

## **Efficacy of rights-based management of small pelagic fish within an ecosystems approach to fisheries in South Africa**

M. M. Hara

### **Abstract**

South Africa's small pelagics fishery is moving towards a management strategy using an ecosystem approach to fisheries (EAF), with rights-based management (RBM) as the key rights allocation system. While EAF strives to balance between, among others, ecological and social-economic objectives, RBM is driving the sector towards economic efficiency. Within EAF itself, there are still underlying mismatches between the two top objectives, 'human wellbeing' and 'ecological wellbeing', in effect requiring a better balance between these objectives than there is currently. For example, fishers do not believe they should be competing with marine mammals and birds for allocation of the resource, yet this is one of the primary trade-offs that have to be made when setting the annual total allowable catches (TACs) under EAF. A balance between the two objectives could be achieved through acceptable trade-offs between them among all stakeholders within inclusive governance. Implementation of RBM has had both positive and negative effects on the objectives for EAF. Of concern are the negative effects of RBM on human wellbeing. For example, fishers feel that RBM has weakened their bargaining position, thereby reducing their benefits. In addition, RBM has resulted in job losses and insecurity of employment within the fisheries sector. The most affected have been the most vulnerable – the low level workers – who ought to be the key beneficiaries of RBM. Thus prioritising and protecting vulnerable groups and fishing communities need careful consideration when creating RBM, even in the context of EAF. Rights-based management has also had negative effects on ecological wellbeing through practices such as increased dumping and 'high grading' as part of industry's drive for increased efficiency under RBM. Whereas scientists believe that variability is largely due to environmental conditions, fishers strongly feel that dumping, high grading and high fishing pressure are the main factors. One of the positive aspects of RBM has been improved understanding among rights-holders and fishers of the need to consider other organisms in the TAC and to protect these through establishment of marine protected areas, island perimeter closures and limiting bycatch, thereby impacting positively on ecological wellbeing.

### **Introduction:**

South Africa's fisheries policy is founded upon the constitutional principle that all the country's marine resources are a national asset and the heritage of its citizens that should be managed and developed for the benefit of its present and future generations (Marine Living Resources Act No. 18 of 1998, RSA 1998a; White Paper:























6. EAF has increased the awareness and acknowledgement of competition for fish between fishers and marine predators, although fishers believe they should be given preference in terms of allocation of the resource. Bycatch limits, temporary area closures, island perimeter closures and MPAs, as part of EAF, force skippers to fish farther away from their fishing bases and factories, thereby increasing fishing operational costs, which is one aspect that RBM aims to reduce.
7. Although the views and inputs of rights-holders and fishers within the consultative and cooperative governance structures (SWG and RMWG) are supposed to be advisory, the general feeling is that government responds positively to their opinions and interests. Thus fora exist within RBM where alternative views that arise as a result of EAF can be discussed and debated, and consensus reached. The key concern among some stakeholders regarding inclusive governance is that the OMP does not adequately include social and economic factors in its computation of scientific advice. In a fully functioning EAF operationalised by OMP, all components of the ecosystem, including human (social and economic) factors, need be taken into account. Inclusion of social and economic factors in the OMP could hopefully reduce the negative effects of RBM on human wellbeing.

### **Acknowledgements**

The research for this article was carried out as part of the 'Defragmenting Resource Management in Southern Africa' (DARMA) project (AFS/2009/219017) funded by the European Union through the African Caribbean and Pacific (ACP) Science and Technology Programme (Europe Aid/127860/D/ ACT/ACP). The contents of this article are the author's sole responsibility and can under no circumstances be regarded as reflecting the views and position of the European Union. I thank all the interviewees that availed themselves for the research and gave consent for the information and insights they provided to be used for this publication, and colleagues and all the reviewers who gave critical advice on drafts of the manuscript.

