Leiden Journal of International Law, 16 (2003), pp. 821–837
 Printed in the United Kingdom DOI: 10.1017/S092215650300147X

Beyond Rhetoric: State Sovereignty, Common Concern, and the Inapplicability of the Common Heritage Concept to Plant Genetic Resources

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Abstract

Until the emergence of the Convention on Biological Diversity in 1992 and the FAO Treaty on Plant Genetic Resources in 2001, opinion had hardened in some quarters that the principle of a common heritage of mankind regulated international transfer of plant genetic resources. By a historical analysis of customary international law in the colonial age and the recent pedigree of the principle of common heritage, this article points out the fallacies in such arguments and contends that plants have always been subject to various national jurisdictions. It has to be conceded, however, that contemporary developments in the field of international law relating to plant genetic resources foretell the emergence of a regime of multilateral relationships governing access to plant genetic resources. If it is to depart from its unfortunate history, such a regime of multilateral co-operation would have to pay serious regard to the issue of equitable access to and sustainable use of plant genetic resources.

Key words

common heritage of mankind; North–South relations; plant genetic resources; sovereignty; sustainable development

Although the Westphalian character of international law confers on states sovereign jurisdiction over their respective territories, it is a truism in terms of the geography and distribution of plants for use as food that no single state has ever been wholly self-sufficient for its food needs. All the states of the world are interdependent as regards plant life forms. As a consequence of the irreplaceable and multiple roles, value, and functions of plants, there has always been an inescapable measure of international interaction and co-operation over plants and derivatives from plants. However, a critical analysis of the directional flow and methods of transfer of plants from one state or region to another reveals an asymmetrical and inequitable regime. Crudely speaking, although most plant resources for use as food originate

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from the so-called Third World, the irony is that such resources tend to be moved from the poor, industrializing parts of the world to the richer, industrialized part. It is in the light of this asymmetry that complex and rhetorical debates have often surrounded the question of legal ownership of plants, particularly in the era prior to the emergence of the Convention on Biological Diversity (CBD), and the UN Food and Agriculture Organization (FAO) Treaty on Plant Genetic Resources for Food and Agriculture.[1]

Debates, or rather controversies, on the legal status of plants in the era following on the European colonization of the Americas, Africa, parts of Asia, and elsewhere have reflected the problematic North–South divide and the perception of inequality of access to economic resources.[2] With particular reference to plant genetic resources, there is considerable evidence to support the observation that the transfer of plant germ plasm and products has been in the direction of the 'developed' world from the 'developing'[3] world. More importantly, there is a general impression held by the 'developing world' and concerned scholars, activists, and sympathizers in the 'developed world' that the 'developing world' has little or nothing to show for the interaction or 'exchange' between both 'worlds'. In other words, the relationship between the 'North'[4] and the 'South'[5] in matters relating to

