

CONSERVATION WATCH

Waterbird conservation in the Republic of Korea: the truth about ‘green growth’ and the ‘green new deal’

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Introduction

Since the 1990s there has been a steady growth in the popularity of birdwatching and an even faster growth in environmental awareness in the Republic of Korea (ROK). A recent survey suggests that 80% of the population now believes that ‘in planning development projects, environmental conservation should take precedence over economic gains’ (Hwang 2009). Despite this, habitat loss is accelerating, and several large-scale development projects now threaten the biodiversity of rivers and tidal flats. The Four Main Rivers Restoration Project (FMRRP), for example, will alter rivers nationwide and is predicted to have a negative impact on about 50 species of waterbird, including the globally Endangered Scaly-sided Merganser *Mergus squamatus*, Mandarin Duck *Aix galericulata* and Long-billed Plover *Charadrius placidus* (Moores *et al.* 2010). Intertidal wetlands in Incheon, used by breeding Endangered Black-faced Spoonbill *Platylea minor* and Vulnerable Chinese Egret *Egretta eulophotes*, are threatened by recently approved large-scale reclamation for the Song Do ‘Eco-city’ and by impoundment and flooding to build the world’s largest tidal power plant at Incheon (Kim & Moon 2009). Meanwhile, tidal flats at Saemangeum and elsewhere continue to be ‘developed’.

Increasingly, the proponents of large-scale reclamation and development projects respond to the growth in public dismay at the damage these inflict on the environment and biodiversity by

placing heavy emphasis of the perceived benefits to the community. A camouflage of ‘green credentials’ or ‘green-wrapping’ is used by publicity and public relations teams to soften domestic concerns and to help attract overseas investment. This article reviews the four huge ROK projects noted above and the way they are presented to the Korean public and the international community.

The Four Main Rivers Restoration Project (FMRRP)

To a small nation largely surrounded by sea, the proposed Korean Grand Canal Project (KGCP) described in an earlier article (Moores 2008) offered the peculiar promise of ships sailing across mountains thanks to the canalisation of the nation’s main rivers. After a growing wave of domestic opposition, and as the ROK prepared to host the 2008 Ramsar Convention conference (Ramsar COP10), the ROK government took the bold and very welcome step of suspending the KGCP. However, once the Ramsar COP10 was a memory, the KGCP was replaced by the even grander FMRRP. According to the ROK government, the FMRRP is central to the government’s ‘Green New Deal’ policies; these will lay the groundwork for the ROK’s ‘green growth’. The ROK government defines ‘green growth’ as achieving sustainable economic growth by developing low-carbon, eco-friendly industries. The FMRRP has the stated aims of developing water resources by reducing flooding, securing more water reserves, upgrading water

Plate 1. Upo Ramsar site: a floodplain wetland on the Nakdong River under threat, March 2004.



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Plate 2. Dredging work for the FMRRP already in full swing, February 2010.



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Figure 1. Four Main Rivers Restoration Project: map showing the main civil engineering work required for phase 1.

quality and reviving ecosystems as well as boosting regional economies; moreover—puzzlingly, considering the emphasis on construction—it will help the nation to combat human-induced climate change. Its presentation as a restoration project has so far helped it to escape much international review or criticism, and possibly helped persuade many decision-makers to believe in its green credentials.

While there is an undoubted need to restore the nation’s already degraded rivers, floodplain wetlands and estuaries and to curb fast-growing rates of greenhouse gas emission, the FMRRP is clearly not ‘restoration’ as described in the conservation literature. It has more in common with earlier large-scale development projects, such as the Saemangeum reclamation project, in terms of scale and negative environmental impact. With an

environmental impact assessment (EIA) that was controversially completed in only three to four months, the FMRRP was launched on 10 November 2009. The first phase alone requires the deep-dredging (to maintain a channel depth of 4–6 m year round) of almost 700 km of shallow river, used by breeding Long-billed Plover and in some areas by migrating globally Vulnerable Hooded *Grus monacha* and White-naped Cranes *Grus vipio*, the construction of 16 new dams, the reconstruction of two estuarine barrages, and the building of over 1,700 km of ‘environmentally friendly bicycle roads’ along the Han, the Nakdong, the Geum and the Yeongsan—four of the nation’s largest rivers (Figure 1) This phase will lead to habitat degradation of at least one Ramsar site and probably eight Important Bird Areas (IBAs), and

greatly increase disturbance in many presently wildlife-rich areas, including stretches of river used by the wary Scaly-sided Merganser. The second but simultaneous phase adds five more new dams to the tributaries of the main rivers, and the 'refurbishment' of over 2,000 km of streams and small rivers. The government plans to complete the above by 2012—the year in which the ROK hosts the next IUCN World Congress—at a cost of more than \$19 billion.

