Does globalization of markets influence the Aquaculture challenge in Asia?

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ABSTRACT: The challenge of aquaculture in the present and near future is to balance the local social goals of equity and more even distribution of income and employment with the global development of markets. The challenge is not to implement present knowledge only - but to read the signs of markets and politics as well. The transition includes the risk of destabilisation of prices, incomes, employment and settlement patterns and the liberalization of fish trade might therefore create new market imperfections and anomalies. The aspects to be considered will cover the following topics: sustainability and management regime; multiple services and joint production; market development; social implications of policy; international policies.

1. INTRODUCTION

1.1. World challenges for Asia in aquaculture

The challenges for aquaculture in the current global competitive markets are manifold but center around the following major issues:

a) The need to balance local social goals of equity with growth when equity goals differ locally even within one region

b) To achieve a more even distribution of income and employment in areas of rapid market development.

c) To respond to the market and political consequences of an exponential growth in global production

1.2. What is Globalization?

1.2.1. An economic definition

Basically each author has his/her own definition of globalization. But common to all is an underlying acceptance of the neo-liberal driving forces of new markets open for a global consumer culture.

It could be said, therefore, that globalisation is a dynamic process in need of continuous attention and adjustment if one is to master the transition from small-scale, locally controlled systems to global market driven systems. In particular globalization and growth in production increase the risk of destabilising prices, incomes, employment and settlement patterns locally and globally.

1.2.2. A social definition

Waters (1995) defines globalization as a broad social term: "A social process in which the constraints of geography on social and cultural arrangements recede and in which people become increasingly aware that they are receding". Globalization is often perceived as if it is driven by the inevitable force of nature. Globalization is for some actors in the global market both intentional and reflective. For example; environmentalists as well as business planners move globally. However, many economic forces act impersonally, as the underlying "neo-liberal welfare seeking behaviour" only indirectly interlinks the local and global economic sectors, which in turn leads to the global interaction characterising "globalization". The process is iterative and self-perpetuating, as non-restricted factors-of-production will seek to optimise income irrespective of national borders.

1.2.3. Driving forces of globalisation

The key words to understanding the driving forces in the process of globalization are incentives and integration. The most visible outcomes in the process are the development of transnational corporations and international banks having principal control over the growing world trade in goods and services rather than governments (the world's 37,000 parent transnational corporations and their 200,000 affiliates control 75% of the world trade (UNRISD (1995), p.27)) and the growing capital flow accommodating foreign investments across national borders. In contrast to the rise in international trade and international capital flows there is a reduction in the traditional migration of people (particularly young men from poorer countries) to, for example, Europe, Japan and North America in response to an increase in cross-border and migration controls. Even though capital and goods are moving across borders (rather than people), the result is still higher economic growth, though accompanied by a greater risk of unforeseeable economic fluctuations (cf. the move of the electronic herd as discussed by Friedman (1999), p.112), greater inequality between nations, and an economic polarisation within countries (higher Gini-coefficients).

2. BRIEF OVERVIEW OF SYSTEM CHANGES

2.1. A Historical Perspective

The following table is an attempt to give an overview of the system changes experienced in the economic, political and cultural arenas over the last four centuries. The path of globalization may be viewed from a historical perspective and the major expected outcome of the two "crises" highlighted in the table, the first concerning the lack of growth potential in capitalism and the second concerning the "crisis" of the state (with fewer options for economic stimuli to curtail unemployment, slumps and inequality) paints a picture of a global society economically driven by lifestyle consumerism. The weaker state (Disétatization), where a national identity is exchanged for value politics includes global movement for the environment and human rights, and global reactions against, for example, social dumping or child labour. Global idealization is seen as the predominant cultural trend, side by side with the local cultural, religious and "class"-related subcultures.

Arena (trend)	**16-19th centuries**	**19-20th centuries**	**21st century**
Economy (liberalization)	Capitalist World-system	Multinational Corporatism	Lifestyle Consumerism
	Crisis of capitalism		
Policy (democratization)	Bourgeois state	International relations	Disetatization and Value politics
		Crisis of the state	
Culture (universalization)	Divided Subcultures	Integrated National Traditions	GlobalIdealization

Figure 1. The path of globalization

Source Walters (1995) p.159. Main path of globalization Predominant pattern of causal efficacy

2.2. Movement towards internationalism and consumer motivation

This model shows that society has moved from a national to an international perspective, which since the turn of the millennium is now typified as being international and consumer driven. In this society the opportunities for trade are determined by the consumer and not by the producer. 21st Century consumers have informed value politics and a global culture.

