

GEOGRAPHY BULLETIN

Sustainable livelihoods in Southeast Asia



The
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of New South Wales Inc.

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The
Geography Teachers' Association
of New South Wales Inc.

OFFICE OF THE GEOGRAPHY TEACHERS' ASSOCIATION OF NEW SOUTH WALES

ABN 59246850128

Address: Block B, Leichhardt Public School Grounds,
101–105 Norton Street, (Cnr. Norton & Marion Streets)
Leichhardt NSW 2040

Postal Address: PO Box 577

Leichhardt, NSW, 2040, Australia

Telephone: (02) 9564 3322, Fax: (02) 9564 2342

Website: www.gtansw.org.au

Email: gta.admin@ptc.nsw.edu.au

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GEOGRAPHY BULLETIN

Editors

Dr Susan Bliss, Editor, Macmillan Publishers
Dr Grant Kleeman, Macquarie University

Articles and letters should be sent to the editor:

Dr Grant Kleeman,
School of Education Macquarie University
Sydney NSW 2109

Email: grant.kleeman@mq.edu.au

Design and layout:

Jill Sillar, Professional Teachers' Council NSW
jill.sillar@ptc.nsw.edu.au

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The Geography Bulletin is a quarterly journal of the Geography Teachers Association of New South Wales. The 'Bulletin' embraces those natural and human phenomena which fashion the character of the Earth's surface. In addition to this it sees Geography as incorporating 'issues' which confront the discipline and its students. The Geography Bulletin is designed to serve teachers and students of Geography. The journal has a particular emphasis on the area of the Pacific basin and its near neighbours and a specific role in providing material to help meet the requirements of the Geography syllabuses. As an evolving journal the Geography Bulletin attempts to satisfy the requirements of a broad readership and in so doing improve its service to teachers. Those individuals wishing to contribute to the publication are directed to the 'Advice to contributors' on the preceding page. Articles are submitted to two referees. Any decisions as to the applicability to secondary and/or tertiary education are made by the referees. Authors, it is suggested, should direct articles according to editorial policy.

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EDITOR: Dr Grant Kleeman

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Dr Grant Kleeman, Editor

This issue of the *Geography Bulletin* features another of Nick Hutchinson's 'big ideas' in Geography articles. In this contribution, '*Crouching Tiger, Hidden Dragon*': *Uncovering some questions about sustainable livelihoods in Southeast Asia*, Nick argues that the study of livelihoods informs our understanding of the relationship between human and physical Geography and breaks down the quite artificial distinction made between culture and nature. Nick's article will help inform our understanding of the *Australian Curriculum: Geography* which is now published online for public viewing. If all goes to plan, the Ministers of Education will endorse the new curriculum in December 2012.

Also featured in this issue is an introduction to the *Geography Challenge* – a new online interactive program from the NSW Curriculum and Learning Innovation Centre. Designed for Years 9–10, the resource supports an examination of environmental issues affecting the Narawang wetland. It also introduces students to virtual fieldwork; carry out a Research Action Plan; apply geographical skills such as using interactive maps and Geographic Information Systems; and apply a range of research techniques to a geographical investigation. The resource also enables students to examine the broader context of Homebush Bay and nearby communities.

AGTA Conference, January 7–10, 2013, Perth

Registrations are now open for the 2013 AGTA Conference to be held in Perth next January [<http://www.agta.asn.au/conf2013/index.htm>]. Professors **David Lambert** and **Simon Catling** from the United Kingdom and Professors **Peter Newman** and **Lyn Beasley** from Australia have accepted AGTA's invitation to be keynote speakers at the Conference. Simon Catling's experience with primary Geography implementation in particular ensures that this conference will appeal to primary school teachers as well as secondary school teachers.

- Professor David Lambert was a comprehensive school Geography teacher before joining the Institute of Education in 1987. In 2002 he became Chief Executive of the Geographical Association, helping guide its development as a significant provider of professional development and a leader in funded curriculum development activity. From September 2007, he has combined this role with a return to the Institute of Education as Professor of Geography Education. His writing and research are concerned with curriculum development and assessment, and his overarching goal is to advance understanding of the role of Geography in schools in relation to broad educational purposes.
- Professor Simon Catling is the Professor in Primary Education in the School of Education - Faculty of Humanities and Social Sciences, Oxford Brookes University Oxford.
- Peter Newman is the Professor of Sustainability at Curtin University



Aerial view of central Rottnest Island WA, looking west towards Wadjemup Lighthouse and Cape Vlamingh. Visible in the foreground are the golf course, wind turbine, salt lakes and Mt Herschell. Source: Wikimedia Commons

and the Director of the Curtin University Sustainability Policy Institute. He has recently been appointed as Chief Writer – Transport for the UN's Intergovernmental Panel on Climate Change, (IPCC).

- Professor Lyn Beasley. Professor Beasley is the West Australian Chief Scientist and patron of the Australian Sustainable Schools Initiative, WA. Her address on Western Australia an Ancient Land is sure to be informative and entertaining.

In addition to these keynotes there will be a comprehensive program of workshop presentations and ample opportunities for fieldwork. The latter includes a visit to Rottnest Island. Details of the workshop and fieldwork program can be found on the Conference website.

2012 Arthur Phillip Awards

The issue of the *Geography Bulletin* contains information about the GTA's 2012 Arthur Phillip Awards. The competitions provide a great opportunity for schools to promote Geography and gain recognition for the achievements of their students.

Grant Kleeman

'Crouching Tiger, Hidden Dragon'¹:

uncovering some questions about sustainable livelihoods in Southeast Asia

Nick Hutchinson

I am searching for a construct that meshes together environment and people, one that allows geographic inquiries about Southeast Asia to draw from the traditions of physical geography, the social sciences and the humanities. Perhaps the answer lies in the notion of 'sustainable livelihoods'? Here I want to get back to sustainability in an environmental or ecological framework rather than a weasel word corrupted by business and political interests². The Australian Curriculum frames sustainability in terms of the ongoing capacity of Earth to maintain all life (ACARA, ND) and the Australian Curriculum Geography aims to provide opportunities for students to investigate current geographical events and allow them to evaluate their findings against the criteria of environmental sustainability, economic viability, and social justice (ACARA, 2011). All three concepts are central to sustainable livelihoods but the real 'bottom line'³ is environmental, Australian environmental educators explain that human existence depends on the dynamic interplay of all planetary systems, upon viable ecosystems, healthy soils, a stable climate, clean air and water (AAEE, 2009).

Obviously, different people will have different views on what a sustainable livelihood looks like but collective livelihoods or a sustainable community is underpinned by viable ecosystems, social well-being and cultural cohesion, and a prosperous economy (Department of the Environment, Water, Heritage and the Arts, 2009). Sustainable livelihood,

as teased out by the global education community, is more concerned with the ability to continue an activity or maintain a certain condition indefinitely (Eckersley, 1998, 6). Just as the term 'sustainable development' has shifted its meaning to mean 'sustaining development' – rather than sustaining nature, ecosystems or the earth's life support systems⁴ so too Oxfam sees sustainable livelihoods as a means whereby 'an individual or group has the capacity to maintain or improve social, political, economic, and other opportunities in life, without jeopardising the opportunities for others or for future generations. The capacity to resist 'shocks' and sudden changes, and to create opportunities, is a characteristic of sustainable livelihoods' (Eade & Williams, 1995, 20). Here, the notion encapsulated in the Brundtland Report, *Our Common Future*, is perpetuated in that sustainable patterns of living meet the needs of the present without compromising the ability of future generations to meet their needs (ACARA, ND). Sadly, many of the ecological dimensions of sustainability have now been set aside.⁵

Sustainable livelihoods, whether at the individual, household or community level, must be built on the integrity of ecosystems, the maintenance of biodiversity, rates of use of renewable resources do not exceed regeneration rates, and, rates of waste generation of pollution emission that do not exceed the assimilative capacities of the environment (Black, 2005, 25). This collection of ideas has been described by Harvey (1996) as 'environmental issues' arguing as he does that each and every one of us is situated in an environment⁶,

¹ 'Crouching Tiger, Hidden Dragon' is a common expression which refers to the mysteries that lie below the surface of society and our everyday lives'. Retrieved June 2012 from <http://csc.ziyyi.org/filmography/cthd/titlemeaning.html>

² Porritt (2007) discusses the mismatch between the core principles of ecological limits and the ways in which sustainable development is used in business circles 'here the language of the triple bottom line (economic, environmental and social bottom lines) still prevails, or 'stakeholder strategies', or corporate social responsibility (CSR), all jumbled together in a goulash of jargon and lofty aspiration that somehow still serves to keep physical reality at bay' (33).

³ The triple bottom line: economic, ecological and social, also known as people, planet, profit or three pillars was coined by John Elkington in 1994. Retrieved June 2012 from <http://www.economist.com/node/14301663>

⁴ This was encapsulated in a 1992 World Bank report which asked, 'What is sustainable? Sustainable development is development that lasts' (Sachs, 1993, 10)

⁵ McManus (1996, 56) points out, 'since the release of *Our Common Future* (1987) relatively less attention has been paid to sustainability. I believe this is largely due to the ease with which the word 'development' can be interpreted to mean "growth"'.

⁶ Described by Harvey as, 'whatever exists in the surroundings of some being that is relevant to the state of that being at a particular place and time' (1996, 118).

'Crouching Tiger, Hidden Dragon': uncovering some questions about sustainable livelihoods in Southeast Asia

there we focus on the relationships between human activity and well being on the one hand and the series of issues outlined above on the other.

Unifying society and nature

Some geographers and science and technology scholars have gone much further to question whether it is useful or instructive to make an artificial divide between society and nature, or, people and the environment. Head (2004, 244) explained that the origin of the society-nature split is to be found in the process of urbanisation that historically divided the city from the countryside and alienated labour from nature. Smith (2008) coined the term *the production of nature* to explain how economic growth in societies finds a way of altering nature so completely that nature is made to order in capitalism's relentless pursuit of profits. This *second nature*⁷ is far removed from a notion of pristine wilderness, ecological unity and the interdependence of all species or 'first nature bequeathed by evolution' (Castree, 2005, 161).

However, we need to dig deeper to unearth the notion of sustainable livelihood, to tease out the complex interactions among the many specialism within geography and to contemplate how it is that human actors are, and always have been, part of complex and changeable biophysical systems (Castree, 2005, 235) Smith is not implying that every 'atom of some tree, mountain or desert is humanly created, any more than every atom of the Empire State Building is created' (Smith & O'Keefe, 1996, 291) because matter is neither created or destroyed. But he does argue that human activity is instrumental in the production of nature rather than envisage a mere human domination of nature.

Ecologists similarly see human activities as embedded in nature. Suzuki (1990, 109) explains, 'The atoms we take in the air to become parts of our bodies were once the parts of other people, of trees, of worms, of snakes and spiders. The water we drink in Australia was once part of the Amazon jungle, the

forests of Canada and the oceans of the world'.

Many indigenous people would also see themselves as an integral part of the environment further legitimating the notion of sustainable livelihood as an entry point for geographical inquiry. Berkes (2008, 7) explained that indigenous ecological knowledge is '... a cumulative body of knowledge, practice and belief evolving by adaptive processes and handed down through the generations by cultural transmission about the relationship of living beings (including humans) with one another and with their environment'. For indigenous groups, land is held communally, and is seen as held in trust for future generations. In Irian Jaya, this is '... the place where their bones remain and where their ghosts and spirits still wander' (Eaton, 1997, 225-6). Land, both farmed and forested, holds a deep social and spiritual significance. The notion of sustainability is an absolutely integral part of indigenous culture.