The third phase, part of the subsequent 'Master Plan for Rivers' (to be published in 2010), will target the 'fuller utilisation' of a further 13,000 km of streams and rivers nationwide (MLTM 2009). If contemporary river-engineering methods are used, it is hard to envisage how much further damage to the natural environment will be inflicted or the scale of the further huge losses of biodiversity nationwide (Hadley 2007).

As part of the FMRRP numerous eco-parks and eco-rivers will be built. It is unclear what form these will take, but existing ROK eco-parks typically include large buildings, new roads and ornamental shrubbery—requiring, in the Suncheon Bay Ramsar site for example, the concreting and grassing over of several rice-fields which had until then been used by wintering Hooded Cranes. The term 'eco-river' appears to be newly coined in the ROK, but one planning document reveals that eco-rivers are to be used for planting and harvesting of trees for biofuel as part of the national strategy to reduce greenhouse gas emissions.

In response to the inadequate EIA and the lack of up-to-date information on waterbirds, Birds Korea published a preliminary report on the impacts of the project on waterbirds (Moore *et al.* 2010). The report provides background information on the nation's rivers and waterbirds, and describes the more obvious threats to waterbirds including loss of shallow river habitat, increased degradation,

increased disturbance and reduced opportunity for the restoration of estuaries. As no comprehensive waterbird monitoring programme is in place, the report is based largely on data from the annual one-day Ministry of Environment Winter Bird Census (MOE Census), in addition to an extensive literature review. The MOE Census covers more than 140 sites, of which 48 are likely to be affected by phase one of the FMRRP, and Birds Korea believes that, if treated with due caution, data from these 48 sites can provide useful insight into the species and numbers of waterbirds likely to be most affected, and will enable some of the impacts of the project to be monitored with a degree of confidence.

Saemangeum update

It was almost a decade after sea-wall construction began in 1991 before international opposition to the Saemangeum reclamation project was heard. Most of it focused on the anticipated impacts on waterbirds, including Spoon-billed Sandpiper *Eurynorhynchus pygmeus* and Great Knot *Calidris tenuirostris*. The response by proponents was to promise that the destruction of 40,100 ha of tidal flats and shallows would actually be 'environmentally friendly', and would even lead to an increase in waterbird numbers (Birds Korea 2003). In a similar vein, early promotional material at Saemangeum focused on the economic miracle that would follow the creation of much-needed agricultural land.

By the time of seawall closure in 2006, however, pamphlets (some now bilingual) instead depicted the soon-to-be-created land and reclamation lake as a green and blue paradise, with tropical corals below the water and waterfowl in the skies above—a far cry from the cracked mud and polluted water of the actual reclamation site. Today the major use of the Saemangeum site will be industrial, something that could have been foreseen in the 1990s, and yet

Plate 3. Small rivers used by Scaly-sided Merganser *Mergus squamatus* in winter are under threat from planned 'improved utilisation' of small waterways, south Gyeongsang province, January 2009.



Plate 4. White-naped Crane *Grus vipio* and other waterbirds in Joonam wetlands on the Nakdong River, winter 2008.



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Plate 5. Undisturbed habitat in Joonam wetlands on the Nakdong River in July 2008.

the marketing publicity continues to sell the reclamation as an eco-friendly project, creating wetlands and eco-parks, all deserving of direct overseas investment. ‘We are planning to actively attract natural energy-related companies such as hybrids, fuel cells, wind power, solar energy and green resources; and auto parts, machinery, shipbuilding and other parts & material companies to the free economic zone’ said Lee Choon-hee, commissioner of the Saemangeum Gunsan Free Economic Zone Authority (SGFEZ) (Lee 2009). Recent announcements confirm that this approach has convinced at least some overseas investors and media, undermining calls for the restoration of tidal-flow at Saemangeum and possibly stimulating plans for reclamation projects in the ROK and neighbouring countries.

