Initial visioning and planning for policy change with partners and other BDC projects

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Introduction:

Any science based development approach first requires appropriate scientific output, which should match with the issues to be addressed. Scientists can go up to the stage of saying a particular research output which can solve a particular problem but they have no strength to put the results into action unless there is policy support by the government. Water management is an issue which requires large infrastructures, which will happen only when supported by policy makers with man and money.

Ganges Basin in the southwestern district of Bangladesh has a lot of challenges to be addressed before any development takes place. Saline water intrusion gradually crawling northward, tidal submergence on regular basis in the coastal districts, water stagnation etc. are great threat of crop production. Government constructed 135 polders over the south and south western districts to prevent on rush of saline water through high tide into crop fields. At the same time, due to heavy rain, those polders are unable to drain excess water, for which sluice gates have been constructed at several places. These sluice gates encouraged drainage of rain water during low tide. Therefore, it is necessary to control sluice gates for appropriate purpose, like draining out excess water and allow sweet water of river in non saline areas for crop production.

One polder covers thousands of hectares of land, which are not at same elevation from sea level. Obviously, farmers having fields at different elevation enter into conflict to control slice gates. So, policy formulation is essential which will minimize such conflicts.

From the standpoint of relevance of polders and crop productions, these areas under domain of polders could have many agricultural interventions for food production and nutrition. In fact the area is not as productive as expected. Though saline soil is gradually coming under salt tolerant rice varieties, the prospects of growing other crops except sesame and maize remain unexplored in dry season which require technology and policy support to improve these areas for increasing productivity. In order to understand the reasons of not being these areas more productive a thorough analysis of environment as well as policy implication is needed before being able to suggest any change in policy.

Participatory water management policy:
Integrated planning for sustainable water management (IPSWAM) developed some guidelines for participatory water management which was intended to:

- Increase/improve stakeholder participation/involvement in water management.
- Give the local stakeholders a decisive voice at all stages of water management.
- Raise environmental awareness among the stakeholders and the implementing agencies involved with participatory water management.
- Develop capacity of the stakeholders in participatory water management.
- Gradually establish ownership of local stakeholders in water resources management.
- Achieve sustainable participatory water management.

Following the basic principles of National Water Policy (NWPo), emphasis was given on local level water management. The specific objectives of the program were to:

- Ensure people’s participation at all stages of the water resources infrastructure rehabilitation like selection, planning, implementation, operation and maintenance (O&M) and monitoring and evaluation (M&E).
- Establish sustainable water management in the selected sub-projects with active participation of stakeholders and to develop and improve local people’s traditional knowledge, skill and capacity in planning, implementing and managing their water resources and systems.
- Transfer the management responsibilities (fully or partially) from BWDB to the people of the community, through democratically establish Water Management Organizations (WMOs).

LGED is experienced on the small scale water resources development dates back to 1960. Water and Power Development Authorities also constructed polders almost at the same time. The question remains whether local stakeholders or people of the community have been empowered to control the sluice gates. In fact those objectives indicated above have not been fully achieved. It is necessary to analyze why this has not been happened yet. Is it become the public sector controlling agencies are not interested to give up authority or farmers are not considered qualified/competent to handle the management of polder and sluice gates or farmers are not interested?

It is also a common phenomenon in the south western districts like Khulna, Satkhira that some farmers want brackish water to grow shrimp. Since salt tolerant crop varieties, except three rice varieties, are not widely available yet they are very comfortable with public sector polder/sluice gate management system. However, there has been growing awareness that use of saline water for shrimp culture is damaging soil to be unsuitable
for crops, and rice is the staple food, some farmers’ organizations have started refusing shrimp culture, but they need suitable crop varieties. This also requires a policy support since this awareness developed among the farmers because of campaign by scientists, environmentalist and media people.