Geographers have long written about human domination of the earth's surface, ecosystems, hydrosphere and atmosphere (Thomas, 1956, Marsh, 1965, Glacken, 1967, Goudie, 1981, Turner et al 1990) but contemporary geographers go further. Head (1993) showed how human and physical geographies can usefully combine to demonstrate how Aboriginal cultural landscapes have affected the natural environment over successive periods of time extending back to the Pleistocene, a view that has been substantiated more recently by Gammage (2011). Head also (2004, 245) referred to the creation of fertile terra preta soils in Amazon rainforests, rich black or brown soils enriched with humus and imbricated with pottery shards and animal bones. A number of recent studies now suggest that 'prehistoric' human activities were far more extensive than originally thought in the Amazon, Congo and rainforests of Southeast Asia. For example, the lowland rainforests of Thailand have been managed from as early as 8000 years ago and in these forests human occupation and management of the land may have increased tree diversity (Willis, Gillson & Brncic, (2004)

On the one hand Pittman advocates 'the study of the earth as a single, integrated physical and social system' (Inkpen, 2009, 387) but this implies study at the macro rather than household level.

⁷ Head (2000) in *Second Nature: The History and Implications of Australia As Aboriginal Landscape* saw second nature in terms of habits or characteristics 'not innate but so long practiced or acquired as to seem so' She also referred to Glacken's (1967) conception of second nature as the transformations that humans make of the earth. Glacken, in turn, based his ideas of second nature on Cicero (Smith, 2008, 66-7)

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On the other, many geographers now focus on the personal scale, the body being poetically construed as 'the geography closest in' (Rich, 1986, cited in Bell & Valentine, 1997, 25), a scale crucial to the understanding of a sustainable livelihood. At the macro scale Kates (cited in Inken, 2009, 396–7) has shown how sustainability science has altered our understanding of the fundamental character of interactions between society and nature by focusing on the interaction between global sociological and ecological processes. But these manifestations vary from place to place and the focus of such inquiry can be usefully reduced to the scale of the individual, household, or community in terms of sustainable livelihood.

The notion of the hybridity of society and environment developed outside geography by science and technology scholars such as Haraway (1991, 1997) and Latour (1993); and inside geography by Whatmore (2002) and Hinchcliffe (2007) is a further attempt to dissolve the distinction between culture and nature. Whatmore moves geographical inquiry far beyond its traditional attention to 'the interface between social and natural worlds' (2002, 2). Similarly, Hinchcliffe argues that 'non-humans are lively and dynamic colleagues in the making of worlds' (2007, 1). But it is to the real world of sustainable livelihoods played out in place rather than a 'thinking space' that is my focus here.

Moral geographies

If we accept that environmental sustainability, economic viability, and social justice are important organising ideas in Australian Curriculum: Geography and, should we accept that 'society's proper objective should be to obtain the highest feasible welfare' (Beckerman, 1995, 2) then people in Southeast Asia cannot morally be condemned to live in poverty and destitution in the interests of preserving ecosystems. Blaike (1985) talks of the 'desperate ecocide of the poor' whereby people living on marginal lands tend to be poor and they lack the resources to make the land more productive. This forces them to degrade the resource on which their lives depend.

In the last few decades of the 20thc Geographers wrote of 'the illegal encroachment of land-starved farmers into reserved forest — a widespread

phenomenon in South-East Asia (Potter, 1993). But perhaps there was no alternative to this course of action? 'Encroachers may be acutely aware of the environmental impact of their actions, both on themselves and on others, but their individual short-term needs have to take priority over the longer-term consequences for society as a whole' (Parnwell & Bryant, 1996, 320). These 'forest eaters'⁸ were regularly condemned for their actions, often made scapegoats for rainforest degradation and widespread wildfire⁹ but there were usually other structural forces at work to explain their dilemma, for example, wealthy landowners with disproportionate shares of land, chronic indebtedness, and, lack of land reform. The 'ecocide of the poor' thesis has tended to be discredited because there is much evidence in Southeast Asia that farmers can adjust their cultivation methods, embracing new crops, using organic and artificial fertilisers, developing agro-forestry systems, contour ploughing, building rock walls and constructing hedgerows (Rigg, 2003). For example, in the provinces of Yogyakarta and Central Java, Nibbering (1991) showed farmers successfully adapting their methods following rapid population growth. He writes that: 'the destitution of the population and the seemingly hopeless nature of the environmental situation some 30 years ago did not hinder but rather generated a drive for change' (1991, 130).

When Mahathir Mohamad, Prime Minister of Malaysia, 1981–2003, spoke at the 1992 ASEAN summit in response to the suggestion that tropical

⁸ 'The heritage of future generations (if any) is being wantonly sacrificed for short-term gain in a manner that recalls to mind the old and almost forgotten weight of criticism directed at farmers practicing shifting cultivation. In denigrating the improvidence and lack of foresight of these supposedly primitive 'mangeurs de la foret' it seems we were in greater truth describing ourselves' (Brookfield, 1975, 2003) cited in Connell & Waddell, 2007, 13.

⁹ During the last five years of the 20thc Indonesia, and particularly Sumatra and Kalimantan, suffered from extensive forest fires. 'The Indonesian authorities have tended to 'blame' small-estate crop growers and shifting cultivators for the fires. In the official view of events, they are 'ignorant' of the environment and clear their land using fire. This allocation of blame to shifting cultivators – often termed, in rather more incendiary terms, 'slash and burn' cultivators – is not accurate. There are few true shifting cultivators in Indonesia and most of those who use fire to clear their land are settled agriculturalists employing rotational systems' (Rigg, 2003, 298).

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rainforests are part of the world's common heritage his response reflected an 'Asian Way'¹⁰: a counter to western environmental imperialism. He sought to mock those that condemned primitive forest tribes to 'eating monkeys and suffering all kinds of tropical diseases' instead of making them conform to modern habits (Mallet, 1999, 191). On the other hand, Dr. Mahathir met with NGOs in 1992 after the Rio Earth Summit to declare that NGOs were no longer the enemy thus leading to discussions about the previously denied problems of illegal logging and the implementation of existing logging laws themselves (Eccleston & Potter, 1996). When we contrast this with the poetic lamentations of anthropologist Wade Davis: 'Today, throughout Sarawak, the sago and rattan, the palms, lianas and fruit trees lie crushed on the forest floor. The hornbill has fled with the pheasants, and as the trees fall from the forest, a unique way of life, morally inspired, inherently right, and effortlessly pursued for centuries, is collapsing in a single generation' (Davis, 1993, 31) some of the complexities of an examination of sustainable livelihood arise.

'By our theories you shall know us' (Harvey, 1969, 486)

Beneath all these powerful discourses we can disentangle a number of perspectives. Dr Mahathir was at first espousing modernisation theory, strongly grounded in neoliberal ideology, implicitly believing that market mechanisms are the preferred solutions to most political problems and that a 'remedial science' (Harvey, 1996, 374) exists to cope with the difficulties that arise after forest harvesting. His altered stance, and it should be appreciated that he was addressing different audiences, might better reflect 'ecological modernisation' whereby prevention is regarded as preferable to cure and that society should adopt a proactive stance with respect to environmental regulation and ecosystem control (Harvey, 1996, 377). Davis points to an 'environmental justice and defence of the poor' perspective that rejects universal economic and ecological rules to favour

the rights of local people to be in charge of their resources and to build sustainable livelihoods, their rights to communal ownership, traditional worldviews, and cultural autonomy (Sachs, 1993)

Recent ideas about what Castree (2005, 234) calls 'new ecology' have become important for environmental geographers. The old ecology tended to stress the stability of interactions within ecosystems. So, for example, in the Dipterocarp forest ecosystems of Southeast Asia trees, climbers, stranglers, herbs and epiphytes interact with decomposers such as termites, tiny soil animals and microorganisms, with the various manifestations of monsoon climates, the ion pool bound up in the soil minerals and with the movement water through, across and out of the ecosystem (Schulte & Schone, 1996, 7). The old ecology treated humans as well adapted parts of the wider ecosystem, for example, the Penan of Sarawak, referred to by Davis; or, as disruptive exogenous forces that affected these ecosystems, for example, through the RM13.44 billion Ninth Malaysian Plan (2006-2010) for Sarawak, designed to lead to high growth, employment opportunities and the reduction of poverty. With a twin emphases on large-scale commercialisation of oil palm and the development of an industrial corridor, the Sarawak Corridor of Renewable Energy (SCORE) will inevitably degrade the biophysical environment.

The new ecology not only challenges the equilibrium assumptions in the new model but rather 'accents disequilibria, instability, and even chaotic fluctuations in biophysical environments, both "natural" and human-impacted' (Zimmerer, 1994, 108) it also refers to 'nature-society hybrids' with humans as already part of complex and changeable systems and challenges the assumption that human interference is always deleterious. The new ecology asks us to 'see the world as a mesh of multi-scalar and sometimes knottings of people (with varied outlooks, economic practices etc), plants, animals, soils, water, forests and much more' (Castree, 2005, 235).

Disequilibria is evident in the forest garden, or

¹⁰ An apparently distinctive Asian approach to development that achieved rampant economic growth but avoided the social costs of progress such as high crime rates, family break down and the abuse of drugs

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Theun-Hinboun Dam Wall, Central Southern Laos. Photographer: Laurence McGrath. Source: Wikimedia Commons

Tembawang system in Sanggau Regency, in West Kalimantan, Indonesia where the villagers of Lape respond to the vagaries of the ENSO phenomenon by rapidly harvesting valuable tengkawang nuts and durian fruit to sell them on roadside stalls on the road to Sanggau, particularly relying on the more wealthy travellers from Kuching in Sarawak. The tengkawang harvest of 2002 was the first since 1997 causing considerable excitement among the villagers (Potter & Badcock, 2007). A sustainable community¹¹, such as Lape village, that specialises in rice production and fruit selling has to adapt to various contingencies. Throughout Southeast Asia people have to adapt to fluctuating environmental conditions (for example, rainfall, temperature, tectonic activity), demographic changes and technological developments. What is interesting about Lape is that the villagers have twice rejected the overtures from the government oil palm plantation that borders their village; they also dislike acacia plantations.

The enmeshed multi-scalar world is evident in Laos, one of the four Least Developed Countries¹² that exist in Southeast Asia. A number of countries have farms and plantations in Laos. There are Chinese owned enterprises in the north, Scandinavian, Japanese and Indian ones in central Laos and Thai, Vietnamese and Malaysian-owned farms and plantations in the south (Paul, 2010, 61). A small village of 65 households in central Laos, Ban Pak Veng, in Khammouane province serves to illustrate the intricate webs of the 'new ecology'. The villagers were shifting cultivators, growing hill rice in the forested uplands but have more recently developed wet rice cultivation based on the annual flooding of the Nam (river) Hinboun. Their lifestyles have been altered by a number of exogenous factors and subsequent changes to the river regime and their access to communal land. Firstly, in 1998 the Lao PDR initiated the Theun-Hinboun hydropower project, a scheme that diverted the headwaters of the Theun-Kading river system into the neighbouring Hinboun catchment. The rice paddies were inundated with water and local fisheries severely disrupted in

¹¹ There is a further aspect to sustainability here because small farm households spend their incomes on locally produced goods and services, thereby stimulating the rural non-farm economy and creating additional jobs (Hazell, Poulton, Wiggins & Dorward, 2007). Employment –intensive small-scale farming also tends to be more pro-poor than in larger enterprises (Hunt & Lipton, 2011).