They may not be able to move physically across borders as easily as in the past, but they can move quickly in their purchasing habits and decisions: responding not only to questions of nutrition but also to ethical and environmental aspects of food production.

In saying this, however, the consumer is not being altruistic in their purchasing decisions. Their choices reflect the lifestyle consumerism and materialistic trend in society, where self-esteem is centred on your consumption possibilities and consumption behaviour and notions such as - "You are what you eat". From one perspective, even obesity can be viewed as a manifestation of this trend.

2.3. Traditional effects of globalization

It may be appropriate to underline the fact, that globalization is not really global. Many developing countries (particularly in Africa) seem to have missed the global train entirely. This polarisation part the world with respect to technology, education and administrative capacity. Leaving these countries out the discussion it is possible to make a rough balance sheet of the advantages and disadvantages of globalization.

Globalization is good for:	**Globalization is bad for:**
Japan, Europe, North America	Many developing countries
Output	Employment
People with assets	People without assets
Profits	Wages
People with high skills	People with few skills
The educated	The uneducated
Equal opportunity	Equality, cohesion
	Environment

Figure 2. Balance sheet of globalisation, (rough approximation) **Source:** Adapted after Streeten (2001), p.30

As can be seen from the above table, globalization increases the gap between different peoples and countries - with the income differentials experienced enhanced by the restrictions of migration. If, at the same time trade restrictions are present, which favour one region over another, the development will widen the economic gaps even further.

3. GLOBALIZATION AND ITS EFFECTS ON INEQUALITY AND THE ENVIRONMENT

In this next section I am going to address only the last two items on this table, the two I believe to be particularly relevant to this workshop - inequality and environment.

3.1. Globalisation and inequality

3.1.1. Debt to export ratio

The reason for including equality in the table is to focus attention on the change in emphasis on equality in global politics over the last few decades. The moral stance has changed to a silent acceptance of inequality since the end of the 70s. In the 70s movements towards "justice" in the north-south dialogue flourished on the international political scene. To use the words of Woods (1999, p. 14); «three accounts of international inequality in the 70s - neo-colonialism, dependency theory, and theories of distributive justice - put inequality at the top of the agenda of world politics and posited that the evolution and continuation of international order depended upon a greater degree of "justice"»[1]. The debt crisis of the 80s and 90s, however, changed the agenda for such institutions as the IMF and the World Bank. Redcliff and Sage (1999 p. 130) report that debt servicing by capital-importing countries rose from $90 billion in 1980 to $158 billion in 1992 and is still rising. The debt-to-export ratio remained extremely high for the remaining part of the 90'ies with 29 of the 32 most severely indebted countries having a debt-to-export ratio of more than 200 per cent, even though many bilateral relief measures - such as the cancellation of debt - have been implemented. The strong neo-liberal movement typified by Ronald Reagan, Margaret Thatcher and Helmut Kohl almost made the justice debate disappear from the international political arena. The underlying argument was, and still is, that there was equality of opportunity, which is hardly the case. The residual of this debate is the token attention to debt relief (IMF and World Bank) and especially poverty alleviation (FAO) - and the reduction / phasing out of tariffs and quotas on textiles (WTO - The Uruguay Round), clothing and agriculture products mainly hindering the development of export industry in the developing countries. On the other hand, Woods (1999, p. 19) reporting from an OECD study highlights that in 90 per cent of US and EU anti-dumping actions there was little or no threat to national industries. Further, the number of anti-dumping actions has actively risen over the last couple of decades.

3.1.2. Poverty-lack of opportunity or lack of incentive?

The neo-liberal worldview is strongly reminiscent of undergraduate textbook models of pure competition. All goods are private goods and the economy is an essentially frictionless system with perfect mobility of all factors of production. It is important not to forget that these assumptions are heuristic devices, invented to facilitate the analysis of the market economy as a whole. They are not realistic descriptions of the world as it is.

