

# Trade, Sustainability, and the WTO: Environmental Protection in the Hong Kong SAR†

by *Berry F.C. Hsu\** and *Anita M.M. Liu\*\**

## 1.

### INTRODUCTION

Environmental well-being affects human health. An important yardstick in measuring the environmental well-being of coastal states is the sustainability of fisheries.<sup>1</sup> A recent study has suggested that the world's fish catch might be much smaller than previously reported.<sup>2</sup> Nevertheless, the decline of world's fishery has become a matter of international concern.<sup>3</sup> As a coastal jurisdiction, the Hong Kong Special Administrative Region ("HK-SAR") is obliged to ensure through proper conservation and management measures that the maintenance of the living resources in its exclusive economic zone is not endangered by over-exploitation.<sup>4</sup> Notwithstanding that the fishery sector is not substantial from a global economy aspect, the fishery sector has a

---

† The authors wish to acknowledge the very valuable comments of Professor Jill Cottrell, Faculty of Law, University of Hong Kong, Hong Kong SAR (China) and Professor Grace Woo, Faculty of Law, University of Saskatchewan, Canada.

\* B.S., LL.M. (Albert); M.A. (Oregon); Ph.D. (London); C.Eng. (U.K.); Barrister and Solicitor (Supreme Court of Victoria and High Court of New Zealand); Associate Professor in Law, Department of Real Estate and Construction, and Professorial Fellow, Asian Institute of International Financial Law, University of Hong Kong, Hong Kong SAR (China).

\*\* B.S. (Reading); M.S., Ph.D. (Hong Kong); F.R.I.C.S.; F.H.K.I.S.; M.C.I.O.B.; R.P.S.(Q.S.); Associate Professor, Department of Real Estate and Construction, University of Hong Kong, Hong Kong SAR (China).

1. See Jonathon L. Hafetz, *Fostering Protection of Marine Environment and Economic Development*, 15 AM. U. INT'L REV. 583, 599 (2000).

2. See *Fishy Figures*, THE ECONOMIST, Dec. 1, 2001.

3. David K. Schott, *Fishery Subsidies and the WTO*, in TRADE ENVIRONMENT AND THE NEW MILLENNIUM 144 (Gary P. Sampson & Brandee Chambers eds., 1999).

4. UNITED NATIONS CONVENTION ON THE LAW OF THE SEA, art. 61(2), available at [http://www.un.org.Depts/los/convention\\_agreements/texts/unclos/closindxAgree.htm](http://www.un.org.Depts/los/convention_agreements/texts/unclos/closindxAgree.htm).

major impact on some coastal nation states and fishery products are a major component in world trade.<sup>5</sup> The most important factors contributing to the depletion in fishery resources are environmentally harmful fishery subsidies and inadequate fishery management.<sup>6</sup> Fishery subsidies have partly contributed to the over-expansion of fishing boats, and, as a result, created excessive harvesting.<sup>7</sup> Inadequate fishery management includes lack of implementation and poor enforcement of environmental protection legislation regulating air and water pollution in ensuring a sustainable environment.

The United Nations Convention on the Law of the Sea (“UNCLOS”) provides sovereign rights over an exclusive economic zone to each coastal state. Every state has sovereign rights for the purpose of conserving and managing the marine resources and protecting and preserving the marine environment.<sup>8</sup> These measures are designed to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield.<sup>9</sup> The People’s Republic of China (“China”) is a signatory state to the Convention.<sup>10</sup> As the HKSAR is now a special administrative region of China, it inevitably has a duty to honor the international obligations made between China and other members of the international community, as they apply to

---

5. Christopher D. Stone, *Too Many Fishing Boats, Too Few Fish: Can Trade Laws Trim Subsidies and Restore the Balance in Global Fisheries?*, 24 *ECOLOGY L.Q.* 505 (1997).

6. See Committee on Trade and Environment, Meeting (Oct. 24-25, 2000), available at [http://www.wto.org/english/tratop\\_e/envir\\_e/te034\\_e.htm](http://www.wto.org/english/tratop_e/envir_e/te034_e.htm); H. Scott Gordon, *The Economic Theory of a Common Property Resource: The Fishery*, J. OF POL. ECON., 124, 124-42 (1954); Steven N.S. Cheung, *The Structure of a Contract and the Theory of a Non-exclusive Resource*, 13 J. LAW & ECON. 49, 49-70; GARY P. SAMPSON, TRADE, ENVIRONMENT, AND THE WTO: THE POST-SEATTLE AGENDA 53 (2000).

7. See *id.*

8. UNITED NATIONS CONVENTION ON THE LAW OF THE SEA, art. 56(1), 57, available at [http://www.un.org/Depts/los/convention\\_agreements/texts/unclos/closindxAgree.htm](http://www.un.org/Depts/los/convention_agreements/texts/unclos/closindxAgree.htm).

9. *Id.* at arts. 61(3).

10. The United Nations Convention on the Law of the Sea, Chronological Lists of Ratifications of, Accessions and Successions to the Convention and the Related Agreement (Nov. 12, 2001), available at [http://www.un.org/Depts/los/reference\\_files/chronological\\_lists\\_of\\_ratifications.htm#](http://www.un.org/Depts/los/reference_files/chronological_lists_of_ratifications.htm#).

the HKSAR.<sup>11</sup> Accordingly, the HKSAR has to operate within the ambit of the UNCLOS, to which China is a signatory state.<sup>12</sup>

The Basic Law of the HKSAR ("Basic Law") authorizes the HKSAR to participate in relevant international organizations and to enter into international trade agreements on its own.<sup>13</sup> However, it also provides that the Central People's Government ("CPG") shall be responsible for the foreign affairs relating to the HKSAR.<sup>14</sup> However, the CPG has to consult the HKSAR Government before such international agreements are extended to the Region.<sup>15</sup> International agreements made prior to resumption of exercise of sovereignty by China over Hong Kong on July 1, 1997, remain unchanged.<sup>16</sup> These include the founding membership in the World Trade Organization ("WTO").

International environmental law is a developing area in the HKSAR, which is subject to seventeen multilateral environmental agreements ("MEA") dealing with water pollution and conservation as of December 2001.<sup>17</sup> It was not until 1977 that an Environmental Protection Unit was established in the HKSAR.<sup>18</sup> Its powers, however, were merely supervisory.<sup>19</sup> This unit was upgraded to an Environmental Protection Agency in 1981. Finally, in 1986, the Environmental Protection Department was established and was empowered with pollution prevention and control measures.<sup>20</sup> While the then colonial administrative did not give environmental issues a high priority,<sup>21</sup> a number of these MEAs were made, including the Montreal Protocol on Substances that Deplete the Ozone Layer ("Montreal Protocol") and the Basel Convention on the Control of Transboundary Move-

---

11. Benjamin L. Liebman, *Autonomy Through Separation?: Environmental Law and the Basic Law of Hong Kong*, 39 HARV. INT'L L. J. 231, 273 (1998).

12. *Multilateral International Agreements* (Hong Kong: Department of Justice 2002), available at <http://www.justice.gov.hk/multi1.htm>.

13. *See id.* at art. 116.

14. *See id.* at art. 13.

15. *See id.* at art. 153.

16. *See id.*

17. Eight multilateral agreements deal with marine pollution and nine multilateral agreements deal with conservation. *See* Hong Kong Legal Dep't, List of Multilateral International Agreements (2001) available at <http://www.justice.gov.hk/interlaw.htm>.

18. Hong Kong Environmental Protection Dep't, Environmental Protection in Hong Kong (2001) available at <http://www.info.gov.hk/epd/epinhk/index.html>.

19. *See id.*

20. *See id.*

21. Liebman, *supra* note 11, at 246.

ment of Hazardous Wastes and their Disposal ("Basel Convention").

Although the HKSAR is allowed to exercise a high degree of autonomy,<sup>22</sup> it may not enter into any international agreement on its own other than trade agreements. Accordingly, international environmental agreements which touch and concern trade will fall within the ambit of the high degree of autonomy of the Region.<sup>23</sup> Under the Basic Law, the HKSAR Government is responsible for formulating policies on trade but should also take into account the protection of the environment.<sup>24</sup> The Basic Law does not specifically deal with the environment by an independent section. When it was enacted in 1990, environmental consciousness was still at its infancy in the HKSAR and most people were more concerned with the legal system, democracy, and the rule of law after China resumed the exercise of sovereignty over Hong Kong on July 1, 1997.<sup>25</sup> There simply was no support for environmental protection in the HKSAR. The population was more concerned with economic opportunity than environmental enhancement.<sup>26</sup>

The application of trade law on environmental protection issues is a topic of interest. Although there is no general international agreement on environmental protection, a framework for a sustainable environment can be formulated under international trade law.<sup>27</sup> International trade law may be invoked to promote an international economic system that would lead to economic growth and sustainable development.<sup>28</sup> There are two main legal aspects of international trade which can serve to promote a sustainable environment in the HKSAR. The first aspect is the application of subsidy provisions to protect the environment under the WTO Agreement. The second aspect is trade restrictions which can serve as a policy instrument in enforcing environmental standards and controlling environmentally harmful products and waste.<sup>29</sup> This paper proposes a competing values framework

---

22. *Multilateral International Agreements*, *supra* note 12, at art. 2.

23. Liebman, *supra* note 11, at 269.

24. *Multilateral International Agreements*, *supra* note 12, at art. 119.

25. Liebman, *supra* note 11, at 237.

26. *Id.* at 240.

27. Edith Brown Weiss, *Environment and Trade as Partners in Sustainable Development: A Commentary*, 86 AM J. INT'L L. 728 (1992).

28. Thomas J. Schoenbaum, *Free International Trade and Protection of the Environment: Irreconcilable Conflict?*, 86 AMER. J. INT'L L. 700 (1992).