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1. Convention on Biological Diversity, entered into force on 19 Dec. 1993, reprinted in (1992) 31 ILM 813.
2. I am aware of the complexities and challenges faced by modern scholars in articulating, theorizing, and deploying the distinctions and gross disparities existing between the so-called 'North' and its besieged counterpart, the 'South'. For an interesting analysis of this issue see K. Mickelson, 'Rhetoric and Rage: Third World Voices in International Legal Discourse' (1997) 16 *Wisconsin International Law Journal* 353. See also notes 4 and 5, *infra*.
3. As other scholars of international law, particularly those of the Third World Approaches to International Law (TWAIL) such as Makau Wa Mutua, Obiora Okafor, Anthony Anghie, and James Gathii, have rightly pointed out, the concept of 'development' or lack thereof is a value-laden term with implicit hierarchies of cultures and civilizations. Within this logic, history and civilization is construed as linear and unidirectional, with Western civilization at the vanguard pointing the way for 'lesser' 'underdeveloped' peoples and cultures to follow. See M. Wa Mutua, 'Savages, Victims, and Saviours: The Metaphor of Human Rights' (2001) 42 *Harvard International Law Journal* 201; D. Slater, 'Contesting Occidental Visions of the Global: The Geopolitics of Theory and North–South Relations' (1994) (Dec.) *Beyond Law* 97; I. Mgbeoji, 'Patents and Plant-Resources-Related Knowledge: Towards a Regime of Communal Patents for Plant-Resources Related Knowledge', in N. Islam *et al.* (eds.), *Environmental Law in Developing Countries: Selected Issues* (2002), at 81.
4. The term 'North' refers to the countries of North America and Europe, New Zealand, Japan, and Australia. They are also called the 'rich' or the 'advantaged' countries of the world. For the purposes of convenience, they may further be categorized as members of the Organization for Economic Co-operation and Development (OECD) which has 24 member countries, namely Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. See *OECD in Figures: Statistics on the Member Countries, 1988 edition: Supplement to the OECD Observer No. 152* (1988), at 4–5; H. Weidner, 'The United States and North–South Technology Transfer: Some Practical and Legal Obstacles' (1982–3) 1–2 *Wisconsin International Law Journal*, 205; A. Sawyer, 'Marginalization of Africa and Human Development' (1993) 5 *African Journal of International and Comparative Law* 176. I am aware of the crudeness of this distinction. There are nuances to the North–South paradigm. There is a 'North' in the 'South' as exemplified by privileged and 'Westernized' elites of the 'Third World'.
5. The term 'South' refers to the countries of Africa, Asia (excluding Japan), Latin America, and Oceania. They are also called the 'developing countries', 'less-developed', or the 'third world', countries of the world. Considering the similar experiences of indigenous minorities of North America, Australia, and Europe, it cannot be denied that there is a 'South' in the North. See M. Watkins, 'North–South Relations' (1975) 5 *Alternatives: Perspectives on Society and Environment* 33. For an excellent analysis of the nature of the economic and cultural divide between North and South, see N. Adams, *Worlds Apart: The North–South Divide and the International System* (1993); G. Lundestad, *East, West, North and South: Major Developments In International Politics 1945–1986* (1988). It should be noted that, as a concept, 'the third world is far from a homogenous

the exchange of plant germ plasm has been largely characterized by many Third World scholars and their sympathizers as unequal, unfair, and skewed in favour of the industrialized 'North'. As I have argued elsewhere,[6] the methods of transfer and 'exchange' of plant life forms between the North and the South reveal the appropriative function of the dominant cultural paradigm and its subordination of non-Western scientific frameworks or cultures to Eurocentric empiricism and epistemology.

This article examines the correctness of the prevalent notion that plants are part of the common heritage of mankind and thus an integral element of the global commons freely available to all mankind. A critical assessment of this common notion is necessary partly because in the course of the 'exchange' or transfer of plant germ plasm from the 'developing world' to the 'developed world', there has been an assumption of the existence of a legal concept or principle of common heritage in respect of plants. In other words, there seems to be a generally shared view, albeit erroneous, that prior to the emergence of the CBD in 1992 and the FAO Treaty in 2001, which respectively categorized plant resources as subject to domestic and national jurisdiction, plant life forms occurring within state boundaries belonged to all peoples of the world as part of the common heritage. It is the purpose of this article to demonstrate the fallacy and incorrectness of such notions, particularly as they occur in relevant literature on the ownership and control of plant genetic resources. The article also seeks to shed some light on contemporary developments in the field of international law relating to access to plant genetic resources.

My analysis proceeds in two stages. In stage one, I examine the historical and legal foundations, and the circumstances and contexts in which plant germ plasm was moved from the tropics to the colonies. This particular epoch is located within the imperial and colonial era, when many parts of the Third World were subjected to formal colonialism and imperialism. In the second stage of my analysis, I demonstrate the recent pedigree of the common heritage concept and, hence, the improbability of such a concept constituting the legal basis for the transfer of plant germ plasm from the 'developing world' to the 'developed world' in the colonial era. In sum, I argue that the concept of common heritage neither justified the colonial appropriation of plants nor constituted a legal basis for international transactions relating to plant genetic resources. Indeed, it is further argued in this article that the concept of common heritage is inapplicable to plant genetic resources in contemporary international law.

