

Document for Discussion

**Study on Human Resource Planning and
Agricultural Training and Education**

**Agricultural Services Innovation and
Reform Project (ASIRP)**

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ACRONYMS

AIS	Agricultural Information Service
ASIRP	Agricultural Services Innovation and Reform Project
ASPS	Agriculture Sector Programme Support
ATI	Agricultural Training Institute
B.Ag.Ed	Bachelor of Agriculture Education
BADC	Bangladesh Agriculture Development Corporation
BARC	Bangladesh Agriculture Research Council
BARD	Bangladesh Academy for Rural Development
BARI	Bangladesh Agriculture Research Institute
BAU	Bangladesh Agriculture University
BFDC	Bangladesh Fisheries Development Corporation
BFIDC	Bangladesh Forest Industries Development Corporation
BFRI	Bangladesh Forest Research Institute
BINA	Bangladesh Institute of Nuclear Agriculture
BIT	Bangladesh Institute of Technology
BJRI	Bangladesh Jute Research Institute
BLRI	Bangladesh Livestock Research Institute
BMTE	Bureau of Manpower Training and Employment
BRAC	Bangladesh Rural Advancement Committee
BRDB	Bangladesh Rural Development Board
BRRI	Bangladesh Rice Research Institute
BSGDMA	Bangladesh Seed Growers Dealers and Merchants Association
BSMA	Bangladesh Seed Merchants Association
BSRI	Bangladesh Sugarcane Research Institute
BSRTI	Bangladesh Sugarcane Research & Training Institute
BTEB	Bangladesh Technical Education Board
CCBC	Central Cow Breeding Centre
CDB	Cotton Development Board
CERDI	Central Extension Resource Development Institute
DAE	Department of Agricultural Extension
DAM	Department of Agricultural Marketing
DOC	Department of Cooperatives
DOE	Department of Environment
DOF	Department of Fisheries
DOFL	Department of Fisheries & Livestock
DOFR	Department of Forest
DOL	Department of Livestock Services
DOS	Department of Youth Development
DOWA	Department of Women Affairs
DTE	Department of Technical Education
EWSL	East West Seed (Bangladesh) Limited
FAO	Food and Agricultural Organisation
FFW	Food for Work
FRI	Fisheries Research Institute
GDP	Gross Domestic Product
GUK	Gana Unnayan Kendra
HRM	Human Resource Management
HSC	Higher Secondary Certificate
IADIPMFS	International Agricultural Development Integrated Pest Management Farming System
iPRSP	Interim Poverty Reduction Strategy Paper

LGED	Local Government Engineering Department
LTI	Livestock Training Institute
MFA	Marine Fisheries Academy
MoA	Ministry of Agriculture
MoE	Ministry of Establishment
NARS	National Agricultural Research System
NCDP	Northwest Crop Diversification Project
NGO	Non Government Organisation
NYTC	National Youth Training Centre
O&M	Organisation and Method
OTI/F	Officer's Training Institute (Fisheries)
OTI/L	Officer's Training Institute (Livestock)
PATP	Public Service Administration Training Policy
PoA	Policy / Plan of Action
PSO	Principal Scientific Officer
PSSI	Private Seed Sector Support Institute
PSSSU	Private Sector Support Service Unit
RDA	Rural Development Academy
RDRS	Rangpur Dinajpur Rural Service
RDTI	Rural Development Training Institute
SAU	Sher-e-Bangla Agricultural University
SDA	Seed Certification Agency
SDF	Savar Dairy Farm
SID	Seed Industry Development
SNF	Seed NGO Forum
SO	Scientific Officer
SPF	Savar Poultry Farm
SPFSP	Special Programme for Food Security Project
SRDI	Soil Resources Development Institute
SSB	Seedmen's Society of Bangladesh
SSB	Seedmen's Society of Bangladesh
SSC	Secondary School Certificate
SSO	Senior Scientific Officer
TEB	Technical Education Board
TIS	Training Information System
TMSS	Thengamara Mohila Sabuj Sangha
TTC	Technical Training Centre
UAO	Upazila Agriculture Officer
VTI	Vocational Training Institute
YTC	Youth Training Centre

Tk = Bangladesh Taka

Approximately Tk 95: £1 in September 2003

Core = 10 million

EXECUTIVE SUMMARY

A study to assess Human Resource Planning and Agricultural Training and Education was undertaken by the DAE Training Wing assisted by Agricultural Services Innovation and Reform Project (ASIRP) during the period 1-25th September 2003. A primary objective is to position DAE's Agricultural Training Institutes (ATIs) and Central Extension Resource Development Institute (CERDI) as an effective and efficient contributor to agricultural development. The study involved 120 interviews with selected representative from GoB, NGO and the Private Sector; analysis of 106 questionnaires and published data.

The key findings are summarized below:

High demand for Vocational Skills

- Farmers require entrepreneurial and business management skills to establish income generating activities (high value crops, poultry, livestock and fish) and advanced technical skills for intensification / diversification.
- Due to intensification and diversification rural workers need more advanced skills to enhance their employability.
- Potentially large numbers of unemployed youth see their future in self-employment and require high quality skill based training to establish enterprises. This can be observed by the huge demand from rural youth for certificate and diploma courses.
- Under supply of vocational "enterprise" based short courses; due to farmers not being prepared to pay and therefore reliance on GoB/NGO funding.
- Rural women farmers are increasingly operating their own enterprises based on the homestead and small-scale agro-processing. They require short courses focusing on skills.

Employment Opportunities

- GoB is 'right sizing' and has adequate numbers of professional and support staff working in the agriculture sector and hence employment opportunity in this sector is limited. However, there is some demand for highly qualified post-graduates for research stations.
- Demand for well-qualified teachers to teach agriculture at schools under Ministry of Education is estimated between 600 and 1000 per year.
- Some employment opportunity exists for graduates in the NGO and private sector.
- Demand for high quality graduates to manage commercial farms and seed companies with good business skills.
- Increasing opportunities exist for graduates, diplomates, school leavers for self-employment running enterprises for high value crop production, poultry, livestock and fisheries management.

Training Provision

- It is estimated that there are 1000 training facilities targeted at clients in the rural agricultural sector with a total construction cost of Tk.50 crore and a land value of Tk 600 crore excluding schools and universities.
- The total number of full time trainers is estimated to be 3000 at annual cost of Tk 60 crore as salary and allowances.
- A fast growing private sector offering diploma courses but quality output is a major concern. Private ATIs focus on their students obtaining a diploma *certificate* rather than on the skills and knowledge needed for effective employment. This arises due to being profit driven, and insufficient examination control by the Technical Education Board to control standards.
- The cost of diploma course at Private ATI is Tk. 30,000 where as only Tk. 15,000 at the DAE ATI.

- The Ministry of Education is expanding its role as a provider of vocational skills at the SSC and HSC level by encouraging more schools to offer vocational SSC/HSC courses in agricultural subjects
- A lack of provision of short high quality technical courses designed to provide participants with the technical skills needed to establish and run profitable farm enterprises
- Inadequate competence of trainers in most institutes to teach the skills they are responsible for particularly in their practical abilities
- Low quality of students seeking education at certificate and diploma level
- Agricultural Diploma *one size fits all* does not allow for specialization and meet the diverse needs of the sector such as livestock, fisheries, poultry or those seeking self employment
- The number of agriculture diplomas equal the current demand.

Constraints at GoB Institutes

- Poor budget submission from GoB Training Institutes to Ministry of Finance.
- Inadequate revenue budgets for effective operation and maintenance.
- Frequent and haphazard staff transfers.
- Poor management and poor attention to training as a profession.