¹² 49 countries are currently designated by the United Nations as 'least developed countries LDCs; they include Cambodia, Lao PDR, Myanmar, and Timor-Leste

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subsequent years. Villagers reverted to upland rice production and the collection of non-timber forest products and wildlife, in a precarious attempt to maintain rural livelihood. However, in 2001, one third of the village's upland rice growing land was zoned as commercial eucalyptus plantation by the Lao Land and Forest Allocation program. The villagers received paltry compensation amounting to some \$600 per year. The New Zealand-based transnational corporation BGA-Laos Plantation Forestry Ltd sold out to Asia's largest paper producer (Oji, from Japan) in 2005 (Barney, 2007). By 2007 the eucalyptus plantations were well established with villagers attempting to plant upland rice between the company's trees. Two years later the rapidly closing canopy and acidic leaf litter precluded upland rice cultivation. The Lao forestry sector explicitly encourages the export production of eucalyptus wood pulp but vulnerable local communities like Ban Pak Veng become increasingly impoverished. Many of the young women and female teenagers and some of the male teenagers have sought work in Vientiane and across the border in Thailand but many of these migrants from Pak Veng don't have official documentation or passports. They are illegals in Thailand and are thus very vulnerable to exploitation. The money that is sent home from these young people are currently being used by their parents to invest in a new agricultural boom crop – *nyang phala*, or rubber¹³ trees (Barney, 2009). New dwellings, wood-framed with corrugated iron roofs, elevated on stilts are being constructed in Pak Veng.

Realising hope: a better world for all?

To what extent does the 'new ecology' allow for a consideration of the wider geographical framework, a construct based on modernisation theory? Paul (2010, 135) argues, 'A neoliberal global economic order fuels competition within ASEAN to attract foreign investors by securing cheap and obedient labour and offering attractive

financial incentives and pressures for countries to export more to pay for the rising costs of import dependency'. Obviously, the perturbations of the global economy have direct affects on the sustainable livelihoods of households and communities. One can but imagine the affects on people living in Johor Baru, Malaysia, at the height of frenetic economic development in Southeast Asia, before the 1997/8 Asian financial crisis, where the extravagantly named 'river' the Sungei Segget 'is a rank, black, stagnant, noisome ditch, filling the town centre of Johor Baru with the aroma of raw sewage and rotting carcasses. At first sight and smell of the Sungei Segget, it is no longer difficult to imagine the river must flow through Hell (Rashid, 1993, quoted in Mallet, 1999, 168).

The 2008–9 global financial crisis had marked nocuous effects on rural households in Cambodia. Young women were being laid off in the garment industry, centred on Phnom Penh, as a result of reduced demand from United States and European consumers. Textile exports to the US and Europe, the country's main markets, fell by 23% in 2009 (Dasgupta & Williams, 2009). The vast majority of garment workers were obliged to send money home to their families in the rural villages providing an economic lifeline for rural livelihoods across the country. Typically these young women supported three to five family members living in the villages. They have come from rural, subsistent agriculture-based families with few assets. Their parents were often too elderly to work on the farm, and female members were not considered capable of much of the manual farm work, so the family needed to hire seasonal workers. Female household members were thus sent to work in Phnom Penh to help finance the seasonal workers and provide vital support the household economy.

A survey of these workers in 2009 revealed that 52% said they had insufficient income to send money home to their families. The rural families sought to cope in a number of ways. The young women's parents sent rice and food to their migrant children in the city; any surplus household labour was sent to work on available agriculture jobs in the village and nearby villages, for example, cattle watching and rice harvesting to earn extra income; young children had to help out on

¹³ Rubber plantations are expanding rapidly throughout mountainous mainland Southeast Asia. By 2050, the area of land dedicated to rubber and other diversified farming systems could more than double or triple, largely by replacing lands now occupied by evergreen broadleaf trees and swidden-related secondary vegetation (Ziegler, Fox & Xu, 2009).

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the farm and/or household after school and on weekends. Once these resources were exhausted, parents expected their children to return home. Many chose to stay in the city and they were joined by a young female sibling sent to the city to seek work when, by 2009, 80% of these young women were looking for work (Dasgupta & Williams, 2009). If they were lucky they were offered short term, three month or six month contracts.

Smith (2008, 266) recalled the thoughts of Donna Haraway some twenty years ago. 'If I had to be honest with myself, I have lost the ability to think of what a world beyond capitalism would look like.' Some governments have attempted to work within the capitalist system and attempt to redistribute the wealth towards poorer households. In 2005 the Indonesian government initiated the 'unconditional cash transfer program' in an attempt to compensate poor families for an increase in fuel prices, and, Thailand has adopted universal health care. Originally called the '30 baht scheme' people had to pay a little less than \$1 for each out patient or hospital visit but now the co-payment has been abolished, and drugs on prescription are also free of charge (ESCAP, ADB & UNEP, 2010, 61).

On a multilateral level there are efforts to redefine poverty at the household level. A new multidimensional poverty index has been recently launched where one of the developers of the index explained 'Before, you might know a person was poor but did not know if their children went to school, if they had a floor or if they cooked on wood' (Burke, 2010). However, more conventional views of sustainable livelihood under capitalism have been replaced by 'an appreciation of geography – different places develop in different ways' (McGregor, 2008, 13). Further, Blaikie, explained that projects that looked at sustainable livelihoods, whether they be sustainable agriculture or health, welfare or education-based emphasised participation in which 'local people use their own knowledge and skills to work out their own solutions to the problems that they set themselves' (2000, 1044). Geographers specialising in Southeast Asian development recognised that 'Rather than liberating poorer countries development is portrayed as a myth that has dislocated people from their cultures, lands, spirituality and traditions

as they unsuccessfully pursue the consumptive lifestyles of rich countries. Only a small selection of elites actually achieve this end while the vast majority become stuck within a global production system that severs them from their past while promising them an unachievable future' (McGregor, 2008, 14).

Of course there are those that reject any notion of sustainable livelihood, believe that social justice is part of a left wing conspiracy and expunge any notion of environmental sustainability from their vocabulary in an all out focus on economic viability. Parnwell and Bryant (1996, 332) refer those that deliberately over-exploit resources for personal or corporate gain, explaining that these people are often drawn from the political, business and military élite. It is easy to be seduced by the 'Southeast Asian Miracle' that preceded the 1997-8 cataclysm. 'In the years running up to 1997, a select band of East and Southeast Asian countries experienced perhaps the most rapid and sustained period of growth in human history. This growth was not a mere statistical sleight of hand: never had so many people been plucked out of poverty over such a short period of time' (Rigg, 2002, 137 quoted by McGregor, 2008, 55). Whether this miracle was accomplished by neoliberal economic policies, high domestic saving and investment, tax incentives, secure financial systems, competitive exchange rates, export-focused enterprise that is open to overseas investment and the transfer of technology, and, hospitable to investment in property; **or** whether it was accomplished by strong government, targeted government intervention, sizeable investment in human and physical capital and firm control over workers wages both sets of ideas say little about sustainable livelihoods. Nevertheless, it is difficult to deny that the lives of millions of people in Southeast Asia have been improved materially in a climate of remarkable political stability.

Such a broad-brush examination paints over a number of internal contradictions that mitigate sustainable livelihoods. Firstly, accepting the notion that capitalism is the most efficient system for generating wealth in Southeast Asia and even accepting the manner in which it generates inequality because this can be more equitably

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distributed in later stages there still remains a major problem: such development fails to account for environmental decline. Harvey (1996) asks us to imagine a conversation between an economist and geologist. 'The former holds that the appropriate time horizon is set by the interest rate and market price, but the geologist, holding to a different conception of time, argues that it is the obligation of every generation to leave behind an aliquot share of any resource to the next', (229). Sachs (1993) criticised viewpoints that both favoured ecological and economic arguments because, 'both pass over the rights of local communities to be in charge of their resources and to build a meaningful society. The conservation of nature [should be] intimately related to rights of communal ownership, traditional ways of knowing, cultural autonomy, religious rituals and freedom from state-centred development' (quoted in Harvey, 1996, 390). Pivotal to the notion of sustainable livelihoods, these kinds of arguments were reinforced, in somewhat more forceful terms, by Sen (1999). He maintained that despite the apparent overall increase in wealth development is the process of expanding human freedom. It is 'the enhancement of freedoms that allow people to lead lives that they have reason to live'. Hence 'development requires the removal of major sources of **unfreedom**: poverty as well as tyranny, poor economic opportunities as well as systemic social deprivation, neglect of public facilities as well as intolerance or overactivity of repressive states (1999, 35).

Visioning a sustainable society

What does a sustainable society look like? Meadows et al (1992, 209) maintain that it is 'one that can persist over generations, one that is far seeing enough, flexible enough and wise enough not to undermine either its physical or its social systems of support'. Orang Suku Laut, or Sea Tribe People of the Riau archipelago resisted the efforts of the Suharto regime to resettle them in pile driven villages, adjacent to the sea. For the majority of Indonesian these 'sea gypsies' were regarded as primitive people without religion and culture, impure people from an Islamic point of view. Orang Suku Laut have shown remarkable flexibility and wisdom. Many now make a living in a growing

marine ecotourism sector. They are involved as guides, boat handlers and running home-stays and warungs¹⁴; they make ornaments from local sea shells; and, they act as marine park rangers where their knowledge of the reefs, fish stocks and clams are invaluable (Djohani, 1996, Lenhart, 2001).

The three dimensions of sustainable communities the ecological, economic, and social (Cocklin & Dibden, 2005, 25) can be illustrated by reference to a number of case studies from Southeast Asia. In the 1980s Chin (1985, cited in Parnwell and Taylor, 1996, 261) made an intensive study of a lowland Kenyah community in the upper tracts of the Baram River, Sarawak. They were able to enjoy the abundance of a forest ecosystem because the ecosystem integrity had been preserved. They hunted, fished and collected traditional non-timber forest products to the extent that the contribution of purchased food was negligible. However, Chin also saw the day rapidly advancing when logging would destroy primary and secondary forests, resulting in a scarcity of trees for boat building and the destruction of wild *illipe* nuts.

Another aspect of the ecological dimension involves the maintenance of biological diversity. Biodiversity is maintained in Brunei's primary rainforest reserves where public access is limited by legislation and the destruction of plants and animals is strictly forbidden. One such reserve, the Batu Apoi Reserve is said to contain the 'finest remaining generally undisturbed Mixed Dipterocarp rainforest in Southeast Asia' (Dykes, 1996, 291). However, we should pay heed to Cochrane's observation, 'As a result of Brunei's valuable oil and gas resources, the government has so far been able to promote national economic development without significant environmental degradation. However, as oil and gas reserves are depleted, maintaining a balance between conservation and development will prove more difficult' (299).

Another, is the dictum to ensure that rates renewable resource use do not exceed regeneration rates. The taungya system of shifting cultivation as practised by Karen in Burma involved

¹⁴ A warung can be a little shop, a small outdoor restaurant, a cafe, or a stall/booth and usually it is a business place owned by a family.

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Bario village, Sarawak Source: Wikimedia Commons

the replanting of teak in abandoned gardens where trees were cared for, monitored and harvested selectively and sustainably (Perry, 2007, 85). Unfortunately, as with the exploitation of other resources in Myanmar the military junta has been keen to sell off teak and offer concessions to Thai and more latterly Chinese interests to the extent that there has been uncontrolled logging in states bordering Thailand and China (ITTO, 2004).

Rates of waste generation of pollution emission should not exceed the assimilative capacities of the environment. Such a condition can be examined in relation to an urban solid waste management project in Bandung, Indonesia (Poerbo, 1991, cited in Pacione, 2001, 586) where over a three year period waste was sorted and resold, organic waste was composted, seeds were collected from the refuse and a seed farm was set up, rabbit raising was encouraged, housing improved, toilets dug and health and maternal care facilities were set up. The tips in Bandung became a source of sustainable livelihood for significant numbers of town dwellers living on the tip.

The economic dimension of sustainability relates to the degree by which systems of production, exchange and consumption can continue into the future. Pred Nai Community Forest, one of the last remaining mangrove forests on Thailand's eastern seaboard, is managed sustainably. The villagers

have replanted mangrove trees and imposed strict harvesting regulations on catches of small crabs and set up 'crab banks' for mud crabs – capturing the eggs and setting up cages in the canals. The mangrove ecosystem not only provides a source of income, it also is the basis of a whole way of life. Although the village is not particularly poor it is the poorest who benefit most from collecting crabs. Economic sustainability has been enhanced through the establishment of a credit union. The accumulated funds totalled some six million Baht (\$72 000) in 2004 (Kaewmahanin, Sukwong & Fisher, 53). The villagers now conduct study tours for interested overseas visitors, teach local children about mangrove ecosystems and marine resources and, in 2002, gained recognition in the form of a prize awarded by the royal Forest Department.