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group. There are no strict criteria for qualifying as a developing country . . . In the United Nations they form the Group of 77, although the group at present consists of more than 130 states.' See I. Seidl-Hohenveldern, *International Economic Law* (1989), at 4; W. Langley, 'The Third World: Towards a Definition', (1981) 2 *Boston College Third World Law Journal* 1.

6. I. Mgbeoji, 'Patents and Traditional Knowledge of the Uses of Plants: Is a Communal Patent Regime Part of the Solution to the Scourge of Bio-piracy?' (2001) 9 *Indiana Journal of Global Legal Studies* 163.

1. The Columbian Exchange and State Sovereignty over Plants

For purposes of historical convenience rather than exactness, the origins of state 'transfer' of plants may be traced to the 'Columbian Exchange' of 1492, during Christopher Columbus's forays into the Americas with some plant germ plasm. It is already known that the Columbian Exchange, as it were, changed the face of the earth, in terms of both the spread and distribution of human populations and the realignment of global geopolitical power. For the narrower purposes of this analysis, it is significant that Columbus returned to Europe with maize in 1493, and in 1494 went back to the Americas with wheat, olives, chickpeas, onions, radishes, sugar cane, and citrus fruits (for scurvy) to support a European colony.[7]

Subsequent voyages by other European explorers and settlers added potatoes to the diet of Europe, resulting in a phenomenal increase in European population.[8] Furthermore, the introduction of new plant resources into European diet and agriculture and the settlement of Europeans in the Americas fundamentally reconfigured global economic and political equations. As Jack Kloppenburg observes:

> [M]aize and potatoes had a profound impact on European diets. These crops produce more calories per unit of land than any other staple but cassava [another New World crop that spread quickly through tropical Africa]. As such, they were accepted, though often reluctantly, by peasantries increasingly pressed by enclosures and landlords, and by a growing urban proletariat.[9]

Since Columbus's sporadic and disorganized transfer of plants from the 'New World' to the 'Old World' and from parts of the New World to other parts of the same New World, the critical importance of 'exotic' plant germ plasm has never been lost on the political leaders of Europe, the Americas, and subsequently Australasia. Indeed, in Europe a worldwide network devoted to the collection of germ plasm from the colonial outposts of the North in the South was quickly put in place, hence the origin of the botanical gardens, particularly in the British Empire.[10] These institutions routinely collected the world's plant resources, of which a decisive majority was tropical or subtropical in origin. Given that most of these tropical and subtropical territories and peoples were under European colonial rule, the asymmetrical transfer of germ plasm from the colony to the mother country was more or less perceived as 'an internal affair' of the colonial empires. In juridical and political terms, the colonial powers construed their tropical territories as part of the empire or of the larger metropolis. For example, germ plasm from British colonies in Asia and Africa was routinely transferred not only to the Royal Botanic

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7. J. Kloppenburg, *First The Seed – The Political Economy of Plant Biotechnology, 1492–2000* (1988), at 155.
8. The population nearly doubled in the space of one century (1750–1850).
9. Kloppenburg, *Supra* note 7. The Irish and, indeed, practically the entire British working class relied on potatoes for subsistence.
10. The imperial botanic gardens were found in Australia, Africa, the Caribbean, India – virtually all corners of the globe. See L. Brockway, *Science and Colonial Expansion: The Role of the British Botanic Gardens* (1979).

Gardens in London but to other parts of the British empire as if the latter were a single juridical entity, if not *de jure*, at least de facto. Thus the transfer of plant germ plasm was not conducted under the notion that plants constituted a free good and a resource for all peoples of the world. Rather, the prevailing theory was that a colonial outpost was merely one of several other projections of an imperial and large state.