In the real world economic growth depends crucially on the adequate provision of public goods (e.g. infrastructure, education, research, etc.). Moreover, inequality is often the result of limited economic opportunities, whereas in the frictionless neo-liberal model, inequality is the primary source of economic incentive and hence an indispensable precondition for economic growth.

To the extent that poverty can be ascribed to lack of opportunity (rather than lack of incentives), policies designed to create or support alternative business and employment opportunities, or set up educational systems to facilitate labour mobility, may significantly improve the trade-off between inequality and growth without jeopardizing economic incentives.

3.2. Globalisation and the environment

Turning to the second issue - environment, the evidence of resource depletion and environmental degradation due to globalisation is not unambiguous. When the various aspects of production, processing, consumption and waste disposal are carried out in different locations, and even different countries, the resulting impacts are

1 Only the first two models try to explain why the inequality exists. The explanatory variables center around the very low income levels of the third world which maintain a loss by the exchange of goods to the developed countries and maintain the poor in poverty and the rich in wealth. Other explanations focus on the differences in technology and production capacity as the main cause for inequality. (Pers. com. prof. Villy Søgaard)

not readily obvious. Incorporation into the world economy effectively diminishes the capacity of local producers to exercise control over their choice of production system and the way that resources are to be managed. Instead, a web of decisions made many miles away, that might involve the imposition of externally derived macro-economic goals and market incentives, can exert greater influence over production systems and the local environment" (Redcliff and Sage, 1999, p. 133-34). Taking the other perspective, globalisation can also provide environmental impact mitigation opportunities, enabling the use of potentially less sensitive habitats and ecosystems for extractive and productive purposes.

4. INCREASE IN FOREIGN CAPITAL FLOW AND THE ECONOMIC OUTCOME

4.1. Increase in capital flow

The most significant trend in the globalized economy is the increase in capital flow across borders. Traditional economics predicts - under perfect competition - that in the case of a surplus of labour in one country and a surplus of capital and technological knowledge in another - both countries will benefit from foreign investment in the form of the factor of production in which they are lacking. This is not up for discussion. What is up for discussion is whether the condition for perfect competition are being met and under which conditions the income gap between countries will widen, or contract.

4.2. Effects of increase in capital flow

These foreign investments often have economy-wide income effects, which are often neglected in the short-term strive for investments, higher employment and income possibilities domestically. Unfortunately, this neglect can just result in negative long-term economic changes. Economic general equilibrium models (building on the Armington approach, (Francois et Reinert, 1997)) can analyse the economic outcome of capital flows, but

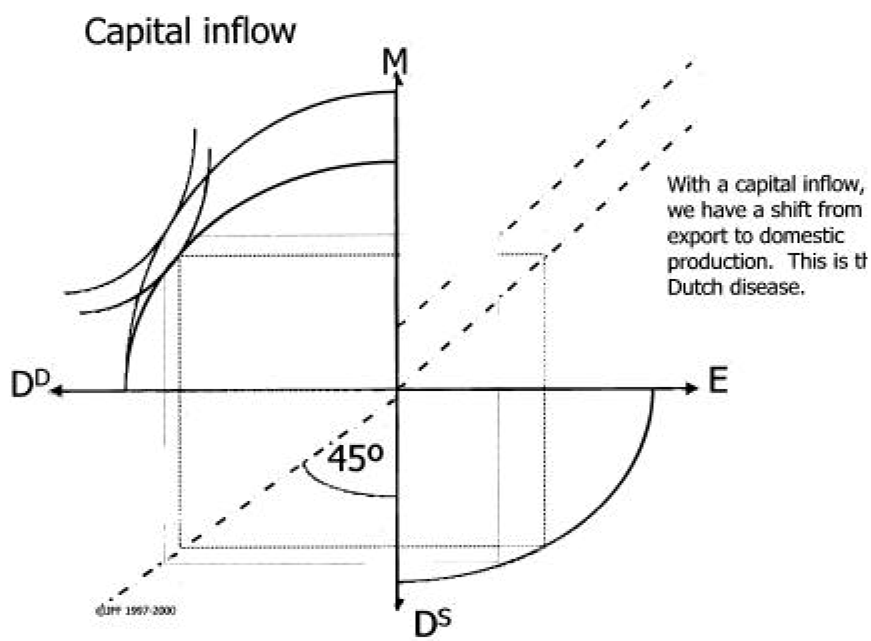

Figure 3. The “Dutch disease"

