

The Environmental History of China and the Sustainable Management of Governments

Abstract: China possesses one of the longest continuous conceptions of public administration. This paper discusses what present day governmental organizations can learn from the environmental history of China in relation to the problems associated with the logic of short term advantage and the ethics of chance.

Introduction

Since at least the Tang dynasty (618 – 907 C.E.), China has possessed a rule-based bureaucratic governmental system largely independent of hereditary power claims through the process of meritocratic civil service examinations. Moreover, over the centuries this Chinese bureaucratic system had to confront the great majority of the issues related to meritocracies that present day government administrations have to face such as alleviating poverty and distributing land equitably. (Woodside, 2006) Thus, it could be argued that consideration of the history of the civil service in China, particularly in relation to the environment, could shed a great deal of light on the problems of present day government administrations. This paper discusses the sustainable management of present day government organisations by considering the history of public administration in China and its relationship to the environmental history of China. The paper concludes with a generalised discussion of the possible motive forces behind the degradation of the Chinese environment especially focussing on the logic of short term advantage, ritualisation of knowledge and the ethics of chance.

The history of public administration in China

The bureaucratisation of China commenced with the unification of China by the Qin dynasty in 221 B.C.E. when a system of provincial, prefectural and county governments were established to administer the empire. This was not an entirely feudal system because at all of these levels officials were selected on a non-heredity basis. However, until after the Han dynasty a system of recommendation was used for selection of bureaucrats whereby all levels of officialdom would put forward names of possible officials, supposedly possessing both talent and virtue. This, in contrast, led to a system of nepotism because of the lack of competition for places and such a system allowed already powerful family groups to gain sufficient advantage to threaten imperial power. The consequence of this was the establishment of the civil service examinations system. This continued with few interruptions right up until 1905 as the last Chinese empire, the Qing, was in the process of disintegration. (Lin, 2008, p. 76) As Peng (2005, paragraph 2) points out:

‘In China, the feudal system was quickly replaced by a bureaucratic empire. In this system, although central government exercised in theory absolute control over society, it was always obliged in practice to rely on self-

management at the base of society to compensate for the inadequacy of central administrative power. In Chinese villages where “the mountain is high and the emperor is far away”, (*shan gao, huangdi yuan*), educated civil servants stood in for the central authorities in the direction of local affairs.’

Ironically the Chinese abolished the civil service examinations in 1905 just as Western nations were beginning to use mass examinations for their civil service. Even more ironically, the Republic of China then embraced the ‘scientific’ management systems advocated by Taylor in the early twentieth century not realising that such systems had already been developed over the centuries in pre-industrial China. (Woodside, 2006, pp. 11-13)

Some have argued, such as Marx (1983, p.332-339) and Landes (1998), that it was the very success of and dependence on Chinese bureaucracy that caused the ‘backwardness’ and ‘stagnation’ of the Chinese civilisation as compared to Western nations from the eighteenth century onwards. Interestingly from an environmental perspective, both of these writers considered that the bureaucratisation of China came from the need for government agencies to control irrigation and waterways, particularly the Grand Canal. Marx, however, did think that market-based capitalism would take over from such an old ‘Asiatic’ society. What he did not realise at the time he was writing was that there was already a high level of market integration and efficiency in eighteenth century China. (Shiue, 2002) In fact, the Chinese market system ‘dwarfed that of Europe for millenia’ and the government interfered with the business sector as little as possible with a comparatively light taxation regime (Rosenthal and Bin Wong, 2006, p. 5) The negative side of this, however, was that government salaries were so low as to cause corruption to be come widespread amongst civil service such that income from corruption was 14 to 22 times higher than official salaries by around 1853 (Ni & Van, 2006) further exacerbating the negative effect on good governance.

The Environmental History of China

No matter the strength of the systems, engineering and science in development of the state of China, by the time of the Qing dynasty the environment was so degraded and the corruption so widespread that famine became rife. (Elvin, 2004) In fact, for over a decade in the middle of the eighteenth century, the central government’s famine relief program had to be curtailed due to the amount of famine throughout the country. (Dunstan, 2007) Elvin argues convincingly that in China humanity waged a three thousand year war against the environment by concentrating on human relationships rather than sufficiently considering the framework within which the species survives. In his eyes this was due to ‘war and the logic of short term advantage’. It should be realised that some 3,000 years ago the forest coverage of China was of a much greater percentage than today, and that most of China was then covered in natural vegetation. Moreover, wild elephants roamed where Beijing now stands. The loss of such great amounts of flora and fauna was due to ‘climatic changes, deforestation, human population increase and expansion of

settlements'. (Chiang, 2005, pp. 153-154) In fact, Elvin chose to call his environmental history of China *The Retreat of the Elephants* for exactly this reason.