Under the colonial regime, scientists, breeders, and collectors, particularly from the colonizing world, collected and transferred a huge quantity and diversity of economically useful or rare plant life forms to botanic gardens, gene banks, research institutions, and breeding programmes which were scattered across the various outposts of the colonial empires. In the absence of the earlier imposition of legal restrictions on this 'intra-state' transfer of germ plasm, the unfounded notion thus emerged, especially among latter-day environmental activists,[11] non-governmental organizations, and some writers that plant genetic resources, even in the post-colonial era, constitute a part of the common heritage.[12] This general notion is fallacious and unfounded. A sober analysis of state practice and other evidences of international law in the colonial and post-colonial eras clearly shows that there has never been a regime of common heritage as applied to plant genetic resources. As the subsequent stage of this analysis argues, the common heritage concept is too new and circumscribed in its ambit to be the legal basis or justification of the colonial transfer of plant germ plasm in the era spanning 1492–1992.

2. PLANT GENETIC RESOURCES AND THE COMMON HERITAGE CONCEPT IN THE POST-COLONIAL AGE

The concept of the common heritage of mankind (CHM)[13] entered the lexicon of international law a few decades ago.[14] Since then, there has been ambiguity in defining its true scope and meaning.[15] Notwithstanding the uncertainties surrounding the meaning of its constitutive terms, one major factor

11. P. Mooney, *Seeds of the Earth: A Private Or Public Resource?* (1979).
12. J. Mugabe *et al.* (eds.), *Access to Genetic Resources – Strategies for Sharing Benefits* (1997), at 7.
13. C. Joyner, 'Legal Implications of the Concept of the Common Heritage of Mankind' (1986) 35 ICLQ 190; A. Kiss, 'Conserving the Common Heritage of Mankind', (1990) 59 *Revista Juridica de la Universidad de Puerto Rico* 773–7.
14. R. Wolfrun, 'The Principle of the Common Heritage of Mankind' (1983) 43 *Heidelberg Journal of International Law* 312; G. Danilenko, 'The Concept of Common Heritage of Mankind in International Law', (1988) 13 *Annals of Air and Space Law* 247–65. While some scholars attribute the origins of the common heritage concept to Arvid Pardo, Malta's ambassador to the United Nations, in 1967, others point to Aldo Cocca's statement some months earlier, at the deliberations for peaceful uses of outer space in 1967. It seems, however, that Pardo was the first to articulate the concept of common heritage of mankind as a potential principle of international law. In any event, the notion of CHM does not pre-date 1967 and as such, the concept is of very recent vintage. The implication is that it could not have governed transaction on plants prior to its debut.
15. For an examination of the confused state of thinking on the concept of CHM, see S. Gorove, 'The Concept of "Common Heritage of Mankind": A Political, Moral or Legal Innovation?', (1972) *San Diego Law Review* 390; L. F. E. Goldie, 'A Note on Some Diverse Meanings of the 'Common Heritage of Mankind' (1983) 10 *Syracuse Journal of International Law and Commerce* 69–112; M. White, 'The Common Heritage of Mankind: An Assessment', (1982) 14 *Case Western Reserve Journal of International Law* 509–42; E. Tenenbaum, 'A World Park in Antarctica: The Common Heritage of Mankind', (1990) 10 *Virginia Environmental Law Journal* 109–36; A. Blaser, 'The Common Heritage in its Infinite Variety: Space Law and the Moon in the 1990s', (1990) 5 *Journal of Law and Technology* 79–99.

remains constant: that is, the narrowness of the scope of the concept. Common heritage[16] has only attained juridical mention within the ambit of claims of communal rights on areas or resources which lie outside the limits of state jurisdictional authority: a sort of *res communis humanitatis.*[17] In other words, it is a term and concept applied to the so-called global commons.[18] These include the ocean floor,[19] outer space,[20] the Moon[21] and Antarctica.[22]

It is thus apparent that the notion of common heritage is the very opposite of principles of international law governing access to or control or dominion over assets or properties, particularly natural resources which fall within the jurisdiction of a recognized state. In effect, sovereignty and jurisdiction over a territory is an indefeasible aspect and character of statehood, and whatever natural resources fall within the boundaries of a state are subject to the amplitude and magnitude of state jurisdiction.[23] This is a well-known principle of international law and need not detain us here.[24] It is equally beyond debate that international law is founded on the theory of the formal equality of states. Consequently, states constitute the central plank on which the complex edifice of international law, international institutions, and transnational relations are built.

