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SEX TOURISM AND CHAOS: A COMPLEX SYSTEMS APPROACH

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ABSTRACT

Sex tourism has been associated with human trafficking (sex slavery), violence, child sexual exploitation and the transmission of HIV/AIDS. Though marginalised, sex tourism is globally pervasive, embracing multiple stakeholders and contextualised within complex systems. Chaos theory can be applied to facilitate better understanding of sex tourism systems and their relationships in the wider tourism development process. A tourism ‘butterfly’ systems configuration is proposed which has potential implications for intervention strategies by governments, NGOs and the tourism supply chain in seeking to influence global, national and local systems.

Key Words: Sex, Tourism, Complex, Systems, Chaos, Strategy

INTRODUCTION

Tourism is widely regarded as of significant benefit, in particular, for less developed countries (LDCs), where tourism it is claimed, can make a substantial contribution to development and in combating poverty (WTO/OMT, 2002). It can facilitate product diversification towards a graduation out of LDC status (Econtre, 2001). A diversified form of tourism is sex tourism, estimated as a $1 billion per year business (Hawaii State, 2004). The International Labour Organisation estimated that between 2-14% of the gross domestic product (GDP) of Thailand, Philippines, Malaysia and Indonesia is derived from sex tourism. (Wong, 2005).

While delivering economic benefits for some, it simultaneously generates significant costs through human trafficking/sex slavery, estimated to be the third largest financially lucrative activity after illegal weapons and drugs, (Poggioli, 2004); child sexual exploitation (ECPAT, 2005); sexual violence (equalitynow.org) and the transmission of sexually transmitted fatal diseases (HIV/AIDS) (Lichtarowicz, 2004; Hudson, 2004). Interventions to discourage sex tourism therefore are seen by some stakeholders as key to reducing the demand for sex trafficking (Hawaii State, 2004).

The benefits and costs of tourism development strategies are therefore difficult to manage due to the complexity of systems dynamics in which the development occurs and also the nature and characteristics of the emergent tourism products and services. In the light of the perceived ambiguities, incongruities and dynamics of sex tourism, the aim of this paper is to add to understanding through a complex systems approach. The dynamics of complex systems are fundamental elements of Chaos theory. Complex systems include a variety of elements that transform overtime without apparent order and which encompass a range of explanations with different degrees of complexity (Kirshbaum, 2002). The paper will locate sex tourism within a complex systems framework and consider the significance for tourism research and development.

METHODOLOGY

The commodification of sex as ‘sex tourism’, when perceived as, at the edge or margin, creates a distinct and unavoidable dilemma when seeking reliable data (Renton, 2005), and challenges the validity of approach and the generalisability of outcomes. Concealment and distortion appear to be possible behavioural and attitudinal implications when contextualised within and around acute sensitivities, value judgements and perhaps criminality (Lim, 1998; Sanchez Taylor, 2000; Taipei Times, 2004). As such this paper seeks to corroborate through the breadth of literature and secondary source material where feasible, yet acknowledges the limitations inevitably associated with this area of study.
The conceptualisation proposed within this approach is experimental and designed to engage consideration by academics, policy makers and the wider stakeholder community.

SEX AND TOURISM

Sex and tourism are frequently presented as sharing a symbiotic relationship, as liminoidal (Ryan & Kinder, 1996), at the fringe or edge (Ryan & Hall, 2001; Selanenniemi, 2003), between the ordinary and the extraordinary (Urry, 1997; Bauer & McFarthen, 2003). 'Sex tourism' however has been variously considered as tourists purchasing sexual services (Harrison, 1994; WTO, 2005), to more broadly as men and women, travelling to a destination for the primary purpose of engaging in sexual experiences (Clift & Carter, 2000; Clift, Callister & Luongo, 2002). This approach has been broadened further, in recognition that a tourist's stay may embrace a range of experiences. The substantial time allocated to these may not be directly sex related, yet sexual opportunism may remain a significant tourism motivator (Opperman, 1998; Bauer & McFarthen, 2003).

Similarly, drivers of supply and demand for sex tourism are diverse, frequently referring to political/gender power relationships, military and economic colonialism, inequalities through social stratification, family disintegration, political/civil instability, relative poverty and economic dislocation. (Lim, 1998; Opperman, 1999; Kempadoo, 1999).

