the Asian Fisheries Society. It is aimed at all concerned with aquaculture and rural development.

Alternative Directions and Methods
Geographic Information for Sustainable Development in Africa
Adapting Social Science to the Changing Focus of International Agricultural Research
Review of the Fisheries Resources of the Red Sea and Gulf of Aden
The State of World Fisheries and Aquaculture 2012
The Production and Storage of Dried Fish
Proceedings of a Rockefeller Foundation--ILCA Social Science Research Fellows Workshop Held at ILCA, Addis Ababa, Ethiopia, 14-18 November 1994

The 2020 edition of The State of World Fisheries and Aquaculture has a particular focus on sustainability. This reflects a number of specific considerations. First, 2020 marks the twenty-fifth anniversary of the Code of Conduct for Responsible Fisheries (the Code). Second, several Sustainable Development Goal indicators mature in 2020. Third, FAO hosted the International Symposium on Fisheries Sustainability in late 2019, and fourth, 2020 sees the finalization of specific FAO guidelines on sustainable aquaculture growth, and on social sustainability along value chains. While Part 1 retains the format of previous editions, the structure of the rest of the publication has been revised. Part 2 opens with a special section marking the twenty fifth anniversary of the Code. It also focuses on issues coming to the fore, in particular, those related to Sustainable Development Goal 14 and its indicators for which FAO is the “custodian”

agency. In addition, Part 2 covers various aspects of fisheries and aquaculture sustainability. The topics discussed range widely, from data and information systems to ocean pollution, product legality, user rights and climate change adaptation. Part 3 now forms the final part of the publication, covering projections and emerging issues such as new technologies and aquaculture biosecurity. It concludes by outlining steps towards a new vision for capture fisheries. The State of World Fisheries and Aquaculture aims to provide objective, reliable and up-to-date information to a wide audience – policymakers, managers, scientists, stakeholders and indeed everyone interested in the fisheries and aquaculture sector.

Managing Small-scale FisheriesAlternative Directions and MethodsIDRC

FAO Fisheries and aquaculture circulars The Blue Growth Initiative supports productive, responsible and sustainable fisheries and aquaculture through governance and management of fishery resources and aquatic ecosystems, trade and marketing of fish and fisheries products, aquatic biodiversity and knowledge sharing.

Given aquaculture's growth in sub-Saharan Africa, this report sets out its current status and measures employed to adapt to climate change. It includes a vulnerability assessment (meteorological, aquaculture and socioeconomic variables) and a policy review.

This publication reviews the potential for

fisheries production from irrigation canals. It deals with the subject under the following major headings: engineering aspects of irrigation systems; factors limiting fish production in canals; weed growth and associated problems in irrigation canals. Cage culture in irrigation canals is presented in case studies for Indonesia, Egypt and Thailand, and pen culture in China. Both cage and pen culture are considered to be the most suitable forms of aquaculture in irrigation canals. Fish can be profitably and successfully reared in irrigation canals to control unwanted aquatic weed growth, and there is some potential for the use of fish to control vectors and hosts of waterborne diseases. Amongst the constraints, levels of pesticides in fish tissues cultured in irrigation systems could be a problem in the development of foodfish production in irrigation canals. The major constraint to aquaculture development in such systems is that a continuous, preferably constant, flow of water is required throughout the culture period and this is not available in many irrigation systems.

Fish Production in Irrigation Canals

Rural Aquaculture

Down to Earth

Aquaculture Development

The FAO Blue Growth Initiative: Strategy for the development of fisheries and aquaculture in Eastern Africa

A Strategic Reassessment of Fish Farming

Increased agricultural productivity is a major stepping stone on the path out of poverty in sub-Saharan Africa and South Asia, but farmers there face tremendous challenges improving production. Poor soil, inefficient water use, and a lack of access to plant breeding resources, nutritious animal feed, high quality seed, and fuel and electricity-combined with some of the most extreme environmental conditions on Earth-have made yields in crop and animal production far lower in these regions than world averages.

Emerging Technologies to Benefit Farmers in Sub-Saharan Africa and South Asia identifies sixty emerging technologies with the potential to significantly improve agricultural productivity in sub-Saharan Africa and South Asia. Eighteen technologies are recommended for immediate development or further exploration. Scientists from all backgrounds have an opportunity to become involved in bringing these and other technologies to fruition. The opportunities suggested in this book offer new approaches that can synergize with each other and with many other activities to transform agriculture in sub-Saharan Africa and South Asia. This edition of The State of World Fisheries and Aquaculture highlights the vital role of fisheries and aquaculture in both food and nutrition security as well as economic expansion. The sector remains a major supplier of high-quality animal protein and supports the livelihoods and well-being of more than ten percent of the world's population. International trade in fish has reached new peaks as overall production has continued to rise. Yet,

as the document underlines, an array of problems--ranging from the need for more effective governance to that of ensuring environmental sustainability--threatens to undermine the sector's valuable contribution to alleviating hunger and reducing poverty. Using the latest available statistics on fisheries and aquaculture, this edition presents a global analysis of the sector's status and trends.