If we are to take this summation of the negative effect of governmental activities as having a more general application to humanity, it is necessary to test Elvin's ideas against another country of a completely different culture, geography and history. Such a case is Australia, where civilisation, in the sense of cities and towns organised by government administrators, did not come into being until a little over two hundred years ago. Nevertheless, the environment has become degraded to the extent that it is advised not to eat the fish from Sydney harbour due to the prevalence of dioxins and the country's major river system, the Murray/Darling, is under such stress that blooms of deadly blue green algae are not uncommon. The difference as compared to China is that there has been no war of any great scale. However, the logic of short term advantage has held sway even in governmental personnel and organisations. Cane toads for instance were introduced by Australian agricultural scientists in 1935 and currently infest an area of over 1 million square kilometres. (Lever, 2001) As a reviewer of Lever's book, Gordon Burghardt, states, '(i)t is a depressing narrative of the failure of common sense and scientific acumen when pitted against shortsighted desires for quick fixes to agricultural problems, themselves a result of ecological insults to environmental integrity.' Moreover, many other examples exist of such short term governmental thinking in Australia such as the introduction of initially seven rabbits, whose progeny ended up devastating much of Australia's arid and semi-arid ecology, and the various major irrigation schemes that have led to the salinisation of large tracts of agricultural land.

Even with such poignant examples from the comparatively fertile environment of China to the 'desert that does not look like a desert' that is Australia, there are those who argue stridently against the ecological and Malthusian arguments of Elvin. Such arguments put forward the growth of knowledge, human capital accumulation and economic and political institutions as the basis of economic growth. (Ma, 2004, p.264) The problem with such arguments, however, is that at their philosophical base they situate humanity above or outside its physical and environmental constraints. Much of the writing on the largest famine in human history in terms of mortality in China following the Great Leap Forward from 1959-61, for instance, promotes the political economy of the communist Chinese government as the major causal factor. However, the research of the economic historian, O Grada (2007), into the Great Leap forward famine and the Great Bengal Famine of 1943-44 indicates that neither public nor private policy were the driving forces that caused so many deaths, rather the Malthusian factors of overpopulation and resource depletion were at the root of the problem. In fact, Elvin's argument that China 'hit the wall' environmentally in the eighteenth century and never quite recovered until the use of modern scientific methods to feed its population is reinforced by the oft used quote of Tawney (1964, p. 77) writing in the early 1930s where he described the situation of the peasant population in northern China as 'that of a man standing permanently up to the neck in water, so that even a ripple is sufficient to drown him'.

The Logic of Short Term Advantage

The various nations and peoples that make up the world are generally not in the position of the peasants of northern China in the 1930s. Nevertheless, governmental agencies need to bear in mind the lessons of both the environmental history of Australia and more specifically that of China because of its long term administrative success. In particular, the lessons about the consequences of following the logic of short term advantage should be considered carefully.

The relationship between the degradation of the environment in China and the logic of short term advantage has remarkable parallels in the present day global market economy. The idealised market as postulated by Hayek has become the main arbiter of social power particularly since the governments of major global economies such as those of Great Britain and the United States of America privatised what had been previously considered public utilities for the sake of market efficiencies (Aarons, 2008) Hayek argued that the market has be left to its own devices as it is the best and perhaps the only real conveyor of information and knowledge in a society where individuals lack knowledge beyond their own sphere. (Hayek, 1980) This proposition was enthusiastically taken up by both Ronald Reagan and Margaret Thatcher in the 1970s and this resulted in a push for the withdrawal of government oversight of many societal processes. Since that time the great majority of governments around the world, including the previously communist governments of Russia and China, have followed suit and have given over much of what had previously been bureaucratically mandated processes to market mechanisms.