ATIs and CERDI

- The study has an output to *position* ATIs and CERDI contribution to agricultural development.
- ATIs were established to provide a 3-year diploma for the expansion of DAE grass root staff - the Block Supervisor (BS). Because of the batch intake system and the process of natural wastage, the number of BS to date has been reduced by about 2500 from 13000, and it will take to the Year 2015 to reach about 400. The role of the ATIs was substantially diminished as their internal DAE market had effectively disappeared in the early 90s. The recruitment freeze is still in place.
- ASSP (the predecessor project of ASIRP) sought to revive the ATIs and CERDI by supporting the vocational nature of the diploma and the need for retraining /skills upgrading of DAE staff. However, the greatest impact on the diploma was the development of agriculture as a subject for the SSC. Linkages with the Technical Education Board of the Ministry of Education were established and the diploma became an acceptable qualification for teachers. The diploma holder was raised to the same status as the Diploma Engineer and should have similar access to degree level courses (despite this recommendation from the Education Commission, GoB have not implemented this). The diploma is recognised as a qualification to undertake the Open University, B. Agr. Ed.
- In DAE, the elevation and national recognition of the diploma, also resulted in career opportunities for BS with the requisite experience – they could apply for promotion to Officer class vacancies. In the mid to late 1990s, the ATIs (in the majority) have become vocational education institutes and the demand for diplomas has risen. There are variations based on location with demand for more skills based training in some ATIs. This resulted in a number of private ATIs being developed and to date about 11 have been established, with a further 4 due to achieve affiliation with the Technical Education Board of the Ministry of Education.
- The quality and facilities of private ATIs have been questioned, as is their motivation in just selling the diploma certificate. However, the cost of the private diploma is double the DAE ATI cost (Tk 30 000 compared Tk 15 000 over 3 years). Future demand for the diploma is linked to Ministry of Education plans to expand the subject base of the SSC/HSC to cover more diverse self-employment opportunities (e.g agri-processing, agricultural mechanisation etc).

- The current output of diplomas is probably more or less in balance with demand but the big questions are a) if the moratorium on recruitment of BS is lifted – there is a potential demand of 500 diplomas/year in DAE for 5 years; and b) if the specialisation under SSC/HSC is expanded then there is further increased demand for the Diploma as a teaching qualification
- The MoA took no action on a previous suggestion to transfer the ATIs to the Ministry of Education. There is also resistance to this transfer from other specialised Training Institutes under the control of Ministries. The ATIs no longer sit easily within the DAE structure, especially as little attention is given to in service training upgrading skills and knowledge. They are essentially Vocational Training Institutes that undercut the private sector. The turnover of staff does not allow for the build up of a qualified trainer pool, and more general education management skills. In addition they are not providing for the upgrading of skills in DAE – which remains a largely project driven activity. The initial mandate of ATIs was also to provide farmer training – this also remains a project driven/funded activity.
- The Public Administration Training Policy (PATP) provides opportunities for greater autonomy, deputation of staff and increased salary incentives. The starting point of implementing the PATP is the preparation business plans for the Training Institute for approval by the Ministry of Finance.

Study Conclusion

- The business planning process was meant to be a second phase of this study. The first phase would result in a decision point and clarity on the way forward. However, a number of issues need to be resolved by GoB (DAE/MoA) before the next phase of business planning.
- The current role of ATIs (diploma provision) in the DAE structure is questionable especially where they are positioned in relation to other Vocational Training Institutes and the options for each ATI. CERDI remains an under utilised training venue and its justification in being established close to Research Institutes, as a source of research-extension linkages, has not been fulfilled. The options suggested in the study (divestment, specialisation, a short course focus, and public-private partnerships) need to reach a consensus in the whole of DAE before being presented to MoA. There is one precedent of DAE leasing facilities of Horticultural Centres, (of which there are 75 with large land areas and some opportunities also for running training courses), to an NGO. Any non-diploma role for ATIs would demand both budget and capacity building – there is no current competitive advantage.
- Since the transfer to Ministry of Education was muted before and resulted in no action, the transfer to the Ministry of Agriculture is suggested. The Ministry of Education provides budgetary support for the Diploma, with the DAE providing the staff salaries etc. The Ministry of Education Technical Education Board would still seem to be the logical home for the Diploma. In service training and the deteriorating knowledge and skills base in DAE is a separate issue, with separate opportunities for resolution outside ATIs/CERDI.
- The establishment of sufficient autonomy and other guidelines (trainer pools, deputation, and incentives) as envisaged under the PATP need to be agreed upon by DAE.
- CERDI should be reclassified as a venue, and retained within the DAE structure.
- The wrap-up workshop with ATI Principals and CERDI staff held on 22nd September also identified critical DAE management decisions that are necessary before any progress can be made. These are pre-requisites for progress.

Pre-requisites for Progress

A) Role Clarity

1. Redefine the role of ATIs in general and specifically for each of the 13, including details of specialisation by subject / courses and with insurance that comparative advantage exists¹.
2. Clearly redefine the role of CERDI as to whether it is a venue or training institute and if it should be an autonomous body under MoA or divested.

B) Autonomy and Management

3. New and improved limits of delegated authority to be set and an appropriate executive order issued.
4. Review the options for greater autonomy as envisaged in the PATP, whether within DAE or outside DAE whereby ATIs and CERDI are directly under Ministry of Agriculture control as an autonomous group. Decisions need to be taken of the preferred option.
5. Define a mechanism for ensuring total quality management in ATI and CERDI

C) Staffing

6. Once the roles are defined, review the ATI/CERDI establishment and ensure all posts are filled.
7. Staff to be appointed for their expertise and willingness to work in the ATIs and CERDI and not to be transferred as a punishment. A trainer's pool as specified in the PATP to be established and only officers in the trainer's pool to be appointed to ATIs or CERDI.
8. Ensure transfers of staff are made within/between ATIs / CERDI by creating an establishment within an establishment as per the precedent set by DLS Veterinary Colleges.
9. Review job descriptions so that instructors have clearly defined non-teaching additional duties such as student welfare; farm management; resources; business planning; marketing clearly agreed and issued as an instruction by the Director Training.
10. Ensure all officers in the trainer's pool receive in-service training each year as specified in the PATP.

D) Funding

11. Encourage all projects to make full use of ATIs and CERDI where feasible and contributes to the defined roles and income of the ATI/CERDI.
12. Consideration be given to increasing fees at the DAE ATIs to bring into line with private ATIs.
13. Define the minimum standards and resources that must be available at each ATI or CERDI for each specific role it is responsible for. For example qualifications of teaching staff, farm equipment needed and budget required.
14. Ensure that sufficient budget is in place to implement any courses within the defined role. This requires budgets to be prepared by each ATI and CERDI for submission to Ministry of Finance as part of the annual budget planning cycle described in Appendix 1. Budgets must be prepared with justification and supported by an action plan.
15. Ensure competent DAE authorities (e.g. Director Training Wing) are present in budget meetings in order to defend budget requests.

¹ This is a difficult choice for DAE – retention of the diploma role indicates a future for ATIs outside the DAE structure. Adjusting the role (e.g. to short courses) implies DAE has the in-house capacity to offer such courses through ATIs.

16. Define the rules of public/private partnership and give clarification on issues such as the use of ATI /CERDI facilities on a fee basis by private ATIs and the leasing of land for farm production purposes. Issue an executive order to ATIs and CERDI principals on the land leasing rules applicable to instructors at the institutes.
17. Review the PATP and define how DAE will implement it including the financial implications such as the 30% bonus for staff on deputation and the rent free accommodation for all Instructors posted at ATIs/CERDI and making ATIs and CERDI financially self-sufficient.
18. Issue an executive order for venue rental with revised figures and clear instructions on the level of funds that can be retained. This needs to be a substantial part of the funds received for use by the ATI or CERDI for operation and maintenance.

The list is a challenge for DAE Senior Management. However, if ATIs and CERDI are to develop realistic business plans the above list is an essential element of the planning process. Further support as envisaged in the ToRs of this assignment can only be provided given substantial progress in management decision making.

