



A Series on Integrating Climate Change & Natural Resource Management into Feed the Future

# **Wetlands, Fish and Food Security: Learning from USAID's Co-Management Work in Bangladesh**

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## **Speaker**

**Philip DeCosse** – Food and Livelihood Security Practice Director, International Resources Group

## **Sponsor**

United States Agency for International Development: Bureau for Food Security

*Phillip DeCosse:*

This is an extremely interesting series and I say that because these links of natural resource management and food security are ones that I've worked on for the better part of my career. I was in West Africa and Madagascar and most recently five years in Bangladesh which I'll be talking about a little today. I have to just note that the Assistant Administrator made the comment about knowledge management and particularly how missions incubate ideas. I'll be talking a bit today not so much about what we specifically have done but what this mission has done over the last 15 years in Bangladesh in finding ways of exploring and integrating food security and natural resources management. I think there's some interesting things we can draw from that.

I'd like to note in particular that there are quite a few partners here. So I speak today not so much just for us – a number of our partners in our implementing program in Bangladesh are noted here – but also others. In a sense I stand with or on the shoulders of other superb partners in Bangladesh and international partners that have made this program come together. I would be extremely remiss if I did not note USAID's Dr. Ajharul Majumdar is here today. If anybody – more than anybody Dr. Majumdar was the founding energy and force of this whole approach in Bangladesh over 15 years. So he's here today. We're glad to have him. He's in from Kenya where he's working with USAID now.

Let me give you a little context for Bangladesh. I ask you not to look at all the math but note in particular the blue here. The context that we face when we think about food security and natural resources management is one in which the better part of the country – the statistic is 60 percent – regularly flooded. Even in spite of climate changes a very large portion undergoes a natural process in an annual basis of flooding and draining for the better part of the subcontinent. That's a key factor when we think about addressing food security in the unique context in which food security takes place within Bangladesh.

Let me give you a sense of what it looks like, if you will, for those that have not been there. These are photos from the north of the country. One of the characteristics is in the rainy season and even a better part of the dry season for large portions of the country water covers many areas and that water is part of a natural ecosystem of fish, fish reproduction and such. The same is true in the south. These are taken in the Sundarbans area. Fisherman along the edge of saline rivers and flood areas down in the Sundarbans. So that context really is one in which we have to think about how you would do food security.

When we think about food security if you take a very focused as the Assistant Administrator said we have to maintain focus when you think of food security. What can we do for nutrition, for household livelihoods and particularly for increasing the productivity of those key resources that are in the immediately

adjacent physical location of the house? Of course in Bangladesh that really means rice fields and it means fish, ponds or aquaculture in the immediate area. But in order to get a sense of how to handle that it's good to take a look at how it plays out.

This is just an aerial view from Google of a small hamlet in the northeast of the country. I just point out you can see homesteads interspersed with ponds used for multiple reasons, amongst them aquaculture, culture fisheries. Now if you pull back a little bit you see that you have in the surrounding areas areas which are annually flooded. Much of what you see in the immediate vicinity is rice or rice fields and other crops but you also see as you pull back a little bit further areas, rivering areas, areas that are wet throughout or historically will flood through each part of the year. If you pull back a little bit further in this particularly hamlet what you see along the left side of the image is part of a very large what they call a *haor*, a very large, natural wetland.

Now the challenge in Bangladesh we said that a large part of it is covered in water each year but what you see in this photograph historically would have been more to a greater degree a naturally functioning wetland ecosystem one in which the per hectare productivity of fish production would have been 250 to 300 kilograms per hectare. When it gets broken up and it's a natural process, economic growth, population growth of course we know but also somewhat illicit or corrupt access to lands that were historically part of productive ecosystems the drainage areas shift, access shifts and the productivity goes down. So this area is now mixed. To understand the food security challenge you've got to go beyond the household to understand this broader picture of how the broader ecosystem relates.