Ideologically, the notion of common heritage is a political and rhetorical tool of convenience used by both the industrialized and the industrializing worlds whenever it suits their respective interests. Assertions of the applicability or lack thereof of the principle of common heritage to any resource by either the North or the South should be critically examined before being accepted as a correct expression of the law. For example, the concept of common heritage was a counterpart of

16. A. Cocca, 'Mankind as the New Legal Subject: A New Juridical Dimension Recognized by the United Nations', (1971) *Proceedings of the 13th Colloquium on the Law of Outer Space* 211. The notion of 'mankind' as a full-fledged legal entity has not yet come into juridical existence.
17. There are, however, some differences between common heritage and the notion of *res communis humanitatis.* For further analysis of this issue, see M. Shaw, *International Law* (1986), 276; C. Bin, 'The Legal Regime of Airspace and Outer Space: The Boundary Problem, Functionalism Versus Spatialism: The Major Premises' (1980) 5 *Annals of Air and Space Law* 323; J. Logue, 'Could the Common Heritage Fund Proposal Break the Deadlock in the UN Conference of the Law of the Sea?' (1983) 2–3 *International Property Investment Journal* 283–357. Attempts to extend the concept of common heritage to the vexed issue of transfer of technology have, however, failed. See 'The Draft International Code of Conduct on the Transfer of Technology of May 6, 1980', (1978) 17 ILM 462.
18. I. Brownlie, *Principles of Public International Law* (1972), at 258–86.
19. J. Dyke and C. Yuen, 'Common Heritage v. Freedom of the Seas: Which Governs the Seabed?', (1982) 19 *San Diego Law Review* 493; E. Reiley, 'The Common Heritage of Mankind: Ocean Floor Use' (1985) 5 (March) *California Lawyer* 15; M. Harry, 'The Deep Seabed: The Common Heritage of Mankind or Arena for Unilateral Exploitation?', (1992) 40 *Naval Law Review* 207–28.
20. L. Tennen, 'Outer Space: A Preserve for All Humankind' (1979) 1 *Houston Journal of International Law* 145; N. Mateesco-Matte, 'The Common Heritage of Mankind and Outer Space: Toward a New International Order for Survival', (1987) 12 *Annals of Air and Space Law* 313–36; B. Hoffstadt, 'Moving the Heavens: Lunar Mining and the Common Heritage of Mankind in the Moon Treaty', (1994) 42 *UCLA Law Review* 575.
21. C. Christol, 'The Common Heritage of Mankind Provision in the 1979 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies', (1980) 14 *International Lawyer* 429.
22. C. Joyner, 'Antarctica and the Law of the Sea: Rethinking the Current Legal Dilemmas', (1981) *San Diego Law Review* 415; M. Kyriak, 'The Future of the Antarctic Treaty System: An Examination and Evaluation of the "Common Heritage" and "World Park" Proposals for an Alternative Antarctic Regime', (1992) 7 *Auckland University Law Review* 105–26; E. Tenenbaum, 'A World Park in Antarctica: The Common Heritage of Mankind', (1990) 10 *Virginia Environmental Law Journal* 109–36.
23. J. Crawford, *The Creation of States at International Law* (1979); *Rainbow Warrior Incident* (1985) ILR 74.
24. R. Jennings and A. Watts (eds.), *Oppenheim's International Law*, 1 (1992), at 563–80.