To be economically sustainable satisfactory standards of living for all should be achieved now and maintained into the future. Thirty years ago the spread of Green Revolution high yielding varieties throughout Java raised farmers living standards. They were able to grow three crops of rice a year as year round irrigation water supplies were secured. They could grow sufficient rice for their needs with the proceeds of two crops so farmers began to look at more profitable alternatives to sell in local markets. *Lokal* rice commanded a higher prices than the high yielding

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varieties and *palawija* crops, dry season crops of maize, manioc, sweet potatoes, ground nuts, soy beans and mung beans also became attractive (Brookfield, 2001, 234). More risky but higher priced tomatoes and chillies were grown by some farmers as the growers established more economic security. To what extent this kind of lifestyle can be maintained into the future is problematic, to say the least. As far back as the early 1990s researchers were reporting that in rural East Java the population was increasingly dependent on employment in the industrial sector; that paddy fields had been abandoned to bushes and shrubs in Negeri Sembilan, Malaysia and that the rubber holding were so overgrown indicating that no one goes tubber tapping anymore (Rigg, 2003, 242). From the town of Majayja, 35 km southeast of Bandung, in Java, the mini buses full of commuters clog the roads at 6.30 am and 5 pm as workers are carried in and out of the factory gates (Rigg, 2003, 230).

For a community to be sustainable rates of use of non-renewable resources should not exceed the rate at which sustainable renewable substitutes are developed. Hmong people, an ethnic minority living in the highlands of northern Vietnam, have rapidly developed a market for non-timber forest products for which there does not appear to be a substitute. They cultivate Black Cardamom, used as an ingredient in over 30 Chinese medicines to treat stomach aches, constipation and dysentery among other ailments (Tugault-Lafleur & Turner, 2009). The cardamom used to grow wild in Hoang Lien National Park but the Hmog have propagated the rhizomes and successfully grown them under the shade of trees in Lao Cai province. The villagers have been able to buy TVs and motor-bikes with their returns from cardamom and save for weddings, funerals and celebrations at Hmong New Year.

The social dimension of sustainability can be illustrated by the extent to which there are some widely accepted and enduring norms or values, such as reciprocity, procedural equity and respect for law. In the study of the Kenyah, reported by Chin above in the past the people of

the longhouse, or bilek, were obliged by adat¹⁵, or traditional law, to share their resources. When there was plenty of game to be had hunting parties were obliged under traditional law to share their spoils with other members of the longhouse community. More recently hunters consume all their own bush meat or sell it on to others. The sense of reciprocity that underpinned sustainable livelihood in this community has been eroded. Commonly heard statements included, 'if I have no money I just have to watch others eat [meat]' (Parnwell and Taylor, 1996, 281).

Another social aspect of sustainability asserts that both individual identity and cultural diversity should be maintained. The Lakag T'boli fought a long battle with wealthy cattle ranching interests over their ancestral land in the southern Philippines. At one stage the local armed forces became involved shelling the Lakag T'boli occupation of their traditional land. The families retaliated by camping outside the provincial government headquarters in town. Such was the resolve of the Lakag T'boli that after each destructive act the community replanted their crops and set about re-establishing their livelihoods. Such was their resolve that the cattle ranchers abandoned T'boli land in 1995 (Hyndman & Duhaylungsod, 1996). Lakag T'boli strong sense of ownership both as individual and as a cultural group always maintained that the ranchers had been squatting on their land.

Finally, social institutions should be able to make a continuing contribution to the fulfilment of people's needs. There is some evidence that the social institution of the family, more particularly women's roles in the family has been changing in Southeast Asia. Generally women were regarded as prominent members of Southeast Asian society in terms of descent, ritual matters, marketing and agriculture (Reid, 1988, 6). But, as young women have been given the opportunity to work in urban areas they have been able to escape 'the overweaning clutches of the household' (Rigg, 2003, 245). Interestingly, when these

¹⁵ In neighbouring Indonesia the customary land rights of rainforest dwellers was recognized under law but adat was superseded by the nationalization of the forests and rendered obsolete by logging and plantation agriculture (Pearce, 2012).

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young people return to the village to take up the responsibilities of farm work and family life their roles in the household has frequently changed. In Sulawesi, in the aftermath of the 1997–8 financial crisis young women forced to return to the village rather than resume household roles they instigating local credit associations and becoming increasingly involved in non-agricultural income generating activities such as petty trading, selling snacks and managing small shops or warungs. 'While this boosted household income it was rarely accompanied by a reduction in reproductive¹⁶ duties that were seen as women's work, even if unemployed men had more time on their hands' (McGregor, 2008, 123).

Competing sustainabilities

In the conclusion to 'Environmental Change in South-East Asia: People, Politics and Sustainable Development', Parnwell and Bryant (1996) speak of the issue of a number of overlapping or competing sustainabilities. Consider the contradiction involved in meeting Southeast Asia's spiralling energy demand whereby ostensibly 'green', renewable hydro-electric power schemes are developed which, at the same time, undermine the sustainable livelihoods of those who must be resettled, or whose ecosystem will be radically transformed in the process. The Sarawak Corridor of Renewable Energy (SCORE) scheme mentioned above involves the construction of the Bakun Dam. Scheduled for completion last year, it will result in a complete and irreversible destruction of roughly 70 000 hectares of biodiverse forest ecosystem and fifteen Kenyah, Kayan, Lahanan, Ukit and Penan indigenous communities have been relocated in poorly built longhouses with a mere one hectare of land available to each community member (Mohamad Idris, 2010). The SCORE scheme will be one of the major beneficiaries of power from the Bakun Dam and will support ten priority industries: oil-based, aluminium, steel and glass, tourism, palm oil, timber, livestock, aquaculture and marine engineering industries (Rose, 2010).

Parnwell and Bryant also refer to the Indonesian transmigration program 'which offers the prospect of a fresh start for the destitute of Java, but their arrival in transmigration sites often significantly interferes with the livelihood strategies of native populations' (1996, 333). Transmigration has also had a more sinister face where the TNI (the Indonesian military) have been waging war against the Free Papua Movement (OPM) in disputes that centre on the Freeport mine, operated by Rio Tinto Zinc. Whereas many Indonesians have been relocated to Irian Jaya, ironically, local Amungme and Kamoro tribes were forcefully relocated from their highland home, with thousands of indigenous people removed from traditional farming and food gathering territory. Moving Amungme tribes to the lowlands brought people without natural malarial immunity into contact with mosquitoes, resulting in higher mortality rates. Between 1996 and 2004 at least \$50 million was spent by Freeport, officially on providing vehicles, accommodation and food for TNI personnel. Some of this money was also directed to the police's Mobile Brigade, notorious for its human rights abuses and murders (Kenny, 2006). Little prospect here for sustainable livelihood.

Other ways to examine sustainable livelihood focus on participatory development: from traditional ideologies through to Buddhist and Islamic perspectives that are concerned with ethical and moral issues as well the as practicalities of sustainable livelihoods. Such approaches are often more prone to include an ecological rather than a business or economic framework. For example, 'gotong-royong' or mutual assistance in Indonesia strengthened the movement that led to thousands of university students visiting rice growing villages to spread the benefits of Integrated Pest Management to farmers beset with plagues of brown plant hoppers. Under Buddhism 'right livelihood' is paramount, Buddhists reflect on the holistic nature of existence and, 'Buddhism is so close to nature that the religion deserves to be called a "religion of nature"' (Rigg, 2003). Islam teaches about 'a concern for inequality and intractable poverty, a disgust with rampant materialism and consumerism, and a fear that mores are being undermined and ignored' (Rigg, 2003,60).

¹⁶ 'Reproduction refers to both the biological and social roles that are acted out to enable the conditions for families, households and societies to be maintained' (McGregor, 2008,121)

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Rigg (2003, 63) explains that a sense of the environment has a long history in Southeast Asia. 'In Thailand, for example, forest monks and the teachings of the Buddha, traditional human-land systems and modes of thought, and the communal management of village forests and wildlands all pre-date the rise of 'modern' environmental management and modern environmentalism'. By way of example, 'Across Thailand, for example, trees have been ordained (buat) to protect them from the chainsaw by encircling them in saffron cloth, while sacred groves (phai aphaithaan) have been created by enclosing them in sacred thread (saii sin)' (Rigg, 2003, 64).

A more romantic, or even *Edenic*, view of sustainable livelihoods, one popular with young people on backpacking holidays, favours the development of ecotourism. The experience of the Mentawaians of Siberut National Park, on the Sumatran island of Siberut, is instructive. Obviously, for tourism to be sustainable indigenous communities have to be involved but the backpackers are brought in by guides from the Sumatran mainland to photograph people who still practise traditional lifestyles as hunter-gatherers. Unfortunately, most of the islanders 'cannot speak Indonesian, let alone English or other tourist languages; there are no handicrafts to buy; and the accommodation (which the local people share with their pigs) is unsuitable for foreigners' (Cochrane, 1996, 240). Tragically, it is the island's timber resources that are more valued than tourism by Indonesia. The prognosis for Mentawaians is not good.

However, we should not lose sight of the notion that sustainable livelihood presumes that the human condition is being improved. Working in the mountains of northern Luzon, Philippines Lewis (1992) described Buguias as an environmental disaster area as a consequence of the spread of commercial vegetable farming. And yet the people were better off. In the old days a woman explained to Lewis 'life was terrible – we only ate sweet potatoes' (1992, 80).

Jagna municipality, Bohol Province, Philippines points to another approach to sustainable livelihoods (Gibson-Graham, 2006, 170-8). Here the aim is to strengthen the resilience of a local community by building on its assets and reducing reliance on external forces such as exchange rate fluctuations, that affect the amount of money Filipinos send home from overseas, or the roller-coaster ride in the price of agricultural commodities, that affect the farming communities. Small and income poor, the municipality consists of 30 000 people in 33 barangay, or subdistricts, half in the town of Jagna, adjacent to the Mindanao Sea, and half in small agricultural and fishing villages. The villagers grow wet and dry rice, coconuts, bananas, and in the uplands, cooler climate vegetables and flowers. The coastal villagers find it difficult to make a living from the sea because of the paucity of near-shore fish stocks.

A survey of the assets of the community included waterfalls, caves and beaches, lush forests, an unpolluted environment and adequate water supply. It was served by an active local government unit, supported by a local NGO, had schools,



Jagna, Bohol Province, Philippines Source: Wikimedia Commons

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hospitals, church organisations and a strong tradition of law and order. Jagna was connected to the outside world by useful mobile phone connections, Fed Ex, a government courier service and a large modern port. The people were well educated, showed respect for their elders, took care of the poor, send money home in the form of remittances, followed traditional and strongly held religious beliefs and showed enthusiasm for new practices. There are people working in the waged economy for the Philippines Port Authority, as waterside labourers, as farmers, fishers, drivers and artisans but many of the farmers are virtually working under feudal conditions as tenant farmers.