Literature emphasises the international migration of tourists and/or sex workers, often portrayed as a ‘North – South’ phenomenon. Tourists from relatively developed nations, collectively represented as ‘North’, for example, Europe, N. America, Japan, Australia, travelling for sexual services to relatively less developed and developing nations, represented as ‘South’. These include, S.E. Asia – Thailand, Cambodia, Indonesia, Malaysia (Seabrooke, 1996; Lim, 1998, Opperman, 1999; Ryan & Hall, 2001); Latin America - Brazil, Bolivia, Chile, (Hannum, (n.d); Littlewood, 2001; Clift & Carter, 2000); the Caribbean - Cuba, Dominican Republic, Haiti and Jamaica (O’Connel Davidson, 1998; Kempadoo, 1999; Brennan, 2004); India, Nepal (Rao, 1999); Africa (Slaughter, 1999; Kibicho, 2005) and China (Hobson & Heung, 1998; Chinanews, 2002; Duetsche Presse-Agentur, 2003; Taipei Times, 2004).

Reverse migrations may also be interpreted as business tourism, i.e. sex workers travelling South/North, South/South or North/North internationally (Scott 1995) and as a dimension of domestic sex tourism, (Samyndorai, 1993; Opperman, 1999; Taipei Times, 2004; Wong, 2005). Research of 45 regional U.K. police forces found that just 2 monitored regularly their local sex market. Seven were able to identify that non – UK women were involved in prostitution. In addition, 18 cases of trafficking were identified in 5 regions involving 71 women from Thailand, Albania, Brazil, Czech Republic, Hungary, Lithuania, Portugal, Romania, Slovenia, Ukraine and Spain (Kelly & Regan, 2000). Such evidence substantiates that sex tourism is pervasive and internationally significant despite its’ perceived characteristics of ‘marginality’.

Domestic tourism may be less easily measurable than the international product despite satellite accounting methods, but also possesses significant local multiplier benefits for many nations. Data indicates that in 2004, while 16.93 million foreign visitor arrivals were recorded in China, 1100 million domestic visitor trips were also recorded, generating substantially more receipts in terms of purchasing power parity than international tourism. (CTNTO, 2005). Major internal population migrations engaged in domestic leisure and business tourism suggests considerable though indeterminate consumption by tourists of sexual services (Symanski, 1981; Oppermann, 1999; Kelly & Regan, 2000). The sex market therefore involves both local and foreign supply and demand and manifests a high degree of complexity, dynamism and non-linearity.

COMPLEX SYSTEMS AND CHAOS THEORY

Chaos theory is based on the studies of “forever changing complex systems” (Ho, 2005:1), which because of their ‘complex’ nature do not appear to repeat in the same way over time (Lorenz, 1963). Consequently complex systems can demonstrate a precarious balance or sensitivity which is termed the ‘edge of chaos’ (Andrews, 1996). Small events therefore might have serious repercussions for a system or other related complex systems, hence the analogy of the movement of a butterfly wing (butterfly effect) having the capacity to generate the conditions for tornado formation (Lorenz, 1996).
Complex systems are organically subjected to changes; those changes however receive ‘feedback’ from the environmental context of the system, therefore, if the feedback is negative, the system readapts to survive and fulfil the aim of its existence, regardless of the level of intelligence of the components of the system. The concept is applicable to both organic, through genetics, and non organic life. Thus complex systems, are self organised and divide into parts, each having a specific function to sustain the whole system, as for example the cells of the human body (Kirshbaum, 2005). Each part (fractal) is recursive, it resembles the main system and is designed to support and ensure survival of the main system; these fractals are, therefore, complex systems too (Mendelson & Blumenthal, 2005).

Although complex systems appear to be random they follow, in reality, specific patterns which, in some ways, fall into ‘probabilistic behaviour’ and, therefore, the evolution of complex systems is, to a certain extent, mathematically determined in spite of their non linearity (Andrews, 1996, Advanced Forecasting Corporation, 2005), but not predictable (Mendelson & Blumenthal, 2005). Hence, chaos theory consists of the study of ‘nonlinear dynamics’, which develops in the context of three parameters: an existent condition, evolution over time and parameters of measure of the system (Hilborn, 2000). Complex systems are considered as deterministic, i.e. the changes are determined by non periodic past actions, therefore calculations might predict the evolution, though not the outcome (Mendelson & Blumenthal, 2005).