1. CONTEXT AND RATIONALE

1.1 Introduction

The study has been undertaken by the DAE Training Wing assisted by the Agricultural Services Innovation & Reform Project (ASIRP) in September 2003 in response to:

- DAE Strategic Plan 2002 - 2006
- Public Administration Training Policy (2003)
- National Agricultural Policy/Plan of Action (2002)
- Interim Poverty Reduction Strategy Paper (2003)
- Emergence of private ATIs competing with DAE ATIs

1.2 DAE Strategic Plan 2002 - 2006

The study is part of the process of operationalising the Strategic Plan. The relevant extract is: *By 2003, DAE will strengthen CERDI and ATIs capabilities and facilities by providing quality, dedicated and competent staff and adequate resources. At the same time CERDI and ATIs will develop their business plan and reduce their dependency on DAE for funds. The Training Wing will also develop Training Information System (TIS) to support unified training management and planning for DAE.*

1.3 Public Administration Training Policy

GOB has announced a public administration training policy in May 2003 to improve productivity and promote administrative efficiency primarily in the public sector. The policy is founded on the following core principles:

- *Goal orientation / strategic direction - the policy enunciates 8 goals with 7 strategic responses with a vision to enhance capacity of the public administrative system as a whole, reshape managerial attitude and behaviour, encourage innovation and dynamism, develop motivation, commitment and morale for balanced and sustainable socio-economic growth and quality and cost effective service delivery.*
- *Major strategies include: continuous training and retraining for all, designing need /competence based curricula , develop professionalism, strengthen physical infrastructure, modernize training aids, methods and equipment; redefine job descriptions and organizational configuration, develop research and faculty capacity, creation of trainer's pool, field attachment programme, priority on basic management, computer and English language proficiency, financial and administrative autonomy of training institutes, establish private-public and NGO links and collaborations.*
- *Incentive structure - payment of 30% special allowance for trainers on deputation, exemption of mandatory training for those who will work as a trainer for two years, free accommodation for professional trainers and employees, national award, preference in foreign training, study and sabbatical leave.*

1.4 National Agricultural Policy/Plan of Action

The national Agricultural Policy/Plan of Action PoA (Sept 2002) identifies the issue - "*Human resources in agriculture are inadequate to achieve sustainable agricultural production increase*". The plan of Action in its Programme Area "Agricultural Education and Training" refers to the Education Policy on standards and quality in education and the need to make education demand driven rather than supply driven and, in particular specifies "*the need for a review of the training needs and to enhance the capacity building of existing training institutes with more focus on farm and market based training*".

1.5 Interim Poverty Reduction Strategy Paper

The Government of Bangladesh published the Interim Poverty Reduction Strategy (iPRSP) in March 2003. To achieve high pro-poor economic growth, the strategy emphasises:

- *A stable macroeconomic balance (including State Owned Enterprise reforms).*
- *A gender sensitive macro and policy framework.*
- *Strong institutions and improved governance.*
- *Private sector-led and outward oriented growth which will take advantage of globalisation; whilst ensuring that appropriate social safety nets are in place.*
- *Accelerating rural and agricultural growth, targeting of small and medium enterprises.*
- *Improvements in infrastructure and increasing use of information and communications technologies and improved partnerships between GoB, the private sector and NGOs.*

The iPRSP also requires a Government Policy environment that is:

- *Supportive of agriculture and rural non-farm sectors.*
- *Oriented towards small farmer development.*
- *Capable of providing right incentives to adopt new technologies.*
- *Conducive to higher investments in social and economic infrastructure in rural areas.*
- *Ensures proper functioning of rural institutions and provide market access for rural products.*

The study findings are intended to contribute to the debate on the future role of the ATIs and CERDI and aid each institution in preparing a business plan as mandated in the DAE Strategic Plan and PATP.

2. METHODOLOGY

A comprehensive consultative enquiry approach was followed during the period 2-25th September 2003, a document review undertaken and a questionnaire sent to 467 representative institutions.

The study as presented is written to reflect the views and observations gathered from the 106 questionnaires and 93 individuals consulted. Representations were obtained from GoB, NGOs and the Private Sector at all levels from Director General, Additional Secretary to farmers and rural youth. The study report is part of a process towards the production of effective, workable and meaningful business plans. Certain pre-requisites have been identified which need to be managed prior to the production of business plans.

3. BANGLADESH AGRICULTURE

The Agricultural growth rate has declined to an average of 2.2 per cent per year during 2001-2003 from the yearly average of more than 5 per cent during the late 1990s. This has been due to the slower growth of the crop sub-sector.

As of 2000-2001 (WB 2003), crops contributed 56 per cent, fisheries 24 per cent and forestry 8 per cent. By the year 2020, the contribution of the crop sector is expected to fall to 47 per cent. In comparison, the rural non-farm sector is growing rapidly, now accounting for 52 per cent of primary occupations and over 36 per cent of total GDP. Rural livelihoods are becoming increasingly diverse, and agricultural development needs to take advantage of diversified opportunities across the whole farm and non-farm sectors. By the year 2015, the average farm size in Bangladesh will be 0.34 hectares, just in the marginal category. A major feature of the sector is its diverse nature and wide variations in technologies and returns. The key drivers of the growth of rural non-farm activities have been the rapid spread of irrigation and expansion of enterprises such as poultry farming.

Although non-agricultural sectors have been the main engine of job creation in the 1990s, agriculture continues to remain the largest sector of employment with more than 60 per cent of total employed labour in 2000 (BBS 2002). The sectoral trends in production and employment show that the agriculture sector remains overburdened with 'surplus labour' with relatively low value added-employment ratio and value added per worker. In rural areas, real per capital income increased by only 0.5 per cent per year during the 1990s compared to a growth of 4.4 per cent in urban areas.

The poor will gain more if their educational attainment and skill levels are improved to enhance their chances of getting more remunerative jobs in skilled labour-intensive sectors. The diversification to value-added crops and expansion of non-crop agriculture will increase household income of the poor. Poultry and livestock, for example, have a significant poverty-reducing role as the land requirement for these activities is small and the potential return is high. Since poultry birds and livestock represent major productive assets and sources of income of land-poor households, improving productivity of animals will have a directly beneficial effect on both the value of the livestock assets and incomes of the poor. Similarly, fishery and forestry activities can become major providers of employment and incomes for the poor.

For developing the rural non-farm sector, a key challenge will be to reduce the productivity gap between rural enterprises and large (formal) enterprises and facilitate the transformation of rural enterprises into medium-scale enterprises. There is increasing evidence of a shift to the establishment of increasing numbers of agri-based urban and peri-urban enterprises. The "employment challenge" of weakly integrated areas in terms of their relative lack of infrastructure and access to markets remains an issue in inclusive poverty reducing strategies for the poorest.

Micro credit initiatives have flourished in rural areas over the last two decades. In 2000 the micro credit programmes delivered by the Government and NGOs covered over 10 million individuals (including Grameen Bank 2.4 million, BRAC 3.3 million, Proshika 1.7 million).

The linkages between vocational training / skills development and graduation into micro-credit schemes remains unclear. Many larger NGOs provide specific training in skills associated with identified credit schemes (e.g. smallholder livestock) but there is an increasing trend to develop more opportunistic enterprise based or training of entrepreneurs in basic business skills. There is evidence to suggest that the small to medium NGOs regard ESPs as a source of specific training expertise. With an increasing trend of diminishing technical skills within DAE for example, the source of up to date knowledge and skills is questionable. The demand for skills from the rural population for training is high and widespread in subject matter. Despite concerns on the quality of training from private institutes, they are all affiliated with the TEB and 11 private ATIs will increase to 15 this year. DAE also faces competition in the private sector from the various Vocational Training Institutes in the GO and NGO sector. Appendix 3 identifies the facilities of several such institutes. The precise niche and advantage of DAE ATIs in short course development is difficult to identify in this context. A broader issue is the exact public role of DAE in providing training services – one of the original mandates of ATIs was to provide farmer training and the public role now appears to be to provide a vocational qualification at 50% of the cost of the private sector. Another issue is that any shift in role away from the diploma requires some form of comparative advantage in delivery – at present this is not present (particularly in the pro-poor non-crop sector), nor possible to develop due to the staff transfer system.

4. TRAINING PROVISION FOR THE AGRICULTURAL SECTOR

4.1 Introduction

There is no definitive list of training facilities in Bangladesh. Appendix 2 gives the results from receipts of 106 institutions conducted under this study. A training facility is any physical property, with as a minimum a small classroom which may be part of an office complex as is the case with many small NGOs. The study team estimates that there are about 1000 such facilities with a reasonable number of very large facilities that are well staffed, well resourced and have significant land areas. These 1000 facilities are not exclusively used for agricultural sector development, particularly by NGOs who also use them for non-agricultural courses such as tailoring or weaving. It is assumed that on average 3 full time trainers are attached to each institute. This figure is hard to quantify as many NGO staff have multifunctional duties.