## References

- Alchian A, Demsetz H. 1973. The property rights paradigm. *Journal of Economic History* 33: 16–27.
- Arnason R. 2001. *A review of international experiences with ITQs*. CEMARE Report 59. Portsmouth: Centre for the Economics and Management of Aquatic Resources, University of Portsmouth.
- Arnason R. 2005. Property rights in fisheries: Iceland's experience with ITQs. *Reviews in Fish Biology and Fisheries* 15: 243–264.
- Bromley D. 1989. Property relations and economic development: the other land reform. *World Development* 17: 876–877.
- Butterworth DS. 2007. Why a management procedure approach? Some positives and negatives. *ICES Journal of Marine Science* 64: 613–617.
- Butterworth DS. 2008. Some lessons from implementing management procedures. In: Tsukamoto K, Kawamura T, Takeuchi T, Beard TD, Kaiser MJ (eds), *Fisheries for global welfare and environment: memorial book of the 5th World Fisheries Congress 2008*. Tokyo: TerraPub. pp 381–397.
- Christy FT. 2000. Common property rights. An alternative to ITQs. In: Shotton R (ed.), *Use of property rights in fisheries management. Proceedings of the FishRights99 conference, 11–19 November 1999, Fremantle, Western Australia*. FAO Fisheries Technical Paper 404/1. Rome: Food and Agriculture Organization of the United Nations.
- Copes P, Pálsson G. 2000. Challenging ITQs: legal and political action in Iceland, Canada and Latin America. A preliminary overview. In: Johnston RS (ed.), *Proceedings of the 10th biennial conference of the International Institute of Fisheries Economics and Trade (IIFET), 10–14 July 2000, Corvallis, Oregon*. Oregon: International Institute of Fisheries Economics and Trade. pp 1–6.
- Cury PM, Boyd IL, Bonhommeau S, Anker-Nilssen T, Crawford RJM, Furness RW, Mills JA, Murphy EJ, Österblom H, Paleczny M, Piatt JF, Roux J-P, Shannon LJ, Sydeman WJ. 2011. Global seabird response to forage fish depletion – one-third for the birds. *Science* 334: 1703–1706.
- DAFF (Department of Agriculture, Forestry and Fisheries). 2012. 2009/10 Performance review of fishing right holders. Overall report/summary: limited commercial and full commercial rights holders. Cape Town: DAFF.
- DEAT (Department of Environmental Affairs and Tourism). 1997. White paper: marine fisheries policy for South Africa. Pretoria: DEAT. Available at [www.info.gov.za/whitepapers/1997/marine](http://www.info.gov.za/whitepapers/1997/marine) [accessed 4 December 2011].
- DEAT (Department of Environmental Affairs and Tourism). 2005a. General policy on the allocation and management of long term commercial fishing rights, 2005. Unpublished Report. DEAT, Pretoria.
- DEAT (Department of Environmental Affairs and Tourism). 2005b. Policy for the allocation and management of commercial fishing rights in the small pelagics (anchovy and sardine purse-seine) fishery: 2005. Unpublished Report. DEAT, Pretoria.
- DEAT (Department of Environmental Affairs and Tourism). 2008. Section B. Permit conditions: pelagic fish (sardine/pilchard) fishery: 2008. Unpublished Report. DEAT, Cape Town.
- de Moor CL, Butterworth DS, De Oliveira JAA. 2011. Is the management procedure approach equipped to handle short-lived pelagic species with their boom and bust

