Don Sahong Project and Irrawaddy dolphin in the Cheuteal pool downstream

On 19th Feb 2014 the WWF published a report prepared by Mr Gerard Ryan describing his "updated assessment" of the risk to the Irrawaddy dolphin in the Mekong River. The 2014 report followed close on the heels of papers in 2011, 2012 and 2013, all by WWF and Mr Ryan, and all describing the Mekong dolphin populations.

As is the nature of media driven NGO, the release date and the content was carefully crafted to create maximum impact. The WWF news release was sensationalised around the world with into headlines like …….

"Laos is Going to Build a Dam That Will Kill Off the Last Irrawaddy Dolphins"

(Charlie Campbell -Time Magazine)

The release was timed to precede the second official project site visit by all MRC member countries, and they were accompanied by MRC development partners, and media and NGOs.

The content of the report purported to be new information on the risks facing all the Mekong dolphin, based on WWF review of the Don Sahong EIA (NCG, September 2013).

The WWF had previously expressed concern that the Cheuteal pool dolphin population was at considerable risk of extirpation in the short-term (in Ryan 2011) because it was an isolated sub population of only 6 individuals, with no survival of calves to maturity, suffering frequent disturbance by boat traffic (and surrounded by fishing nets).

Other well-known dolphin researchers have stated "If the Irrawaddy dolphin population inhabiting the Mekong River has any chance of survival, the primary management goals must be to (1) determine the cause(s) of newborn mortality and subsequently mitigate the causative factors, and (2) reduce anthropogenic mortality to zero (ideally in cooperation with local communities)" Beasley et al. (2009). Neither of those two actions seem likely to be achieved in the Cheuteal pool in the near future.

Quotes from WWF sponsored papers prior to the 2014 report, which disclose the real risks facing dolphin living immediately downstream of Khone falls

"many, if not all, [dolphin] calves are dying and that recruitment to maturity may be close to zero. We believe this is a serious concern." (Ryan et al 2011)

"With so few animals at this site [Cheuteal pool], and the additional pressure of frequent disturbance from tourism activities (Beasley et al. 2010), we believe that the [dolphin] population is at considerable risk of extirpation in Lao PDR in the short-term. (Ryan et al 2011).

"The evidence now is very clear that this [Cheuteal pool] trans-boundary sub-population is isolated (Ryan 2012 and 2013)."

Suddenly in 2014, the WWF / Ryan identified a new and apparently much more dangerous set of risks, all associated with the proposed Don Sahong Hydropower Project. Those claimed risks are outlined in the paper and press release and have subsequently been widely reported in the regional press.

The Don Sahong Project has prepared this brief note in response to the Key Messages in the WWF report (Ryan, 2014) (**Don Sahong Project response is in bold**)

- Don Sahong Project one kilometre upstream of the **core habitat for Irrawaddy dolphins in the Mekong River**.

The WWF estimated there were around 85 Irrawaddy dolphin in the Mekong River in 2010 (Ryan et al, (2011). Figure 1 of that report showed the "core habitats" of more than 90% of these dolphin are deep pools in Stung Treng and Kratie Provinces (Cambodia). These locations are more than one hundred kilometres downstream of the Don Sahong Project.

The project is a little more than one kilometre upstream of the edge of the Cheuteal pool, which is inhabited by a group of only six dolphin. These animals are "reproductively isolated" by distance, from all other dolphin in the Mekong River.

- The Don Sahong Dam will almost certainly cause the disappearance of dolphins in the transboundary pool downstream of the dam site due to excavation activities and increased boat traffic.

The WWF diagram of tailrace excavation below coffer dam provided in Ryan (2014) is a redrawn version of a Don Sahong Project document. At best it can be regarded as a misunderstanding (at worst it is a fabrication). The WWF chose to display one of several tailrace excavation options that were under consideration during the project design stage. WWF fail to report that the design they presented is not the final design and that one of the considerations in selecting final design was the dolphin. The EIA clearly states "excavation will only occur within the bounds of the cofferdam" and that "No underwater blasting will be permitted, in order to protect a nearby sensitive dolphin population.

WWF provide no evidence for increased boat activity due to project (and ignore the fact that Don Sahong Project will build a road and bridge from mainland (EIA executive summary) so all access to the site will be by land and thus most existing boat activity (except for touristic dolphin watching) will be reduced as the locals will have the option of land transport.

However, Ryan et al, (2011) report the dolphin population was at risk from "frequent disturbance from tourism activities". Uncontrolled tourist boat activity in the Cheuteal pool has increased since 2011.

WWF fails to mention another reason for boat activity across the dolphin pool - local trade between the Cambodian shore and the Lao islands. This is also linked to tourism - is not controlled - and is increasing.

- The dam will also increase the extinction risk of the entire Mekong dolphin population due to the probable extirpation of the dolphin group in the transboundary pool, **changes in water and sediment flow**, and interrupted migration of dolphin prey.

WWF previously described the six dolphin in the Cheuteal pool as isolated ("The evidence now is very clear that this trans-boundary sub-population is [reproductively] isolated (Ryan 2012, Ryan 2013)." So the extinction risk of the entire population cannot be linked to the fate of the dolphin living near the Cheuteal pool.

The initial MRCS review of the Project documents in Jan 2014, found that project operations will not significantly alter water quality or sediment flow downstream. On all these grounds the Don Sahong Project cannot "increase the extinction risk of the entire Mekong dolphin population".

The Project has designed mitigation measures to allow passage of all fish that arrive at Khone falls BUT there is ample evidence that management of the fishery in this area is poor and human catches of important migratory fishes at Khone falls has been declining for several decades (e.g. Cacot 2007). Indeed the project aims to reverse this trend and improve the fisheries sustainability of the area by improving fish migration through increasing fish migration pathways.

Not to forget that the range of the variation in flow and turbidity in the transboundary pool during the annual hydrographic cycle is extreme for the Mekong. The dolphin live there year round and must be adapted to these natural phenomena.

- Not building a dam at Don Sahong will not stop Lao PDR producing electricity, but building it **will almost certainly cause the loss of dolphins from Lao PDR** and it could precipitate the extinction of the species from the Mekong River.

Don Sahong Project disagrees with the statement that the project will cause the demise of the dolphin in Cheuteal pool, as the causes proposed to hasten their demise: underwater blasting, increased boat traffic and changes in flow, sediment and water quality have no basis in fact. The potential impact on dolphin prey is hypothetical.

We also note that although WWF has been an advocate of better protection for the Mekong dolphin since at least 2011, the WWF own evidence suggests that these management efforts have not been successful as the population decline is continuing (see Table 1).

Table 1. Numbers of dolphin reported in the Cheuteal pool

Date	Number of dolphin	Reference
1991	20-30	Beasley (2007)
2005	9	Beasley (2007)
2008	7-8	Dove et al (2008)
2012	6	Ryan (2013)

References

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