In the context of the relationship between war and its negative impact on the environment, the one great advantage of this move towards the greater power of business through market rather than political processes is that business since its inception has helped humanity ameliorate against war. Through the market, business allows a peaceful solution to the re-allocation of resources, which otherwise over history has been left to the force of arms. Moreover, as Hayek argues, if the market is left to its own devices, it self-corrects to any informational input and thus becomes the basis of information transfer. (Hayek, 1980 & 1976)

The problem with this, however, is that the process as described by Hayek relies on short term correction strategies, that is the market corrects itself with short term information inputs, which become knee jerk reactions to present circumstances. Thus, even though the market ameliorates against war, it is still captive to the same logic of short term advantage that epitomises war, and any environmental considerations become lost in the striving for competitive advantage for short term profit. Admittedly, the postulations of Malthus have proved incorrect over the past two hundred years, but if one considers in this context the environmental history of Easter Island let alone that of China, humanity could end up just trading itself into oblivion as a species albeit with some impressive monuments to mark its passing. (Malthus, 1809)

China was a significant part of the globalised world economy from at least the sixteenth century, specifically in the trade of silver coming from the Americas. The catalyst for this

from the European side was that the exchange ratio of silver to gold was 4:1 in China as compared to 12:1 in Europe. Most of the global silver finished up in China, and in return the Europeans received porcelain, tea, jade, and silk. (Zurndorfer, 2004, p. 6) Moreover, Keller and Shiue (2007) show that through careful quantitative research of rice markets now as compared to 270 years ago rather than the much-touted market reforms in China over the past two decades the degree of market integration in China in 1721 was a very positive predictor of per capita income in China in the 1990s. Furthermore, they indicate that centuries old geographical factors have a stronger relationship to interregional income than the present market reforms.

The Ethics of Chance

Another catalyst to humanity's negative effect on the environment in China was the ritualisation of its knowledge system and the development of chance as a major ethic. The history of the traditional Chinese system of siting known as *fengshui* (wind and water), careful examination of which shows an early profound human ecological understanding (Yoon, 2006), can be seen as an example of a useful early scientific knowledge system that became ritualised over time. Such ritualisation saw *fengshui* become a systematic development of good fortune for its adherents rather than its original conception of siting based on the observation of fertility. The plaint of the author of the *Twenty Four Difficult Problems* against the practitioners of the art of *fengshui* around the thirteenth century AD is indicative of the direction that it was heading:

The whole of this work discusses the form, force, feeling and nature of water. It is never ignorant of the important principles as are the practitioners of the theories of direction who absurdly match longevity, the receiving of favours, becoming an official and imperial prosperity with good and evil spirits and good and ill fortune, consequently causing the lucky not to be buried and those buried not to have good fortune. In deluding the world and misleading the people, nothing is worse than this. *Twenty-four Difficult Problems*

Moreover, by the end of the Ming Dynasty (circa 1600), such tying of siting to good fortune had become the norm. The most favourable sites outlined in a *fengshui* text written around that time, the *Water Dragon Classic*, for instance, ensure a 'hundred sons and a thousand grandsons' for those who live or bury their ancestors there. To make matters worse, the observational roots that had made *fengshui* such a powerful system had seemingly been lost by this time. As Jiang Pingjie, the compiler of the *Water Dragon Classic*, states in the General Discussion to the first chapter:

.....I have inspected all of the land in Wu and Chu. With the three rivers and five lakes the immersions are manifold. In seeking what agrees with these patterns, I have not met one in a hundred. This just means that one (should) thoroughly understand these theories in order to learn their meaning and that is all.

To reinforce the all pervasive focus on good fortune in the late Ming dynasty, it should be noted that another fengshui manual of the era, *What Everyone should Know about Siting (Dili renzi xu zhi)* had become a best seller amongst the literati, (Huang, 1991) which is indicative of the depth of the societal need for good luck at that time. Interestingly, it was exactly at this time that the extent of degradation of the Chinese environment began to be felt.

This poses the question of why both the people and the government of a civilisation which had such well developed its bureaucratic, engineering and scientific structures ended up focusing on the decidedly unscientific aspect of chance in the system of *fengshui*, which had been developed around observational knowledge. The answer could lie in the looming environmental disasters of the eighteenth and nineteenth centuries, and perhaps in a more general sense, in the powerlessness of humanity when it strives against rather than attempting to interact with its natural surroundings. The history of the continual problems with the engineering of the Grand Canal around Hangzhou is indicative of this. As Elvin (p.115) states in this context, ‘man-made systems of water control are to a greater or lesser degree inherently unstable, and constantly in interaction with disruptive external environmental factors’. This has certainly been the experience of both China and more recently Australia with the much discussed problems with its large irrigation schemes.