Q: Supply /demand for composite goods
C: Consumption
D^D: Demand for domestic goods
D^S: Supply of domestic goods

M: Import good
B: Balance of Trade
E: Export good
P: Domestic price

may also "cut against the grain of received wisdom". As Devarajan *et al* 1997, pp 156 states: "For example, it is not always appropriate to depreciate the real exchange rate in response to an adverse international terms-of-trade shock; reducing import tariffs may not always stimulate exports; unifying tariff rates need not increase efficiency." The following example shows how an infusion of foreign capital influences the domestic consumption possibilities and the price-level of tradable and non-tradable goods sectors.

4.3. "Dutch disease"

The graph in Figure 3 demonstrates the concept of "Dutch disease". There are a number of ways in which this concept can come about. Dutch disease could occur if a country gains additional access to world capital markets or receives positive foreign aid. Alternatively, as Devarajan *et al* (1995) notes (p.164), it could also occur if there is a primary resource boom in a country where the resource is effectively an enclave, so that the only direct effect is the repatriation of export earnings (The original example stems from the Dutch Gas industry, therefore commonly named the Dutch decease). The outcome is a shift in the balance of payment, which in turn shifts the consumption possibility frontier up vertically. The new equilibrium in this simple general equilibrium model depends on the nature of the import aggregation function (how the consumer reacts to the choice of domestic and imported goods - the consumer's utility function). The expectation is - in all of these cases - that domestic prices rise relative to world prices - and the tradable sector contracts relative to the non-tradable sector. The terms-of-trade deteriorates and the country has attracted the so called "Dutch disease".

4.4. Long-term solutions

This makes it even more important to stress the fact that international transfer payments only marginally may influence the income inequalities of this world. A long term solution will only be possible if the objective of larger equality in the primary income formation is met. This implies in most instances large and long-term investments in infrastructure and human capital.

These facts widen the spectrum of outcomes of both foreign aid and direct investments in third world countries. Even though investors are drawn to countries with very low wage levels, the capital mobility may - everything else equal - have influence on the skills, income possibilities and development potentials of the receiving countries workforce. This may positively change the infrastructure and capacity to absorb new technology, which are necessary conditions for development.

4.5. A Norwegian example (salmon)

The development in mariculture production of salmon in Norway may give an example of how the transition from smaller scale production to large scale production changes the importance and economic conditions under which the industry may develop.

4.5.1. Overview of Norwegian production companies

Today over 30% of the export earnings of Norway come from fish production. The production volume has increased by 1400 per cent from 1985 to 1998. The costs have decreased continuously from approx. 50 NKR to approx. 15 NKR per kilo in the same period and the market price has decreased by nearly 70%, due first and foremost to an increase in supply (1995-price level, Bjørndal and Tveteras, Havbruk 2000). The small and medium sized companies have the lowest production costs, but the largest companies got a slightly higher price for their produce: 21.99NKR compared to 21.41NKR (1998, Asche et Tveterås, Havbruk 2000).

The companies work in so-called "industrial clusters" utilising their bargaining power in purchase of inputs, share know-how and result in a better coordination between individual production facilities. The number of multinational corporations in the sector is rising (e.g. Nutreco (Dutch, the largest in the market), Pan Fish ASA (Norwegian second in the market), Stolt Seafod, Fjord Seafood ASA (Norwegian third in the market) and Akvasmart)

Norwegian research shows a centralisation of ownership and an increase in production from 91 tons to 1465 for each company on average for the period 1985 to 1998 partly because of higher production at single localities, but also because of mergers in the sector. The need for a continuous research and development in production has been evident. Innovations have led to the production at more distant localities as more robust technologies have been developed. Further, the input factors have run through both a decrease in price, better quality and for labour; better education. It must be stressed that Norway i.e. due to oil-extractions in the North Sea have had the means and the political will to develop alternative long term sustainable industries to counteract any future decrease in welfare - when the oil reserves are depleted. It should be mentioned that Norway easily could have attracted the Dutch disease if these oil incomes were to have been used uncritically to raise the economic welfare of the present generation (see Figure 1 above)

Approximately half of the production of salmon in the EU (Scotland and Ireland) is controlled by Norwegian companies. This gives these companies a positive market power and reduces the risk for barriers to entry of Norwegian-produced salmon to the EU market.