In 1992, world leaders adopted Agenda 21, the work program of the 1992 U.N. Conference on Environment and Development. This landmark event provided a political foundation and action items to facilitate the global transition toward sustainable development. The international community marked the tenth anniversary of this conference in Johannesburg, South Africa, in August 2002. Down to Earth, a component of the U.S. State Department's "Geographic Information for Sustainable Development" project for the World Summit, focuses on sub-Saharan Africa with examples drawn from case-study regions where the U.S.

Agency for International Development and other agencies have broad experience. Although African countries are the geographic focus of the study, the report has broader applicability. Down to Earth summarizes the importance and applicability of geographic data for sustainable development and draws on experiences in African countries to examine how future sources and applications of geographic data could provide reliable support to decision-makers as they work towards sustainable development. The committee emphasizes the potential of new technologies, such as satellite remote-sensing systems and geographic information systems, that have revolutionized data collection and analysis over the last decade.

The ten countries which border the Red Sea and Gulf of Aden depend to varying degrees on the area for their fish supplies with some countries such as South Yemen being totally dependent on the fish resources while to others, such as Israel and Jordan, the area is of minor importance. Catches of all fish species have been increasing slowly in recent years and in 1986

totalled 60.9 thousand tons from the Red Sea and 99.4 thousand tons from the Gulf of Aden. After reviewing the resource assessment and survey work which has been carried out in the area it was concluded that further increases in landings could be achieved on a sustainable basis. However such increases will come from the development of new fisheries and the expansion of the areas presently Fished rather than from traditional fisheries which are, in general, fully exploited. Utilization and marketing problems, particularly with small pelagic and mesopelagic species, however need to be addressed for the full potential of the area to be realized.

The Ethiopian Central Rift Valley (CRV) is part of the Great African Rift and encompasses four major lakes on the rift floor. It is situated in the administrative regions Oromiya and the Southern Nations Nationalities and Peoples Region (SNNPR), and covers an area of approximately 10,000 km2 [1]. The total population of the CRV is approximately 1.5 million. The natural resources of the area are under

enormous pressure due to human influences. The lakes and their influent rivers are used for irrigation, soda abstraction, fish farming, recreation, and also support a wide variety of endemic birds and wild animals [2]. One of the developments in the past decades is the introduction and rapid expansion of irrigated agriculture. Smallholder farmer irrigation schemes as well as large scale private and state farms have been established during the last decades. A recent development is the introduction of foreign investment in closed vegetable and flower production systems [3]. In the pastoral areas, food insecurity is a major problem and a significant proportion of the population rely on relief assistance from external agencies. One of the main causes of poverty in the CRV is the low level of agricultural productivity. The condition of any smallholder irrigation schemes is poor which contributes to inefficient use of water and high irrigation costs [4]. Many irrigation schemes are constructed with governmental or non-governmental

support, but operational and maintenance support is often lacking or only partly received [3]. Currently, water is used in the CRV without planning or regulation and without monitoring. The Government of Ethiopia has created policies, strategies, proclamations and development programme to achieve MDGs targets. Each document appears feasible on paper, but constraints in Ethiopia's water sector have restricted policy success. While there are policies in place that promote efficient utilization of the available water resources, they are not being implemented because of financial and humanpower constraints and problems of stakeholder coordination and participation, among other reasons. The implementation of a Water Point Mapping (WPM) supported by NGOs in the CRV may help in this regard, because in the short term, WPM may serve as a avaluable planning tool for the local level governments.