the doomed movement by the 'developing world' for a new international economic order (NIEO). In the movement for a new international economic order, the common heritage concept was thus primarily designed to deny the technologically advanced group of states of the North the legal right to exploit and lay claims of rights of ownership over the last frontiers of the world, such as the international seabed and Antarctica.[25]

Conversely, the industrialized states which have largely rejected the notion of common heritage as a general principle of international law, particularly with respect to the South's claim for a new international economic order, have been quite enthusiastic in proclaiming that the common heritage concept applies to plant genetic resources which are found mostly in the South. Needless to add, the North's argument is borne out of group self-interest. As Kloppenburg further explains:

> [C]ommon heritage and the norm of free exchange of plant germ plasm have greatly benefited the advanced capitalist nations, which not only have the greatest need for and capacity to collect exotic plant materials but also have a superior scientific capacity to use them.[26]

Yet again, when the industrializing states believed that their agricultural outputs could be dramatically improved by adopting the intensive methods of farming developed by the industrialized states and by appropriating the so-called high yield varieties (HYVs) created by the industrialized states from germ plasm originally collected from the industrializing states, the former enthusiastically declared all plant life forms (including the high yield varieties) to be a common heritage.

Naturally, the industrialized states rejected this characterization of genetically modified high yield varieties as common heritage. Henry Vogel has articulated and analyzed North–South polemics and posturing on the applicability of common heritage within the concept of the conflict between privatization of the benefits of plant resources and socialization of the costs of access to those resources. In his words:

> [G]enetic resources are a prime example of privatization having more to do with power relationships in the contemporary world than with neo-classical economic science. Until quite recently, Northern industry has been able to privatize the benefits of biotechnologies that derive from genetic resources while at the same time, socializing the cost of access to those genetic resources. Genetic resources were free under the doctrine known as the 'common heritage of mankind'. Being on the opposite sides of the trade, Southern countries have long wanted to privatize genetic resources but socialize access to biotechnologies. Rather than arguing for a symmetrical reform and the privatization

25. B. Larschan and B. Brennan, 'The Common Heritage of Mankind Principle in International Law', (1982–3) 21 *Columbia Journal of Transnational Law* 305; J. Frakes, 'The Common Heritage of Mankind Principle and the Deep Seabed, Outer Space, and Antarctica: Will Developed and Developing Nations Reach a Compromise?', (2003) 21 *Wisconsin International Law Journal* 409–34.

26. Kloppenburg, *supra* note 7, at 167. See also J. Trotti, 'Compensation Versus Colonization: A Common Heritage Approach to the Use of Indigenous Medicine in Developing Western Pharmaceuticals', (2001) 56 *Food and Drug Law Journal* 367–82.

> of profits and costs, both the North and the South would like asymmetrical reform: the privatization of just their profits and the socialization of just their costs. For the North this would mean that the South gives up its genetic resources but recognizes its intellectual property rights (IPRs); for the South this would mean that the North gives up its IPRs but recognizes a Southern claim on the use of its genetic resources. In the struggle for inefficiency and inequity, the North is winning.[27]

Accordingly, the common heritage notion as espoused by both sides of the global economic and industrial divide has been more or less a barely disguised ideological tool in the politics of and struggle for control of plant genetic resources across the globe. Leaving ideology aside, the question remains whether in international law there is a settled principle of common heritage and, if so, whether such a principle governs the regime on plant resources where such resources are located within the boundaries of sovereign states.

In answering this question, particularly the second limb, reference must be had to the pertinent sources of international law, particularly the primary sources, namely treaties and customary international law.[28] On the first limb of the question posed above, it seems that notwithstanding the substantial confusion which has afflicted the concept of common heritage, five major characteristics may be said to delimit it under contemporary international law.[29]

First, the area to which the concept of common heritage may apply must be free from appropriation of any kind and, hypothetically, must be managed by all states.[30] Second, under the proposed common heritage regime, it follows that all peoples would be expected to co-manage the common space in their capacity as representatives of mankind. In other words, there can be no supervening national interests wherever the concept of common heritage is deemed to be applicable. Third, whatever economic benefits accrue from this global management of a common space would vest in the global community. These are the necessary inferences to be dawn from the element or quality of the term 'common' as used in the notion of common heritage.