Some organisations operate a large network of centres such as Proshika, DAE, BRAC, RDRS, Ministry of Youth, BRDB.

There appears to be adequate provision of physical properties but an inadequate provision of effective trainers that are fully competent in the subjects they teach. Serious under funding exists for maintenance of the properties and provision of practical equipment and disposable materials for practical training.

There is a market for venue rental whereby one organisation rents the facilities of the other. This is not well developed and there remains a tendency for organisations to build or negotiate long term rents rather than save capital, and rent on a need basis.

4.2 Department of Agricultural Extension

DAE has 10,500 Block Supervisors and 1,500 officers responsible for provision of extension services. DAE principally trains farmers at village level or on short course at Upazila level. Some training is provided to NGOs and the private sector. DAE has extensive reach across the country but is only used by about 10% of the farming population (ESS 2000).

DAE is project led - which can lead to a duplication of training effort, the use of resource people of varying quality and the absence of a standardised, organisation wide approach to training. Values and working practices vary, training objectives are seen to be externally generated and training initiatives are often top-down. These problems are compounded by a perception that projects are mostly concerned with the amount and timeliness of money spent which becomes their main performance criterion. DAE lacks a commitment to training as a profession (focusing on "product" rather than "process"). There is little leadership commitment to training - hence training remains professionally low profile. This is compounded by a cadre system which places inappropriate personnel in training positions.

DAE manages the 12 ATIs, CERDI and 72 Horticultural Centres which are summarised below. Most DAE training for its clients consist of short or very short (one day or less) courses conducted at the Upazila level using a range of locations. The Horticulture Centres provide public sector produced (subsidised) plants and saplings to the general public.

Observations

- Formal training is project dependent and of varying quality.
- BS's lack technical skills in many subject areas.
- Target group dominated by male farmers.

4.2.1 Agricultural Training Institutes

Currently there are 12 ATIs. Daulatpur (Khulna) was established in 1944. This was followed by the establishment of ATIs at Gaibandha (1946); Sher-e-Banglanagar, Dhaka (1954); Tazhat (1957) and Sherpur (1957). Other ATIs were established from 1972 to 1983. An additional ATI is being constructed in Rangamati. ATIs primarily conduct the agricultural diploma issued by the Technical Education Board. Most also do some residential elements of the Open University BAg.Ed course. Limited in-service training is given to Block Supervisors. Very limited farmer training is provided due to fund and space constraints despite an acknowledgement that ATIs should provide such training. DAE is in essence a training (extension) service provider but it's ATIs contribute little to the organisational mission, or its contact with the farming community, and thus (with their present role) do not fit well in the DAE structure.

Their key strength is the physical facilities (farmland, buildings); qualified trainers and established routines and lower cost (Tk 2,500 per semester compared to Tk 5,000 per semester in private ATIs). ATIs are weakened by poor management; frequent haphazard staff transfers; lack of emphasis on practical training, under investment and severe shortage of revenue budget for effective operation and maintenance requirements.

Unlike Diploma Engineers, ATI Diploma holders have no opportunity to apply for admission to the Agricultural University or colleges for higher education. They can only apply for higher education to the Open University for the B.Ag.Ed. degree.

The Education Commission recommended in 1997 that the diploma holders should get the opportunity for admission to University, but the Government must formally accept this. Table 1 shows the summary of returned budget information from DAE ATIs. Income can be generated via diploma tuition fees, short course fees, sale proceeds from the often large areas available for practical work, and rents (Appendix 1). Under the current situation, income generation is weak as budgets are not linked to action plans; DAE does not pursue MoA or MoF for budget authorisations; ATIs have no delegated authority; and DAE sets low service charges for rental income.

Table 1: Expenditure (Tk) - Revenue and Development Budget (ATI/CERDI)

Name of Institute	Revenue Budget	Development Budget	Total	Any Income
ATI Gaibandha	2434700.00	77000.00	2511700	0.00
ATI Ishurdi, Pabna	1153412.00	148400.00	1301812	68533.00
ATI, Begumganj	4857957.00	155000.00	5012957	182196.00
ATI, Dhaka	991836.00	4238037.00	5229873	0.00
ATI, Faridpur	4814000.00	211740.00	5025740	0.00
ATI, Gazipur	954750.00	212000.00	1166750	0.00
ATI, Khulna	1627621.00	148500.00	1776121	0.00
ATI, Rahmatpur	4875536.00	218030.00	5093566	117149.00
ATI, Sherpur	1165500.00	268000.00	1433500	0.00
ATI, Tajhat	942000.00	83200.00	1025200	0.00
CERDI	10309402.00	815000.00	11124402	395131.00
TOTAL	34126714.00	6574907.00	40701621.00	763009.00

The average annual cost of a DAE ATI is Tk 2,957,722 (80% revenue budget, 20% development budget). The total cost of running the ATIs (and CERDI) is Tk 40 million. Table 2 shows application and enrolment by ATI, with two private ATIs as a comparison. There is clearly high diploma demand at some DAE institutes – for example, Ishurdi – where only 18% of applicants could be enrolled. Two ATIs did not return information in time for the study – one of these, Sylhet, is only running at 50% capacity, and about half these students are drawn from outside the Sylhet catchment. Given these geographical variances, should DAE decide to retain the diploma as the core ATI function, there may not be full justification to retain all institutes.

Observations

- Over focus on diploma at the expense of other target groups.
- Farms not fully productive and other resources underutilised.
- Lack of revenue funds due to poor budget submission.
- Role of ATIs needs to be reconsidered in the current climate.
- Questions of autonomy.
- Frequent transfers and incorrect placement of staff (trainers and Principal).
- Diploma "one size fits all" does not meet the job needs of all the students.
- GoB (subsidised) ATI is cheaper than Private ATIs.

4.2.2 Central Extension Resources Development Institute

CERDI was established in 1975 on 56 acres of land at Joydebpur 20 miles North of Dhaka and adjacent to some of the main agricultural research institutes (BRRRI, BARI). The institute was a Bangladesh/Japanese joint venture with a view to minimize the gap between research and extension, coordinate extension activities, conduct training programmes and develop extension resources. CERDI has never fulfilled this ambitious objective of acting as the pivot of the extension research linkage.

Table 2: Applications and Enrolment by DAE ATI

Name of the ATI	Application Received (No.)			Enrolled (No.)						Total	Applicants Enrolled (%)
	Diploma	B Ag Ed	Total	Diploma			B Ag Ed				
				Male	Female	Total	Male	Female	Total		
DAE ATIs											
ATI Begunganj	225	25	250	106	22	128	22	3	25	153	61.2
ATI Gazipur	360		360	144	35	179				179	49.7
ATI Khulna	400		400	223	53	276				276	69.0
ATI Rahamatpur	800		800	318	118	436				436	54.5
ATI Faridpur	425	133	558	318	56	374	17	16	33	407	72.9
ATI Dhaka	125	125	250	77	20	97	70	55	125	222	88.8
ATI Sherpur	705	145	850	293	79	372	123	22	145	517	60.8
ATI Ishurdi	850		850	178	28	206				206	24.2
ATI Tajhat	1503	456	1959	176	33	209	63	10	73	282	18.8
	5393	884	6277	1833	444	2277	295	106	401	2678	42.7
Private ATIs											
Tamaltala Agriculture and Technical College	103		103	87	10	97				97	94.2
Kalikapur-Banpara Agriculture and Technical College	25		25	24	1	25				25	100
	128		128	111	11	122				122	95.3

CERDI is funded under the GoB Revenue Budget and its stated functions from the time of the transfer to the establishment are as follows:

- To conduct in-service training for DAE and other clients.
- Development of appropriate training materials for use by trainers.
- Establish linkages between research and extension.
- Test various approaches of extension work using the experience towards developing; training material as well as towards imparting training.

CERDI is now almost exclusively used as a venue with little input from the professional staff, yet (from Table 1) its revenue budget cost per year is still Tk 11 million per year. It largely fails to meet any of its stated functions.