2018 The State of World Fisheries and Aquaculture

Uganda aquaculture value chains: strategic planning mission report

Supply and Demand in Changing Global Markets
Experiences in Ethiopia
Indigenous Management of Wetlands
Plants and Invertebrates
Sustainability in action
Amhara Region
Integrated agri-aquaculture in desert and arid lands - Learning from case studies from Algeria, Egypt and Oman
Fishing for Development
Meeting the sustainable development goals
Small-scale Fisheries in Africa

This title was first published in 2003. There has been increasing recognition around the world that wetlands are fragile ecosystems which require sensitive and sustainable management if they are to continue to provide their range of functions and benefits. These functions and benefits, which include contributions to food security and environmental regulation, play a critical role in sustaining rural livelihoods in many developing countries. Drawing upon research carried out in the area, this book identifies and discusses the importance of wetlands to local communities in south-west Ethiopia, and in

particular, how indigenous wetland management practices contribute to sustainable wetland use. As the basis of wetland management, particular attention is paid to the role of Indigenous Knowledge Systems, and how knowledge of wetland functioning is acquired, disseminated, developed and applied by local communities in their wetland management strategies. Critically, this community knowledge is examined in the context of scientific data, specifically that obtained from a wetland hydrology monitoring programme, thereby drawing attention to the strengths and weaknesses of both systems. This has major implications not only for the ways in which wetlands and other natural resources are managed at the local level, but also for the wider rural development strategies of governments and non-governmental organizations.

1. [without special title] -- 2. Health management for responsible movement of live aquatic animals -- 3. Genetic resource management -- 5. Use of wild fish as feed in aquaculture -- 6. Use of wild fishery resources for capture-based aquaculture

www.wageningenacademic.com/fishponds

"(Reprint. First published in 1998) The

present study is an update of an earlier assessment of warm-water fish farming potential in Africa, by Kapetsky (1994). The objective of this study was to assess locations and areal expanses that have potential for warm-water and temperate-water fish farming in continental Africa. The study was based on previous estimates for Africa by the above author, and on estimates of potential for warm-water and temperate-water fish farming in Latin America by Kapetsky and Nath (1997). However, a number of refinements have been made. The most important refinement was that new data allowed a sevenfold increase in resolution over that used in the previous Africa study, and a twofold increase over that of Latin America (i.e. to 3 arc minutes, equivalent to 5 km x 5 km grids at the equator), making the present results more usable in order to assess fish farming potential at the national level. A geographical information system (GIS) was used to evaluate each grid cell on the basis of several land-quality factors important for fish-farm development and operation regardless of the fish species used. Protected areas, large inland water bodies and major cities were identified as constraint areas, and were excluded from any fish farming

development altogether. Small-scale fish farming potential was assessed on the basis of four factors: water requirement from ponds due to evaporation and seepage, soil and terrain suitability for pond construction based on a variety of soil attributes and slopes, availability of livestock wastes and agricultural by-products as feed inputs based on manure and crop potential, and farm-gate sales as a function of population density. For commercial farming, an urban market potential criterion was added based on population size of urban centres and travel time proximity. Both small-scale and commercial models were developed by weighting the above factors using a multi-criteria decision-making procedure. A bioenergetics model was incorporated into the GIS to predict, for the first time, fish yields across Africa. A gridded water temperature data set was used as input to a bioenergetics model to predict number of crops per year for the following three species: Nile tilapia (Oreochromis niloticus), African catfish (Clarias gariepinus) and Common carp (Cyprinus carpio). Similar analytical approaches to those by Kapetsky and Nath (1997) were followed in the yield estimation. However, different specifications were used for

small-scale and commercial farming scenarios in order to reflect the types of culture practices found in Africa. Moreover, the fish growth simulation model, documented in Kapetsky and Nath (1997), was refined to enable consideration of feed quality and high fish biomass in ponds. The small-scale and commercial models derived from the land-quality evaluation were combined with the yield potential of each grid cell for each of the three fish species to show the coincidence of each land-quality suitability class with a range of yield potentials. Finally, the land quality-fish yield potential combinations were put together to show where the fish farming potential coincided for the three fish species."

The 2018 edition of The State of World Fisheries and Aquaculture emphasizes the sector's role in achieving the 2030 Agenda for Sustainable Development and the Sustainable Development Goals, and measurement of progress towards these goals. It notes the particular contributions of inland and small-scale fisheries, and highlights the importance of rights-based governance for equitable and inclusive development. As in past editions, the publication begins with a

global analysis of trends in fisheries and aquaculture production, stocks, processing and use, trade and consumption, based on the latest official statistics, along with a review of the status of the world's fishing fleets and human engagement and governance in the sector. Topics explored in Parts 2 to 4 include aquatic biodiversity; the ecosystem approach to fisheries and to aquaculture; climate change impacts and responses; the sector's contribution to food security and human nutrition; and issues related to international trade, consumer protection and sustainable value chains. Global developments in combating illegal, unreported and unregulated fishing, selected ocean pollution concerns and FAO's efforts to improve capture fishery data are also discussed. The issue concludes with the outlook for the sector, including projections to 2030. As always, The State of World Fisheries and Aquaculture aims to provide objective, reliable and up-to- date information to a wide audience, including policy-makers, managers, scientists, stakeholders and indeed all those interested in the fisheries and aquaculture sector.