Therefore, to look at the overall interest of farmers around 135 polders, a policy shift is necessary. Right now it is not possible to suggest what changes are better without thorough understanding of the issues, problems and prospect through intensive sharing of information and policy dialogue. But we can have a vision so that activities can be started aiming at adjustment of policy to suit the needs of farmers for water management.

**Objectives of visioning of Policy Change:**

The objectives of the vision document are:

a. Suggest guidelines and steps towards desirable policy shifts
b. Compilation of understanding the issues, probable technical solution needing appropriate policy shift based on the experiences of different development partners working in those problem areas.
c. Suggest visionary look at the outcomes of the 4 components of GBDC, CPWF Programs initiated.

**Relevance of GBDC program to help productivity increase in south and southwestern district:**

The CPWF for Ganges Basin Development Challenge has the five research projects (G1-5) that will:

- Provide science-based solutions to agriculture and water issues of the region.
- Seek to support Government of Bangladesh and India and investments in a range of agriculture programs.
- Support government policy makers and civil society with the information and skills they need in the areas of water governance and potential impacts of climate change.
- Land use, water and water Governance and Agricultural systems:

  The five projects are:

  - G1. Resource profiles, extrapolation domains (EDA) and land-use plans.
  - G2. Farming Systems: Resilient intensified and diversified agriculture and aquaculture systems
• G3. Water governance and community-based management.
• G4. Modeling Change Assessment of the impact of anticipated external drivers of change on water resources of the coastal zone
• G5. Coordination and change-enabling project.

In order to help addressing water management issues in polder areas affected by salinity, the following three polders have been selected having different levels of salinity. The brief site characterizations are described below:

• Polder 30 (Batiagha, Khulna): This polder covers about 4,500 ha, mostly affected by medium to high salinity during the dry season and early in the wet season. Cropping intensity is low, about 140%, despite the potential for two to three crops per year. Possibilities also exist for incorporating fish culture with rice during the wet season and cage culture in canals in aman season.

• Polder 3 (Kaligonj, Shatkhira): This polder is characterized by high salinity, especially during the dry season. Good potential exists for increasing productivity of the rice-shrimp system and for enhancing aquacultural production in the dry season by introducing modern technology of mixed farming of shrimp, fish, etc. Rice yield during the Aman (wet) season could also be increased considerably by replacing the current local varieties with improved salt-tolerant varieties with shorter maturity to escape the periods of higher salinity and increase duration of the shrimp season, as well as the period required for land preparation between seasons.

• Polder 43/2/F (Patuakhali, Barisal): This polder has low to medium salinity intrusion and low cropping intensity but there is potential for a substantial increase and potential for triple cropping. Rice productivity can also be further increased by replacing the current local varieties with more productive salt-tolerant modern varieties.

**Visioning steps towards suggestion for policy change:**

Change of policy is not an easy task. Already different ministries and agencies under those ministries have some existing policies of water management around the polders in the southern and southwestern districts. Before venturing into suggestion for any change in the policy the entire issues have to be thoroughly reviewed, analyzed to identify the cases facing problems. The impact of existing policies needs to be studied to see:
a) If it has been a barrier for improvement at all
b) How far the policy has helped in improving livelihood in those area vulnerable to salinity
c) The feeling of the people on management of polder
d) Status of empowerment of local people for participatory management of polder
e) Any new agricultural intervention that has happened over the years
f) Illustrative policy support initiated for the new intervention, find reasons if there was no such support
g) Needs of farmers about policy which, they feel, would be helpful
h) Technological needs like stress tolerant crop varieties
i) Comparative advantages of crop production and aquaculture.