However, there are many different forms of unpaid labour in Jagna. 'Different forms of reciprocal labour exchange include the group practice of *hungus*, where a group of rice farmers band together to do voluntary planting, weeding or harvesting work on one person's farm with the expectation that this favour will be returned when needed, and the individual practice of *badsanay* in which labour services are exchanged upon verbal agreement. Payment in kind for labour includes the *sagod* system, a labour arrangement introduced after agrarian reform whereby landless labourers perform weeding on another's land and are granted the exclusive right to harvest that same plot for a percentage of the crop, usually one-sixth if the crop is threshed and cleaned; *guno*, the harvesting of corn in return for one-seventh share of the total; and *hagpat*, helping a fisherman pick fish out from the net in return for one-third of the catch' (Gibson-Graham, 2005, 15). There are many other reciprocal arrangements whereby people pool their savings to buy a water buffalo ceremoniously barbecued at fiesta time or allow villagers to draw out money sequentially from the pool each month. There is a tradition of giving goods or money to a family celebrating fiesta and providing interest free credit for the very poor in the sari-sari stores¹⁷. Volunteers help out in moving a house built of Nipa palm, clearing the irrigation channels and under the leadership of the Barangay

Captain or a youth or women's organisation, everybody in the community helps in fixing up the roads or cleaning up the villages. 'Barter between coastal communities and the rice-growing uplands is still current with coastal people travelling to rural areas during harvest time to barter dried fish, wine, claypots, salt and cigarettes for rice. Rice farmers engage in a barter system called *tihap*, in which they receive money or fertilisers before or during the land preparation period and repay the donor in rice, with interest added in, after the harvest season' (Gibson-Graham, 2005, 15). Community members share in funeral and wedding expenses and take part in a number of fund raising activities.

Gibson-Graham (2005) explain, 'This initial documentation of the diverse economy of Jagna indicates that there is a thin veneer of capitalist economic activity underlain by a thick mesh of traditional practices and relationships of gifting, sharing, borrowing, volunteering, and reciprocated individual and collective work'. The apparent resilience of the Jagna community could be likened to an ecological system where increased biodiversity enhances the resilience of the system. Gibson, Cahill & McKay (2010, 245) explain, in the Jagna context, 'The greater the variety of self-provisioning sectors and the more import replacing activities a local economy hosts, the less dependent it is on outside forces, and the more able it is to find favourable modes of relating to other local and distant economies'.

Urban dreams and realities

It is self evident that cities are placed upon, and integral parts of, a natural system consisting of land, water, plants, wildlife and climate (Davey, 1983, 143). Thus a city seen as an ecosystem draws our attention to these biophysical factors as the various elements of the city interact. Harvey (1996) claimed that New York City is an 'ecosystem' opening up the possibility for the study of a number of urban issues that affect sustainable livelihood: not only water supply, clean air, effluent, waste, and green space but also the demands that a city makes drawing its hydro electric power from dams in Quebec, water pipeline from up state New York and the gravel beds beneath the city (Braun, 2006, 218-9). As a global city, it is interconnected

¹⁷ A sari-sari store is a convenience store found in the Philippines. The word sari-sari is Tagalog meaning "variety". Such stores form an important economic and social location in a Filipino community. It is present in almost all neighbourhoods, sometimes even in every street. Most sari-sari stores are privately owned shops and are operated inside the shopkeeper's house.

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to the garment labourers' plight in Cambodia, the remittances sent back to Jagna and the minerals gouged out from Freeport in Irian Jaya.

Many of the consequences of rampant urbanisation are widely apparent in Southeast Asia: massive congestion in Bangkok, heavy pollution in Metro Manila and a generally poor living environment in Phnom Penh. But there are a number of surprises. There are peculiarly Southeast Asian urban developments described by McGee and Greenberg (2002) as Extended Metropolitan Regions 'mega-urban regions characterised by wide peri-urban zones with dense populations, a vital mosaic of agricultural and non-agricultural activities, and a tight interaction of people and activities' (2002). McGee and Greenberg (2002) describe the Bangkok EMR as dynamic and Rigg (2003, 245) sees these agglomerations as reshaping three elements of Southeast Asian rural livelihood, the household, what it means to be rural and agricultural pursuits themselves. The Bangkok EMR can be seen as a form of industrial decentralisation but some of the industrial areas are very extensive. Ayutthaya province contains more than 1 400 factories, employing nearly 200 000 workers, with less than 2 per cent of output of Ayutthaya province now accounted for by the agricultural sector. Here wage labouring in a factory for a stable salary has become the preferred livelihood choice for the young. But something is missing in terms of socially construed sustainable livelihood. No longer

do people gather together for village events; they prefer to watch television alone. Fences and iron window gratings protect the inhabitants and their newly accumulated wealth, whereas in former times houses were left open as a sign of welcome (Rigg, Veeravongs, S., Veeravongs, L. & Piyawadee (2008)

In 2009, the online magazine *Smart Travel Asia* ranked Hanoi Asia's sixth best city for shopping after Hong Kong and Singapore but ahead of Bali, Shanghai, Tokyo, Beijing and Seoul (Montheard, 2010). A recent book 'Urbanization and Sustainability in Asia: Good Practice Approaches to Urban Region Development in Asian Countries' (Roberts and Kanaley, 2006), contains 37 case studies of 'good practice' urban development projects presented from 12 countries in Asia: Bangladesh, Cambodia, China, India, Indonesia, Lao PDR, Malaysia, Pakistan, Philippines, Sri Lanka, Singapore, Thailand, and Vietnam. The section on Phnom Penh: municipality 'planning for all' reveals that an estimated 20% of the Phnom Penh City population is considered poor, with about 570 squatter and slum communities established throughout the city. The master plan looks at setting up four small satellite towns in order to cope with the city's urban sprawl. Should the four small towns be built successfully the core historical inner centre of the city will be preserved (Roberts & Kanaley, 2006).

Putrajaya, Malaysia, is planned as a model city



The model city of Putrajaya, Malaysia Source: Wikimedia Commons

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designed to alleviate traffic congestion in Kuala Lumpur. Putrajaya has been developed as a model environmentally friendly city, embracing two main themes, city in a garden and 'intelligent' city. Here about 38% of the land is being developed into parkland. It contains the largest artificial wetland in Malaysia with a total area of about 160 hectares, which is used for recreational activities as well as scientific and biological research. The city has a good communication network consisting of a monorail and water taxis, a broadband platform, and a common utility tunnel for services, hospitals, and schools.

Far from such planned environments are the shanty and squatter settlements of the poor. But even these areas can contribute to sustainable livelihoods. Pearce sees them as effectively functioning, socially vibrant and chaotic urban ecosystems. 'They are high-density but low-rise; their lanes and alleys are largely pedestrianised; and many of their inhabitants recycle waste materials from the wider city. So perhaps something can be taken from the chaos and decentralised spontaneity embodied in the shanties, and combined with the planned infrastructure of a designed city' (Pearce, 2006)

Southeast Asian cities can be spaces of hardship, with informal or poorly paid workers, inadequate housing and dangerous living conditions. On the other hand, 'Each narrow street is one long bustling market of food stalls, bars, cafes, hair salons, churches, schools, health clubs and mini-shops of tools, trinkets, clothes, electronic gadgets and pirated videos and music' (Brand, 2006, 6).

McGregor (2008, 151) maintains that 28% of all urban dwellers in Southeast Asia live in slum settlements. But whether these spaces should be seen as sites of crime, disease and poverty or whether they should be seen as vital cogs in a sustainable urban society is contestable. They can be portrayed as spaces of hope, places where many resourceful people are striving to escape poverty with every means at their disposal. Many of these people have flooded in from the countryside, with 70% of the petty street traders in Manila comprising migrants to the city. In Hanoi, more than 50% of the trash and treasure vendors come from one rural district south of the capital. Up to

40% of Bangkok's *saam lor* (trishaw) drivers are rural seasonal migrants and most *tukang* (manual workers) in Jakarta come from Central and East Java where they were former wage labourers in *sawah* (rice paddies) (Rigg, 1998, 504). Children work in the informal sector to improve their own and family livelihoods working as comic or newspaper sellers, umbrella bearers, 3-in-1 jockeys¹⁸, food or toy vendors, scavengers, factory or construction workers, domestic workers or shoe shiners (Sanie & Baum, 2003).

Brand cites a 2003 United Nations report the points to the efficacy of community-based organisations: 'community theatre and leisure groups, sports groups, residents associations or societies, savings and credit groups, child care groups, minority support groups, clubs, advocacy groups, and more (Brand, 2006, 11). These institutions occupy an unfilled space in the city fabric running communal kitchens and setting up income earning and cooperative schemes. They provide a complex gel between the formal and informal sector with the home-based screen printer delivering freshly printed laundry bags to hotels and the bicycle courier delivering lunch boxes to a myriad of office spaces.

Learn from the past, watch the present, and create the future

By the turn of the century it was clear that Singaporeans were among the wealthiest people in the world (Leaf, 2007, 158) and Malaysia was destined to become a fully industrialised economy by the year 2020 (Mallet, 1997:301). *Samai pattana* (the era of development) began as long ago as 1962 in Thailand and by the end of the first decade of the 21st century Thailand could be described as a middle income, mixed economy (Rigg & Salamanca 2009). Many Filipinos now enjoy higher standards of living than they did twenty years ago and many

¹⁸ 3 in 1 car pool jockeys are young people who occupy extra car seats in downtown Jakarta where the regulations decree that there needs to be at least three people in the car between 7:30 to 10:00 in the morning and 4:30 to 7:00 in the afternoon. A teenager described how he spent his income as a 3 in 1 jockey: 'Since my dad died and I became the provider for the family, my money goes to keeping my sister in school. She's 9 years old now. I want to make sure she gets a better education than I did. Also, I go and eat *bakso* [meatballs] occasionally with friends and buy myself jeans at Blok M Plaza every three months or so'. Retrieved June 2012 from <http://www.thejakartaglobe.com/myjakarta/my-jakarta-muhammad-jian-3-in-1-car-pool-jockey/393424>

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citizens of Timor Leste and Myanmar look forward to more sustainable livelihoods.

But there are rumbles of discontent. Strikes are commonplace in the garment factories of Phnom Penh (Beaugé, 2010) and Indonesian workers are exploited in the growth triangle of 'the borderless world' set in the Riau Islands (Sparke, Sidaway, Bunnell & Grundy-Warr (2004). Unbridled environmental destruction continues, Southeast Asia has the highest relative rate of deforestation of any major tropical region, and could lose three quarters of its original forests by 2100 and up to 42% of its biodiversity (Sodhi, Koh, Brook. & Ng, (2004).

Two futures studies workshops held in the Philippines in 1994 and 2007 pointed to quite different futures with varying ramifications for sustainable livelihoods. In 1994, using typhoon as a metaphor, the first typhoon is the rush to become a dragon, to export the nation into wealth; the second is a migrant society chasing better standards of living in the city and overseas; the third, increased tourism and the rise of a consumer society with resultant environmental costs; and, the final typhoon sees the growth of NGOs and a strong civil society (Inayatullah, 1995,683). By 2007 this had morphed into a different future scenario, the long typhoon whereby the Philippines is stuck in a political quagmire of never ending mistrust in the highest office of the land, thanks to allegations of corruption, long unanswered, and cheating in the last presidential election (Stevenson: 2007). At another futures workshop in Malaysia one participant saw a new Kuala Lumpur that was highly technological and environmentally friendly. Public transport would be inviting, eventually almost replacing the car. The city would be both accessible and architecturally rich (Inayatullah, 1995,685). By way of contrast a futures workshop in Indonesia wanted to redress a dystopian future by a series of interventions. They would intervene to stop Indonesia in 2020 that would be experiencing deforestation, poverty, malnutrition, disregard for the law, pollution, high crime, growing use of pornography, high incidence of corruption and an increase in separatism (Sebastion & Laksmana, 2009).

Inquiries into sustainable livelihoods in Southeast Asia reveals much about the mysteries that lie

beneath the surface of societies and environments and that affect everyday lives. It also provides a vehicle for reviving interest into one of the central concerns of geography to fuse the dichotomy between human and physical geography and dissolve the distinction between culture and nature.

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Produce market, Cambodia Source: Wikimedia Commons

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2013 AGTA Conference attracts wide interest



Photo: Pinky's Beach, Rottnest Island. Source: Wikimedia Commons

Latest news

We are delighted to bring you the latest news about our keynote speakers for the AGTA 2013 Conference. Professors David Lambert and Simon Catling from the United Kingdom and Professors Peter Newman and Lyn Beasley from Australia have accepted AGTA's invitation to be keynote speakers at the AGTA 2013 Conference in Perth.