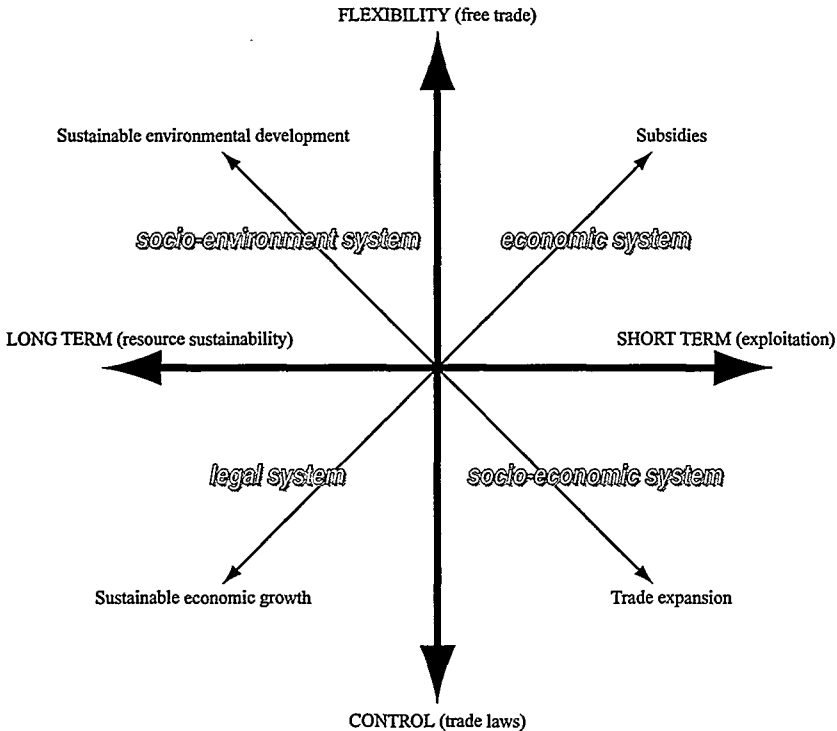
29. *See id.*

as a means of encompassing the conflicting aims of short term economic gains and long term environmental sustainability through the moderation mechanisms provided by appropriate domestic legislation and international trade laws.

2.  
 TRADE AND THE ENVIRONMENT: COMPETING  
 VALUES FRAMEWORK

Legal scholars have related free trade and environmental concerns in the context of sustainable development.<sup>30</sup> A “competing values” framework<sup>31</sup> is proposed here in analyzing trade and the

**Figure: Competing Values Framework**



30. Weiss, *supra* note 27, at 728. Free trade here refers to no trade barriers, no trade restrictions, and no protectionism. See David M. Driesen, *What is Free Trade?: The Real Issue Lurking Behind the Trade and Environment Debate*, 41 VA. J. INT'L L. 279, 281 (2001).

31. Competing values model is discussed in ROBERT E. QUINN, *BEYOND RATIONAL MANAGEMENT: MASTERING PARADOXES AND COMPETING DEMANDS OF HIGH PERFORMANCE* (1988); KIM S. CAMERON & R.E. QUINN, *DIAGNOSING AND*

environment. This framework encompasses the development of legislation and other governmental policies towards environmental sustainability of economic activities, notably in aquaculture. The competing values which direct policy-making are modeled in the following figure along the opposing x-y axes of short term (economic exploitation) versus long term (resource sustainability) and flexibility (free trade) versus control (trade laws).

In the above figure, it is postulated that short-term economic exploitation through excessive harvesting of fishery resources creates water pollution<sup>32</sup> and is detrimental to the environment. The opposing long-term value is to maintain sustainable resources in the environment through promoting legislative policies and social conscience. The y-axis constitutes competing values of *flexibility* which advocates no trade barriers, no trade restrictions and no protectionism,<sup>33</sup> and *control*, where trade restrictions are used as a policy instrument in enforcing environmental standards and controlling environmentally harmful products.<sup>34</sup>

The integrative effect of the x and y axes in the above figure gives rise to four quadrants of economic, socio-economic, legal and socio-environmental systems; with two further pairs of competing values, namely subsidies versus sustainable economic growth, and trade expansion versus sustainable environmental development.

In the economic system in the above figure, it is postulated that fishery subsidies made available by the HKSAR government result in the increase of short-term economic gains in the fishery community. The many forms of fishery subsidies can be categorized into direct assistance to fishermen, lending support programs, capital and infrastructure support programs, marketing and price support programs and fishery management and conservation programs.<sup>35</sup> These subsidies result in the depletion of fish-

---

CHANGING ORGANIZATIONAL CULTURE BASED ON THE COMPETING VALUES FRAMEWORK (1998).

32. THOMAS ANDERSSON, CARL FOLKE & STEFAN NYSTROM, TRADING WITH THE ENVIRONMENT 24 (1995); C. EMERSON, *Aquaculture Impact on the Environment*, Cambridge Science Abstracts (1999), available at <http://www.csa.com/hottopics/aquacult/oview.html>.

33. Weiss, *supra* note 27, at 728. Free trade here refers to no trade barriers, no trade restrictions, and no protectionism. See Driesen, *supra* note 30, at 281.

34. Schoenbaum, *supra* note 28, at 703-04.

35. This inventory of global generic types was developed by the consultancy study on *Study Into the Nature and Extent of Subsidies in the Fisheries Sector of APEC Members Economies* 6-7, available at

ery stocks. As fishing activities take place in the common areas and fish is owned upon capture, the fishermen are not concerned with the costs associated with the depletion of the resource.<sup>36</sup> Sooner or later, the competitiveness of the fishery industry will be adversely affected.<sup>37</sup> While subsidies may enhance economic gain for the fishermen in the short term, their effect on resource depletion of fishery stocks is opposed to the long-term value of sustainable economic growth in terms of increase in productivity and maximization of revenue.<sup>38</sup>

Moreover, marine fish culture may cause water pollution and changes in benthic community structure.<sup>39</sup> The pollution, which results from the economic opportunities of the expansion of such aquaculture activities, is opposed to the competing value of creating a sustainable environment. In the progress from the economic system to the socio-economic system, short-term economic gains for particular fishery communities are assessed in a wider social context. Social goals dictate that government actions are required to control the effects of the negative environmental consequences of these economic activities. Thus, progress is made to the legal system where legislative measures are taken to preserve fishery resources and to maintain public goods.<sup>40</sup> Trade restrictions may be adopted as a policy instrument to enforce environmental standards.<sup>41</sup> In the HKSAR in the early 1990s,<sup>42</sup> however, there simply was no support for environmental protection as the population was more concerned with economic opportunities than environmental enhancement.<sup>43</sup> Hence, it is argued that the ideal state of a sustainable environment in the socio-environment system in the above figure is reached only through the commitment and participation of all societal members. Trade laws may accomplish a framework for carrying out economic activities, yet in the face of conflicting competing values of economic gains and socio-environmental gains, societal

---

<http://www.apecsec.org.sg/loadall.htm?http://www.apecsec.org.sg/workgroup/fish.html>.

36. Stone, *supra* note 5, at 510; Barton H. Thompson, *Tragically Difficult: The Obstacles to Governing the Commons*, 30 ENVTL. L. 241 (2000).

37. *See id.*

38. Stone, *supra* note 5, at 535-36.

39. *Id.* at 534.

40. *See id.*

41. Schoenbaum, *supra* note 28, at 703.

42. Liebman, *supra* note 11, at 237.

43. *Id.* at 240.

and governmental members' value standards and commitment<sup>44</sup> are necessary to complement and influence policy-making.

## 2.1 *The Economic System*

The creation of WTO and the expansion of trade laws have raised the issue of their compatibility with environmental concerns,<sup>45</sup> notably because of the risk of the depletion of fishery resources. The depletion of fishery resource is partly attributed to over-fishing as a result of economic opportunities. The rapid expansion of the fishing fleet is the most important root of the over-fishing problem and fishery subsidies have played an important role in this rapid expansion of the fishing fleet. The Agreement on Subsidies and Countervailing Measures ("SCM Agreement") of the WTO is applicable to fishery subsidies, which fall under the general provisions of the SCM.<sup>46</sup> Under the existing WTO framework, there are a number of precedents in applying the SCM Agreement to fishery products, loans to acquire vessels and low cost loans to salmon farmers.<sup>47</sup> The SCM Agreement (as seen in the Appendix of this paper) cannot reasonably be expected to cover all types of subsidies. For instance, in the fishery sector, the application of the SCM Agreement has to take into account the relevant national policy objectives and environments. A government subsidy does not violate the SCM Agreement unless it adversely affects trade, falls within the definition of Article 1 and is specific to Article 2 of the SCM Agreement.<sup>48</sup> There are three basic elements under this definition, *financial contribution by a government or any public body within the territory of a member which confers a benefit*.<sup>49</sup> Subsidies are

---

44. Man is capable of representing (or transforming) a set of needs as (to) a set of values. See MILTON ROKEACH, *THE NATURE OF HUMAN VALUES* (1973). A person's values are subjective in that they reflect an individual's wants, needs, desires, interests, etc. Commitment entails the individual choosing a goal (based on one's values) and maintaining that choice over time. Mark E. Tubbs & James G. Dahl, *An Empirical Comparison of Self Report and Discrepancy Measures of Goal Commitment*, 76 *J. OF APPLIED PSYCHOL.* 708, 708-16 (1991). Revising or abandoning a substantive commitment necessarily involves a deep assessment of one's self-conception and reflection on the values, and not just the exigency, of the commitment itself. MARCEL L. LIEBERMAN, *COMMITMENT, VALUE AND MORAL REALISM* 83 (1998).

45. Driesen, *supra* note 30, at 283.

46. MATTEO MILAZZO, *SUBSIDIES IN WORLD FISHERIES: A REEXAMINATION* 9-13 (1998).

47. *See id.*

48. *See id.* at app. I.