Observation

- The key issue for CERDI is whether it is a venue or training institute? If venue then it does not require professional teaching staff but does require efficient management (not necessarily within the DAE structure) to make it profitable. If a training institute then requires considerable thought as to what its role should be and the resources required to implement that role.

4.2.3 Horticulture Centres

DAE has 72 horticulture centres, totalling 435 acres of land primarily responsible for seedling and seed production. A secondary function is to provide training to farmers and Block Supervisors. Graduate staff run 18 of the centres, whilst the remaining 54 are run by diploma holders. Most Horticulture centres conduct only short courses for farmers on horticulture, nursery management, seedling production and management, vegetable production, fruit tree production, homestead gardening, family health and nutrition, poultry rearing, post harvest and mushroom cultivation. Funding is via different development projects. Training is of reasonable quality and has strong practical emphasis and appears to be popular with farmers. Any DAE envisaged move for ATIs into short skill based courses would need to coincide with clear role clarity with the Horticulture Centres which have this as their stated function. Horticulture Centres recognise that they are in (subsidised) competition with private nurseries, the Forest Department, large and small NGOs, and even high schools.

Observation

- Training is project dependent and secondary activity to the primary function of seeds and seedling production of different vegetable and fruit tree crops.
- Several of the centres would be ideal venues for short skill based vocational training in non-field crop technologies.

4.3 Private ATI

There are 11 private Agriculture Training Institutes in the country offering diploma education in agriculture. All the private ATIs are affiliated with Technical Education Board. There are 4 additional private ATIs seeking affiliation this year. Both Private ATI and DAE ATI follow the same syllabus and course curriculum.

The total cost of diploma course in private ATIs is Tk. 30,000 (Tk. 5000 x 6 semesters) which is double the cost of DAE ATIs. The teaching quality in the private ATIs is stated to be poor due to lack of well-qualified teacher and physical facilities.

There are no arrangements in place at present for private ATIs to rent physical facilities from DAE ATIs. Moreover, private ATI focus on their student's obtaining a diploma *certificate* rather than on the skills and knowledge needed for effective employment. They are for profit organisations, and there is insufficient regulation by the Technical Education Board to control standards.

Observations

- Focuses more on profit rather than quality.
- Trainers lack professional skills and experience.
- Inadequate physical infrastructure and facilities and no arrangements for sharing/rental.
- Costly compared to subsidised DAE ATIs.

4.4 Youth Training Centres

There are 47 district level Youth Training Centres and one national youth training centre for training unemployed rural youth in vocational skills. A successful 3 month residential certificate course for 15-25 year old unemployed youth having a minimum of grade 8 is run in each centre. Topics cover livestock, dairy, beef, fisheries, and poultry. Training costs are calculated at Tk.3000/- for materials and food (excludes staff and buildings) and each student receives a training allowance of Tk.500.00/month. The centres are well equipped and course quality good. The course is oversubscribed by a factor of 10. Credit of Tk.25,000/- is available from the Youth Development Department for enterprise development after course completion. This is not taken up by all and many successfully start enterprises without the use of the credit. Due to shortage of revenue funds, one YTC (Sirajganj) has experimented with cost recovery at a rate of Tk 500 per course – the centre attained 71% occupancy on this basis.

Observations

- High quality course but utilises significant GoB funds.
- Innovation in piloting cost recovery.
- Demand for training due to training allowance and credit provision.
- Provides training that leads to enterprise development.

4.5 NGOs

There are over 580 NGOs actively involved in agricultural development. They range in size from very the large, such as BRAC and Proshika, to mid size regional operations such as RDRS, to very small comprising a few staff operating in a Upazila or village. Mostly they concentrate on micro-credit and associated skills training for effective utilisation of micro-credit. Facilities vary from large networks of well equipped training centres to small offices where training is held. Contribution to agricultural development is significant. BRAC in particular is commercialising many of its agricultural projects and is a significant player in the sector with large numbers of well-trained staff. Many NGOs do some form of Training Needs Assessment – usually through focus group discussions/PRA with group members, or as part of donor funded projects. Nonetheless, NGO training programmes emphasise vocational/skill-based training.

Observations

- Quality of training varies enormously between NGOs from high to very poor.
- Micro-credit focused training rather than purely skill based with some exceptions.
- Trainer skill varies from high to inadequate, and some teaching staff have no formal agricultural qualification.
- Many NGOs (not all e.g. BRAC) are dependent on donor funding for their training programmes.
- Small NGOs often suffer from poor technical competence to properly ensure quality enterprises are established.

4.6 Ministry of Women and Children Affairs

Ministry of Women and Children Affairs concentrates on training on tailoring and sewing using district venues and currently has no agricultural programmes.

4.7 Rural Development Academy, Bogra

RDA is a well established training institute under Ministry of Local Government and Rural Development. They run an annual programme of short courses for farmers and youth. Farmers do not pay, youth however do make a contribution to course costs. RDA courses are ten times oversubscribed. Training is on a full range of enterprises including poultry, livestock, crop production, women empowerment, irrigation and other specific subjects. Training is of high quality and skill based and revenue is earned from the training.

Observations

- RDA demonstrates a good training model for the sector but only has limited capacity.
- Demand exceeds supply which is indicative of demand where quality training is provided.

4.8 Bangladesh Academy for Rural Development (BARD)

BARD is a well established and well equipped autonomous institute under the Ministry of LGRD. They offer a series of short rural development focused courses, which are in demand.

Observation

- BARD courses appear to be of a high quality and facilities are used by many organisations.

4.9 Department of Livestock Services (DLS)

DLS's apex centre is the Officers Training Institute (OTI) at Savar which is currently not functioning due to a lack of operating funds. There are 2 Livestock Training Institutes conducting a one year course for field staff. Some limited additional training is provided to farmers and NGOs.

There are 2 Veterinary Training Institutes that have limited ad-hoc training. There are four Veterinary Colleges at Sylhet, Chittagong, Dinajpur and Barisal that offer a degree in Animal production and Health.

The degree was launched from 1994/95 with field internship / practical attachment of one year. The staffing of the colleges is under establishment within an establishment in DLS. There are no transfers at present but the intention is that transfer should remain for colleges only, not throughout the DLS structure. A teacher cannot simply become a DLO – there is thus a system in place to develop professionalism in teaching/training. Facilities in DoF (and DLS) do not meet their stated functions/roles in the same way that DAE facilities do not meet their objectives.

Observation

- Institutes suffer from severe fund constraints and offer ad-hoc low quality training with the exception of the VTCs which appear to be well managed.

4.10 Department of Fisheries (DoF)

DoF has an apex training institute at Savar, the Fisheries Training Institute, which is not functioning due to a lack of funds. There are 7 regional institutes that train fish farmers and staff on hatchery management. They are not running at full capacity. There are also 23 Training and Demonstration Centres at District/Upazila level. Facilities are not running due to the general issues with public sector training institutes – lack of revenue budgets, poor planning, poor management and staff transfers.

Observation

- Fund constraints limit capacity to deliver courses unless funded by projects.

4.11 Research Institutes

BARI, BARRI, BJRI and SRDI all conduct specific high level training primarily for Government Officers. The Research and Training Institute, Bangladesh Sericulture Board does provide training in sericulture cultivation to farmers.

Observation

- Quality training is available but funding is mainly project dependent to sponsor specific courses.

4.12 Imam Training Centres

There are 7 Imam training centres established to train all 5 lakh Imams in the country. Each run courses of which 16% of the time is devoted to agricultural subjects. Course participants are paid an allowance of Tk.200/day.

Observation

- All costs met by GoB

4.13 Schools

On completion of primary education, students enrol for junior secondary education that spans over 3 years. At the end of this phase of education, some students branch out to join the vocational stream, offered at Vocational Training Institutes (VTI) and Technical Training Centres (TTC). After passing the Secondary School Certificate (SSC) examination students have the option of joining a college for 2-year higher secondary education or enrol in technical/polytechnic institutes for technical education. Students who pass this examination qualify for further education.