This is wonderful news given David Lambert and Simon Catling have considerable experience with the national curriculum in the United Kingdom. Simon Catling's experience with primary geography implementation in particular ensures that this conference will appeal to primary school teachers as well as secondary school teachers.

Peter Newman is the Professor of Sustainability at Curtin University and the Director of the Curtin University Sustainability Policy Institute. He has recently been appointed as Chief Writer – Transport for the UN's Intergovernmental Panel on Climate Change, (IPCC).

We have recently confirmed our forth keynote speaker, Professor Lyn Beasley. Professor Beasley is

the West Australian Chief Scientist and patron of the Australian Sustainable Schools Initiative - WA. Her address on Western Australia an Ancient Land is sure to be informative and entertaining

Timeline

30 October 2012 – Early-bird registrations close

30 November 2012 – All registrations close

2–5 January 2013 – Pre-conference tour(s)

6 January 2013 – Pre-conference Winery Tour and Welcome BBQ

7–10 January 2013 – AGTA 2013 Geography's New Frontier Conference.

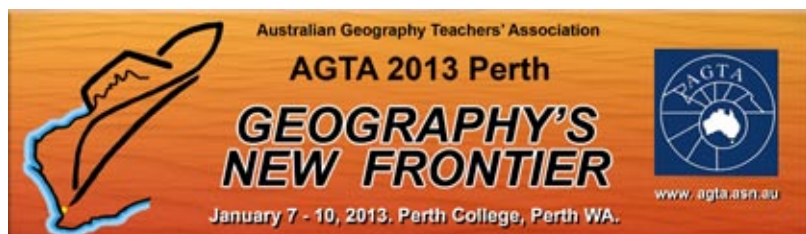
2013 Conference program

Monday 7 January – Keynotes/Workshops. AGTA Awards at Canapés & Drinks function.

Tuesday 8 January – Whole day Fieldtrips.

Wednesday 9 January – Whole day and ½ day Fieldtrips, BBQ & AGTA Cup games.

Thursday 10 January – Keynotes/Workshops. Formal Conference Dinner. Farewell



For further information contact:
Darryl Michie, AGTA 2013 Conference
Convenor – agta2013@iinet.net.au
or
Malcolm McInerney, AGTA Chair –
manning@chariot.net.au

GEOGRAPHY CHALLENGE

www.geographychallenge.nsw.edu.au

Introduction

Geography Challenge is a new online interactive program from the NSW Curriculum and Learning Innovation Centre for Year 9 and 10. It supports student to:

- examine environmental issues in Narawang wetland
- conduct virtual fieldwork
- carry out a Research Action Plan (RAP)
- examine the broader context of Homebush Bay and nearby communities
- apply a range of geographical skills such as using interactive maps and Geographic Information Systems
- apply a range of research techniques to a geographical investigation.

Geography Challenge is different from other virtual field trips. Geography Challenge allows students to actively engage in the fieldwork process and requires students to analyse the data they collect in a variety of different ways and from a range of perspectives. Many other virtual fieldtrips tend

to be fairly static, and the student remains quite isolated from the active process of completing and analysing fieldwork.

Land and water management

Geography Challenge is based on a real site, Narawang Wetland, which is located within the boundaries of Sydney Olympic Park, Homebush Bay. Narawang Wetland, along with the nearby Parramatta River and its tributary Haslams Creek has suffered the effects of intense human use over time. It therefore provides a rich source of material for the Stage 5 topic Land and water management.

Geographical processes

The Geography Challenge program examines basic fluvial processes, wetlands functioning and factors affecting water quality. The program examines climatic features of Homebush Bay and the native flora and fauna of the area.

Perceptions of different groups

A range of different perspectives are explored in the examination of geographical issues at Narawang Wetland. Simulated survey results of park users are analysed and interviews are



GEOGRAPHY CHALLENGE: A Years 9 to 10 interactive program

conducted with various community members. A virtual committee meeting is used as a method of collecting data and informing conclusions. A range of authentic characters provide an opportunity for students to explore the different viewpoints within the community. Students are able to interview community stakeholders, and can choose from a selection of questions to generate a response. In this way the perceptions of different groups are represented including local residents, Indigenous groups, conservationists, property developers, and environmental managers are considered.

Individual, group and government responses to the issue

Students are able to explore responses to land and water management in Narawang Wetlands through links to secondary data sources such as pamphlets, websites and academic articles. Students are encouraged to propose their own individual actions for managing the issues and engaging in the political process to encourage change. Community groups and events such as Streamwatch and Clean Up Australia are discussed.

Decision-making processes involved in management

In the process of collecting data on Narawang Wetlands, students examine a simulated local council meeting discussing the issues of development in areas surrounding the wetlands. This exposes students to the processes involved in decision-making at the local council level including meeting procedures, council recommendations and differing viewpoints and compromise. The generalised nature of the council meeting is balanced by a council committee meeting which is focused specifically on the issue of water and pests within the area. This reflects the variety of roles and functions of different bodies and groups within a local council. Students are also prompted to find their own local council area by examining the Local Government Directory.

Management of the issue and implications for sustainability, social justice and equity

Students are required to analyse the data they have collected in relation to the concept of sustainability. Students are asked to reflect on a number of questions which relate to the

conflicting ideals of economic development, environmental protection and social well-being.

Assessment

The program allows student results to be saved automatically into a PDF report. The teacher has access to their students' progress through the teacher's dashboard. The teacher can view the proportion of the program that has been completed as well as access the actual PDF report the student is creating. When the student completes the Virtual Field Trip the results will also appear in the Research Action Plan for analysis.



Research Action Plan

Identifying an aim

Students are required to focus on one of three issues: pests, water and human interactions. They examine general information about each of the three issues and make a choice about focusing on one of them. Students are able to watch a short video outlining the importance of the aim in research, and are then asked to writing their own research aim based on their chosen topic of water, pests or human interactions.

Generating focus questions

A short video outlines the significance of a well-structured set of research questions to the integrity of thorough geographical research. Students are provided with a selection of possible focus questions which relate to water, pests and human interaction to provide them with support in developing their own research questions. Students are asked to write three focus questions of their own that shapes the direction of their data collection and research analysis.

Primary and secondary data

Definitions and examples of primary and secondary data sources are provided. A short video describes the benefits of each form of data. An interactive activity requires that students categorise a variety of data collection techniques into primary or secondary data and provides students with instantaneous feedback. Students need to outline some of the data techniques which will allow them to complete their research.

Identifying techniques to collect data

Students are able to explore the specific techniques to carry out research on their topic. A video and slide show are provided which demonstrate some of these techniques. Students are asked to identify specific techniques that may be useful in their research.

Collecting data

Data is collected from virtual experiments, a survey of park users, attendance at a virtual council meeting and council committee meeting, virtual interviews with community stakeholders and publications.



Processing and analysing data

Processing and analysing of the data is divided into four sections - the virtual field trip, survey, publications and sustainability. The results from the virtual field trip are used by students to compare the four sites and draw conclusions. Students in a class are asked to analyse the data in different ways dependent on the original issue they choose and the beginning of the RAP: water, pests or human interactions. Students are supplied with simulated survey results which relate to each of the three research themes. Questions

to complete again relate to the research theme chosen by the student. In the collect data stage, students were provided with access to a range of publications related to land and water management in Narawang Wetlands and Homebush Bay more generally. Students are provided with a question which relates specifically to their theme. Students are asked analyse the data they have collected in relation to the impacts on sustainability.

Communicating research findings

Students are provided with a range of options to present their data. Students can write an information report, design a multimedia presentation or website, and present their data in table and graphs. Guidance and scaffolding is provided for each form of presentation. Students are also provided with advice on referencing their work.

Proposing action

Students are encouraged to write a letter, contribute to a wiki or blog and to write tweets about their proposed actions. A letter writing scaffold is provided to assist students. There are also links to community events and programs.

Geographical skills and fieldwork

Using various types of maps and flow charts

Students are given the opportunity to explore a variety of maps related to land and water management in Narawang Wetland. An interactive map allows the students to identify the natural and built features of the area surrounding Narawang. Historical maps have been included which show colonial developments in the area, and a Google-style aerial photograph is provided to allow students to orient themselves with the virtual field sites.

A basic GIS-style map provides students with an introduction to using Geographical Information Systems. Students examine land uses in the area surrounding Narawang Wetland to explore the location of different uses and are able to examine the relationship between landuse types and the location of different ecosystems and water management strategies.

GEOGRAPHY CHALLENGE: A Years 9 to 10 interactive program

Weather monitoring

Students undertake a range of simulated field tests to determine weather conditions such as tests on air temperature, cloud cover, light intensity, relative humidity and wind speed. In each test the purpose, unit of measurement and required weather equipment are discussed. Results are given for four sites and students are asked to compare their results and explain anomalies.

Water quality monitoring

Simulated water tests are conducted at three different sites with markedly different characteristics. Students should be able to determine the impacts of stormwater, flushing, and relative isolation from human impacts. The abiotic water tests conducted are dissolved oxygen, nitrate, pH, phosphate, salinity, water temperature and turbidity. Relative colour charts are included for students to analyse their results. The test simulations are designed to not only give realistic results for analysis, but also to teach students how to use the relevant pieces of equipment. Students are also able to complete an abiotic test of water quality by examining macroinvertebrates collected from each of the sites. Students must examine a water bug identification chart and identify each of the species in their samples to complete this section of the fieldwork.

Observations

Students are able to carry out a number of simulated field observations including identifying human interactions with the environment and viewing flora and fauna present. Twelve different interactive panoramas are provided for students to identify key features of the landscape. Three panoramas are provided for each of the four fieldwork sites. Students are required to record their observations in a series of tables with reference to flora and fauna identification charts and a chart of human interactions.

Field sketch and transect

Students are asked to examine a number of different field sketches of a particular part of Narawang Wetland. They are asked to judge the field sketches for accuracy and technical proficiency taking into account factors such as, labelling, shading, and use of colour.

Students are able to examine an interactive transect showing changes to vegetation types approaching a water body. An interactive view of a landscape showing intervals of 20 metres is provided. Students are able to look along the landscape to examine changes down a slope, on approach to a pond and back up a slope. As the students move along the transect, descriptions are provided outlining details of the vegetation found in each section. Students complete activities to construct their own version of a transect. They are supported to visually identify the plant and tree types as well as the names of the species.



Surveys and interviews

Using Geography Challenge, virtual interviews can be conducted with a selection of community stakeholders. Students can select a number of questions which relate to their research area and read the responses of the individuals. Students are provided with information about the design and distribution of surveys and are introduced to the concept of sampling.

Calculating local relief

The local relief of Narawang Wetland is explored within the GIS-style activity. Contour lines are demonstrated on an aerial photograph along with the directions of surface water run-off. The local relief is used to explore the impact of nutrients rich waters of pest incidence, the risk of leachate and threats from nearby development.

Recognise and account for change using statistical data

Students are required to explain the differences between the four different field sites. Each site has different characteristics and will generate different test results. Students are required to

GEOGRAPHY CHALLENGE: A Years 9 to 10 interactive program

analyse the field data to account for differences in results. Climatic graphs based on Homebush Bay for two different years are provided for examination. Students identify differences in the statistics and are guided to account and explain anomalies between the two years and general climatic trends indicated by differences between months.

Collect and use digital images

Students use digital images through their examination of the interactive panoramas. These panoramas allow students to click on sections of the landscape to enlarge important features. In the flora and fauna observation panorama, students are able to zoom in to examine particular species such as the jointed twig-rush. In the human interactions panorama students can zoom in to examine human alterations to the environments and human uses. Students compare these result for the four test sites.