49. Agreement on Subsidies and Countervailing Measures, art. 1.1(a)(1).

classified into three categories, under the SCM Agreement,<sup>50</sup> “prohibited,” “actionable” and “non-actionable.” The subsidies cover all types of goods and products save agricultural products including fishery products.<sup>51</sup>

The HKSAR Government provides assistance in fish culture techniques and related management problems and in disease preventive measures encountered by fish farmers.<sup>52</sup> In addition, low interest loans are available to fish farmers for development and working capital purposes<sup>53</sup> and an Emergency Relief Fund was set up to aid small-scale fish farmers who are seriously affected by natural disasters.<sup>54</sup> The HKSAR Government also monitors and manages red tide/HAB activities.<sup>55</sup> These subsidies on aquaculture’s services and loans put fish farmers in an advantageous position over competitors in other countries. They would likely fall within the scope of “actionable subsidies,” which can be challenged if they cause certain harm to another member state.<sup>56</sup> The above subsidies fall within the provision of goods and services and are expenditures specific to aquaculture industry.<sup>57</sup> A parallel between these subsidies and those in the 1992 *Norwegian Salmon’s Case* can be drawn.<sup>58</sup> In that case, Norway provided low cost loans to its salmon farmers and the decision of the U.S. International Trade Commission to impose anti-dumping tariffs on imported Norwegian farmed salmon was upheld.<sup>59</sup>

The HKSAR Government also provides loans to fishermen at subsidized interest rates for development and productive pur-

---

50. See *id* at arts. 3, 5, 8.

51. Agreement on Agriculture, art. 13.

52. Hong Kong Agriculture, Fisheries and Conservation Dep’t, *Artificial Reef Programme 2001*, available at <http://www.afcd.gov.hk/fish/ard/webpage/English/index.html>.

53. Laws of Hong Kong, Kadoorie Agriculture Aid Loan Fund Ordinance, ch. 1080.

54. Agriculture, Fisheries and Conservation Dep’t, *Emergency Relief (2001)*, available at [http://www.afcd.gov.hk/web/english/public\\_info/business\\_info/loan/er.htm](http://www.afcd.gov.hk/web/english/public_info/business_info/loan/er.htm).

55. Agriculture, Fisheries and Conservation Dep’t, *Aquaculture Environment (2001)*, available at [http://www.afcd.gov.hk/web/english/fisheries/fish/e\\_aqenv.htm](http://www.afcd.gov.hk/web/english/fisheries/fish/e_aqenv.htm).

56. See *Agreement on Subsidiaries and Countervailing Measures*, app. I, art. 5.

57. See *Agreement on Subsidiaries and Countervailing Measures*, app. I, art. 1.1(iii); GATT Dispute Panel Report, *United States – Imposition of Countervailing Duties on Imports of Chilled Atlantic Salmon from Norway (1992)* (adopted by the Committee on Subsidies and Countervailing Measures), available at [http://www.wto.org/english/tratop\\_e/dispu\\_e/91saladp.wpf](http://www.wto.org/english/tratop_e/dispu_e/91saladp.wpf).

58. *Id.*

59. *Id.*

poses.<sup>60</sup> The loans may be granted for repairing, replacing, or provisioning fishing vessels, gear and equipment and for improving fishing business.<sup>61</sup> A fund was established to finance the building of new modern fishing vessels capable of fishing in distant waters and for upgrading existing vessels for this purpose.<sup>62</sup> In enhancing the competitiveness and efficiency of the fishing sector, the HKSAR Government also provides free technical advisory services to fishermen in constructing and maintaining fishing vessels, using ancillary fishing equipment and providing free issues of fishing vessel drawings.<sup>63</sup> Rather than developing environmentally friendly methods of fishing, these programs improve the efficiency of fish catch in open seas. These subsidies allow fishermen to compete more effectively with other member states resulting in injury to their fishing industry or interests.<sup>64</sup> These programs are direct transfers of funds and services provided by the HKSAR Government which fall squarely within the definition of a subsidy under the SCM Agreement.<sup>65</sup> The issue is whether or not they fall within one of the above three categories of subsidies.

Because the cost of subsidizing the above loan appears to be insignificant relative to the annual fishery products and total loan value,<sup>66</sup> the fishery subsidies in the HKSAR do not fall within the class of "prohibited subsidy" under Articles 3 and 6.1 of the SCM Agreement.<sup>67</sup> Neither do they nullify nor impair the benefits accruing directly or indirectly to another member state or cause serious prejudice to the interests of another member state so as

---

60. Agriculture, Fisheries and Conservation Dep't, *The Fish Marketing Organization Loan Fund* (2001), available at [http://www.afcd.gov.hk/web/english/fisheries/fish/e\\_aqenv.htm](http://www.afcd.gov.hk/web/english/fisheries/fish/e_aqenv.htm). The Fish Marketing Loan Fund was established in 1946 for making short-term loans to fishermen for productive purposes.

61. *Id.*

62. Agriculture, Fisheries and Conservation Dep't, *Fisheries Development Loan Fund* (2001), available at [http://www.afcd.gov.hk/web/index\\_e.htm](http://www.afcd.gov.hk/web/index_e.htm). (The Fisheries Development Loan Fund was created in 1959.)

63. Agriculture, Fisheries and Conservation Dep't, *Fisheries Supporting Services*, (2001), available at <http://www.afcd.gov.hk/web/english/fisheries/fish/support.htm>.

64. ASIA PACIFIC ECONOMIC CO-OPERATION, *STUDY INTO THE NATURE AND EXTENT OF SUBSIDIES IN THE FISHERIES SECTOR OF APEC MEMBERS ECONOMIES* 34 (2000).

65. *See Agreement on Subsidies and Countervailing Measures*, app. I, arts. 1.1(a)(1)(i), (iii).

66. The annual value of fishery products was at HK\$1,525 million in 1999, and total loan value for 1,166 loan was HK\$93 million. *See Hong Kong: Government Information Services Hong Kong: The Fact, Agriculture and Fisheries* (2001).

67. *See Agreement on Subsidies and Countervailing Measures*, app. I, arts. 3, 6.1.

to constitute “actionable subsidy” under the SCM Agreement.<sup>68</sup> They do not even meet any of the conditions that invoke a rebuttal presumption of serious prejudice. In particular, they fall far below the threshold of ad valorem subsidization and are not subsidies to cover operating losses sustained by the fishery sector.<sup>69</sup> However, the concern over fishing capacity may become an issue in the HKSAR, as the estimated yield of fishery products is about 127,780 tons.<sup>70</sup> The environmentally harmful effects of such subsidies cannot be dismissed or taken lightly even though they are at present minimal. These fishery subsidies may eventually result in depletion of fishery stocks and, hence, cause injury to the domestic fishery industry of other member states so as to constitute “actionable subsidy” as well as harming long term economic growth. However, fishery subsidies deal with resources rather than markets and the adverse affect on the markets from depleting resources is difficult to prove.<sup>71</sup>

## 2.2 *The Socio-economic System*

While fishery subsidies may lead to depletion of fish stocks, they do encourage sustainable fisheries and promote environmentally friendly fishing techniques.<sup>72</sup> These subsidies are likely to be challenged under the SCM Agreement. Such subsidies may reshape and revitalize the fishery sector and the coastal communities rather than enhance the depletion in fishery resources and create supply distortion.<sup>73</sup> Artificial reefs encourage the growth and development to many marine organisms, which in turn provide food, shelter and protection for fish.<sup>74</sup> Aquaculture serves to preserve the fishery stocks in the ocean. When fish farmers raise fish through aquaculture, they have an economic incentive to maintain a healthy supply of fish.<sup>75</sup> Therefore, aquaculture is one important solution in maintaining and restoring fish stocks. However, one major environmental issue associated with

---

68. *See id.* at app. I, art. 5.

69. *See id.* at app. I, art. 6.1(a).

70. *Id.*; *see also* HONG KONG: ENVIRONMENTAL RESOURCES MANAGEMENT, FISHERIES RESOURCES AND FISHING OPERATIONS IN HONG KONG WATERS 86-91 (1998).

71. Schorr, *supra* note 3, at 153.

72. *See id.* at 144.

73. *Id.*

74. Agriculture, Fisheries and Conservation Dep't, *Artificial Reefs Programme*, (2001), available at <http://www.afcd.gov.hk/fish/ard/webpage/English/art.htm>.

75. Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243, 1245 (1968); Ronald J. Rychlak, *Ocean Aquaculture*, 8 FORDHAM ENVTL. L.J. 497 (1997).

aquaculture is the possibility of eutrophication<sup>76</sup> of coastal waters and water pollution<sup>77</sup> which is, arguably, detrimental to social health. Accordingly, its sustainability is not guaranteed and may even pose threats to the biodiversity.<sup>78</sup> Under the United Nations Convention on Biological Diversity ("UNCBD"), a signatory state shall, "as far as possible and as appropriate, adopt economically and socially sound measures that act as incentives for the conservation and sustainable use of components of biological diversity."<sup>79</sup> China is a signatory state of the convention.<sup>80</sup> As a special administrative region of China, the HKSAR may be forced to observe the spirit of China's international obligations under the UNCBD even though it has not been enacted into the laws of the HKSAR because this Convention covers all of China.<sup>81</sup> Moreover, there is a presumption that local law would harmonize with an international convention a state has entered.<sup>82</sup> A balance has to be struck, socially and economically, in adopting aquaculture for enhancing sustainable development.

Like in other jurisdictions, aquaculture activities in the HKSAR take place on property held under public trust at common law.<sup>83</sup> In the HKSAR, all marine fish culture operation must be licensed and confined in one of the twenty-six designated zones.<sup>84</sup> The fee payable for the grant or renewal of a license at US\$1 per square meter, however, is nominal and for a specific license is waived.<sup>85</sup> The fee payable or waived may be considered

76. The increase of mineral and organic nutrients in a water body, thereby reducing dissolved oxygen and producing an environment that generally favors plants over animals. See Cambridge Science Abstracts, *Eutrophic*, available at <http://www.csa.com/hottopics/aquacult/glossary/eut.html>.

77. Anderson, *supra* note 32, at 24; Craig Emerson, *Aquaculture Impact on the Environment* (1999), available at <http://www.csa.com/hottopics/aquacult/oview.html>.

78. *Id.*

79. United Nations Convention on Biological Diversity, *Art. 11*, available at <http://www.biodiv.org/convention/articles.asp?lg=0&a=cbd-11>.

80. Convention on Biological Diversity, *Parties to the Convention on Biological Diversity* (2001), available at <http://www.biodiv.org/world/parties.asp>.