Fourth, the area of common global ownership must be a completely demilitarized zone where only peaceful activities are conducted.[31] The final element concerns the

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27. J. Vogel, 'An Economic Analysis of the Convention on Biological Diversity: The Rationale for a Cartel' (on file with the author). Persons interested in this article may reach Professor Vogel at henvogel@earthling.net.
28. Art. 38 of the Statute of the International Court of Justice. Concluded, at San Francisco, 26 June 1945, entered into force 24 Oct. 1945, 1976 YBUN 1052.
29. Most of these characteristics are derived from Pardo's thesis in his historic statement. See 'Declaration and Treaty Concerning the Reservation Exclusively for Peaceful Purposes of the Seabed and the Ocean Floor, Underlying the Seas Beyond the Limits of Present National Jurisdiction, and the Use of Their Resources in the Interests of Mankind', UN Doc. A/AC.105 /C.2/SR (17 Aug. 1967). See also A. Pardo, *The Common Heritage: Selected Papers on Oceans and World Order 1967–1974* (1975); H. Rana, 'The Common Heritage of Mankind and the Final Frontier: A Revaluation of Values Constituting the International Legal Regime for Outer Space Activities' (1994) 26 *Rutgers Law Journal* 225–50.
30. For a comprehensive, albeit debatable, analysis of the concept of CHM in international law, see K. Baslar, *The Concept of the Common Heritage of Mankind in International Law* (1998).
31. *Ibid.*, at 83; D. Wolter, 'The Peaceful Purpose Standard of the Common Heritage of Mankind Principle in Outer Space Law', (1985) 9 *ASIL International Law Journal* 117–46; D. Shraga, 'The Common Heritage of Mankind: The Concept and Its Application', (1986) 15 *Annales D'Etudes Internationales* 45.

conduct of scientific activities in the area under the common heritage principle. Such research must be freely and openly permissible and the physical environment and ecology of the area in question must not be impaired. Even a cursory examination of these elements and an examination of their compatibility with the principles of state sovereignty clearly show the inapplicability of the notion of common heritage to plant life forms within the boundaries of states.

Although the concept of common heritage has enjoyed mention and recognition in some treaties, especially treaties dealing with the deep seabed,[32] the Moon,[33] outer space and celestial bodies,[34] and the continent of Antarctica,[35] some scholars doubt whether the common heritage concept has become a generally accepted principle of international law. In other words, there seems to be a scholarly debate, perhaps semantic, whether recognition of the concept or notion of common heritage in treaty law is synonymous with the status of 'generally accepted principle of international law'.[36] Strict 'constructionists' or purists of international law would readily argue that common heritage is not yet a generally accepted principle of international law. On the face of it, there are some arguments which may be made for this rather doctrinaire, perhaps, sterile point of view.

Strictly speaking, for a concept to be considered as a generally accepted principle of international law, 'the content of the principle must be distinct enough so as to enable it to be part of the general corpus of international law'.[37] Given the problematic meanings of the constitutive words 'common', 'heritage' and 'mankind', it may therefore be doubted whether any coherent or logical clarification of the concept exists in international law. The word 'common', for example, refers to something which belongs to all. Expressly and impliedly, management of such entities or resource requires the consent and representative mandate of all who have property in the thing held in common. The term 'heritage' refers to property which has been inherited. It is impossible to conceive of the relevance of this term to plants, which may well be unknown to humanity, let alone capable of being passed on as a heritage. As already indicated, the term 'mankind' has not yet acquired any juridical meaning in international law. Accordingly, scholars such as Wolfrun, Gorove, and Joyner would seem to be on solid ground in their argument that the concept of