Managing Systems at Risk

The State of World Fisheries and

Aquaculture 2020
Research and Education for the Development of Integrated Crop-livestock-fish Farming Systems in the Tropics
Managing Small-scale Fisheries
Proceedings of the Second Conference of the Agricultural Economics Society of Ethiopia : 3-4 October 1996, Addis Ababa, Ethiopia
Land Degradation and Strategies for Sustainable Development in the Ethiopian Highlands
Integrated Livestock-fish Farming Systems
Managing the Environmental Costs of Aquaculture
State of World Fisheries and Aquaculture 2016
A Review
Village chicken production in the central and western highlands of Ethiopia: Characteristics and strategies for improvement
Advances in Aquaculture Hatchery Technology

The FAO Regional Initiative on Water Scarcity (WSI), initiated in 2013, identified that lack of water resources is a potential disaster scenario for the Near East and North Africa (NENA) region. The WSI initiative developed out of 31st Session of the FAO Near East and North Africa (NENA) Regional Conference held in Rome in May 2012, outcomes from the Hyogo Framework Agreement 2005 – 2015, and highlighted through work undertaken

by the Arab Water Council in reports in 2004, 2012 and 2015. Several projects were started, including use of non-conventional water resources in integrated agriculture - aquaculture (IAA) systems within the NENA region. Agriculture is the largest food production type in the region and the highest water use. Aquaculture production is also a major food sector and development of integrated systems, for increase productivity and to reduce overall water use in food production, is a useful approach. Water scarcity is particularly acute in arid regions of the NENA region, and is a finite resource, with IAA competing for water with other large sectors including domestic and industrial use. Non-conventional water resources are identified as a potential resource to develop IAA systems in a more unified way, reducing the burden of use on standard renewable water resources. The principle objective of the work was to build broad partnerships to support greater understanding in implementation and use of non-conventional water resource in IAA systems.

Aquaculture is the fastest-growing food production sector in the world. With demand for seafood increasing at astonishing rates, the optimization of production methods is vital. One of the primary restrictions to continued growth is the supply of juveniles from hatcheries. Addressing these constraints, Advances in aquaculture hatchery technology provides a comprehensive, systematic guide to the use of current and emerging technologies in enhancing hatchery production. Part one reviews reproduction and larval rearing. Aquaculture hatchery water supply and treatment systems, principles of finfish broodstock management, genome preservation, and varied aspects of nutrition and feeding are discussed in addition to

larval health management and microbial management for bacterial pathogen control. Closing the life-cycle and overcoming challenges in hatchery production for selected invertebrate species are the focus of part two, and advances in hatchery technology for spiny lobsters, shrimp, blue mussel, sea cucumbers and cephalopods are all discussed. Part three concentrates on challenges and successes in closing the life-cycle and hatchery production for selected fish species, including tuna, striped catfish, meagre, and yellowtail kingfish. Finally, part four explores aquaculture hatcheries for conservation and education. With its distinguished editors and international team of expert contributors, Advances in aquaculture hatchery technology is an authoritative review of the field for hatchery operators, scientists, marine conservators and educators. Provides a comprehensive guide to the use of technologies in enhancing hatchery production Examines reproduction and larval rearing, including genetic improvement and microdiets Discusses challenges in hatchery production of specific species

This book is divided into three sections. Following the "Introduction", the second section, "Sustainable Aquaculture", offers integrated information on rice cultivation and aquaculture that provide additional benefits to producers. In addition, the participation of aquaculture in the restoration of the Crassostrea virginica fishery is evaluated. The third section, "Homeopathy and Probiotics", is about highly diluted substances and beneficial microorganisms that have proved their effectiveness in human medicine, agronomy, veterinary and currently in the marine aquaculture field. Also, a study focused on the performance of growth and nutrient utilization of the

freshwater shrimp Macrobrachium vollenhovenii fed diets supplemented with Lactobacillus acidophilus is presented. This book can be consulted by students, professors and researchers in the area of biological sciences.

Aquatic Sciences and Fisheries Abstracts
Blue Frontiers
Sustainable Intensification of Agriculture in Ethiopia
Aquaculture
The Management of Commercial Road Transport in Ethiopia

Hidden harvest: The global contribution of capture fisheries
Agrindex