Table 3: Number of Institutions, Students and Teachers

Year	No. of Institutions			Enrolment			No. of Teachers		
	Junior Secondary	Secondary	Higher Secondary	Junior Secondary	Secondary	Higher Secondary	Junior Secondary	Secondary	Higher Secondary
1999	3024	12269	1316	698504	6681212	327414	19885	155712	23819
2000	2846	12614	1422	616094	6620845	347986	17803	156094	24630
2001	2846	12614	1422	620254	6704857	350676	18042	157722	24699

Table 3 identifies basic information relating to the numbers of schools, students and teachers. Most secondary schools belong to the private sector operating generally on commercial considerations. Although gender disparity has significantly been removed up to secondary level, girls' enrolment at higher secondary level is considerably lower than boys'. At the junior secondary level boys' enrolment is lower compared to girls'.

Agriculture has been introduced into the school curriculum and is a subject at SSC level. Some schools have small farms attached to provide practical training. An agricultural teacher is meant to be placed at each school with a minimum qualification of agricultural diploma. Additional SSC subjects are planned to be introduced in areas such as farm machinery and livestock by the Ministry of Education.

Observations

- Quality agricultural education at schools level can be a significant contribution to agricultural development given that most children will not progress to tertiary level education and this is likely to be their main 'job' related training that many will receive.
- To achieve quality school education requires the appointment of qualified diploma level teachers who have real skills not paper certificates. This is achieved by quality training provision at the diploma level and a vigorous, well-controlled examination system conducted by the Technical Education Board. DAE does have some comparative advantage in this area.

4.14 Public Universities and Colleges

The tertiary education system is intended to prepare high-level manpower for professional, technical, and administrative positions in agricultural sector. Three out of four students who pass the higher secondary certificate (HSC) examination go on the some form of higher education. About 15 percent of the entrants are admitted to the universities, and the rest are channelled into the nearly 900 degree colleges, most of which are non-government. The Bangladesh Open University was established in 1992 in order to make university education more accessible. In 1999 it enrolled nearly 0.18 million students and runs a B.Ag.Ed course that is designed for those wishing to be agricultural teachers and competes with the agricultural diploma. Some ATIs operate the residential requirement of the B.Ag.Ed.

Bangladeshi universities are deteriorating rapidly because of shortages of funding and the rapid politicization of campuses. Access to library, laboratory, and computer resources is very limited, and teacher salaries and related personnel costs absorb most of the resources. Few resources are available for research, even in the best universities, resources are allocated among departments based on staffing and historical patterns instead of being responsive to the needs of students (or the economy). There are five Agricultural Universities and one Agricultural College.

The other part of higher education, the degree colleges, account for about 85 percent of higher education enrolments. Although they are subsidized by the government (albeit at a much lower level per student than the universities), they finance about two-thirds of their costs through student fees. Because of the sub-system's rapid expansion, many of those teaching in degree colleges have limited education themselves. The degree colleges are nominally supervised by the universities, including the National University (NU) created expressly for this purpose, which currently supervises more than 900 degree colleges. However, the supervision is largely ineffective because of the limited capacity of the NU.

4.15 Private Universities

51 Private Universities have been established since the Private University Act was enacted in 1992. Only 1 offers an agricultural business degree and does not have a college farm. Private Universities might enter the market but serious quality questions will emerge. In the event of this happening it could weaken BAU as lecturers from that institution are likely to be offered competing part time private work. Across all sectors private universities are not performing to an acceptable standard and driven by enrolment and qualifications rather than by teaching and research excellence.

Observations

- Private universities are not expected to be a significant contributor to agricultural development.

4.16 Bureau of Manpower Training and Employment (BMTE)

BMTE has 11 Technical Training Centres spread around Bangladesh. The focus is on skill development for workers, primarily those going to work overseas. No agricultural skills are taught.

Observation

- Potentially the TTCs could assist meet the need to train rural workers.

4.17 Vocational Training Institutes (VTIs)

The 59 VTIs are distributed around Bangladesh. They offer an SSC qualification with one compulsory vocational course in one of 37 subjects, which in agriculture currently includes farm machinery; fish culture and breeding and poultry rearing and farming. Ministry of Education has plans to increase the number of agricultural subjects. Each VTI admits 30 students per department from class VIII passed students. Those who successfully pass at SSC are admitted to HSC vocational courses in agro-machinery, fish culture and breeding, poultry rearing and farming. Capacity is limited to 20 students per department. Students are paid Tk 450 per month as a scholarship (from GoB funds) and pay almost nothing towards tuition/materials.

Observations

- Quality of intake of students can be low / students have low motivation.
- Lack of quantity to meet the needs of millions of Rural Youth seeking vocational skills for future employment. This is being partly addressed by introduction of SSC/HSC vocational courses at secondary schools.
- Lack of suitably teachers to teach agricultural subjects well.
- VTIs (as with most GoB institutions) are highly project dependent.

4.18 Associations

In some areas associations are active such as seeds where 11 associations have been established such as PSSI, BSMA, BSGDMA, SSB, PSSSU, SNF, BSGWA. They offer some informal training to members but not well coordinated. To overcome this in the seed industry a National Seed Foundation is due to be operational in 2004 which will organise industry wide courses. Associations outside the seed sector are weaker.

Observation

- Potential exists for associations to provide specific training to their members.

4.19 Local Government Engineering Department (LGED)

LGED is an efficient autonomous body primarily responsible for rural infrastructure. Their main focus is small-scale irrigation training to Water Management Co-operative Association members. LGED has 10 regional centres and a large venue in Dhaka. At District level they utilise office space as a training venue. LGED does not have trainers and utilises specialist trainers (such as those from DAE) to reduce overhead costs.

Observation

- LGED makes limited contribution to agriculture production but is opportunistic and does seek projects related agricultural development.
- Contribute to marketing and transportation facility development.

4.20 Bangladesh Rural Development Board

BRDB has a number of institutes: Rural Development Training Institute (RDTI); Bangabandhu Poverty Alleviation Training Centre (BPATC); Mohakhali Rural Development Training Centre (NRDTC); Women Training Institute, Tangail and 23 Upazila Training Units.

Observations

- Training is largely on group formation micro-credit, co-operatives and initiated technical skills. A strong focus is on women and farmer groups.
- A lot of training is project based and dependent on the development budget.
- Training is provided with the objective of self-employment in the agricultural sector.

4.21 Gender Implications

Most training institutes accept female students and most have special female hostels. Attendance by younger women is relatively easy, but considerably more difficult for those with children or older women.

The survey analysed male and female participation on all training courses – results are shown in Table 4, clearly identifying disparity overall, though indicating that NGOs are better at targeting women, whilst government training providers concentrate on providing opportunities to men.

Table 4: Percentage of Student Enrolment by Gender

Organisation	Total Enrolled	Percentage (%) of Male and Female Enrolment	
DAE, ATI, HC	5579	60.0	40.0
GO	1077	82.7	17.3
NGO	32248	47.1	52.9
Private ATI	607	67.1	32.9
Others	535	88.4	11.6

Observation:

- A significant demand for short, skill based courses on farm based agro-processing, nutrition, homestead production is required. NGOs (in general) have greater focus on women's activities than GoB.
- Programmes to enhance opportunities for training provision for women and girls may best begin from NGOs.

4.22 Financial Implications

Considerable expenditure has been made on capital investment in training with an estimated 1000 training faculties in Bangladesh excluding schools and universities. With an average area of 1000 square feet and an average construction cost Tk. 500,000 for each, the total construction cost of all training properties is approximately Tk 50 crore. Based upon an average land area of 2 bighas and average price of Tk 3 million per bigha, the total land value is estimated at Tk 600 crore. The total number of full time trainers is estimated at 3000 with a larger number of part time trainers. This equates to an expenditure of Tk 60 crore /year for their salary and allowances.

Most of the funding comes from either GoB (revenue and development budget), NGOs (largely donor funds) and private individuals on a payment basis. The contribution from private individuals is minimal and in most cases only covers actual operating costs and not the overhead element. It is estimated the total amount of income from private individuals (excluding schools and universities) is Tk 1.5 crore/year. In many cases institutes pay trainees, for example YTC, which pays Tk.500/trainee/course.

