



# Resources

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## Eight Principles of Sustainability

- 1** Any materials extracted from the earth should not exceed the environment's capacity to disperse, absorb, recycle or otherwise neutralise their harmful effects to humans and the environment
- 2** Synthetic substances in their manufacture and use should not exceed the environment's capacity to disperse, absorb, recycle or otherwise neutralise their harmful effects to humans and the environment
- 3** The biological diversity and productivity of ecosystems should not be endangered
- 4** A healthy economy should be maintained, which accurately represents the value of natural, human, social and manufactured capital...
- 5** Individual human skills, knowledge and health should be developed and deployed to optimum effect
- 6** Social progress and justice should recognise the needs of everyone
- 7** There must be equity for future generations
- 8** Structures and institutions should promote stewardship of natural resources and the development of people



## Challenges for Aquaculture Businesses

Challenge  Example	Response	Implications for sustainable development	Challenges for the sector
<p>Environmental legislation biting harder, for example requirements for water and waste management.</p>	<p>Increase water efficiency and improve water quality management on-site; minimise waste.</p>	<p>Positive: opportunity to consider a more integrated management of aquaculture production sites and to introduce environmental benefits; enhanced customer satisfaction. Negative: potential for responses to be understood to need greater on-site economic efficiency at the cost of broader and longer-term cost-benefit considerations.</p>	<p>Access to appropriate technical support. Cost and disruption of implementing changes.</p>



# Summary of the Five Capitals

Capital is traditionally understood as accumulated wealth in the form of investments, factories and equipment. In reality, our economy and all companies need five types of capital to function properly.

## Natural Capital

Natural Capital is any stock or flow of energy and matter that yields valuable goods and services. It includes:

- Resources, some of which are renewable (timber, grain, fish and water), whilst others are not (fossil fuels)
- Sinks, which absorb, neutralise or recycle wastes
- Processes, such as climate regulation.

Natural capital makes possible not only manufactured capital, but life itself.

## Human Capital

Human Capital consists of our health, knowledge, skills and motivation, all of which are required for productive work. Enhancing human capital, for instance through investing in education and training, is vital for a flourishing economy. Poverty is both morally indefensible and socially inefficient in that it prevents millions of people from fulfilling their potential and becoming engaged in the creation of wealth. The indigenous skills are those passed down through generations, which we could be in danger of losing today in our rush to embrace new technology.

## Social Capital

Social Capital is the value added to any activity or economic process by human relationships and co-operation. Social capital takes the form of structures or institutions that enable individuals to maintain and develop their human capital in partnership with others. It includes families, communities, businesses, trades unions, markets, schools and voluntary organisations.

## Manufactured Capital

Manufactured Capital comprises material goods such as tools, machines, buildings and other forms of infrastructure that contribute to the production process but are not used up in it.

## Financial Capital

Financial Capital plays an important role in our economy by reflecting the productive power of the other types of capital. It enables them to be owned and traded. However, unlike the other types, it has no intrinsic value: whether in shares, bonds or banknotes, its value is purely representative of natural, human, social or manufactured capital.



## Analysing my Business using the Five Capitals

Activities in my business that increase or decrease the capital	
Natural	
Human	
Social	
Manufactured	
Financial	



## Action Planning

For the short term and the long term, consider one or more actions that will improve the sustainability of your business and analyse the actions with regard to the Five Capitals.

	Short term	Longer term
Natural		
Human		
Social		
Manufactured		
Financial		



## Evaluation

Put a mark in the appropriate column and add any comments you wish.  
0 = poor, 3 = excellent

Activity	Thought-provoking				Helpful for my business				Comments
	0	1	2	3	0	1	2	3	
Introductory activity									
Global challenges									
Case study review									
Business case for SD									
Challenges to your business									
Joined-up business planning									
Applying the systems approach: 1									
The Five Capitals model									
Applying the systems approach: 2									
Your business in five years									
Action Planning									

**How will the PP4SD training help your business planning?**

Is there anything else that you would have liked included in the training course? If so, the PP4SD team at Swansea University would be pleased to hear from you. Indeed, we would be pleased to hear any comments you may have. Thank you!