Now do to that we're going to look a little closely at two areas. The northeast of the country and that's significant because USAID's program began there in '98 well before I or my colleagues at IRG got involved and went on through the beginning of 2000, 2005 where they piloted initially an effort to bring communities involved in wetland resource management. We'll also talk about the southwest where more recently USAID – and I have been privileged to be a part of this – USAID and partners have been working more specifically on the Sundarbans areas and surrounding areas of the south and southwest.

From a point of view of a couple comparative factors northeast generally fresh water, generally a little more wealthy on average however you have pockets of poverty particularly in the fishing community or as they say fisher folk communities. Southwest higher levels of poverty, more incidents of saline intrusion particularly as the Padma or the Ganges river flow has changed, more incidence of cyclone effects in that area. But still the common characteristics

rice production, fish access or fish production either from nearby ponds or from open access fisheries is very much the same.

Overall I'd just highlight on this that you have a context again because so much of the country has these natural ecosystems that a very large portion of the fish produced in the country is coming out of so-called capture fisheries meaning not produced in ponds, ultimately coming from open water. It could be rivering. It could be floodplain. But natural ecosystems are producing nearly half of all the fish consumed in the country.

Now I suggest – I'm not going to go through this but I put this up because one of the issues that you face is with a steadily growing population with a very limited land mass access to resources, particularly natural resources for agriculture, for fishing are highly contested. So for the small farmer that you – in this case a small fisherman in this particular value chain – this was done Mokhesur Rahman, one of partners who does superb work in looking at power and access of communities. He's working with us now also. The complexity for a small farmer to gain access to fishing resources is extreme. It is extremely difficult and there are multiple layers of power and access that one has to deal with to be able to access land or water.

Now let's look at little bit of what USAID has done in brief. From '98 USAID began or '97 they created the program Winrock and its partners began work in '98. In 2003 USAID began a complimentary program of forest co-management that went along with the wetland co-management work that they had done. In 2008 USAID rolled those programs together in a sense and did a national program taking it up to scale for wetlands and forests throughout the country. The interventions in wetlands specifically were amid the initial point is empowerment and community organizing of groups at multiple levels to get into a governing structure for the wetlands. There were economic interventions of various kinds.

Of course, one of the challenges is wetlands that had been broken up or interrupted by economic growth essentially one of the problems is that they dry out or they're fished out in the dry season. One of the critical challenges was to do interventions in the wetlands themselves so that some excavation was done, water could remain through the dry season, fish throughout the dry season then when the rains came could go out and populate the rest of the wetland areas. So these were all challenges. Along with that went a considerable amount of measurement, the use of indicator species to measure the quality of what USAID was implementing.

The core of what they did really had to do with power and access of governance. What happened over the years is putting in place a governing structure. So small communities of resource users at the lowest level or in different areas of the wetland coming together, forming groups then being – having some representative voice at the level of the resource and, again, at a higher level of district or upazila so that in – governing bodies, bringing government together with these community groups in some sort of an integrated framework. That's the heart of what co-management is and has been. This is the wetland structure. There is a parallel structure for forests. But those interventions in giving communities a voice is really the heart of what USAID has done in the program. A range of economic activities went with it, homestead gardens, poultry, bamboo production and others.

Now I note this because evidence collected for quite a few years indicates that these open wetland resources, when they come under a management change as they have in USAID's program total productivity of the wetlands increases and there's a number of different ways of showing this. But the heart of it is if you can control access and particularly if you can have sanctuaries that remain in water through the rainy season and are not over fished or fished out the over productivity of the ecosystem increases.

I want to point this out because one of the things that – this was done very recently in our partnership with East-West Center in Hawaii together with some researchers from the Department of Fisheries – what you see at the household level is extremely interesting. This is data from ex-post data of participants and non-participants in the co-management structure for the particular Hail Haor which is the northern wetland we were talking about. What happens when a household can be a part of this governing structure with controlled access and empowerment activities? What has happened over time is you see those who took part were able to diversify their income more than those who had to continue relying on a single resource.