In terms of agricultural extension, despite the considerable expenditure within DAE, DoF and DLS, the situation remains one of the 'presence' of structures and staff with a minimal role in extension, low operation and maintenance budgets, gradual deterioration of physical buildings, and little professionalism in the teaching/training field. This is true for almost all GoB institutes.

Appendix 2 shows study results from analysis of 106 returns on the basis of total institute expenditure and total spent on training. Whilst there are doubts about the accuracy of returned data, there is a trend for a greater proportion of NGO institute expenditure (30%) to be spent on actual training than in the government sector (17%). The budget framework of government training institutes is not conducive to active training provision.

4.23 Staff Structure

Information from the 106 study returns shows a grand total of 1,427 professional and 5,506 administrative/ancillary staff – an average of 13 and 52 respectively per training institute. The average ratio of professional to administrative/ancillary staff is 1:3.86, though it is much higher in the government sector.

5. MANPOWER FORECASTING

5.1 Introduction

Reliable statistics do not exist, making manpower forecasting difficult. The study relied on personal interviews, the results of a questionnaire from 106 institutes and the limited published data in existence. The latest figures available from Ministry of Establishment provide details up to 1999.

The big demand is for agricultural diploma holders but of concern is that a one "size fits all" diploma is not appropriate for the differing requirements for each type of employment. For teachers, a general diploma with a focus on education is required; for other employers an element of specialisation is often needed. For self employment the diploma needs a strong practical, entrepreneurial bias and includes enterprise management.

5.2 Macro Statistics

Tables 5 to 8 provide a picture of the numbers involved in the workforce, and predictions for the future.

Table 5: Agricultural Employment

(millions)

	YEARS					Annual average growth rate (%)
	2000	2005	2010	2015	2020	
Population	129	139	150	161	171	1.45
Labour force	66	76	86	97	107	2.6
Employment in Agriculture	32	35	38	40	41	1.3

Source: IBRD Report No. 13799-BD, ILO (1993) and estimates by Bangladesh 2020 team.

Table 6: Employed persons 10 Years and Over 1999-2000

(thousands)

Occupation	Bangladesh		
	Both sex	Male	Female
Farm management & supervisors	20	19	1
Farmers	26993	11943	15050
Farm livestock diary, poultry, nursery workers	8702	6929	1773
Forestry workers	70	53	16

Source: BBS (Published 2002)

Table 7: Labour Force Statistics

Characteristics	1999-2000
Labor force composition (million)	
Civilian labour force:	60.3
Male	37.5
Female	22.8
Employed population (million)	58.0
Male	36.1
Female	21.9
Unemployed population (million)	2.2
Male	1.4
Female	0.8
Not in civilian labour force (million)	67.2
Household work	13.0
Other inactive	18.4
Children (0-9 years)	35.8
Employment (Ag., Forestry, Fisheries) (million)	36.7
Status in employment (Percent)	
Self employed	32.3
Employees	13.5
Day Labourers	36.6
Unpaid family workers	17.6

Source: BBS 2000 (published 2002)

Table 8: Employment Projections to 2020

Year	Popula- -tion	Labor force	Emple- -ment rate	Total employ- -ment rate	Sectoral distribution (%)			Sectoral distribution (millions)		
					Agric	Ind.	Service	Agric	Ind.	Service
1995	119.8	56.8	82.0	46.58	64	14	22	29.8	6.5	10.2
2000	129.1	65.8	84.0	55.27	58	16	26	32.3	8.8	14.2
2005	139.3	76.3	86.0	65.62	53	18	29	34.9	11.7	19.0
2010	149.8	86.3	88.5	76.38	49	20	31	37.6	15.3	23.5
2015	160.5	96.5	91.0	87.82	45	22	32	39.9	19.7	28.2
2020	171.1	106.5	93.5	99.58	41	25	34	40.8	24.9	33.9

Source: Bangladesh 2020 (World Bank)

5.3 Schools

Agriculture subjects have been introduced in schools (SSC and HSC level). Young and poor people, who do not go for higher education or drop out need to have access to market responsive and skill based education opportunities. There is a total 20,299 schools and madrasahs where post of agriculture teacher exists. Agriculture diploma holders and B.Ag.Eds. are eligible for these posts.

Forecast

18,000 schools do not have a teacher with either a diploma or BAg.Ed. as envisaged by GoB. Recruitment is the responsibility of the school managing committee for private schools and Ministry of Education for government schools. Based on recruitment trend over the last few years it is expected that about 600-1000 diploma holder/B.Ag.Ed. per annum will be recruited. The output of diplomas for 2003 was 1078 which was double that of 2002 where 596 passed. High demand for places at ATIs is indicative of a strong perception that jobs will be available as teachers.

5.4 Department of Agricultural Extension

DAE is the largest employer of agriculture diploma holders and graduates. Because of the recruitment freeze, about 2,500 Block Supervisor's post remain vacant. Annual retirement is likely to increase the gap further. Recent decisions by the high level Public Administration Reform Recommendations (PARR) review and implementation committee (2003) open up the chances for freeze withdrawal. The DAE strategic plan commits strengthening of extension services headed by an agricultural graduate at union level to assist UP chairman and members. The Ministry of Establishment has indicated that GoB is 'rightsizing' and is reluctant to increase staffing –the outcome is not clear.

Forecast

Based on the assumption that DAE will actively lobby for BS and UAO recruitment through MoA to MoE, the recruitment of diploma holder for the posts of BS may begin from 2005 with an initial 500 annually. Additionally some 50 graduates may also be recruited from 2004.

5.5 Other Major Public Sector Employers

There are more than 40 public sector agencies dealing with agriculture management, training and research (BARD, RDA, BARI, BRRI, BJRI, BINA, BARC, BSRTI, DOF, DOL, BLRI, BFDC, FRI, LGED, YTC) and a host of other institutes that recruit agriculture diploma or graduates. Table 9 reveals more than 100,000 vacancies in GoB, which includes agriculture.

Table 9: Vacancies in GoB

Year	Secretariat		Departments/ Directorates		Autonomous Bodies/ Corporations		Total	
	Approved	Exist	Approved	Exist	Approved	Exist	Approved	Exist
1998	9726	8553	7,36,284	6,61,681	2,99,537	2,61,816	10,45,547	9,32,050
1999	9700	8571	7,38,666	6,62,890	2,92,890	2,63,082	10,40,538	9,34,543

Source: (MoE Statistics 1999)

Forecast

Assuming that GoB recruitment freeze will be partially lifted within the agriculture sector, demand for 100 graduates and 60 diploma holders/annum is predicted.

5.6 Self Employment

Over the last few years trends in self-employment have increased from 27 percent in 1990-91 to 32 percent in 1999-2000. To be successful in self employment requires the acquisition of appropriate skills gained through high quality job oriented practical training. Diploma holders will have enhanced skills but are likely to have insufficient business management or enterprise specific skills provided by the current curriculum.

Graduates are the least likely group to seek self-employment, as their preferred career path is employment in a GO, NGO or Private Company. A degree will not provide the required practical business skills for self-employment, under the current system. Vocational certificates will be of value but a very limited number of courses are available.

Forecast

At least 600 diploma holders and 100 graduates are expected to establish agricultural enterprises or take over family farms each year. This will increase as the sector intensifies and diversifies. Most who fail to obtain jobs in GoB or NGOs go in to self-employment.

5.7 Private Companies

Over the last few years, Bangladesh has considerably liberalized agricultural input markets. From 1984-85 the private sector was allowed to import seed. The Seed Act 1997 liberalised the importation of vegetable seeds without testing. More than 50 seed companies are now operating in the seed business. Fertilizer imports and marketing was also liberalized from the early 1980s. Withdrawal of restrictions on imports of irrigation equipment and pumping installations also encouraged the private sector. Private ATIs are also engaged in agriculture education. Nurseries, commercial horticultural farms and specialist enterprises emerge daily. This trend is likely to mean that graduates and diplomas will be required as farm managers, trainers or technical staff.

Forecast

It is estimated that 50 agricultural graduates and 150 diplomates are required each year.