ICT

Geography Challenge seamlessly integrates the mandatory ICT requirements of the Stage 5 geography syllabus into teaching and learning.

Creating documents

As part of a Research Action Plan students need to communicate the findings of their research. Students are asked to write an information report about their findings, and given information about using this particular text type. Students are taught how to write an introduction and conclusion and what to include in body paragraphs. Guidance is provided on referencing and including visual stimuli.

Creating a multimedia presentation

In Geography Challenge, students can design a multimedia presentation or website to present their findings. Students need to draw on their research to examine management strategies currently implemented in Narawang. Students are provided with guidance on planning the presentation and suggestions on appropriate software applications to use.

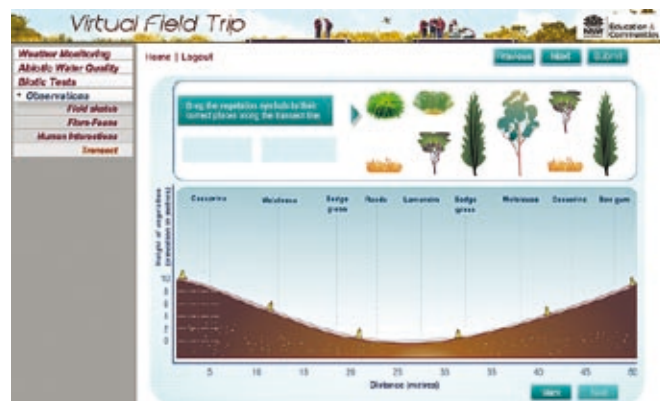
Using a database and importing data

As students undertake the Virtual field trip an electronic database of their results is created. On

completion students can access this database for further analysis. Further, students create their own databases in Microsoft Excel to allow the creation of tables of graphs. Students are encouraged to create tables and graphs using different software applications and websites to present their findings. They can then import these graphs and tables into their work, such as the information report.

Analysing websites and using electronic information

Links to a range of relevant websites are provided for students to explore. Students must analyse these sites to find information relevant to their research topic. Access is provided to a range of real and simulated electronic information. Students are required to access and collect these sources and interpret them in relation to their chosen research topic. Students also critically analyse these electronic sources for validity and accuracy.



Literacy

Geography Challenge supports the acquisition and use of literacy skills to manipulate and communicate their geographical understanding. Geography Challenge supports students understanding texts, through glossaries, images, videos and audio. To assist reading and understanding, in each section of the website glossaries are provided which are easily accessed from any page. Video is provided to reinforce the text provided on each page to assist comprehension. Text is chunked in small sections to allow students to absorb elements of topics such as fieldwork, or research techniques and gradually build their knowledge to grasp more complex concepts. Activities are provided to boost student engagement with metalanguage. To assist

GEOGRAPHY CHALLENGE: A Years 9 to 10 interactive program

processing of geographical information, activities support students to summarise information for particular audiences. Scaffolds for letter writing and report writing are provided to support students in communicating their knowledge in a written form.

Numeracy

Numeracy is integrated through Geography Challenge, particularly in the analysis of fieldwork. In the Narawang Wetland section, students analyse statistical data such as climatic graphs of Homebush Bay. They interpret the climatic graphs and determine possible causes of difference between two years. In the Research Action Plan students apply mathematical information and concepts to account for variance in test results across four separate field sites. Students analyse quantitative survey data and draw conclusions. Students may manipulate statistical data through the creation and interpretation of a variety of graphs to present their findings.

Values and attitudes

Ecological sustainability and a just society

Geography Challenge supports students to undertake a sustainability analysis of student research where students examine the three components of sustainability and assess how well Narawang Wetlands is managed in relation to these concepts.

Intercultural understanding

In the Narawang Wetland section students explore the ways in which the area has been used by Indigenous people in the past. Students examine archaeological artefacts such as bone implements, cutting tools and blades used by the Wanngal clan. Students are able to conduct a virtual interview with an Indigenous representative. They examine the perspective of the Indigenous representative about the significance of the local environment to his community, changes to the area, future developments, and management. Students also examine the opinions of an Indigenous representative in the Council meeting minutes available in the collect data section of the Research Action Plan.

Students are able to experience a multicultural

perspective of the issues of land and water management of Narawang Wetlands. In addition to an examination of Indigenous perspectives, students can explore how management of the area is viewed by a migrant representative in the virtual local council meeting.

Informed and active citizenship

Geography Challenge allows students to demonstrate their knowledge and understanding of civics and citizenship. Students are able to explore different aspects of decision-making processes at the local scale through an examination of local council and committee meetings and interviews. They are able to consider the opposing views of different segments of community, and are encouraged to become actively involved in the decision-making process in the Propose action section.

Australian Curriculum

Geography Challenge has been designed to support the Australia Curriculum and will be updated as the new Australian Curriculum and NSW syllabus are finalised. This program supports the new Year 10 topic "Environmental challenges and geography", using river basins as a case study. Geography Challenge examines environmental challenges and their consequences, biophysical processes, underlying causes of environmental challenges, and management strategies. Further, it introduces students to spatial technologies as an analysis tool. Geography Challenge addresses many of the geographical inquiry and skills, general capabilities and cross curriculum priorities.

Conclusion

Geography Challenge is a detailed study of a significant environmental, cultural and historic Australian site. It will improve student engagement in learning geographical content and make students more enthusiastic about conducting geographical research. The smooth integration of technology, including interactive activities, will absorb students in learning and improve attitudes towards geography. Geography Challenge can be used as an assessment for learning tool and will improve teacher confidence in teaching research methodologies.



Geography Teachers' Association of NSW

ARTHUR PHILLIP AWARDS 2012

GEOGRAPHY FIELDWORK COMPETITION

The Geography Teachers' Association of NSW (GTA NSW) organises an annual competition for students and schools to foster an enthusiasm for Geography through engagement and rewards. The emphasis of the competition is fieldwork and the gathering of primary data as part of authentic research in geography.

The competition is open to all secondary schools, both members and non-members of GTA NSW.

All the categories of the competition are based on the research action plan outlined on page 17 of the Years 7–10 Geography syllabus. The steps of this research plan have also been applied to the senior Geography course for the purposes of this competition and fit neatly with the Senior Geography Project.

NATURE OF THE COMPETITIONS

1. **The GTA Fieldwork and Visual Presentation Competition (Years 7–9)**
 - choose a relevant topic
 - undertake fieldwork to gather primary data
 - support fieldwork with secondary data if required
 - analyse gathered data
 - present research findings as a visual presentation (digital or poster)
2. **The Global Education Research (Fieldwork) Competition (Years 7–12)**
Three categories: Stage 4, Stage 5, Stage 6
 - choose a relevant global geography topic
 - undertake research (may include fieldwork)
 - analyse data gathered
 - present research findings in a digital form
 - propose individual or group action in response to findings
3. **The Dr Don Biddle Issues in Australian Environments Fieldwork Competition (Year 10 only)**
 - undertake research into a relevant issue in NSW, using fieldwork to gather primary data
 - support fieldwork with secondary data if required
 - analyse data gathered
 - present research findings
 - propose individual or group action in response to findings

ARTHUR PHILLIP AWARDS 2012

NATURE OF THE COMPETITIONS

4. The Brock Rowe Senior Geography Project Fieldwork Competition (Year 11 only)

- undertake a Senior Geography Project, using fieldwork to gather primary data
- support fieldwork with secondary data if required
- analyse data gathered
- present research findings
- propose individual or group action in response to findings

5. The Dr Maurine Goldston-Morris Civic and Citizenship Awards

There will be Civics and Citizenship Awards available for entries that demonstrate action has occurred at either the individual or group level, as a result of the research/fieldwork activity. Awards may be allocated to the best action taken in Stages 4, 5 and 6.

6. The Dr Maurine Goldston-Morris Teacher Awards

These will be allocated to teachers for outstanding involvement in the Geography Fieldwork Competition during 2012.

ARTHUR PHILLIP AWARDS 2012

INFORMATION

ENTRIES

GTA Member schools – \$3.30 per entry (incl GST)

Non-member schools – \$6.60 per entry (incl GST)

Each school can submit up to FOUR (4) entries in each section.

Final date for entries to be received – Monday 10 December 2012.

All entries **MUST** have an *Entry Form* (see over page) fully completed and securely attached to be considered. Make sure the correct section is indicated on the entry form.

Entries should be sent or delivered to:

GTA NSW Office (PO Box 577)
Block B, Leichhardt Public School grounds
Corner Norton and Marion Streets
101 – 105 Norton St, Leichhardt NSW 2040

Enquiries via email to gta.admin@ptc.nsw.edu.au

All packages should be clearly marked as **Geography Fieldwork Competition.**

Entries may be in a book or loose leaves (with reinforced rings), mounted on cardboard (limit 2 sheets of 65 x 55cm), PowerPoint presentation (maximum slide number 20) or a webpage. No models will be accepted.

All entries will be available for collection at the end of the award ceremony.

GTA NSW is unable to return uncollected entries to schools.

SCHOOL REGISTRATION AND PAYMENT

Teachers will need to obtain the *School Registration and Payment Form* from the GTA NSW website: www.gtansw.org.au. This form must be completed for the full set of student entries being submitted from the school. Payment for ALL student entries must accompany this form. This form and payment must be attached to the set of entries to be eligible for judging.

PRIZES

Prizes are substantial and vary according to section and prize donors. The Civics and Citizenship Awards are major awards.

AWARDS

Each student who submits an entry will receive a *Certificate of Commendation*.

Awards will be allocated to each section according to criteria. The presentation of awards will be at a special ceremony in February 2013.



ARTHUR PHILLIP AWARDS 2012

GEOGRAPHY FIELDWORK COMPETITION

ENTRY FORM

This form **MUST** be fully completed and securely attached to each entry. *(One form per entry – please photocopy)*

PLEASE
PRINT
CLEARLY

EACH SCHOOL CAN SUBMIT UP TO FOUR ENTRIES IN EACH SECTION

STUDENT (full name)

SCHOOL

SCHOOL YEAR TEACHER

SECTION *(Please tick **ONE** section only)*

- ☐ 1. The GTA Fieldwork and Visual Presentation Competition
- ☐ 2. The Global Education Fieldwork and Research Competition
- ☐ 3. The Dr Don Biddle Issues in Australian Environments Fieldwork Competition
- ☐ 4. The Brock Rowe Senior Geography Project Fieldwork Competition

ONLY ONE
SECTION TO
BE SELECTED

TITLE OF ENTRY

SYNOPSIS

.....

.....

CERTIFICATE OF ORIGINALITY

I certify that this is all my original work:

.....
Student's name

.....
Student's signature

.....
Date

.....
Teacher's name

.....
Teacher's signature

.....
Date

ALL ENTRIES MUST BE RECEIVED BY CLOSE OF BUSINESS – MONDAY 10 DECEMBER 2012



ARTHUR PHILLIP AWARDS 2012 GEOGRAPHY FIELDWORK COMPETITION

SCHOOL REGISTRATION AND PAYMENT FORM

This form must accompany the full set of student entries from your school

School details:

SCHOOL NAME

SCHOOL ADDRESS

ORGANISING TEACHER

BEST PHONE CONTACT FOR TEACHER

BEST EMAIL CONTACT FOR TEACHER

GTA NSW membership:

☐ SCHOOL MEMBERSHIP ☐ PERSONAL MEMBERSHIP (Organising teacher)

Membership No.

Entry fees:

GTA NSW Member: \$3.30 per entry Non-member: \$6.60 per entry

Summary of entries:

| Competition section entered | Number of entries (maximum of FOUR in each section) | Amount owing |
|---|---|---------------|
| 1 GTA Fieldwork & Visual Presentation | | |
| 2 Global Education Research Fieldwork | | |
| 3 Dr Don Biddle Fieldwork | | |
| 4 Brock Rowe Senior Geography Fieldwork | | |
| TOTAL ENTRIES: | | TOTAL AMOUNT: |

Teacher's signature Date

Please make cheques payable to: **Geography Teachers' Association of NSW Inc**

OR

Charge \$..... to my credit card: ☐ Mastercard ☐ Visa

Card Number: / / Expiry date: /

Name on card: Signature:

ABN 59 246 850 128 – This form becomes a tax invoice when signed and dated.
GTA NSW respects your privacy, any data collected is for the purpose of registration only.