The relationship of these developments in traditional Chinese society to the present day globalised societies is similarly marked. Through the implementation of the market approach advocated by Hayek, much of societal power has been given over to the market even though present day scholars such as Walker argue that there seems to be no empirical evidence for such transference of power. (Walker & Walker, 2000) Moreover, Hayek’s pure market, where individual investment decisions become an amorphous global democratic whole, does not seem to exist in reality. Even if it did, individuals would be economically disempowered in comparison to institutions and powerful conglomerates, much as they are under non-capitalist systems, even if they did possess a wealth of knowledge. This is not only a modern dilemma. As the Confucian Chinese philosopher, Mencius, said circa 300 BC:

‘Even though one has wisdom, it is not as good as taking advantage of power-base’.
(*Ciyuan*, 1965)

This lack of power of the individual in the present day market oriented economic system has an unexpected effect; the ethos becomes that of chance. Individuals ‘play’ the stock market around its short term adjustments to gain economic power through the acquisition of money. However by doing this in sufficient numbers these players become a power group themselves skewing the market even further from reality. Thus, the short term game becomes the focus of the market and any long term necessities such as environmental protection become lost in the ethics of chance.

Government Administration

The question that the preceding discussion raises is what government agencies can do in terms of their administrative and managerial practices so as not to fall into the vicious cycle of the logic of short term advantage and the ethics of chance. Typical of recent research into sustainable management is that of Durant *et al.* (2004) who use Gaus' 1947 political economy framework for the ecology of public administration in relation to people, place, physical technology, social technology and philosophy to analysis the possibility of change toward a new governance paradigm. These researchers identify in detail the various issues involved in making the globalised world's systems more sustainable. What is particularly worrying, however, in their description of the recent scenario is that the market through multinational corporations has taken over much of the political power of national governments, which have been pushed more and more to reduce the size of their public sector to allow the market forces to increase efficiency.

The problem of this reliance on multi-national corporations and the market if one considers the environmental history of China is that such corporations like all businesses must have profit as their basic motive and with this in mind, the market itself as argued above, works on a short term basis. This is a problem as well for those who call for corporations to become more socially responsible (Millar and Macalister in Durant *et al.*, 2004). Certainly there have been some inroads in this area, but for business to survive, the profit motive must in the end override any sense of social responsibility. Thus, the logic of short term advantage would seem to be at play with all its possibly catastrophic consequences. It should be remembered that China had an efficient market system; it developed and used paper money for some seven hundred years before the Swedish first used it in Europe. But still the environment and subsequently humanity suffered from human excesses in its competition with itself while disregarding its surroundings.

It could be argued that the corruption of Chinese officials in the Ming and Qing dynasties was a major factor the decline of the state. The lack of ethics was not in the system that selected the officials, which retained its rigour, but stemmed from the central government's low rate of remuneration in its attempt to curb public spending, which has echoes in the present day downsizing of the public sector. The large amounts of remuneration that the late imperial officials received also have echoes in the recent exorbitant salaries and commissions of those working in the finance sector as compared to other seemingly more productive areas of the economy. A further present day parallel to the corruption in late imperial China can be seen in the sub-prime mortgage fiasco, which has taken the globalised market to the brink of collapse in the past few months. The ethics of those who brought about this crisis certainly seem to be the ethics of chance rather than any more substantial philosophical basis.

In conclusion, we argue that present day governmental organizations can learn a great deal from the environmental history of China in relation to the problems associated with the logic of short term advantage, the ritualisation of knowledge and the ethics of chance.

In particular, the present day mantra for the privatization of government agencies would seem to be misguided because of the private sector's need to ensure profits over the short term, which leads inevitably to its logical basis being tied to short term thinking.