In order to arrive at a stage of being able to suggest any change some steps will need to be followed chronologically:

a) Review the existing policies of all water management related agencies, communities and functions performed.
b) Information on quantitative improvement of livelihoods as an outcome of policy implementation,
c) While those agencies, communities were functioning in relevant polder areas, analyze their success and failure in achieving the target set for the relevant areas. Identify the cause of failure and also the issues conflicting with set policies. This will set a background of suggesting any change, but the change can be specified after more participatory decision making processes.
d) Identify probable issues affecting general production scenario of crops and fish. For example, in a particular area some people will like to culture shrimp under the management and pressure of influential shrimp traders and exporters. The case needs to be analyzed to determine how the farmers can decide for their own advantage without being forced by the influential traders. For obvious reason farmers will like food first and then cash income. They will like to grow rice and other crops, but they will be forced to grow brackish water shrimp, if the neighboring plot has saline water under the pressure of influential traders. The probable polices support should be in favor of farmers to grow rice and other food items. Now, salt tolerant rice varieties are available. So, a policy shift many tilt towards helping farmers to grow food crop first followed by cash income without deteriorating soil quality.
e) After identification of issues and causes of slow progress or ineffectiveness of policy, try to explore probable options through an in-depth survey and share ideas independently and jointly by the agencies, farmers, local
leaders. Review also the impact of influence of BWDB, LGED, in managing polders and sluice gates including why the responsibility of participatory management of sluice gates and polders has not been shifted to local people or agency. This will be a very vital issue since none wants to give up authority.

f) Review the efficiency of local farmer’s organizations, local agencies, local leaders, union parishad etc. and their interest in productive use of polders for the entire polder area. Analyze their strength and weaknesses in polder management, which will help in determining their role and probable policy support needed to play their role, and accordingly desirable shift in the policy can be suggested.

g) IPSWAM adopted a planning methodology through developing program activities to ensure peoples participation in all stages of the project which included selection, planning, implementation, operation, maintenance, monitoring and evaluation. The in-depth review, as indicated above need to look into the status of compliance of these activities. If the activities are in place, how satisfactory or efficiently that happened; if not, determine the causes of non-compliance to work for policy shift which will facilitate proper implementation with people’s participation.

**Analyzing of policies affecting productivity**

The Government is committed to the continued development of agriculture in order to maintain food supplies for the growing population, provide income and employment for rural people, and protect the environment. Because land is scarce in Bangladesh, the key to agricultural development is the efficient, productive and sustainable use of all firm land. This will depend on the farmers who decide what to produce, what technology and inputs to use, how much to sell, and how much care to take in looking after their crops, livestock, fish and trees.

In line with these, Department Agriculture Extension Functions to:

- Motivate and help farmers in adopting improved production practices to increase their productivity, meet national consumption requirements, maximize export and minimize import
- Provide farmers with the latest results of research and farm techniques for their socioeconomic betterment
- Help develop self-reliance and cooperation by training local leadership for organized group action
- Provide channels for service and information from the MOA and its different departments to the farm people and in turn relay the problems and needs of the farmers that require national level intervention
- Provide an effective linkage between the various research institutes and the farmers so that along with the flow of technology to the farmers, the farmer's level problems are also brought to the relevant research institutes for investigation and solution
- Serve as liaison agency between farmers and other organizations, both public and private concern with over-all socioeconomic development of rural people, including the credit giving and input supply agencies.

The people in the southern and southwestern district are major beneficiaries of DAE for all crops suitable in these districts. Department of Fisheries also has some functions for maximum utilization of water bodies in the coastal districts.

LGED makes an effort to provide support service to help crop, fishing and livestock sectors through managing floods, drainage, water conservation and command area development.

The suggested review indicated above will look into how these supports of LGED and BWDB etc. have been put to use in improving productivity and area coverage with crops. If area has not been expanded or more and new crops have not been introduced, identify where the problem lies. Identification of the causes of lower pace of development will hint at the relevant change in the policy at the highest level.

For example, pyra river carries sweet water. Area on both sides of the river and its branches are suitable for Boro rice. But farmers did not know that Boro rice could be grown. However, BRAC demonstrated the prospect and potential of growing Boro rice there. Similarly vast areas under Patharghata upazila of Barguna district remain fallow after Aman harvest. BRAC demonstrated that crops like maize, gasspea, and sunflower could be grown there. The question arises, why the different support of water management agencies did not change crop production scenario in such other areas.