SYDNEY LEARNING ADVENTURES



Relive the past and explore the present

People and places: Pyrmont through time
Curriculum target: Years 9–11 geography/history

By observing the built and natural environments, and examining historical photographs, statistics and maps, students explore the reasons behind the area's changing demography and discover how careful planning can affect community outcomes and opportunities.

Ideal for students studying urbanisation, urban growth and decline and future challenges for Australia.

Cost: \$12 per student (two hour excursion), \$15 per student (three hour excursion)

For more information, visit shfa.nsw.gov.au/sla or call (02) 9240 8552

SHFA.NSW.GOV.AU/SLA



Planning & Infrastructure
Sydney Harbour Foreshore Authority

Australian Alps Education Kit

Revised January 2012

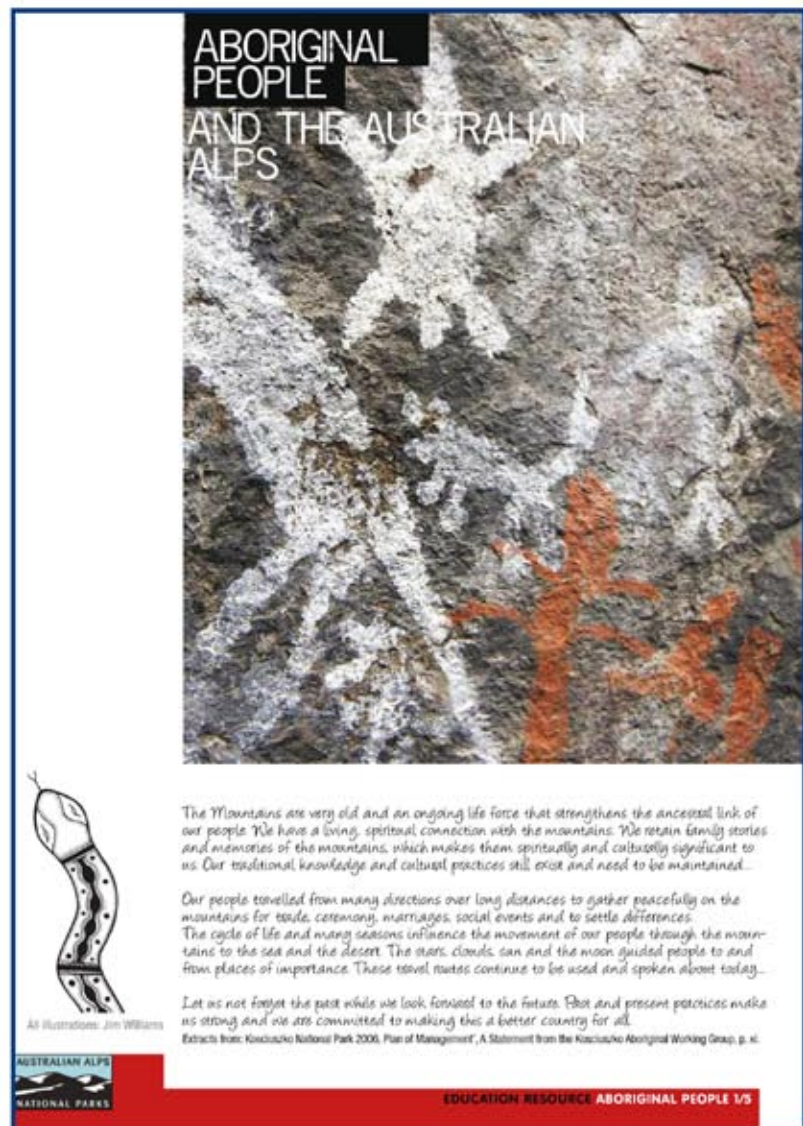
A proven popular resource, the Australian Alps Education Kit has again been updated with current websites, scientific research and new information on climate change. The revised kit also contains a special animation feature on how the Australian Alps were formed.

For:

Teachers, secondary students, tour guides and others who want to know more about the Australian Alps.

The kit has information on:

- Recreation and tourism
- Park management and conservation
- Landforms, climate and climate change
- Plants and animals
- Fire
- People, past and present



Sample page from the Aboriginal People section.

How to get one?

Download it free from the Australian Alps Website. The website has been upgraded and includes much more visitor information and activities: www.australionalps.environment.gov.au

AUSTRALIAN



ALPS

BENEFITS OF GTA NSW MEMBERSHIP

The Geography Teachers' Association of New South Wales (GTA) is a not-for-profit, incorporated body that represents the professional interests of Geography teachers in NSW and Geographical Education more generally. The objectives of the Association are to promote the study and teaching of geography in schools by:

- providing professional learning opportunities for teachers of Geography;
- advocating the interests of Geography teachers on matters in the State and National interest;
- providing forums where teachers of Geography and the wider community can exchange views;
- supporting Geographical Education through the development and dissemination of geographical resources; and
- promoting geographical research and fieldwork.

The GTA seeks to address its objectives via a yearly program of activities and events, which include:

- online publication of the quarterly Geography Bulletin a quality, peer-reviewed journal designed to serve the contemporary interests of Geography teachers and students.
- delivering Teacher Professional Learning Workshops and in metropolitan and regional locations, focussing on current issues, including in Global Education, the use of technology in the classroom, research and fieldwork skills.
- conducting an Annual Conference with keynote addresses from leading geographers on contemporary and emerging geographical issues as well as more practical sessions by geographical practitioners.
- hosting School Certificate and Higher School Certificate Reviews for teachers of Geography. These reviews are held in a number of regional areas across the state.

For further information about GTA NSW activities and events go to: www.gtansw.org.au



MEMBERSHIP RENEWAL/APPLICATION FORM 2013

ABN 59 246 850 128 – This form will become a tax invoice when completed, GST included.

Please select **ONE** of the following membership options and complete the details

☐ Personal membership \$90.00

Title – please tick: ☐ Dr ☐ Mr ☐ Mrs ☐ Ms ☐ Miss Other:

Surname: Given Name(s):

Home address: Postcode:

Phone: (Mob) (Home) (Work)

Fax: Email:

☐ Corporate membership \$180.00

Title – please tick: ☐ Head of HSIE ☐ Head Teacher of Social Science ☐ Head Teacher of Geography
☐ Co-ordinator of Geography ☐ Senior Geography Teacher ☐ Librarian

School:

School address: Postcode:

School phone: School fax:

☐ Concessional membership \$40.00 ☐ Retiree ☐ Part-time teacher ☐ Student (verification required)

Title – please tick: ☐ Dr ☐ Mr ☐ Mrs ☐ Ms ☐ Miss Other:

Surname: Given Name(s):

Home address: Postcode:

Phone: (Mob) (Home) (Work)

Fax: Email:

School:

PAYMENT:

Membership is for twelve months commencing in January. If payment is made later in the year all back copies of *Geography Bulletin* will be forwarded. A membership reminder will be sent in December.

Please make cheques payable to: Geography Teachers' Association of NSW Inc

OR

Charge \$..... to my credit card: ☐ Mastercard ☐ Visa

Card Number: / / / Expiry: /

Name on card: Signature:

Post this form and your payment to: GTA NSW, PO Box 577 Leichhardt, NSW 2040

ADVICE TO CONTRIBUTORS

Editorial policy attempts to:

- promote material which will assist the study and teaching of geography
- encourage teachers to share their ideas on teaching geography
- provide a means by which teachers can publish articles
- inform readers of developments in geographical education

Articles are sought reflecting research and innovations in teaching practices in schools. From time to time issues of the Bulletin address specific themes.

Refereeing

All suitable manuscripts submitted to the Geography Bulletin are subject to the process of review. The authors and contributors alone are responsible for the opinions expressed in their articles and while reasonable checks are made to ensure the accuracy of all statements, neither the editor nor the Geography Teachers' Association of New South Wales Inc accepts responsibility for statements or opinions expressed herein.

Books for review should be sent to:

Mr John Lewis, Review Editor,
The GTA NSW Office
PO Box 577
Leichhardt NSW 2040

Deadlines for articles and advertising

| | |
|----------------------|--------------------|
| Issue 1 – 1 December | Issue 2 – 1 March |
| Issue 3 – 1 May | Issue 4 – 1 August |

Notice to Advertisers

'Geography Bulletin' welcomes advertisements concerning publications, resources, workshops, etc. relevant to geography education.

FULL PAGE (26 x 18cm) – \$368.50
Special issues \$649.00

HALF PAGE (18 x 13cm or 26 x 8.5cm) – \$214.50
Special Issues \$382.80

QUARTER PAGE (13 x 8.5cm or 18 x 6.5cm) – \$132.00
Special issues \$242.00

INSERTS (A4 supplied) – \$374.00
All prices include GST

Advertising bookings should be directed to:

GTA NSW Office
Telephone: (02) 9564 3322
Fax: (02) 9564 2342

1. **Objective:** The Geography Bulletin is the quarterly journal of the New South Wales Geography Teachers' Association, Inc. The role of the Geography Bulletin is to disseminate up-to-date geographical information and to widen access to new geographic teaching ideas and methods. Articles of interest to teachers and students of geography in both secondary and tertiary institutions are invited, and contributions of factually correct, informed analyses, and case studies suitable for use in secondary schools are particularly welcomed.

2. **Content:** Articles, not normally exceeding 5000 words (no minimum specification), should be submitted to the Editor at the following address:

PO Box 577, Leichhardt, NSW, 2040

Articles are welcomed from tertiary and secondary teachers, students, business and government representatives. Articles may also be solicited from time to time. Articles submitted will be evaluated according to their ability to meet the objectives outlined above.

3. **Format:** Original in Word format on disk (or forwarded electronically via email attachment) plus one hard copy should be submitted. Tables should be on separate pages, one per page, and figures should be clearly drawn, one per page, in black on opaque paper suitable for reproduction. Photographs should be in high resolution digital format. An indication should be given in the text of approximate location of tables, figures and photographs. Every illustration needs a caption. Photographs, tables and illustrations sourced from the internet must acknowledge the source and have a URL link to the original context.

4. **Title:** The title should be short, yet clear and descriptive. The author's name should appear in full, together with a full title of position held and location of employment.

5. **Covering Letter:** A covering letter, with return forwarding address should accompany all submitted articles. If the manuscript has been submitted to another journal, this should be stated clearly.

6. **Photo of Contributor:** Contributors should enclose a passport-type photograph and a brief biographical statement.

7. **References:** References should follow the conventional author-date format:

Abbott, B. K. (1980) *The Historical and Geographical Development of Muswellbrook* Newcastle: Hunter Valley Press.

Harrison, T. L. (1973a) *Railway to Jugiong* Adelaide: The Rosebud Press. (2nd Ed.)

Harrison, T. L. (1973b) The Spatial Distribution of Macadamia Plantations on the Far North Coast of New South Wales, *Journal of Rural and Agricultural Problems*, 13, 4, Oct. pp. 347–359.

O'Donovan, M. J., *et. al.* (1980) "Animal life in the North Star District of New South Wales". In W.W. Murphy, (Ed.) *Readings in Regional Geography (Vol. 2)*, Sydney: Williams and Sons.

8. **Italics** should be indicated by underlining.

9. **Spelling** should follow the Macquarie Dictionary, and Australian place names should follow the Geographical Place Names Board for the appropriate state.



Image: Weekend Markets, Bangkok Source: Wikimedia Commons – <http://commons.wikimedia.org>