The behavioural patterns of complex systems make them ‘non-linear’ as the outcome of the effect is disproportionate to the input by the cause (Williams, 1997). This feature of the chaotic systems has been identified and proven mathematically, when iteration between numbers in a logistic map can produce considerable differences in results by an alteration of the original state of the figures of one millionth (Kiel & Elliott, 1996).

However, complex systems are studied from the perspective of another complex system (e.g. the scientist), who cannot be fully aware of the problematic affecting the greater system. The part, cannot contain the whole and therefore it is impossible to predict what might interfere in a system and what might cause an imbalance (Russell & Faulkner, 2004) which might provoke a bifurcation of the system’s patterns and have repercussions on the various parts of the systems (Hilborn, 2004). This tends towards readjustment to a new status, similar, though not identical, to the previous; this adaptation generates stabilisation at a new status, or attractor, as it can be seen as a point of attraction; i.e. convergence towards a new balance (Lucas, 2005). In addition, complex systems are capable to amortise changes in order to nullify long term repercussions. Systems, therefore, tend to move away from instability over time creating conditions for a new stability (Russell & Faulkner, 2004).

A symbolisation of an attractor was designed by Lorenz (1996), a similar example is shown in Figure 1, who applied chaos theory to meteorology initially and later the theory found application in a range of disciplines, including social sciences (Williams, 1997) It has increasingly been used to understand social phenomena as these manifest characteristics of non linearity and the convolution of complex systems. Economics, political science and sociology have therefore been explored positivistically, seeking to understand through a deterministic equation the effect of apparently random qualitative behaviour acting as a bifurcation and transforming into other behaviour to reach equilibrium within a system (Elliott & Kiel, 1996).

Figure 1
Lorenz attractor

Source: http://www.gweep.net/~rocko/sufficiency/node10.html
The study of the tourism and hospitality industries, has often been approached through management perspectives and prescriptive theories, which seem inadequate in representing the dynamic of these systems. They are susceptible to mutations which never replicate, and show features of complex systems which might be considered through chaos theory (Parry & Drost, 1995) (McKercher, 2000). Perhaps inappropriately defining chaotic systems as ‘lawless’ and lacking equilibrium, Lewis and Green (1998) offer a comparative explanation between the linear and complex (or global) perspective of resorts management arguing that in some ways a positivistic approach had been, so far, effective in planning at a micro level though challenged in a chaotic environment where entrepreneurs function. Their perspective focuses on the interpretation that a chaotic system, as such, cannot be understood using a positivistic approach. However they assimilate the resort to a system, therefore endorsing the Leiper’s (1990) conception that tourism is an assemblage of systems. To this extent Lewis & Green’s (1998) view might identify the resort system as a fractal of a larger system (Mendelson & Blumenthal, 2005), which is not ‘the tourism system’, according to Leiper (1990) but the system(s) within which a resort functions as a dynamic interrelation of elements. Hence, the interactive systems exist as part of micro and macro environments where the elements’ might function as attractors, shifting the course of the system and achieving a new balance (Lucas, 2005). McKercher (1998) identifies that the individual participating in tourism is also a system functioning and interacting with other tourism systems.

Russell & Faulkner’s (2004) model depicting the chaotic dynamic in the Tourism Area Lifecycle provides a basic though effective visualisation of a tourism system developing and adapting in a chaotic environment, facing the ‘edge of chaos’ and rebalancing its course in a new cycle. Farrell & Twining-Ward (2004) revisit the application of chaos theory to tourism in the context of sustainability underlining the importance of scrutinising complex systems and understanding non linear methods to support management, developments and strategy for a sustainable flexible management where humans are seen interacting with the environment not impacting on it. Therefore they recommend that a multidisciplinary approach should be adopted in management to study complex adaptive tourism systems which are real entities “driven by flows of energy” (Farrell & Twining-Ward, 2004: 27).

**SEX TOURISM SYSTEMS MODEL**

Seemingly elegant solutions to complex issues have previously been proposed (Leiper, 1979 and 1990), including continua depicting the potential polarities within sex tourism such as, confirmation or assault of integrity, commerciality, exploitation (Ryan & Hall, 2001) sex or romance, mutual benefits, exploitation, level of facilitation by the tourism industry (Bauer and McKercher, 2003). The dynamics and complexity of sex tourism, perhaps far from elegant and demonstrating diversity, discontinuities and non linearity may benefit from an alternative configuration of tourism systems as proposed in Figure 2, since sex tourism might be assimilated to a fractal of a wider tourism system.