The reclamation at Saemangeum and elsewhere in the Yellow Sea has already resulted in massive and measurable declines in a broad range of shorebirds species, especially long-distance migrants (Gosbell & Clemens 2006, Moores *et al.* 2008). The Saemangeum Shorebird Monitoring Programme (conducted by Birds Korea and the Australasian Wader Studies Group) confirmed the prediction that the massive loss of habitat at Saemangeum contributed to the rapid decline of the now Critically Endangered Spoon-billed Sandpiper, and the loss of 20% of the world’s Great Knot population. Whilst this has largely been ignored by reclamation proponents, the prolonged criticism of the Saemangeum reclamation did have results. The ROK formally accepted that ‘intertidal mudflats should be preserved and that no large-scale reclamation projects are now being approved in the ROK’ (Ramsar Resolution X.22). The nation also elected to host a number of international environmental conferences and to develop further the national ‘eco-infrastructure’. Ironically, it probably even influenced the new ‘Green New Deal’ strategy, and especially the branding of Song Do and the FMRRP.



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Plate 6. The Nakdong estuary showing the encroaching urban development, May 2008.

Song Do ‘Eco-city’ and the Incheon Tidal Power Plant

In March 2009, only five months after the promise of Ramsar Resolution X.22, the large-scale reclamation of the last remaining area of internationally important tidal flat at Song Do in Incheon was approved (Birds Korea 2009). The threatened tidal flat supports 13 species of waterbirds in Ramsar-defined internationally important concentrations. Since then the ROK government has announced the construction of the ‘Song Do Global University Campus’ at the Incheon Free Economic Zone—in a bid to build an educational hub for north-east Asia—on very recently reclaimed land in Song Do ‘Eco-city’ (Danney 2010). In 2010 up to 20 US-based universities have been in talks, apparently to receive funds from the ROK to establish overseas campuses at the site. Song Do ‘Eco-city’ is Korea’s largest foreign real estate development project and is being developed by Gale International, a large privately owned real estate development based in New York, in association with other high-profile American companies.

Plate 7. The Mokpo Namhang urban wetland on the Yeongsan estuary is scheduled for development as an urban park with ornamental lakes, August 2008.



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The state-run Korea Hydro and Nuclear Power (KHNP) has signed a memorandum of understanding with GS Engineering and Construction to build the world's largest tidal power plant in Incheon Bay to the south of Ganghwa Island. The project requires the construction of several massive concrete dykes and the impoundment of 15,700 ha of intertidal mudflats that regularly support Red-crowned Cranes *Grus japonensis* in winter, and large numbers of both Black-faced Spoonbill and Chinese Egret in summer. Work is scheduled to start in the second half of 2011 with the construction of dykes; completion of the \$3.4 billion project is scheduled for June 2017. The cost will be met from private investment. Alternative tidal power plant designs that are believed to cause less environmental impact already exist. Local civic groups have protested about the environmental impact of the destruction of wetlands, but KHNP claims that it will 'create artificial wetlands and fields of reeds using by-products of the construction. Key bird habitats in the region will also be protected by creating alternative breeding sites' (Kim 2010).

International expressions of concern

Clearly, these large-scale projects will have a huge negative impact on the ROK's waterbirds in general, but the effect on migratory species using the eastern flyway is potentially the most damaging, putting the entire route along the eastern side of the Yellow Sea at risk.

All these projects are based to some extent on the promise of overseas investment and therefore need to be seen in a good light by the international community. Unfortunately, recent efforts by conservation organisations outside the ROK to protest against them, or to help such projects take a more sustainable course, have been limited. The ROK government is spending heavily to promote the FMRRP internationally as well as nationally—an estimated \$12 billion by the end of 2010—and claims that it has support from the United Nations Environment Programme (UNEP) as well as overseas pro-environment NGOs and academics (Do 2010).