So the ability of households when they're given access to highly productive natural resources to diversify their incomes create a stable base of income is quite clear and USAID has been learning this for some time now in Bangladesh. I'm not going to go through this but I highlight only the blue here to show and this was an economic study done some years back that the value of these wetland resources are not just the fish that comes off them but there are a range of other values including non-aquatic values that are critical providers of income throughout the year to particularly poor households in the area is where these wetlands exist.

Evidence also indicates that as you improve the management of wetlands the consumption of fish, the access of fish by households increases as well and particularly the consumption of protein. Mind you this is in a context where per capita consumption of fresh water fish has declined steadily over the past couple of decades. So to be able to secure fish productivity in these areas has a payoff in terms of nutrition particularly in fish protein. What USAID has done in recent years is that it's gone to scale.

As it goes to scale this is a map of sites, not that are being managed in now an increasingly formalized National Nishorgo Network it's called as the government has decided to call it. National campaigns are going on in a sense to give a sense of unique identity to this national system. These are not all USAID managed sites. They are sites that are supported by other partners that have come in, GTZ and of course they're all overseen by one of the three core government partners. But it's going – as it goes to scale this co-management approach and the benefits from it are becoming more central.

This thing of having a national campaign in the Bangladesh context I have to say is highly – it's a unique opportunity. I say that because note two statistics. This is a country that for a decade has had economic growth at 5.7 percent on average. It's a country that for the past decade has kept its population growth at 1.4 percent per year. So when you have that kind of growth in the economy with that kind of control of population growth there's a lot more money per capita around and that accumulates at the middle and upper class levels as much as anywhere. What that turns out in a civil society that has increasing resources. It wants to visit nature. It wants to manage and it wants some sense – it places a greater value on protection of the natural systems that exist.

Let me close with four summary points and ultimately they're these. First of all, if you're going to do a food security strategy in Bangladesh it's very hard to ignore the fishery sector. It's critical to household protein and it's critical to the production base of the country. Second is that those wetland resources are critical providers or resilience for particularly marginalized households, small households that have access to the multiple products from these wetlands are in a better position to withstand changes in climate and economic changes than those that don't.

Third, in the unique context of Bangladesh and I don't claim that this the same elsewhere but I have personally never been in a place where the necessity if you were going to try and do food security of ensuring that small households and poor households have access to resources meaning they have strength and better positions of power vis a vis those who are controlling is more important than in the Bangladesh context. So a food security strategy has to be integrated

with a strategy for power and access or more broadly speaking governance. Finally, in the case of Bangladesh you saw the map of flooding and climate change, flooding – and these are issues which flooding and coastal intrusion of salt water surges are more likely to happen or have more grave affects as the climate changes. In the Bangladesh context from my perspective a food security strategy and a climate change strategy really shouldn't be seen as two things integrated but really they should be two things that are one and the same. They really are uniquely brought together in this context.

So let's go back to the household that we started with. I don't mean to over simplify things but if you're doing food security and your focus at the household level in the unique context of Bangladesh you have got to deal with these issues of power at a policy level and at a societal nearby level and you've got to deal with the broader resources that in which the whole context survives. So the elements of resources, livelihoods and governance in that context has to be brought together. Part of what USAID has learned in this initiative for 15 years is that you can't – they are closely woven together already. So if you're going to pursue further food security you should maintain that balance that USAID has had to date.

Let me close with this song which you can – fortunately for you I will not sing even if I could but you can Google it if you'd like to look it up. This is a very popular song. I put this up. It's a beautiful song. It's a beautiful poem but I put it up in particular because, again, the context for Bangladesh is such that the culture itself is independent of an increase of wealth by the middle and upper classes, independent of the context places and extremely high emphasis on the value of natural resources, the value of water and what it does. It's deeply embedded in the language and in the culture and that provides an opportunity as you go to scale both with the resources program but also with the food security program. That provides an enormous opportunity that one can capitalize as one does that. Thanks very much.

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