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32. For example, Part XI of the 1982 UNCLOS provides that 'the Area [i.e. the seabed and ocean floor beyond the limits of national jurisdiction] and its resources are the common heritage of mankind'. See Art. 137, United Nations Convention on the Law of the Sea (With Annex V), concluded at Montego Bay, 10 Dec. 1982, entered into force 16 Nov. 1994. UN Doc. A/CONF.62/122; reprinted in (1982) 21 ILM 1261; Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, Beyond the Limits of National Jurisdiction; adopted by the United Nations General Assembly, 17 Dec. 1970. UN Doc. A/RES/2749 (XXV), (1971) 10 ILM 220.
33. Agreement Concerning the Activities of States on the Moon and Other Celestial Bodies, 5 Dec. 1979, (1979) 18 ILM 1434.
34. Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, 610 UNTS 205.
35. Antarctic Treaty, concluded in Washington, DC, 1 Dec. 1959, entered into force 23 June 1961, reprinted in 40 UNTS 71.
36. See, e.g., Joyner, *supra* note 13, at 198.
37. Wolfrun, *supra* note 14, at 333. For an authoritative and fresh insight into the vexed question of precision of custom in international law, see the seminal work of A. D'Amato, *The Concept of Custom in International Law* (1971).

common heritage is afflicted with internal inconsistency if not anarchy. However, these arguments are not wholly watertight and may be countered.

First, it is a matter of common knowledge and experience among international lawyers that there are principles of international law which, although not known for their clarity, are nonetheless generally accepted as principles of international law. In other words, conceptual clarity is not a condition precedent to the emergence of any legal concept as 'a generally accepted principle' of international law. Ready examples of concepts include the principles of sustainable development and precaution. In short, although conceptual clarity is a virtue and a desirable value in the evolution of legal norms, absence of conceptual clarity is not necessarily fatal to the status and characterization of a concept or principle of law as a 'generally accepted principle of international law'. After all, in the development of international law, vague terms and phrases often ripen into coherent and clearer concepts and principles of law.

Second, it would seem that the crucial factor in determining general acceptance of principles of international law is that the resultant state practice from allegiance to and compliance with that concept (regardless of the clarity of the concept itself), in this case, common heritage, must be demonstrably evident and accompanied with the requisite *opinio juris*[38] by states and compliant entities. A corollary to this requirement is that the custom of acceptance of that concept or principle, in this case, the common heritage concept, must be widespread. Here, it has to be conceded that the common heritage concept stands on a shaky ground.

It is remarkable that, apart from the UN Convention on the Law of the Sea (UNCLOS) treaty, treaties which recognize the common heritage concept as a principle of international law have witnessed the lowest numbers of ratifications. This phenomenon is particularly significant in the context of the global implications of the common heritage concept. For example, the Moon treaty has only the barest number of ratifications for its becoming effective – five. Apart from this miserably poor number of ratifications, none of the five states parties to the Moon treaty, namely Austria, Chile, the Netherlands, the Philippines, and Uruguay – is a space-faring state. When this fact is juxtaposed with the universal significance of the Moon and the ubiquitous nature of the usefulness of celestial bodies and space in daily life (satellite television, telephony, weather forecasting, and so on) the low number of ratifications by states of those treaties which promote the common heritage concept leaves it in a weak position in its claim to be considered as a 'generally accepted principle of international law'. The inescapable conclusion is that while the concept of common heritage is a principle of international law, whether it is 'a generally accepted principle' is open to debate.

Assuming, especially in relation to UNCLOS, that the CHM concept is a generally accepted principle of international law, the second limb of the question – whether the 'principle' of common heritage is applicable to plant resources – deserves further examination. In resolving this issue, it is equally useful to pay due regard to the sources and evidences of international law, the principles of state sovereignty, and

38. Joyner, *supra* note 13, at 198. Professor Joyner thus concludes that CHM is at best a philosophical notion with the potential of emerging and crystallizing as a legal norm.