- dynamics? The case of the South African fishery for sardine and anchovy. *ICES Journal of Marine Science* 68: 2075–2085.
- Department of Finance. 1996. *Growth, employment and redistribution: a macroeconomic strategy*. Pretoria: Department of Finance.
- Edwards M. 2000. The administration of fisheries managed by property rights. In: Shotton R (ed.), *Use of property rights in fisheries management. Proceedings of the FishRights99 conference, 11–19 November 1999, Fremantle, Western Australia*. FAO Fisheries Technical Paper 404/2. Rome: Food and Agriculture Organization of the United Nations. pp 75–88.
- Eythórsson E. 2000. A decade of ITQ-management in Iceland fisheries: consolidation without consensus. *Marine Policy* 24: 483–492.
- Fairweather TP, Hara M, van der Lingen CD, Raakjær J, Shannon LJ, Louw GG, Degnbol P, Crawford RJM. 2006. A knowledge base for management of the capital-intensive fishery for small pelagic fish off South Africa. *African Journal of Marine Science* 28: 645–660.
- FAO. 2003. *The ecosystem approach to fisheries: issues, terminology, principles, institutional foundations, implementation and outlook*. FAO Fisheries Technical Paper No. 443. Rome: Food and Agriculture Organization of the United Nations.
- George Warman Publications. 2007. *Fishing industry handbook: South Africa, Namibia and Mozambique* (35th edn). Cape Town: George Warman Publications.
- Hallowell AI. 1943. The nature and function of property as a social institution. *Journal of Legal and Political Sociology* 1: 115–138. Hara M. 2009. Crew members in South Africa’s squid industry; whether they have benefitted from transformation and governance reforms. *Marine Policy* 33: 513–519.
- Hara M, Raakjær J. 2009. Policy evolution in South African fisheries: the governance of the sector for small pelagic. *Development Southern Africa* 26: 649–662.
- Hatcher A. 2005. On the microeconomics of quota management in fisheries. *Marine Resource Economics* 20: 77–99.
- Hatcher A, Read A. 2001. The allocation of fishing rights in UK fisheries. Case studies on the allocation of transferable quota rights in fisheries. In: Shotton R (ed.), *Use of property rights in fisheries management. Proceedings of the FishRights99 conference, 11–19 November 1999, Fremantle, Western Australia*. FAO Fisheries Technical Paper 411. Rome: Food and Agriculture Organization of the United Nations. pp 1–14.
- Hersoug B. 2002. South African fishers on the road to equal access? – from “informal fishers” via “subsistence fishers” to “micro-commercial entrepreneurs”. In: Hersoug B (ed.), *Fishing in a sea of sharks: reconstruction and development in the South African industry*. Delft: Eburon. pp 173–200.
- Hutchings L, Roberts MR, Verheye HM. 2009. Marine fisheries monitoring programmes in South Africa. *South African Journal of Science* 105, March/April 2009: 94–102.
- Isaacs M. 2003. Understanding the social processes and politics of implementing a new fisheries policy, the Marine Living Resource Act 18 of 1998, in South Africa. PhD thesis, University of Western Cape, South Africa.
- Isaacs M, Hara M. 2008. Transformation in the South African fishing industry and its ability to redistribute fishing rights. In: Nielsen J, Dodson JJ, Friedland K, Hamon TR, Musick J, Verspoor E (eds), *Proceedings of the fourth world fisheries*