81. For discussion, see Liebman, *supra* note 11, at 273.

82. Roda Mushkat, *International Environmental Law: How Green in the Future?*, in *THE NEW LEGAL ORDER OF HONG KONG* 634 (Raymond Wacks ed., 1999).

83. Jose L. Fernandez, *Public Trust, Riparian Rights, and Aquaculture: A storm Brewing in the Ocean State*, 20 WM. & MARY ENVTL. L. & POL'Y. REV. 293 (1996).

84. Laws of Hong Kong, *Marine Fish Culture Ordinance*, ch. 353 §§ 6-7, at 4 (1983); Laws of Hong Kong, *Fish Culture Zone (Designation) Order*, ch. 353B § 5(a), at B1-2 (1983).

85. Laws of Hong Kong, *Marine Fish Culture Regulations*, ch. 353 § 10(1), at A2 (1983). The HKSAR Government may also grant permits for maintaining fish in captivity within the waters of the HKSAR for purposes other than the propagation

as an implicit form of subsidy under the SCM Agreement, as it certainly lowers the operating costs of the fish farmers and puts them in an advantageous position over their competitors in other countries.<sup>86</sup> As the fish farmers pay the nominal fee or sometimes take the resource free, according to the economic principles as practiced in some jurisdictions, the inadequate charge is considered as “government revenue that is otherwise due or is foregone or not collected” under the SCM Agreement.<sup>87</sup> A case can also be made that the HKSAR Government is providing goods and services under the SCM Agreement by waiving the fee.<sup>88</sup> Arguably, the failure by the HKSAR Government to charge the true resource rents, rents charged on using its property, means that its licensing policy is not economically and socially sound.<sup>89</sup>

In addition to regulating marine fish culture in designated areas, the Marine Fish Culture Ordinance empowers the HKSAR Government to impose conditions on the licensees who farm in these areas. Such conditions include the disposal or destruction of any fish within the marine fish culture zone found or suspected to be suffering from infectious disease and the disposal of any noxious or waste matter resulting from the collecting or harvesting of fish.<sup>90</sup> These instructions, if given, form part of the conditions for the grant of the license.<sup>91</sup> However, they do not address the concern of marine biologists with respect to aquaculturally-induced pollution in rearing fish.<sup>92</sup> In protecting the marine fish culture zones, the ordinance prohibits any deposits of chemical or other substance or thing in any place which is likely to injure any fish in any fish culture zone or is likely to pollute the waters in any fish culture zone.<sup>93</sup> There is an economic cost attached in enforcing these provisions, which were specifically enacted to protect fish culture zones. Arguably, the HKSAR Government

---

or promotion of growth of such fish. Laws of Hong Kong, *Marine Fish Culture Ordinance*, ch. 353 § 14(1)(b), at 7 (1983). There is no fee for such permits. Laws of Hong Kong, *Marine Fish Culture Regulations*, ch. 353A § 10(1), at A2 (1983).

86. Stone, *supra* note 5, at 526.

87. *Id.* at 528; see *Agreement on Subsidies and Countervailing Measures*, app. I, art. 1.1(ii).

88. *Id.*

89. *Id.* at 529.

90. Laws of Hong Kong, *Marine Fish Culture Ordinance*, ch. 353 § 10(1) at 5 (1983).

91. *Id.* at § 10(2).

92. Emerson, *supra* note 77.

93. Laws of Hong Kong, *Marine Fish Culture Ordinance*, ch. 353 § 11 at 5 (1983).

should recover socially justifiable expenses from the licensing fees. Failure to do so may be construed as providing "implicit subsidies."

### 2.3 *The Legal System*

It seems that the only way to protect fishery resources is to impose restrictions on entry to fishing, as it would be impossible to regulate the numerous numbers of fishing vessels.<sup>94</sup> These restrictions have proven to be ineffective.<sup>95</sup> However, the elimination of fishery subsidies may alleviate the overcapacity problem of fishing vessels. Furthermore, a number of these subsidies might well violate existing international trade law constituting a failure of both economic and environmental policy.<sup>96</sup> It is considered that international trade law should be applied aggressively in preventing the further decline in fishery stocks.<sup>97</sup>

Trade restrictions may be adopted as a policy instrument in enforcing environmental standards and controlling environmentally harmful products and waste. A nation state may enter into a MEA which would be enacted into the domestic law of the state. China may impose its international obligation into the HKSAR by following the requisite procedures under the Basic Law. Sound environmental standards promote economic efficiency, as they would make good the environment defects which distort the international trading system.<sup>98</sup> Society has borne the burden of poor environmental policy, for example, in health and welfare. A nation state may use trade restrictions to enforce international environmental standards. The Montreal Protocol and the Basel Convention are MEAs which control the trading and transporting of prohibited or hazardous substances for the protection of the environment. Although there are only relatively few such MEAs with trade implications, some of them have been proven to be successful in protecting the environment by taking trade measures.<sup>99</sup>

---

94. Stone, *supra* note 5, at 510. Barton H. Thompson, *Tragically Difficult: The Obstacles to Governing the Commons*, 30 ENVTL. L. 241 (2000).

95. *Id.*

96. Sampson & Chambers, *supra* note 3, at 12.

97. Stone, *supra* note 5, at 506.

98. Schoenbaum, *supra* note 28, at 703.

99. Tania Voon, *Sizing up the WTO: Trade-Environment Conflict and the Kyoto Protocol*, 10 FLA. ST. J. TRANSNAT'L L. & POL'Y 71, 76 (2000). Driesen, *supra* note 30, at 321.

Although an individual country may impose its own domestic law to protect the environment, insofar as the domestic law restricts trade, it runs the risk of being challenged under the WTO Agreement. There is a potential source of conflict between SCM Agreement and international environmental agreements, which encourages subsidies to enhance a sustainable environment. The general exceptions provision of the General Agreement on Tariffs and Trade ("GATT"), the predecessor of WTO, provides a general defense if the subsidies relate to the conservation of exhaustible natural resources.<sup>100</sup> As the dispute settlement process under the SCM Agreement adopts the GATT provisions, this general exception provision is implied into the SCM Agreement.<sup>101</sup> Some scholars, however, are still concerned with which direction the WTO would take.<sup>102</sup> The following two cases illustrate the issues.

The 1991 Tuna/Dolphin Dispute reflects the reluctance of GATT rules to allow one member state to take trade action for the purpose of attempting to enforce its own domestic laws (rather than to honor its international obligations) in another country.<sup>103</sup> It is immaterial whether the intention is to protect exhaustible natural resources.<sup>104</sup> In the 1998 Shrimp/Turtle's Case,<sup>105</sup> the WTO Appellate Body held that trade should not be impeded by efforts to enforce domestic environmental law. The decision was made not because the complained member state, the U.S., sought to protect the environment, but because it discriminated between WTO members by offering concessions only to some.<sup>106</sup> Contrary to the opinion of some,<sup>107</sup> the Appellate Body made it clear that a member state has the right to invoke domestic law to protect the environment provided certain criteria

---

100. See *General Agreement on Trade and Tariffs*, art. XX(g).

101. See *Agreement on Subsidies and Countervailing Measures*, app. I, art. 30.

102. Voon, *supra* note 98, at 78-79. Driesen, *supra* note 29, at 285, 307.

103. World Trade Organization, *Mexico etc. v. U.S.: 'Tuna-Dolphin'*, (1991), available at [http://www.wto.org/english/tratop\\_e/envir\\_e/edis04\\_e.htm](http://www.wto.org/english/tratop_e/envir_e/edis04_e.htm). (The Panel's report was not adopted in this case. Therefore, it does not set a precedent.)

104. *Id.*

105. World Trade Organization, *United States – Import Prohibition of Certain Shrimps and Shrimp Products AB-1998-4* (1998), available at [http://www.wto.org/english/tratop\\_e/dispu\\_e/58abr.doc](http://www.wto.org/english/tratop_e/dispu_e/58abr.doc).

106. *Id.* at 75-76.

107. Driesen, *supra* note 30, at 285, 307.

such as non-discrimination were met<sup>108</sup> — a general defense provision under WTO trade rules.<sup>109</sup>

In the case of disputes over subsidies, the remedies available under the SCM Agreement include consultations with the aim of achieving a mutually agreed solution.<sup>110</sup> Disputes, which are not resolved, are to be settled by the Dispute Settlement Body, which can be appealed to the Appellate Body (“DSB”).<sup>111</sup> If successfully challenged, the determination of the DSB can be enforced through countermeasures taken by the complaining member state.<sup>112</sup> The WTO process is time consuming and is expensive to challenge. A dispute often settles on political and diplomatic fronts. The obligatory reporting requirement on subsidies under the SCM Agreement is more of an honor system, as it relies on the member state to notify the WTO of all subsidies, including non-actionable ones.<sup>113</sup> The transparency in national subsidies is of critical importance in enforcing the Agreement.<sup>114</sup> The HKSAR Government, however, does not have an impressive record of competent reporting to international organizations.<sup>115</sup> From the above analysis, the fishery subsidies practiced in the HKSAR would be difficult to challenge under the SCM Agreement. Nevertheless, although international law is not normally enforceable, countermeasures under international trade law may be an effective mechanism in enforcing compliance.

At common law, the making of a treaty is an act of State and once international obligations of the state are translated into domestic law, they will become part of the law of the land.<sup>116</sup> However, for such domestic law to be incorporated into the law of the HKSAR, the procedures under the Basic Law have to be followed even though the CPG is responsible for the external affairs

---

108. World Trade Organization, *supra* note 105, at 75.

109. *See General Agreement on Trade and Tariffs*, art. XX(g).

110. Agreement on Subsidies and Countervailing Measures, arts. 4, 7.

111. *Id.*

112. Agreement on Subsidies and Countervailing Measures, arts. 4.10, 7.9.

113. Agreement on Subsidies and Countervailing Measures, art. 25.1.

114. Schorr, *supra* note 3, at 156.

115. In its report to an APEC study, the HKSAR Government only reported two fishery subsidies, i.e. the Kadoorie Agricultural Aid Loan Fund and the Artificial Reef Project. *See Study into the Nature and Extent of Subsidies in the Fisheries Sector of APEC Members Economies*, *supra* note 34, at 28-31.