Reference List

- Aarons, E. (2008) *Market versus Nature: the social philosophy of Friedrich Hayek* (Australian Scholarly Publishers, North Melbourne).
- Chiang, Tao-chang (2005) 'Historical Geography in China' *Progress in Human Geography*, volume 29 no. 2 pp. 148-164.
- Ci yuan* (1965) (Beijing: Zhonghua shu ju xianggang fen ju).
- Durant, R.F., Youn-Pyoung Chun, Byungseob Kim & Seongjong Lee (2004) 'Toward a New Governance Paradigm for Environmental and Natural Resources Management in the 21st Century?' *Administration & Society*, vol. 35 no. 6. pp. 643-682.
- Elvin, M.: 2004, *The Retreat of the Elephants; an Environmental History of China*, (London: Yale University Press).
- Hayek, F. (1980) 'The Use of Knowledge in Society' in *Individualism and Economic Order* (Chicago: University of Chicago Press,).
- Hayek, F. (1976) *Law, Legislation and Liberty* (London: Routledge and Kegan Paul)
- Huang Yi-long, 'Court Divination and Christianity in the K'ang-Hsi Era', *Chinese Science*, vol. 10, 1991, pp. 1-20.
- Keller, W & C.H. Shiue (2007) 'Market Integration and Economic Development: A Long-run Comparison' *Review of Developmental Economics*, volume 11, no. 1.
- Landes, D.S. (1998) *The Wealth and Poverty of Nations: Why some are so Rich and some are so Poor* (New York: W.W. Norton & Co.)
- Lever, C. (2001) *The Cane Toad: The History and Ecology of a Successful Colonist* (Yorkshire: Westbury Academy and Scientific Publishing).
- Lin, Justin Yifu (2008) 'Needham Puzzle, Weber Question and China's Miracle: Long Term Performance since the Sung Dynasty' *China Economic Journal*, 1, 1, pp. 63-95.

Malthus, T. R. (1809) *An Essay on the Principle of Population or a View on its Past and Present Effects on Human Happiness; with an inquiry into our prospects respecting the future removal or mitigation of the evils which it contains* (Roger Chew Weightman: Washington city).

Marx, K. (1983) 'The British Rule in India' and 'The Future Results of British Rule in India' first published 1853 in E. Kamenka (ed.) *The Portable Karl Marx* (New York: Penguin Books pp. 329-41).

Ma Debin (2004) 'Growth, Institutions and Knowledge: A Review and Reflection on the Historiography of 18th-20th Century China' *Australian Economic History Review*, 44, 3, pp. 259-277.

Ni, Shawn & Pham Hoang Van (2006) 'High Corruption Income in Ming and Qing China' *Journal of Developmental Economics*, volume 81, issue 2, pp. 316-336.

O Grada, Cormac (2007) 'The Ripple that Drowns: Twentieth-century Famines in China and India as Economic History' (Dublin: University of Dublin Centre for Economic Research Working Paper Series).

Peng Bo (2005) 'State Control and Governance of Residential Communities: The case to be examined: community mediation in Shanghai' *China Perspectives*, 57.

Rosenthal, Jean-Laurent, and R. Bin Wong (2006). "Fiscal Regimes and Economic Growth; China and Europe, 1500-1800." Working paper, UCLA

Secretly Passed down Water Dragon Classic, Mi chuan shuilong jing, Jiang Pingjie (ed.), Cong shu ji xuan 0178, (Taipei: Xin wen feng chuban gongsi, 1988).

Shiue, C. (2002) 'Transport costs and the geography of arbitrage in eighteenth century' *China American Economic Review*, 92, 1406-1419

Tawney, R.H. (1964) *Land and Labour in China* (New York: Octagon Books, originally published 1932)

Twenty Four Difficult Problems, Nan jie ershisi pian, Author anonymous, *Jin dai bi shu* Vol. 6 no. 53 of the Ji gu ge, (Shanghai: the library of Mao Jin of the Ming dynasty, Shanghai bogu zhai yingyin, 1923) and *Cong shu ji xuan* 0178, (Taipei: Xin wen feng chuban gongsi, 1988). (CSJX) pp. 8-9.

Walker, B. & B. C. Walker (2000) *Privatisation Sell off or Sell out?: the Australian Experience* (ABC Books: Sydney).

Woodside, A. (2006), *Lost Modernities: China, Vietnam, Korea and the Hazards of World History* (Cambridge, Massachusetts: Harvard University press).

Yoon, Hong-key (2006), *The Culture of Fengshui in Korea: An Exploration of East Asian Geomancy* (London: Lexington Books)

Zurndorfer, H.T. (2004) 'Imperialism, Globalization and Public Finance: The Case of Late Qing China' Department of Economic History London School of Economics Working Paper no. 06/04.