Such unimpressive impacts of policy noncompliance necessitate thinking towards a shift in the policy which could facilitate coverage of large areas with appropriate production intervention. The review might also indicate whether enough research on suitability of various crops was conducted there. In that case the relevance of extensive presence of agricultural research institution along with DAE becomes very urgent. Thus an adjustment in the policy becomes a necessity if the existing one is not supportive enough.

There are many canals/lakes in south western districts resulting from dead rivers. These are being used by many influential people for fish cultivation. Such water bodies containing sweet water could be used for irrigated rice to make the saline area more productive with crops. Such scenario also deserves new policy coverage.

**Process of reviewing Policies**
Several options can be considered for reviewing the existing policies. The followings are some towards this.

1. **Hire a team of consultants** to go through the policies of all water management authorities, enterprises, institutions particularly in the south and southwest. The team will visit some sites relevant to development policies indicated in the document. For example, polder management was to be handed over to local people from the public sector agencies. If that has not happened the team will look into the causes behind such non-compliance. At the same time the team could suggest probable options towards best management, may be a joint activity of both local people and public sector agencies with sufficient empowerment of local people.

2. **Internal workshop on specific** policy issue relevant to development approach. For example, construction of polders and anticipated development approach in the saline area. The workshop will conduct threadbare discussion on progress and success of the development approaches like salt tolerant rice varieties to increase food production, fish culture including shrimp etc. The workshop will also discuss the area coverage with salt tolerant rice varieties or any other crops to reduce fallow land, suitability of crops (where research institutes can come forward with some scientific backstopping and their products for the respective polder area). Identify the barriers like environment, adequacy of policy support, lack of knowledge, inadequate supply of seeds, fertilizers, pesticides, technical backstopping by DAE and other development agencies. Also the workshop will consider food habit of people and their interest on economic development and livelihood in general for the locality. The findings, analysis of information thus obtained will be recorded to arrive at a consensus on the factors affecting productivity and to suggest tactics to overcome barriers.

Similar workshop can be organized in other areas affected by water logging, tidal flooding, seasonal cyclone and other natural disasters. Follow the steps as indicated above.

3. **National workshops** will need to be organized where synthesized reports of all internal and local workshops will be presented and discussed. This forum will be attended by elite farmers, local leader of the affected areas, representatives of various development agencies, donors, NGOs public sector organizations to share their experiences on progress as affected or facilitated by policy intervention. Thus the synthesis and conclusion of the internal workshops will be shared to arrive at a consensus on common policy required to facilitate development. The deviation from the existing policy and suggested/required policy will indicate what type of policy shift will be suitable.
4. **Policy dialogue** will be a very high level discussion forum to be participated by policy makers from Planning Commission, LGED, BWDB, DAE, DoF, DLS, CEGIS, WARPO, IWM, Bangladesh River Research Institute, major agricultural research institutes, agricultural universities, Ministries of Environment & Forest, Agriculture, Water Resource, Fisheries & Livestock, Land, Food & Disaster Management, Meteorology department, SRDI, Space Research and Remote Sensing Organization (SPARRSO), Soil Resources Development Institute, Centre for Policy Dialogue etc. The consensus and decisions arrived at the previous workshops will be presented and the keynote speech will be presented with relevant Minister as the Chief Guest. The keynote speech will highlight the weakness of the existing policies, demand of the people and adjustment in the existing policy required. After threadbare discussion, recommendation will be formulated indicating specially where the policy changes are needed and up to what extent. A thorough overhauling may not be appreciated by the participants.

**Implementation of policy by development partners:**

Based on the recommendations of the policy dialogue the Government will need to be approached to take initiative for adjustment or change in the policy. There has to be a constant facilitator at the highest level to pursue with relevant ministries and agencies of the Government to draft and finalize the respective policy.