116. *See, e.g., Attorney-General (Canada) v. Attorney-General (Ontario)* A.C. 326, 347 (1937); *Walker v. Baird* [1892] A.C. 491, 497 (1892).

of the HKSAR.<sup>117</sup> The making of an international agreement on any matter would trigger the external affairs power of the state.<sup>118</sup> During the colonial era, the external affairs of Hong Kong were decided by the British Government. Not all environmental agreements entered into by the United Kingdom were applied to Hong Kong.<sup>119</sup> On the other hand, China has been actively participating in international environmental agreements.<sup>120</sup> Two examples are the Climate Change and Biodiversity Conventions, which were entered into by both China and the United Kingdom. The then colonial administration opted out from these conventions in relation to Hong Kong invoking the unique position of Hong Kong after China resumed exercise of sovereignty over it.<sup>121</sup> It was not until an agreement was reached with the Chinese Government that thirteen MEAs dealing with water pollution and conservation would continue to be applied to Hong Kong.<sup>122</sup> Accordingly, the Montreal Protocol and the Basel Convention were applied to the HKSAR after June 30, 1997.<sup>123</sup>

Air temperature and pollution can adversely affect the environment and a sustainable fishery resource. The emissions of certain substances can significantly deplete and change the ozone layer in a manner that will result in adverse effects on human health and the environment. The Montreal Protocol was intended to address this problem. In implementing its obligations to the Montreal Protocol, the HKSAR enacted the Ozone Layer Protection Ordinance.<sup>124</sup> The Ordinance prohibits the manufac-

---

117. National laws shall not be applied in the Hong Kong Special Administrative Region except for those listed in Annex III to this Law. The laws listed therein shall be applied locally by way of promulgation or legislation by the Region. The Standing Committee of the National People's Congress may add to or delete from the list of laws in Annex III after consulting its Committee for the Basic Law of the Hong Kong Special Administrative Region and the government of the Region. Laws listed in Annex III to this Law shall be confined to those relating to defence and foreign affairs as well as other matters outside the limits of the autonomy of the Region as specified by this Law.

Basic Law of the Hong Kong Special Administrative Region, art. 18.

118. *Commonwealth v. State of Tasmania*, 158 C.L.R. 1 (1983); *Richardson v. Forestry Commission (Lemonthyme and Southern Forests)*, 164 C.L.R. 261 (1988).

119. *LIEBMAN*, *supra* note 11, at 245.

120. *Id.* at 244.

121. *Id.* at 257

122. *Id.* at 257 n.75; Hong Kong Constitutional Affairs Bureau, *The Joint Declaration and its Implementation* (2001), available at <http://www.info.gov.hk/cab/topical/index.htm>.

123. Hong Kong Dep't of Justice, *Multilateral International Agreements* (2001), available at <http://www.justice.gov.hk/multi1.htm>.

124. *Laws of Hong Kong*, ch. 403.

ture of, controls the importation and exportation and conserves the resources of, substances that deplete the ozone layer and of products containing or made with those substances.<sup>125</sup> Under the Protocol, a signatory state shall ban the import of the controlled substances as provided from any state not party to the Protocol.<sup>126</sup> It further provides that each signatory state shall ban the export of any controlled substances as specified to any state not party to the Protocol.<sup>127</sup> A signatory state shall also determine the feasibility of banning or restricting, from states not party to the Protocol, the import of products produced with, but not containing, controlled substances as specified.<sup>128</sup> The Protocol, however, does not impose these trade restrictions on exports and imports between signatory states.<sup>129</sup> This is an air-related law, in addition to the Air Pollution Control Ordinance.<sup>130</sup> The breaches of the relevant provisions of the Ordinance may entail a civil penalty as well as up to two years of imprisonment.<sup>131</sup>

The Waste Disposal Ordinance<sup>132</sup> was enacted in 1980 to control and regulate the production, storage, collection and disposal of any types of waste. It covers treatment, reprocessing and recycling of waste in protecting the public from harms arising from such waste. The use of land or premises for disposal of waste is also restricted to licensed persons.<sup>133</sup> Any unauthorized disposal of waste in a public place, on government land, or on any other land without the consent of the owner or occupier is banned.<sup>134</sup> Civil penalties are imposed in addition to two years imprisonment for breach of these provisions of the Ordinance.<sup>135</sup> The Ordinance was amended in 1995 with trade law implications in fulfilling the HKSAR's MEA. The amendment intends "to enable permit control on import and export of waste in line with the requirements under the Basel Convention."<sup>136</sup> This amend-

---

125. Laws of Hong Kong, Preamble, *Ozone Layer Protection Ordinance*, Ch. 403.

126. U.N. Environment Program, Art. 4(1), *The Montreal Protocol on Substances that Deplete the Ozone Layer*, art. 4.1 (2000), available at [http://www.unep.org/ozone/Montreal-Protocol/Montreal-Protocol2000.shtml#\\_Toc483027797](http://www.unep.org/ozone/Montreal-Protocol/Montreal-Protocol2000.shtml#_Toc483027797).

127. *Id.* at art. 4.2.

128. *Id.* at art. 4.4.

129. SCHOENBAUM, *supra* note 28, at 719.

130. Laws of Hong Kong, ch. 311.

131. Laws of Hong Kong, Waste Disposal Ordinance, ch. 354, §§ 3-4. .

132. Laws of Hong Kong, ch. 354.

133. Laws of Hong Kong, Waste Disposal Ordinance, ch. 354, § 16(1).

134. Laws of Hong Kong, Waste Disposal Ordinance, ch. 354, § 16A(1).

135. Laws of Hong Kong, Waste Disposal Ordinance, ch. 354, §§ 18(1), 20E.

136. Hong Kong Environmental Protection Dep't, Environmental Protection in Hong Kong (2001), available at <http://www.info.gov.hk/epd/epinhk/index.html>.

ment sets out to control the import and export of waste and shipments of hazardous waste from other countries in the HKSAR.<sup>137</sup>

The Water Pollution Control Ordinance was enacted to control the pollution of territorial waters of the HKSAR. At present, twelve major water control zones have been declared under the Ordinance.<sup>138</sup> Each of these zones has its water quality objective statement.<sup>139</sup> The achievements of these objectives would promote the conservation and best use of the water zone in providing a sustainable marine fish culture environment. For example, the Tolo Harbour and Channel Water Control Zone was declared.<sup>140</sup> Accordingly, a water quality objective statement was made.<sup>141</sup> The statement covers and regulates aesthetic appearance, bacteria, chlorophyll-a level, dissolved oxygen level, light penetration, salinity, settleable material, temperature, and toxicants. It specifically gives protection to designated marine fish culture sub-zones from being polluted with high bacteria levels.<sup>142</sup> The Ordinance sets out to prohibit all discharges into the territorial waters of the HKSAR in a water control zone through a complex licensing control.<sup>143</sup> The maximum penalty of US\$51,300 fine for a repeated offender in dumping polluting materials is so mild for corporate violators that it might be considered a business opportunity cost.<sup>144</sup> However, discharging poisonous or noxious matter into a communal sewer or communal drain may entail the maximum penalty of US\$128,200 fine and two years imprisonment.<sup>145</sup>

Supplementing the above Ordinance in enhancing a viable environment for fish culture, the Dumping at Sea Ordinance was enacted to control the disposal of substances and articles at sea and the dumping of substances and articles in the sea and under

---

137. Laws of Hong Kong, Waste Disposal Ordinance, ch. 354, pt. IVA.

138. Laws of Hong Kong, Water Pollution Control Ordinance, ch. 358, § 4.

139. Laws of Hong Kong, Water Pollution Control Ordinance, ch. 358, § 5(1).

140. Laws of Hong Kong, Water Pollution Control Ordinance Tolo Harbour and Channel Control Zone, ch. 358A, para. 2.

141. Laws of Hong Kong, Water Pollution Control Ordinance Tolo Harbour and Channel Control Zone Statement of Water Quality Objectives, ch. 358A, para. 2.

142. Laws of Hong Kong, Fish Culture Zone (Designation) Order, ch. 3353; Laws of Hong Kong, Water Pollution Control Ordinance, ch. 358, § 8(1)(a).

143. As to poisonous or noxious matter, the prohibition is over the entire territorial water of the HKSAR. See Laws of Hong Kong, Water Pollution Control Ordinance, §§ 8, 9, 15, 20.

144. Laws of Hong Kong, Water Pollution Control Ordinance, ch. 358 § 11(1).

145. Laws of Hong Kong, Water Pollution Control Ordinance, ch. 358 § 11(2).

the seabed. This Ordinance implements the provisions of the London Convention in preventing damage to the marine environment from dumping waste in the water.<sup>146</sup> Under the Ordinance, an area may be designated within the HKSAR waters as a marine dumping area.<sup>147</sup> In making this decision, the need to protect the marine environment, the living resources that it supports, the need to prevent interference with other legitimate uses of the sea and the proposed quantity and type of material to be dumped have to be considered. A permit must first be obtained before dumping any substances or articles within the territorial waters of the HKSAR, whether in the sea or under the seabed.<sup>148</sup> Before a permit is issued, regard has to be made to the above considerations in designating a marine dumping area.<sup>149</sup> The penalty for breach of the provisions in the Ordinance carries a maximum fine of US\$64,100 and two years imprisonment with additional penalty for continuous violation.<sup>150</sup>

The HKSAR regulates the ozone layer, waste disposal and water pollution under international obligations and domestic law. However, the pollution boundary between the HKSAR and the rest of China is blurred.<sup>151</sup> Therefore, any international agreement on the environment would inevitably have to be made at the national level. In this era of globalization, nation states are losing their powers in ensuring their own sustainable environment.<sup>152</sup> Environmental harm in one country often comes from overseas jurisdictions. There is no question that the environmental standards of the rest of China will affect the HKSAR. Accordingly, environmental cooperation between the HKSAR and its neighboring jurisdictions is essential.<sup>153</sup> The HKSAR is directly influenced from the quality of air and water pollution from its neighboring province with China.<sup>154</sup> More importantly, busi-

---

146. Hong Kong Environmental Protection Dep't, *Legislation and Pollution Control* (2001), available at <http://www.info.gov.hk/epd/epinhk/index.html#control>.