- congress (reconciling fisheries with conservation), 2–6 May 2004, Vancouver. Bethesda: American Fisheries Society. pp 687–703.
- Isaacs M, Hara M, Raakjær J. 2007. Has reforming South African fisheries contributed to wealth redistribution and poverty alleviation? *Ocean and Coastal Management* 50: 301–313.
- Jacobsberg I, Govender S. 2010. Fixing price fixing – South Africa (December 2, 2010). Eversheds, Johannesburg. Available at [www.hg.org/article](http://www.hg.org/article) [accessed 24 January 2012].
- Nyikahadzoi K, Hara M, Raakjær J. 2010. Transforming ownership and governance: lessons from capital intensive pelagic fisheries in South Africa and Zimbabwe. *International Journal of the Commons* 4: 663–682.
- OECD (Organisation for Economic Cooperation and Development). 1997. *Towards sustainable fisheries: economic aspects of the management of living marine resources*. Paris: OECD.
- Ostrom E. 2009. Design principles of robust property rights institutions: what have we learned. In: Ingram GK, Hong Y-H (eds), *Property rights and land policies*. Cambridge, Massachusetts: Lincoln Institute of Land Policy. pp 25–51.
- Ounanian K, Delaney A, Raakjær J, Ramirez P. 2012. On unequal footing: stakeholder perspectives on the marine strategy framework directive as a mechanism of the ecosystem-based approach to marine management. *Marine Policy* 36: 658–666.
- Paterson B, Isaacs M, Hara M, Jarre A, Moloney CL. 2010. Achieving transdisciplinary co-operation for EAF: a South African case study. *Marine Policy* 34: 782–794.
- Paterson B, Petersen S. 2010. EAF implementation in southern Africa: lessons learnt. *Marine Policy* 34: 276–292.
- Petersen S, Paterson B, Basson J, Moroff N, Roux J-P, Augustyn J, D’Almeida G. 2010. Tracking the implementation of an ecosystem approach to fisheries in southern Africa. Cape Town: WWF South Africa Report Series.
- Pitcher T, Lam ME. 2010. Fishful thinking: rhetoric, reality, and the sea before us. *Ecology and Society* 15: article #12. URL: <http://www.ecologyandsociety.org/vol15/iss2/art12/> (published online under license by the Resilience Alliance).
- Raakjær Nielsen J, Hara MM. 2006. Transformation of South African industrial fisheries. *Marine Policy* 30: 43–50.
- RSA (Republic of South Africa). 1995. Labour relations act (Act No. 66 of 1995). *Government Gazette*, South Africa 366 (16861).
- RSA (Republic of South Africa). 1998a. Marine living resources act (Act No. 18 of 1998). *Government Gazette*, South Africa 395 (18930).
- RSA (Republic of South Africa). 1998b. Competition act (Act No. 89 of 1998). *Government Gazette*, South Africa 400 (19412).
- RSA (Republic of South Africa). 2002. Basic conditions of employment amendment act (Act No. 11 of 2002). *Government Gazette*, South Africa 444 (23539).
- Schlager E, Ostrom E. 1992. Property rights regimes and natural resources: a conceptual analysis. *Land Economics* 68: 249–262.
- Shannon LJ, Cochrane KL, Moloney CL, Freon P. 2004. Ecosystem approaches to fisheries in the southern Benguela: a workshop overview. In: Shannon LJ, Cochrane KL, Pillar SC (eds), *Ecosystem approaches to fisheries in the southern Benguela*. *African Journal of Marine Science* 26: 1–8.

- Shotton R. 2000. Use of property rights in fisheries management. *Proceedings of the FishRights99 conference, 11–19 November 1999, Fremantle, Western Australia*. Fisheries Technical Paper 404/1. Rome: Food and Agriculture Organization of the United Nations.
- UNCSD (United Nations Commission on Sustainable Development). 2002. *World summit on sustainable development (WSSD), 24 August to 4 September, Johannesburg*. New York: UNCSD.
- van der Lingen CD, Coetzee JC, Hutchings LF. 2011. Causes and effects of changes in the distribution of anchovy and sardine in shelf waters off South Africa. In: Zietsman L (ed.), *Observations on environmental change in South Africa*. Stellenbosch: SUN MeDIA. pp 252–257.
- van Sittert L. 2002. Those who cannot remember the past are condemned to repeat it: comparing fisheries reforms in South Africa. *Marine Policy* 26: 295–305.
- Ward T, Tarte D, Hegerl E, Short K. 2002. *Ecosystem-based management of marine capture fisheries*. WWF Australia.
- Wood LJ. 2007. MPA Global: a database of the world's marine protected areas. Sea Around Us Project, UNEP-WCMC & WWF. Available at [www.mpaglobal.org/index](http://www.mpaglobal.org/index) [accessed 7 December 2011].
- World Bank. 2004. *Saving fish and fishers*. Washington, DC: World Bank.