Once the changed policies are in force those will be binding on all development agencies to follow. It will not be limited to GBDC working partners; rather it will be open to all and accessible by all concerned. However, relevant GBDC partners will adjust their activities following the guidelines of the policy which can be considered as out scaling of policy product.

**Visioning the investment opportunity in line with changed policy:**

Investment opportunities will follow the policy in force. Based on the policy criteria, investment opportunities are matched and planning process starts for adoption of policies.

Considering the challenges in the south and south western districts, subject to policy approval, there may be several opportunities where investment will be worthwhile. The following tentative areas of investment can be thought of:

1. Since the land within a polder area is not at the same elevation from the sea level, some farmers get excess water, whereas others get little. In this case after a measurement of the elevations several sub-polders may be
2. Saline water intrusion through deliberate efforts of influential shrimp traders need to be stopped to save soil quality for crop production. Sluice gates are inadequate in number. Farmers feel that there should be more sluice gates for easy flow of water. A survey will need to be conducted to assess the necessity and location of sluice gates of relevant polders. Accordingly, investment will be needed for construction of sluice gates at the desired places on priority basis.

3. Through a compromise among farmers and the intending shrimp traders of selected locality, some locations towards the far south of Khulna, Sathkhira and Bagerhat district or any other saline areas of the polders, there may be some RRC-made canals to allow saline water only for shrimp culture where soil reclamation for crop production may not be economic. However, there will be several outlets from this RCC canal accessing the land of the farmers willing to go for shrimp culture. It will be preferred if farmers in the particular locality agree to from a group to select a part of a big field for shrimp culture instead of scattered individual plots.

4. Canals carrying non-saline water from rivers like Pyra river, need to be extended far inside the polder area for growing irrigated Boro rice and other crops like wheat, maize, vegetables etc. Old canals can be excavated and new canals can be made to cover more area for Boro rice and also other crops requiring limited water. These canals will also be used as drainage canals in the month of October to enhance recession of flood water of the rainy season from the field to make the land suitable for early plantation of many winter crops. At the moment, delayed water recession is a serious problem in Barguna, Patuakhali and other coastal districts for which plantation of winter crop is delayed and its harvest hardly allow another crop after its harvest since water level in the canal goes up from late April. Such canals if regulated by sluice gates can prevent early onrush of water in the field to allow another crop after winter crops. For controlling water flow, inwards or outwards, powerful pumps will have to be installed like "storm sewerage" used in municipal areas.

5. Since southern districts are prone to cyclone and tidal surge farmers lose their seeds of all crops. Some community seed storage facilities need to be constructed may be near the cyclone shelter centers constructed in the coastal districts so that farmers can store their seeds in their containers or
bags with proper identification tags. Some staffs will have to be recruited for receiving and delivering seeds at the time of their needs.

**Progress monitoring and reporting to CPWF:**

It is a logical expectation to see the progress of any initiative. This policy change aspect is a time consuming affair. It will take years to see the output of this policy change initiative. Logical time will be taken from accepting the vision, preparatory phases for discussion, drafting the changed policy, approval of the same, planning to implement the policy guidelines, funding etc. will take even a decade. It looks impossible that CPWF GBDC will have the opportunity to monitor these under the existing program/projects. However, it is the responsibility of the Government to get the approved policies implemented through different relevant agencies.

**Conclusion:**

Policies are formulated based on circumstances, challenges and needs. The purpose is to ensure safety of environment, proper use of resources and create enabling environment to overcome challenges.

Polders were constructed and policies were formulated considering salinity problem to make the land productive. Since the entire polder areas were not as productive as expected, the causes need to be determined and some appropriate policy adjustment will be needed to suit the needs of the southern districts. It is a matter of the Government to consider issue in totality and to formulate policies to make southern and southwestern districts more productive to add dimension to food security strategy. The sooner the attention is paid the better.