147. Laws of Hong Kong, *Dumping at Sea Ordinance*, ch. 466, § 7(1).

148. *Id.* § 8(1).

149. *Id.* § 10.

150. *Id.* § 25(1).

151. L. Royce, *The Basic Law of Hong Kong and Its Effects on the Environment*, 9 CURRENTS INT'L TRADE L.J. 55, 62 (2000); Liebman, *supra* note 11, at 283-87.

152. David M. Driesen, *What is Free Trade?: The Real Issue Lurking Behind the Trade and Environment Debate*, 41 VA. J. INT'L L. 279, 303 (2001).

153. Liebman, *supra* note 11, at 283-87; Press Release from Hong Kong: Government Information Services, *Statement on Cross-Boundary Environmental Issues* (Oct. 6, 1999), available at <http://www.info.gov.hk/gia/general/199910/06/1006158.htm>.

154. Liebman, *supra* note 11, at 241.

nesses may take advantage of the weaker environmental law by relocating to the rest of China.<sup>155</sup> As environmental effect is a global issue, one jurisdiction should not take advantage of environmental arbitrage in trade and investment.<sup>156</sup> On a positive note, on January 12, 2002, the Beijing Government decided to inject US\$8.5 billion in implementing its tenth five-year plan to mitigate the danger of pollution, curb deterioration of the ecological environment, and enable urban and rural residents to live in a cleaner environment.<sup>157</sup> It had previously announced that international environmental standards would be adopted in conformity with WTO rules.<sup>158</sup>

#### 2.4 *The Socio-environmental System*

The intention of international trade law is to eliminate trade barriers in promoting global competitiveness. It has been pointed out that competitiveness has an intergenerational dimension, and, accordingly, trade practices, which are not environmentally sustainable, will affect future competitiveness.<sup>159</sup> Environmental sustainability and free trade complement each other. Environmental protection and free trade are, therefore, essential to overall well being.<sup>160</sup>

The WTO has been considering the positive relationship between liberalization of trade and enhancement of the environment.<sup>161</sup> Rather than destroying the environment, free trade fosters non-discriminatory standards of environmental protection. Accordingly, international environmental protection law is essential in ensuring a sustainable environment.

The underlying rationale behind the SCM agreement is that subsidies can be an indirect barrier to trade. The liberalization of trade will eventually result in the efficient allocation of re-

---

155. *Id.*

156. Schoenbaum, *supra* note 28, at 701 n.6.

157. PEOPLE' DAILY (Beijing) (Jan. 13, 2002).

158. "The international system for environmental protection -ISO14000 - will be an important instrument for China to do international trade after it enters the World Trade Organization (WTO), the ISO 14000 is a key solution to environmental requirements as one of the leading non-tariff barriers in international trade." PEOPLE' DAILY (Beijing) (Nov. 26, 2001).

159. Weiss, *supra* note 27, at 728 n2.

160. Schoenbaum, *supra* note 28, at 702.

161. *Id.* The principal forum for discussing these issues in the WTO is the CTE, which consists of all WTO members. See [http://www.wto.org/english/tratop\\_e/envir\\_e/envir\\_e.htm](http://www.wto.org/english/tratop_e/envir_e/envir_e.htm).

sources.<sup>162</sup> As trade restrictions per se are market distortions, the converse will lead to relatively efficient pricing.<sup>163</sup> The upshot is that there will be growth of real income.<sup>164</sup> Consequently, additional resources can be released to support social as well as environmental enhancement programs. The liberalization of trade will also lead to social benefit, notably, the increase of environmental friendly goods and services in the market.<sup>165</sup>

As a result of the awakening to the importance of environmental sustainability, the HKSAR Government has implemented an artificial reef program since 1996 to enhance fisheries and promote bio-diversity in the HKSAR's marine environment.<sup>166</sup> The major objectives of this program are to enhance marine resources and habitat quality over flat seabed, rehabilitate degraded habitats, and protect spawning and nursery grounds.<sup>167</sup> It also serves to protect the environment by recycling wasted products. Artificial reefs are more properly considered as infrastructure, which is excluded from the definition of a subsidy.<sup>168</sup> Even if not considered as infrastructure, they are neither goods nor services under the SCM Agreement according to rules of statutory construction.<sup>169</sup> Moreover, such expenditures are not specific to any enterprise or industry that might attract the jurisdiction of SCM Agreement, although it may be argued that they specifically benefit the fishery sector.<sup>170</sup> This program should reshape and revitalize the fishery industry and the coastal communities rather than enhance the depletion of fishery resources and create supply distortion.

In the long term, societal and governmental commitments are essential to sustain the drive towards creating and maintaining socially and economically desirable environmental policies. Com-

---

162. SAMPSON, *supra* note 6, at 50.

163. *Id.*

164. *Id.*

165. *Id.*

166. *Aquaculture Environment* (Hong Kong: Agriculture, Fisheries and Conservation Department, 2001), available at [http://www.afcd.gov.hk/web/english/fisheries/fish/e\\_aqenv.htm](http://www.afcd.gov.hk/web/english/fisheries/fish/e_aqenv.htm).

167. *Id.*; This program involves the deployment of about 150 artificial reefs constructed from 93 cubic meters of prefabricated concrete blocks, used car tires, old boats and quarry rocks. See Asia Pacific Economic Co-operation, *Study Into the Nature and Extent of Subsidies in the Fisheries Sector of APEC Members Economies* (Dec. 10, 2000), app. A, 30.

168. Agreement on Subsidies and Countervailing Measures, art. 1.1(a)(1)(iii).

169. Stone, *supra* note 5, at 524.

170. Agreement on Subsidies and Countervailing Measures, art. 2.1.

commitments are essential to sustaining policies, as policies and commitments might be thought of, respectively, as the accidental and essential features of the subject matter,<sup>171</sup> environmental protection. The difference between commitments and policies might best be described with a spatial metaphor: substantive commitments lie nearer the center of who the government is (and what their values are), while policies are found at the periphery.<sup>172</sup> While the failure to act on the commitment occasions a further reassessment of one's values (e.g. is environmental protection a worthwhile course?), the reconsideration of the policy does not necessarily reverberate to the center of the issue – the worthiness of environmental protection. What underwrites the stability of commitment is the stability or continuity of the government and society's belief in environmental sustainability.

### 3.

#### TOWARDS A SUSTAINABLE ENVIRONMENT: THE PROBLEMS

The fundamental principle underlying the invoking of international trade law to protect fishery resources is enhancing a sustainable environment. At the same time, measures taken to preserve fishery resources must also maintain public goods.<sup>173</sup> According to some scholars, public goods include sound conservation and pollution framework, improvement of fishing grounds and construction of artificial reefs.<sup>174</sup> As discussed, marine fish culture may cause water pollution and changes in benthic community structure.<sup>175</sup> The HKSAR Government should, therefore, re-consider its aquacultural policy unless new scientific evidence to the contrary is produced and its environmental sustainability is assured. Even if the HKSAR Government may justify its expenditures on artificial reef program, there is no reason why it cannot impose resource rents on the beneficiaries of the artificial reefs. The reality is that fishery subsidies in the HKSAR would lead to quicker depletion of fishery resources and it is uncertain that fishery subsidies in aquaculture will preserve public goods.

---

171. MARCEL S. LIEBERMAN, COMMITMENT, VALUES AND MORAL REALISM 83 (1998).

172. *Id.*

173. Stone, *supra* note 5, at 534.

174. *Id.*

175. See ANDERSSON, *supra* note 32, at 24; Emerson, *supra* note 32.

Therefore, it is postulated in the above figure that the attainment of the long-term goal of environmental sustainability is currently dependent on the effectiveness of implementing appropriate trade restrictions and environmental protection legislation in the legal system.

There are a few pieces of environment protection legislation which will increase transaction costs to trade. Critics allege that, as a result, they will make the HKSAR less competitive. Without such legislation, the environmental pollution in the HKSAR will spill over to its neighboring jurisdictions and, consequently, it will add health and social costs to the HKSAR as well as its neighboring jurisdictions. Thus, it will distort fair-trading. The most important pieces of legislation are the Water Pollution Control Ordinance<sup>176</sup> and the Dumping at Sea Ordinance.<sup>177</sup> The first ordinance is domestic legislation and is intended to control the quality of waters within the boundary of the HKSAR. The second ordinance is enacted to implement the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter ("London Convention"). Water pollution is the major cause of fishery disaster. The quality of surrounding waters in the HKSAR has a vital role to play in the sustainable development of the entire region.

The international obligations of the HKSAR in environmental protection are undermined by the sympathy of the prosecution and the judicial system towards environmental offenders. Although two years of imprisonment may be imposed for breach of the Ozone Layer Protection Ordinance, no offender has yet been imprisoned.<sup>178</sup> As to the Waste Disposal Ordinance,<sup>179</sup> only one custodial sentence has been imposed so far – for 14 days.<sup>179</sup> The average fine meted out for breach of the former Ordinance was US\$1,300<sup>180</sup> and for breach of the latter Ordinance was US\$1,070.<sup>181</sup> These would be opportunity costs in running a business which most offenders are happy to bear. The average fines

---

176. Laws of Hong Kong, ch. 358.

177. Laws of Hong Kong, ch. 466.

178. HONG KONG ENVIRONMENTAL PROTECTION DEP'T, ANNUAL REPORT 2001, *Enforcement*, (2001), available at [http://www.info.gov.hk/epd/ehk01/flash/enforcement/resource\\_enfor2.html](http://www.info.gov.hk/epd/ehk01/flash/enforcement/resource_enfor2.html).

179. *Id.*

180. *Id.* at [http://www.info.gov.hk/epd/ehk01/flash/enforcement/resource\\_enfor3.html](http://www.info.gov.hk/epd/ehk01/flash/enforcement/resource_enfor3.html).

181. *Id.* at

[http://www.info.gov.hk/epd/ehk01/flash/enforcement/resource\\_enfor6.html](http://www.info.gov.hk/epd/ehk01/flash/enforcement/resource_enfor6.html).

imposed hardly compensate the victim, society at large, and pay for the cost of enforcement.

