Planning and Strategies of Aquaculture in Bangladesh

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Abstract

The purpose of this paper is to review the performance of fisheries sector in Bangladesh and the challenges it is facing. Data and information were sourced from the primary & secondary data, publication of the Department of Fisheries (DoF) and related non-published grey literature. Bangladesh is predominantly an agrarian economy and is naturally endowed with a huge sweet water resources and the world's longest continuous sea beach. With the world's largest flooded wetland, the third largest aquatic biodiversity in Asia behind only to China and India, Bangladesh is considered as one the most suitable region for aquaculture and fisheries in the world. The country has an inland water area of about 45,000 km² and about 710 km long coastal belt. Given this extensive water resource, it is evident that fisheries play an important role in the economy and the diet of the population. Fish and fish products supply 60 percent of animal protein and around three percents of total export earnings. In recent years, however, the fisheries sector is confronted with challenges posed by numerous natural and anthropogenic causes such as climate change, natural disasters, unbalanced urbanization and industrialization, overfishing and environmental pollution. The combined effect of these factors is posing significant threat to the income and food security of the population and urges for immediate actions by government and policymakers.

Keywords: Fisheries; Bangladesh; Planning; Strategies, Aquaculture, Fisheries Management.

INTRODUCTION

Fisheries are a very fast growing sector in Bangladesh and women participation in this sector has been considerably increased. However, the present semi domestic production system is demanding more gender sensitivity. Any new substantial entry into this sub sector beyond the present saturation point will further drive down the already low male labor productivity and will make the business even more uneconomic. As such, effort should be made immediately to attract more locally available female professionals. As stated here, this phenomenon is not only limited to the fisheries production but also affects the total fisheries value chain starting from fish hatchery, nursery, grow-out & fish harvest phases. Using the base year 2005=100, the professional productivity index for fisheries sector declines from 109 to 106 by 2010 subsequently (BER-BBS, 2011).

A World Bank report (1983) identified the weaknesses of fisheries sector, Bangladesh. These are:

1. Lack of sufficient technical capability in fisheries development planning (gender sensitive plans & programs are not in place).
2. Lack of clear definition and assignment of functional responsibilities for fisheries extension and support services (GO/NGO), lack of female extension service providers.
3. Complicated and time wasting procedures in case of water body lease, especially for female applicants.
4. Lack of trained manpower, inadequate career planning and development (especially on gender basis).

OBJECTIVES OF THE STUDY

In the context the present research program was developed and conducted on gender Relation prevailing on the Extension of aquaculture Technologies in Fish Production of Bangladesh with following specific objectives:

1. To know the status of existing aquaculture technologies in Bangladesh.
2. To find out the problems facing during the extension of aquaculture technologies in Bangladesh with a focus to gender relations.
3. To set priorities for overcoming the situations.

For a country endowed with abundant water resources, Bangladesh is the fifth aquaculture producing country in the world. With such an aquatic resource environment, it is assumed that fish is naturally abundant and being a living renewable natural resource. In the year 2011-2012 national fish production was 32.62 lac MT. It is targeted to produce 34.00 lac MT in the year 2012-2013. To achieve the targeted
production comprehensive public & private effort should be necessary. However, less attention was given to the rational and optimum management of the resource. The basis for fisheries development and management then was to encourage all out productions and harvesting. This is, however changing with time. Fisheries an important sector for the economy of Bangladesh. Its contribution to economic, social and nutritional goals is now not only being documented but increasingly acknowledged by the government. It was not the case in the past. Because of its traditional role in food supply and national food security to an extent, fisheries is now increasingly being incorporated into integrated agricultural, rural and community development as well as water resource and coastal zone management and development. Thus, the future approach to and basis for fisheries development is for the government to establish the mechanisms and framework as well as develop the necessary skills for and competence in fisheries planning and management, involving all relevant disciplines. Careful management and investment planning based on reliable data and information are also an indispensable part of this new approach.

**Fisheries technical management components**

- Site selection
- Supplementary feed
- Small indigenous fish
- Cage culture
- Land type
- Cage framing
- Cage culture
- Traditional harvest
- Supervision
RESULTS AND DISCUSSION
The results obtained from the studies conducted here are mentioned in this chapter.

Table 1: Fish farm bottom-up planning need % scores

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Physical planning</th>
<th>Financial planning</th>
<th>Agro-ecology</th>
<th>HR profile</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Officers</td>
<td>48</td>
<td>57</td>
<td>46</td>
<td>52</td>
<td>50.75</td>
</tr>
<tr>
<td>Managers</td>
<td>88</td>
<td>64</td>
<td>63</td>
<td>44</td>
<td>64.75</td>
</tr>
<tr>
<td>Professionals</td>
<td>57</td>
<td>92</td>
<td>81</td>
<td>74</td>
<td>76.00</td>
</tr>
<tr>
<td>Program Heads</td>
<td>48</td>
<td>73</td>
<td>51</td>
<td>68</td>
<td>60.00</td>
</tr>
<tr>
<td></td>
<td>60.25</td>
<td>71.50</td>
<td>60.25</td>
<td>59.50</td>
<td>62.87</td>
</tr>
</tbody>
</table>

The results show that the 76% of professional respondents told bottom up planning of fish farms, followed by managers of the farms.
The graphs show that the professional respondents recommended for financial planning of fish farms, which were found to be very weak.