**Figure 2**
Tourism ‘butterfly’ systems’ model

Sex tourism as outlined, exhibits characteristics and behaviour that can be recognised as coexistent within a systems paradigm in so far as it functions as a complex whole, it prescribes certain shared characteristics, for example spatial, temporal and cognitive and is contextualised within a set of connected domains which themselves function as systems. These dimensions when synthesised,
conceptualise sex tourism within a fully integrated systems framework and differentiated as Macro, Micro and Io paradigms.

The core element of tourism and sex tourism systems is here conceived as ‘Io’ (or ‘Wo’). ‘Io’ (Italian) = Wo (Pinyin) meaning, I or self and identifies the individual actors as systems and as the significant driver within a social systems interpretation. This is a composite of personality, perspective and perception, which shapes human attitudes, behaviour, cognition and emotion. The individual as the core, consciously or otherwise makes decisions and implements behavioural strategies and tactics towards the achievement of individual goals, rational and emotional, spiritual and hedonistic.

The sex worker or the sex tourist would be located within this paradigm, as individual interacting systems. Other individuals such as family members, police officers, taxi drivers, hotel concierge employees, local government officials, drug dealers and traffickers (as stakeholders) would transform to Io if theirs was the focal perspective. Conversely they would coexist within the Micro dimension where they could provoke change through interactions with for example, the sex worker, as Io. This could be construed as a bifurcation in behaviour and self-balance, leading to a re-adaptation to a different attractor which might be a new status or life-style.

Micro might be considered as the paradigm to which Io directly relates, and seeks to manage and shape through the dynamics of exchange, market iterations and interactions. This is a paradigm where Io ‘competes’ for a satisfactory quality of life, for financial and other resources, attention, respect, power, influence and happiness with the purpose of meeting individual needs, including survival. The interventions and impact implications of this paradigm may vary through time and space and the relative propensity of direct tangible or intangible interactions with the Io paradigm by stakeholders as identified above or ‘other’ phenomena (e.g. local weather systems, hotel management systems, competitor systems). These might impact on each system within the micro dimension shifting systems equilibria with consequent realignment.

The Macro paradigm might be considered holistic, as ‘universal’ systems, reflecting changes in the remote environment, as exemplified by DEEPLIST (demographics, environment, economics, politics, legal, information, social and technological), (Finlay, 2000). These systems might include transport and internet, global markets, governments and global NGOs, global supply chain linkages, tectonic plate and weather systems, each with the capacity to transform and become of greater or lesser significance in the context of Io following paradigm shifts and evolution with time. Through such transformations, these phenomena may become measurably influential in creating the conditions for a readjustment or realignment within Macro, Micro and/or Io systems. Hence, with the Code of Conduct, (www.Chinadaily.com.cn) to influence sex tourism and trafficking of women and children sponsored by ECPAT, the U.N. and the World Tourism Organisation (www.state.gov) which may be transformed into local policy and practice within micro systems and subsequently impact directly on Io, causing a paradigm shift perhaps in a new location or economic activity.

CONCLUSIONS

The development of tourism as a mechanism for diversification and the alleviation of poverty simultaneously would seem to create the necessary conditions for the development of sex tourism, reflecting the existence of systems within systems. The costs and benefits therein provoke interventions which act as attractors for systems change.

Though identified as marginal within universal systems, the potential lack of data integrity suggests that the commodification of sex through sex tourism represents a far more significant phenomenon than previously acknowledged across developed, developing and less developed economies (North and South orientations). Attempts to manage the complexity can result in measuring that which is easier rather than that which is important, and therefore has research quality and investment implications.

Development necessarily implies change and therefore of itself creates the conditions for a shift from a previous systems status. Tourism development can be seen as an attractor and continuous tendency towards a new balance within systems. The complexity of tourism systems generally and sex tourism in particular is thus reflected in dynamic, non-linear and deterministic attributes, and as it exists at the edge of chaos, tourism developments can result in disproportionate and unpredictable outcomes.
from specific management or spontaneous (natural) interventions consistent with chaos theory and reflecting the butterfly effect.

The proposed tourism ‘butterfly’ systems model reflects that of universal systems in encompassing Io, micro and macro paradigms and sex tourism as fractals. At the core is Io (Wo) or self systems, highlighting the significance of the individual in both supply and demand systems interactions.

This configuration seeks to model the interactions between systems and the approach suggests some potential to facilitate hypothesis testing and scenario building when seeking to better understand the implications of interventions within global, national and local systems.
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