The forms of complex pollution control licensing system inevitably increase transaction costs in running a business. Economists, however, argue that the firms will eventually find an efficient means of reducing their pollution.<sup>182</sup> So far, only suspended sentences have been imposed for breach of the above Ordinances.<sup>183</sup> The average fine meted out for violating the Water Pollution Control Ordinance in 2000 was US\$2,400. The average fine meted out for violating the Dumping at Sea Ordinance was US\$1,300.<sup>184</sup> The HKSAR Government admitted that enforcing anti-pollution laws is a frustrating task as some offenders treat penalty as a cost of doing business and some do their polluting in the dead of night, making detection difficult.<sup>185</sup> The fundamental problem is that the penalty is inadequate to deter offenders. The provisions of the above Ordinances do not extend to waters outside the HKSAR. As polluting materials freely flow from one water zone to another, these provisions will have a limited effect unless coordinated regulatory controls are implemented by other relevant jurisdictions.

#### 4. Conclusion

This paper analyses the effect of international trade laws on environmental protection in the HKSAR based on a model of competing values in the development of aquaculture policies. The competing values in the model are short term (exploitation) versus long term (sustainability of resources), flexibility (free trade) versus control (trade laws), subsidies versus sustainable economic growth and trade expansion versus sustainable environmental development.

At present, because the awareness and concern for environmental issues are not paramount in the HKSAR, trade restrictions and environmental protection legislation becomes the

---

182. L. Zuckerman & W. Beckerman, *Techniques of Regulation*, in READINGS IN THE ECONOMICS OF LAW AND REGULATION 255 (A. Ogus & C. Veljanovski, eds., 1984).

183. HONG KONG ENVIRONMENTAL PROTECTION DEP'T, ANNUAL REPORT 2001, *Enforcement*, (2001), available at [http://www.info.gov.hk/epd/ehk01/flash/enforcement/resource\\_enfor2.html](http://www.info.gov.hk/epd/ehk01/flash/enforcement/resource_enfor2.html).

184. *Id.*

185. See HONG KONG ENVIRONMENTAL PROTECTION DEP'T, ANNUAL REPORT 2001, *Enforcement*, (2001), available at [http://www.info.gov.hk/epd/ehk01/flash/enforcement/team\\_effort.html](http://www.info.gov.hk/epd/ehk01/flash/enforcement/team_effort.html).

immediately available measures to ensure that society is moving towards a sustainable environment. The HKSAR may be regarded as a developed economy with a third world environment.<sup>186</sup> These measures help to focus attention on sustainability initiatives and include various pollution control ordinances, such as the Water Pollution Control Ordinance<sup>187</sup> and international agreements, such as the Agreement on Subsidies and Countervailing Measures.<sup>188</sup> The HKSAR's artificial reef program<sup>189</sup> may be considered one such positive initiative.

The appropriateness of laws and regulations depends as much on individual/societal judgment as on whether an acceptable balance has been struck amongst the various competing values in the socio-economic context – social versus economic benefits. While in the short term, the economic gain may point to an external focus on resources, such as the increase of fishery stocks and its exploitation for the benefit of the fishery community, long-term environmental sustainability entails an internal focus on one's value system<sup>190</sup> which involves societal and governmental members' beliefs and, hence, commitment towards achieving their desired end state of a sustainable environment. Therefore, it is postulated that the progress to a sustainable environment in the socio-environment system is enhanced, in the short term, by implementing appropriate legislation developed in the legal system and, in the long term, through commitment and participation of society and government.

---

186. See Liebman, *supra* note 10, at 239-40; Royee, *supra* note 150, at 55; The Air Pollution Indexes across all districts in the HKSAR range from medium to high by international standards with three districts rated high, i.e. possible long term health effect. See Hong Kong Environmental Protection Dep't, Air Pollution Index, *available at* <http://www.epd-asg.gov.hk/e/api/current/currentf.htm>.

187. Laws of Hong Kong, ch. 358.

188. See app. 1.

189. *Artificial Reefs Programme*, *supra* note 74.

190. Value is a "conception (cognitive) of the desirable (affective) that influences the selection (conative) from available modes, means and ends of action". C. Kluckhohn, *Values and Value-Orientations in the Theory of Action*, in *TOWARD A GENERAL THEORY OF ACTION* 395, (Talcot Parsons & Edward A. Shils eds., 1959). Value is a belief that consists of affective, cognitive and behavioural components; ROKEACH, *supra* note 44. Desirable value involves a combination of affective and cognitive components, while desired value is an affective component only. See Kluckhohn *supra* note 190, at 400. The transformation of value from desired to desirable is a rational process including value systems and norms.

## APPENDIX I

*Agreement on Subsidies and Countervailing Measures*

The Agreement on Subsidies and Countervailing Measures (“the SCM Agreement”) expressly prohibits subsidies. It spells out detailed provisions in deciding whether or not a product is considered as a subsidy and the mechanism in resolving disputes. Article 1 of the SCM Agreement provides a definition of a subsidy as follows:

1.1 For the purpose of this Agreement, a subsidy shall be deemed to exist if:

(a)(1) there is a financial contribution by a government or any public body within the territory of a Member (referred to in this Agreement as “government”), i.e. where:

- (i) a government practice involves a direct transfer of funds (e.g. grants, loans, and equity infusion), potential direct transfers of funds or liabilities (e.g. loan guarantees);
- (ii) government revenue that is otherwise due is foregone or not collected (e.g. fiscal incentives such as tax credits)<sup>191</sup>;
- (iii) a government provides goods or services other than general infrastructure, or purchases goods;
- (iv) a government makes payments to a funding mechanism, or entrusts or directs a private body to carry out one or more of the type of functions illustrated in (i) to (iii) above which would normally be vested in the government and the practice, in no real sense, differs from practices normally followed by governments;

or

(a)(2) there is any form of income or price support in the sense of Article XVI of GATT 1994;

and

(b) a benefit is thereby conferred.

---

191. In accordance with the provisions of Article XVI of GATT 1994 (Note to Article XVI) and the provisions of Annexes I through III of this Agreement, the exemption of an exported product from duties or taxes borne by the like product when destined for domestic consumption, or the remission of such duties or taxes in amounts not in excess of those which have accrued, shall not be deemed to be a subsidy.

1.2 A subsidy as defined in paragraph 1 shall be subject to the provisions of Part II or shall be subject to the provisions of Part III or V only if such a subsidy is specific in accordance with the provisions of Article 2.

A subsidy is covered by the SCM Agreement only if it is specific to an enterprise or industry or group of enterprises or industries as provided by Article 2.1 of the SCM Agreement:

2.1 In order to determine whether a subsidy, as defined in paragraph 1 of Article 1, is specific to an enterprise or industry or group of enterprises or industries (referred to in this Agreement as "certain enterprises") within the jurisdiction of the granting authority, the following principles shall apply:

- (a) Where the granting authority, or the legislation pursuant to which the granting authority operates, explicitly limits access to a subsidy to certain enterprises, such subsidy shall be specific.
- (b) Where the granting authority, or the legislation pursuant to which the granting authority operates, establishes objective criteria or conditions<sup>192</sup> governing the eligibility for, and the amount of, a subsidy, specificity shall not exist, provided that the eligibility is automatic and that such criteria and conditions are strictly adhered to. The criteria or conditions must be clearly spelled out in law, regulation, or other official document, so as to be capable of verification.
- (c) If, notwithstanding any appearance of non-specificity resulting from the application of the principles laid down in subparagraphs (a) and (b), there are reasons to believe that the subsidy may in fact be specific, other factors may be considered. Such factors are: use of a subsidy programme by a limited number of certain enterprises, predominant use by certain enterprises, the granting of disproportionately large amounts of subsidy to certain enterprises, and the manner in which discretion has been exercised by the granting authority in the

---

192. Objective criteria or conditions, as used herein, mean criteria or conditions which are neutral, which do not favour certain enterprises over others, and which are economic in nature and horizontal in application, such as number of employees or size of enterprise.

decision to grant a subsidy.<sup>193</sup> In applying this subparagraph, account shall be taken of the extent of diversification of economic activities within the jurisdiction of the granting authority, as well as of the length of time during which the subsidy programme has been in operation.

According to the guidelines as provided by Article 14(b) of the SCM Agreement:

a loan by a government shall not be considered as conferring a benefit, unless there is a difference between the amount that the firm receiving the loan pays on the government loan and the amount the firm would pay on a comparable commercial loan which the firm could actually obtain on the market. In this case the benefit shall be the difference between these two amounts;

The fundamental principle under the SCM Agreement is that a subsidy distorts the allocation of resources within an economy. Therefore, it should be challenged.<sup>194</sup> However, when a subsidy is universally available within an economy, such distortion is presumed to be absent.<sup>195</sup> Accordingly, only “specific subsidies” are covered by the SCM Agreement. There are four categories of specificity under the SCM Agreement, i.e. (i) an enterprise where a particular company or companies are targeted for subsidization; (ii) industry where a particular sector or sectors are targeted for subsidization; (iii) regional, where certain enterprises within a geographical region are targeted for subsidization; and (iv) prohibited subsidies.<sup>196</sup> The onus is on the member state challenging the subsidy of another state to prove that the existence of the specificity.<sup>197</sup>

The SCM Agreement expressly prohibits subsidies that would distort international trade and, hence, result in harming other member states. A “prohibited subsidy” is defined by Article 3.1 of the SCM Agreement as:

---

193. In this regard, in particular, information on the frequency with which applications for a subsidy are refused or approved and the reasons for such decisions shall be considered.

194. *Subsidies and Countervailing Measures: Overview* (Geneva: World Trade Organization, 2001), 3.

195. *Id.*

196. Agreement on Subsidies and Countervailing Measures, arts. 2.1, 2.2, 2.3.

197. Agreement on Subsidies and Countervailing Measures, art. 2.4. Any determination of specificity under the provisions of this Article shall be clearly substantiated on the basis of positive evidence.