4.5.2. Norwegian markets

The market faced by the Norwegian aquaculture industry is difficult. Norway does not belong to the EU and is therefore subject to trade restrictions when entering the European market. Even though EU is a net importer of fish and fish products, the direct and indirect subsidies to food production must be followed by some kind of protection of the home industry or the social gains of the subsidies would be undermined by competing imported product from countries outside the EU. The whole concept of subsidising food production and protecting the local industry from competition is from a welfare-economic point of view faulty. This will not be discussed here, but it follows that the consequences are that the market price of the EU is often higher than the world market price and the "anti-dumping" measures installed is presently for Norwegian salmon a minimum price which in case of lower world market prices put the Norwegian exporter to the expense of a duty of the difference between the world market price and the minimum price set by the EU. The outcome is higher prices to the EU consumer, income to the EU from duty, and a strong incentive both for the individual Norwegian exporter as well as for the EU-importer to try to cheat the customs authorities. The ways of trying to pass the border without paying duty is reported from Danish Ports: The registered weight of the fresh salmon on the truck is underreported, indicating a higher price per kilo in the load. The truck carry smoked salmon in some of the crates pretending it exports fresh salmon and getting a higher price per kilo on the load. The driver carry two different invoices - one for the importer and one for the customs authorities - the latter show a higher price per kilo.

To day the price difference between EU minimum price and the world market price substantial (approaching 10 NKR per kilo) and the incentive to bypass the payment equally high.

The studies reported on competition to Norwegian fish (Asche *et al.* 2001 gives an overview) and salmon in particular reveal a strong both actual and relative price decrease for farmed and wild caught salmon. Compared to other high value fish product there is some evidence indicating that different high value fish species are substitute goods to salmon as results show an interrelationship between the price development in these markets. It is reported that meat products do not show the same substitution, indicating that these are not substitute goods in the minds of the consumers.

The results may be viewed as at a very early stage of research as most of the data included stem from a period with very rapid growth in production.

5. DISCUSSION

To answer the first question raised in this paper: the answer is that globalization will have an influence on the aquachallenge of Asia. Economically the producers will be faced with a constant need to adapt to market changes. Socially the neo-liberal economic forces may lead to quite dramatic changes in the production sector, as decreasing prices also influence the profitability of small farmers and even subsistence farmers. The latter will experience a decrease in their relative income and the income gap will widen in society. The means accessible for management to counteract this development is weakened in this process.

An objective of cohesion as opposed to the equal opportunities/poverty alleviation objective may re-enter the international political arena. The open question is whether the weakened national states can and will empower the international institutions to instigate regulations beneficial to the cohesion objective on the grounds of fairness and international "justice". This can give rise to a different development path from that driven by market forces alone. This is stated not to underestimate the potential of national and regional (i.e. EU) policy measures. Some management tools only work on an international level, but it is still evident that par example environmental protection, investments in infrastructure and other public and collective goods are a national responsibility.

The developed countries have over decades invested in human resources and accumulated human capital. These human resources are today considered the most valuable and scarce income generating factor of production.

The consistent call for structural changes is not always a question of tight macroeconomic policy. The process of economy of scale, frequent trade in property rights to aid the concentration of enterprises and introduce cost saving but capital intensive technologies, can only be achieved within a society, where the bank-system, the public management system and the legal system is working independently and not giving rise to sudden unexpected and counterproductive changes and economic risks. Human resources - i.e. well educated, trained and skilled people - are the precondition for these transitions.

Globalization also create opposite forces in society. The recent first round of the French presidential election gave second place to the nationalist leader of Front Nationale; Le Pen. His programme evoked a response in that part of the French people which feels threatened by the globalization forces, a response also seen in most other European Societies. This political stance is directed towards minorities, be it ethnic, religious or other segments (intellectuals are often seen as arbiters of taste and preventing the people from exercising their democratic rights[2]) of society. This development further aggravates the existing inequality and does not give any help to the forces fighting for a more equal distribution of incomes and resources between regions, nations and segments of populations.

2 The Danish Prime Minister, Anders Fogh Rasmussen in a speach to the Danish people, according to memory.

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