At the same time, the Ministry of Land, Transport and Maritime Affairs (MLTM), the ministry behind the project, admits that it has 'no information' on the Scaly-sided Merganser, even after the EIA, and even though this is a species recorded regularly by the MOE Census. Birds Korea's own research has found the species in winter on at least nine stretches of river nationwide, all likely to be impacted by the project (Moores *et al.* 2010). Nonetheless, the MLTM still feels confident enough to promote this as a scientifically valid restoration project, especially to overseas audiences, concluding that 'domestically

assessment has been negative, but foreigners have been very positive' (Do 2010).

Challenging the 'establishment'

Within the ROK, the FMRRP is opposed by 70% of the population (Do 2010), and a growing number of organisations are discussing ways in which this and other large-scale projects can be monitored, challenged, legally modified or opposed. Domestic opposition has resulted in more than 400 Korean organisations and 10,000 individuals filing a suit to cancel the FMRRP on the grounds that it has broken four separate laws. A few international organisations have started to voice concerns, including the International Crane Foundation and the World Wetlands Network. These welcome efforts would benefit greatly from more overseas support, particularly the stronger involvement of those with influence on potential international investors.

Meanwhile some individuals and organisations like SAVE International have undertaken the time-consuming task of contacting universities individually to advise them about the reclamation of wetlands at Song Do. How much more effective would this approach be (and beneficial for all involved) if it were coordinated and supported by a coalition of organisations. Surely too, universities themselves have a responsibility to examine the environmental credentials of sites overseas before discussing such moves?

The same is true of those industries which, because of laws and environmental concerns that preclude their investment in reclaimed land 'at home', are still being encouraged to invest in reclaimed land in the ROK and elsewhere in the Yellow Sea. Articles written with the input of respected organisations, such as one published in Australia's *Ethical Investor* (Inglis & Rogers 2010), could help educate potential investors, improve investment in genuine restoration technologies, and modify existing plans and designs of e.g. eco-parks and eco-rivers.

More effective challenges need to be mounted to large-scale projects with dubious environmental credentials throughout the length of the eastern flyway if we wish to save the species that depend on it from extinction. At the same time, investment in genuinely sustainable development initiatives and collaboration with conservation organisations in this region needs to be improved, providing the very best way forward for achieving the conservation of birds and their habitats in Korea and the wider Yellow Sea Eco-region.

For more information on these and many other issues affecting the conservation of avian biodiversity in the ROK, please visit the Birds Korea website: <http://www.birdskorea.org>

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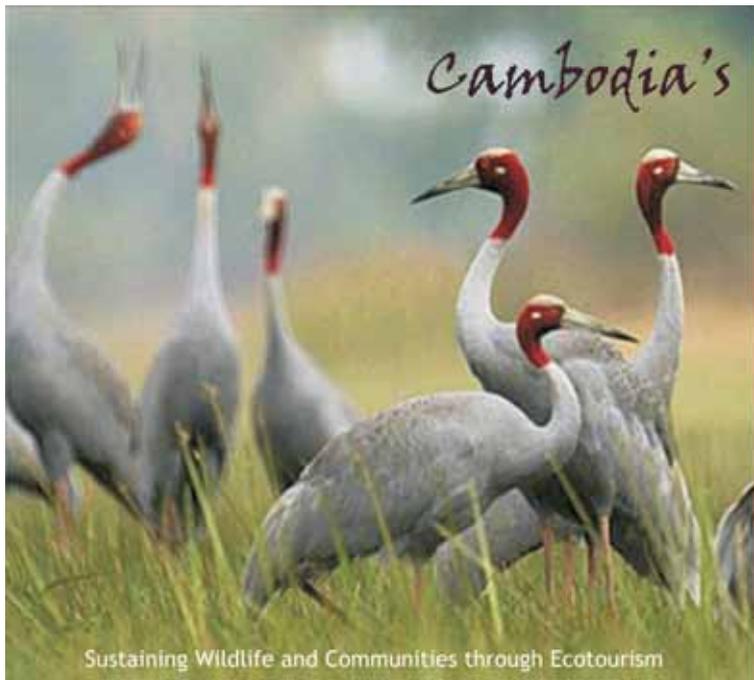
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