3.1 Except as provided in the Agreement on Agriculture, the following subsidies, within the meaning of Article 1, shall be prohibited:

- (a) subsidies contingent, in law or in fact<sup>198</sup>, whether solely or as one of several other conditions, upon export performance, including those illustrated in Annex I<sup>199</sup>;
- (b) subsidies contingent, whether solely or as one of several other conditions, upon the use of domestic over imported goods.

These prohibited subsidies normally require the beneficiaries to meet certain export targets or to promote domestic goods to the prejudice of imported goods. A subsidy is prohibited because it is inconsistent with the objectives of the WTO. As such, the adverse trade effect of such subsidy is presumed. However, for a subsidy other than a prohibited subsidy, the member state, which wishes to challenge it, may have the burden to prove the existence of adverse trade effects.

The SCM Agreement does not permit any subsidy, which adversely affects the interests of another member state. Such subsidy is not prohibited, but it is challengeable. Article 5 of the SCM Agreement covers three types of possible adverse effect on interests as "actionable subsidy":

No Member should cause, through the use of any subsidy referred to in paragraphs 1 and 2 of Article 1, adverse effects to the interests of other Members, i.e.:

- (a) injury to the domestic industry of another Member;<sup>200</sup>
- (b) nullification or impairment of benefits accruing directly or indirectly to other Members under GATT 1994 in particular the benefits of concessions bound under Article II of GATT 1994;<sup>201</sup>

---

198. This standard is met when the facts demonstrate that the granting of a subsidy, without having been made legally contingent upon export performance, is in fact tied to actual or anticipated exportation or export earnings. The mere fact that a subsidy is granted to enterprises which export shall not for that reason alone be considered to be an export subsidy within the meaning of this provision.

199. Measures referred to in Annex I as not constituting export subsidies shall not be prohibited under this or any other provision of this Agreement.

200. The term "injury to the domestic industry" is used here in the same sense as it is used in Part V.

201. The term "nullification or impairment" is used in this Agreement in the same sense as it is used in the relevant provisions of GATT 1994, and the existence of such nullification or impairment shall be established in accordance with the practice of application of these provisions.

(c) serious prejudice to the interests of another Member.<sup>202</sup> This Article does not apply to subsidies maintained on agricultural products as provided in Article 13 of the Agreement on Agriculture.

The subsidy provided by one member state might hurt the domestic industry of an importing member state, as well as an exporting member state in the subsidizing member state's domestic markets. Equally, it may also hurt competing exporting member states in a third market. As it is difficult to prove the existence of adverse trade effects arising from the subsidization, Article 6.1 of the SCM Agreement provides a rebuttal presumption of "serious prejudice" under certain conditions:

6.1 Serious prejudice in the sense of paragraph (c) of Article 5 shall be deemed to exist in the case of:

- (a) the total ad valorem subsidization<sup>203</sup> of a product exceeding 5 per cent;<sup>204</sup>
- (b) subsidies to cover operating losses sustained by an industry;
- (c) subsidies to cover operating losses sustained by an enterprise, other than one-time measures which are non-recurrent and cannot be repeated for that enterprise and which are given merely to provide time for the development of long-term solutions and to avoid acute social problems;
- (d) direct forgiveness of debt, i.e. forgiveness of government-held debt, and grants to cover debt repayment.<sup>205</sup>

Once one of the above specific conditions in the deeming provision is met, the subsidizing member state has the onus to prove that no adverse trade effect as specify in the SCM Agreement arises.<sup>206</sup>

---

202. The term "serious prejudice to the interests of another Member" is used in this Agreement in the same sense as it is used in paragraph 1 of Article XVI of GATT 1994, and includes threat of serious prejudice.

203. The total ad valorem subsidization shall be calculated in accordance with the provisions of Annex IV.

204. Since it is anticipated that civil aircraft will be subject to specific multilateral rules, the threshold in this subparagraph does not apply to civil aircraft.

205. Members recognize that where royalty-based financing for a civil aircraft programme is not being fully repaid due to the level of actual sales falling below the level of forecast sales, this does not in itself constitute serious prejudice for the purposes of this subparagraph.

206. Agreement on Subsidies and Countervailing Measures, arts. 6.2, 6.3.

The SCM Agreement expressly excludes certain subsidies from being challenged. These “non-actionable subsidies” are provided by Articles 8.1 and 8.2 of the SCM Agreement:

8.1 The following subsidies shall be considered as non-actionable;<sup>207</sup>

- (a) subsidies which are not specific within the meaning of Article 2;
- (b) subsidies which are specific within the meaning of Article 2 but which meet all of the conditions provided for in paragraphs 2(a), 2(b) or 2(c) below.

8.2 Notwithstanding the provisions of Parts III and V, the following subsidies shall be non-actionable:

- (a) assistance for research activities conducted by firms or by higher education or research establishments on a contract basis with firms if:<sup>208-209-210</sup>  
the assistance covers<sup>211</sup> not more than 75 per cent of the costs of industrial research<sup>212</sup> or 50 per cent of the costs of pre-competitive development activity;<sup>213-214</sup>

207. It is recognized that government assistance for various purposes is widely provided by Members and that the mere fact that such assistance may not qualify for non-actionable treatment under the provisions of this Article does not in itself restrict the ability of Members to provide such assistance.

208. Since it is anticipated that civil aircraft will be subject to specific multilateral rules, the provisions of this subparagraph do not apply to that product.

209. Not later than eighteen months after the date of entry into force of the WTO Agreement, the Committee on Subsidies and Countervailing Measures provided for in Article 24 (referred to in this Agreement as “the Committee”) shall review the operation of the provisions of subparagraph 2(a) with a view to making all necessary modifications to improve the operation of these provisions. In its consideration of possible modifications, the Committee shall carefully review the definitions of the categories set forth in this subparagraph in the light of the experience of Members in the operation of research programmes and the work in other relevant international institutions.

210. The provisions of this Agreement do not apply to fundamental research activities independently conducted by higher education or research establishments. The term “fundamental research” means an enlargement of general scientific and technical knowledge not linked to industrial or commercial objectives.

211. The allowable levels of non-actionable assistance referred to in this subparagraph shall be established by reference to the total eligible costs incurred over the duration of an individual project.

212. The term “industrial research” means planned search or critical investigation aimed at discovery of new knowledge, with the objective that such knowledge may be useful in developing new products, processes or services, or in bringing about a significant improvement to existing products, processes or services.

213. The term “pre-competitive development activity” means the translation of industrial research findings into a plan, blueprint or design for new, modified or improved products, processes or services whether intended for sale or use, including the creation of a first prototype which would not be capable of commercial use. It

- and provided that such assistance is limited exclusively to:
- (i) costs of personnel (researchers, technicians and other supporting staff employed exclusively in the research activity);
  - (ii) costs of instruments, equipment, land and buildings used exclusively and permanently (except when disposed of on a commercial basis) for the research activity;
  - (iii) costs of consultancy and equivalent services used exclusively for the research activity, including bought-in research, technical knowledge, patents, etc.;
  - (iv) additional overhead costs incurred directly as a result of the research activity;
  - (v) other running costs (such as those of materials, supplies and the like), incurred directly as a result of the research activity.
- (b) assistance to disadvantaged regions within the territory of a Member given pursuant to a general framework of regional development<sup>215</sup> and non-specific (within the meaning of Article 2) within eligible regions provided that:
- (i) each disadvantaged region must be a clearly designated contiguous geographical area with a definable economic and administrative identity;

---

may further include the conceptual formulation and design of products, processes or services alternatives and initial demonstration or pilot projects, provided that these same projects cannot be converted or used for industrial application or commercial exploitation. It does not include routine or periodic alterations to existing products, production lines, manufacturing processes, services, and other on-going operations even though those alterations may represent improvements.

214. In the case of programmes which span industrial research and pre-competitive development activity, the allowable level of non-actionable assistance shall not exceed the simple average of the allowable levels of non-actionable assistance applicable to the above two categories, calculated on the basis of all eligible costs as set forth in items (i) to (v) of this subparagraph.

215. A “general framework of regional development” means that regional subsidy programmes are part of an internally consistent and generally applicable regional development policy and that regional development subsidies are not granted in isolated geographical points having no, or virtually no, influence on the development of a region.

- (ii) the region is considered as disadvantaged on the basis of neutral and objective criteria,<sup>216</sup> indicating that the region's difficulties arise out of more than temporary circumstances; such criteria must be clearly spelled out in law, regulation, or other official document, so as to be capable of verification;
- (iii) the criteria shall include a measurement of economic development which shall be based on at least one of the following factors:
  - one of either income per capita or household income per capita, or GDP per capita, which must not be above 85 per cent of the average for the territory concerned;
  - unemployment rate, which must be at least 110 per cent of the average for the territory concerned;
 as measured over a three-year period; such measurement, however, may be a composite one and may include other factors.
- (c) assistance to promote adaptation of existing facilities<sup>217</sup> to new environmental requirements imposed by law and/or regulations which result in greater constraints and financial burden on firms, provided that the assistance:
  - (i) is a one-time non-recurring measure; and
  - (ii) is limited to 20 per cent of the cost of adaptation; and
  - (iii) does not cover the cost of replacing and operating the assisted investment, which must be fully borne by firms; and

---

216. "Neutral and objective criteria" means criteria which do not favour certain regions beyond what is appropriate for the elimination or reduction of regional disparities within the framework of the regional development policy. In this regard, regional subsidy programmes shall include ceilings on the amount of assistance which can be granted to each subsidized project. Such ceilings must be differentiated according to the different levels of development of assisted regions and must be expressed in terms of investment costs or cost of job creation. Within such ceilings, the distribution of assistance shall be sufficiently broad and even to avoid the predominant use of a subsidy by, or the granting of disproportionately large amounts of subsidy to, certain enterprises as provided for in Article 2.

217. The term "existing facilities" means facilities which have been in operation for at least two years at the time when new environmental requirements are imposed.

- (iv) is directly linked to and proportionate to a firm's planned reduction of nuisances and pollution, and does not cover any manufacturing cost savings which may be achieved; and
- (v) is available to all firms which can adopt the new equipment and/or production processes.