**Table 2: Fish farm top-down planning need % scores**

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Physical planning</th>
<th>Financial planning</th>
<th>Agro-ecology</th>
<th>HR profile</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Officers</td>
<td>48</td>
<td>37</td>
<td>46</td>
<td>52</td>
<td>45.75</td>
</tr>
<tr>
<td>Managers</td>
<td>13</td>
<td>34</td>
<td>12</td>
<td>32</td>
<td>22.75</td>
</tr>
<tr>
<td>Professionals</td>
<td>34</td>
<td>42</td>
<td>19</td>
<td>37</td>
<td>33.00</td>
</tr>
<tr>
<td>Program Heads</td>
<td>66.00</td>
<td>73.00</td>
<td>51.00</td>
<td>58.00</td>
<td>62.00</td>
</tr>
<tr>
<td>Mean</td>
<td>40.25</td>
<td>46.50</td>
<td>32.00</td>
<td>44.75</td>
<td>40.87</td>
</tr>
</tbody>
</table>

The results show that the 27% of professional +manager respondents recommended for top down planning, while it was 62% as per program heads.

The results show that all the respondents were negative to top-down planning other than only the program heads.
The results showed that only 8% and 21% of managers and professionals supported the present physical planning process respectively.

Table 3: Fish farm planning status of index 100

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Design planning</th>
<th>Budget planning</th>
<th>Financial Planning</th>
<th>Strategic operation Planning</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Officers</td>
<td>29</td>
<td>23</td>
<td>28</td>
<td>27</td>
<td>26.75</td>
</tr>
<tr>
<td>Managers</td>
<td>37</td>
<td>31</td>
<td>26</td>
<td>24</td>
<td>29.50</td>
</tr>
<tr>
<td>Professionals</td>
<td>33</td>
<td>22</td>
<td>26</td>
<td>25</td>
<td>26.50</td>
</tr>
<tr>
<td>Program Heads</td>
<td>48</td>
<td>41</td>
<td>32</td>
<td>48</td>
<td>42.25</td>
</tr>
<tr>
<td>Mean</td>
<td>36.75</td>
<td>29.25</td>
<td>28.00</td>
<td>31.00</td>
<td>31.25</td>
</tr>
</tbody>
</table>

The mean index of fish farm planning status was found to be only 30% which largely insufficient to run a fish farm sustainably.

Table 4: Fish farm planning status of index 100 as per site

<table>
<thead>
<tr>
<th>Sites</th>
<th>Design planning</th>
<th>Budget planning</th>
<th>Financial Planning</th>
<th>Strategic Planning</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laksmipur</td>
<td>59</td>
<td>35</td>
<td>18</td>
<td>27</td>
<td>34.75</td>
</tr>
<tr>
<td>Faridpur</td>
<td>26</td>
<td>41</td>
<td>10</td>
<td>14</td>
<td>22.75</td>
</tr>
<tr>
<td>Parbotipur</td>
<td>53</td>
<td>42</td>
<td>17</td>
<td>25</td>
<td>22.75</td>
</tr>
<tr>
<td>Mymensingh</td>
<td>58</td>
<td>41</td>
<td>11</td>
<td>18</td>
<td>34.25</td>
</tr>
<tr>
<td>Mean</td>
<td>46.00</td>
<td>39.30</td>
<td>15.00</td>
<td>22.00</td>
<td>32.00</td>
</tr>
</tbody>
</table>

The results showed that even the research and academic fish farms of Mymensingh, FRI administered by govt. show very weak planning in terms of all physical, financial and technical dimensions, yet it was less than the Laksmipur Fish Farm (Raipur).

SUMMARY AND RECOMMENDATIONS

The results show that the 76% of professional respondents told bottom up planning of fish farms, followed by managers of the farms. The graphs show that the professional respondents recommended for financial planning of fish farms, which were found to be very weak. The results show that the 27% of professional +manager respondents recommended for top down planning, while it was 62% as per program heads. The results show that all the respondents were negative to top-down planning other than only the program heads. The results showed that only 8% and 21% of managers and professionals supported the present physical planning process respectively. The mean index of fish farm planning status was found to be only 30% which largely insufficient to run a fish farm sustainably. The results showed that even the research and academic fish farms of Mymensingh, FRI administered by govt. show very weak planning in terms of all physical, financial and technical dimensions, yet it was less than the Laksmipur Fish Farm (Raipur).
RECOMMENDATIONS

1. It is recommended that the fulltime entrepreneur should be increased from 56% to 60-70% through more technical efforts by the government agencies.

2. Intensive training should be given to the persons who should be given to the persons who have land-pond feasibilities giving cash-capital support on easy terms.

3. To adopt the changing climate & other situation comprehensive modular base training on targeted subjects should be arranged.

REFERENCES


8. Ameen M. 1987. Fisheries Resources and Opportunities in Freshwater Fish Culture in Bangladesh. PAT, NRD-II /DANIDA, Noakhali, Bangladesh, 244 pp.