5.8 NGOs

It is estimated that there are 580 NGOs involved in agriculture that disburse about Tk 20 billion in credit/year. NGOs are opportunistic employers and employ when they have funds and need. They are a large employer of agricultural graduates and diploma holders. To economise some employ non-agricultural graduates where supply exceeds demand, and salaries are therefore reduced.

Currently some NGOs are not expanding and some large NGOs such as Proshika are retrenching. There are some very attractive employers such as BRAC and CARE that offer a good career and professional environment. Jobs in these organisations have many applicants. There is staff movement between NGOs.

Forecast

Assuming at least one diploma or graduate for each NGO and 5% retirement and attrition, the job demand is likely to be about 200 graduates and 100 diplomates /annually.

5.9 Rural Labour Force

Almost one-third of the rural labour force of Bangladesh are either unemployed or under-employed. Those who work as wage labourers in the agricultural sector find it difficult to access employment throughout the year. At present, the surplus rural labour force mainly depend on FFW programmes for employment via projects for building new infrastructure in rural areas and in various forms of micro credit based self employed activities. In addition, a large number of the rural poor have to migrate to more developed villages, towns and (exceptionally) foreign countries in search of work.

One very specific educational priority arises from the key challenge of developing appropriate skills to match the growing demands of the sector. Those in the labour force with more education and vocational training are more likely to find jobs sooner than those without. Quite apart from ensuring universal primary and secondary education by 2020, both public and private sector resources need to be directed towards training for appropriate skill development at school leaver level as is being done by the expanding provision of agriculture at SSC and HSC level. This is the remit of the Ministry of Education rather than DAE as part of the Ministry of Agriculture.

During the 1980s, aggregate employment growth kept pace with labour force growth, at 3 percent per annum, only by absorbing the additional workforce in very low level occupations in the informal sector. It is currently estimated that the labour force is growing at almost twice the rate of population growth. Decelerating population growth is being more than offset by increased participation rates, especially of women, whose social role and greater education are changing and widening their horizons.

The job market will still have to bring into being over two million jobs a year to employ new entrants and lower unemployment down to 10 percent by 2020.

Although agriculture presently employs 64 percent of the labour force and will continue to be a major source of employment, its capacity to absorb part of the incremental labour force will inevitably decline as productivity rises and raises rural incomes. By 2010, agriculture is expected to employ well under half the labour force - about 38 million farm workers. Since the sector can absorb no more than 10 million additional workers in the next 25 years while the rural labour force rises to 60 million, agriculture can offer gainful employment to only two out of three rural workers.

The enormous employment potential of the informal sector, particularly the non-farm rural sector, is already evident. Supported by infrastructure and credit programs, rural and peri-urban non-farm employment in micro-enterprises could prove to be the solution to a growing and sizable workforce equipped with only modest skills. Small and medium-scale firms owned and operated by households can undertake simple manufacturing like food processing, furniture, clothing and household goods.

The key issue here is that DAE (with its historical emphasis on field crops) is not well placed to support backward/forward linkages in the agricultural sector, and has low comparative advantage in supporting non-crop agricultural training. However, DAE has made a public commitment in its Strategic Plan (2002-2006) that it will provide whole farm (including non-land based) agricultural services. Realising this commitment will take time and resources.

6. HUMAN RESOURCE DEVELOPMENT

It is beyond the scope of this short study to provide a detailed Human Resource Development needs list for each organisation but generalities can be provided as part of a process to identify broad areas and assist in 'positioning' for ATIs and CERDI.

6.1 GoB Institutes

A lack of competence remains an issue. Of particular concern in the agricultural sector is the lack of provision to upgrade both management and technical skills. A comprehensive and significant lack of modern up to date agricultural technology in particular practical skills amongst 80% of GoB staff involved in agricultural development exists.

This is why any move in role for ATIs outside diploma provision is difficult – DAE has no comparative advantage in the new skill areas required for agricultural HR development. Indeed no single GoB line agency possesses comparative advantage in offering a broad range of agricultural skill based training. Those agencies that do provide such training (NGOs; Youth Training Centres and Vocational Training Institutes) draw on resource persons from a range of government and non-government organisations (including DAE), rather than depending on in-house staff.

Role movement would require capacity development and the introduction of completely new management norms – such ‘investment’ may best be allied to other service providers that have a stronger comparative advantage at present.

In-service training provision is largely and in most institutions totally development budget and thus project driven – as such there is no real in-service training for the staff of the organisation. There is only training to meet project objectives for government staff involved in specific (time/subject/location bound) activities. Performance Appraisal systems do not exist to identify skills shortage.

Requirements:

- Implementation of performance appraisal systems that measure competence, skills, knowledge and attitude against job requirements.
- Commitment to an on-going in-service revenue funded training programme to meet individual identified needs.
- Commitment to match skills to position in the transfer process.
- Training providers to respond to meet the need for high quality output based training. This could be done by a refocus of existing GoB training facilities or GoB agreeing to pay for individuals to be trained in private sector institutions.
- DAE in particular has a need to provide regular in-service training for its field staff and trainers at ATIs and CERDI.

6.2 Agriculture School Teachers

Agriculture was introduced into secondary schools to provide skills and knowledge to rural youth that they pass on to parents or use themselves on their own land. Schools took advantage of the attached land to have a practical plot particularly for vegetables and small scale livestock production.

Requirements

- Short courses of one or two days to upgrade existing agricultural teacher skills would be invaluable but funding is a constraint to implementation.
- Provision of technical knowledge in the form of print and electronic media to be made available to teachers by organisations such as DAE.

6.3 NGOs

NGOs have recruited over the last few years agricultural specialists to work primarily with their credit groups. The larger NGOs such as BRAC, Proshika, CARE and RDRS invest in in-service training for their agricultural staff. In some cases training is of a high standard and in others is poor. BRAC for example takes the induction seriously and all new agricultural staff have specific skill based training and continuous in-service training.

Requirement

- NGOs tend to be self-contained however their agricultural manpower needs to be continually exposed to new technologies that group members could utilise. Many NGOs do utilise government specialists in line agencies (DAE, DLS, DoF) for this purpose, and there are grounds for charging fees for this (not just providing honoraria).

6.4 Farmers

There is an enormous demand for simple technical knowledge among the farming community. The technical skills base among extension staff is weak (and the evidence that it is a weakening trend), although staff have a strong desire to learn. Local extension staff have few means to update their technical knowledge in response to farmer demands. Without a sound technical skills base among extension staff, there is little to communicate to farmers – even the best communication methodologies will fail under such a scenario. Farmers receive information and advice in three main ways:

- From each other – which remains the largest source in Bangladesh.
- In person, as an individual or as part of a group, from government, NGO or private sources of advice – though the macro picture in Bangladesh is that a relatively small proportion of farmers has access to this source. This source includes ‘training’.
- From external impersonal information sources accessible to farmers through means such as mass media, written, recorded and broadcast information, farmer information centres etc. This appears to be both the biggest area of opportunity and the biggest area of neglect within the Bangladesh extension system. Developments here do not need to depend on the maintenance of costly physical training infrastructures.

Significant demand for technical information exists. This is shown by the results of the Integrated Extension Pilots (2002) that ASIRP has been funding. Other studies show that farmers require technical assistance in specialist enterprises such as poultry, fish, high value horticultural crops, quality seed production, agro-processing. All, excluding the landless and marginal require ‘whole farm planning’ skills to maximise returns. Again, given the historical strength of DAE in crop (field and more recently homestead) advice, they are not well placed to offer specialist enterprise training – though this also largely applies to all other GoB line agencies (when taken singly).

Whilst farmers need and want high quality enterprise specific training they are not willing to pay. Worse, most expect to be paid following a tradition established by GoB and donors that farmers require reimbursement for time lost. This is a dubious argument given the focus on larger landholding farmers, and it has not been possible to sustain training for all. To expect (even some) farmers to pay is a significant challenge given the current environment.

Requirements

Farmers that need to survive (no land; no resource):

- Skills to maximize use of all homestead
- Skills to improve water efficiency
- Skills to provide rural employment opportunities
- Micro Credit Management

Farmers that need security (have limited land/resource)

- Skills to maximise field crop production
- Integrated Pest Management
- Cooperative Marketing
- Skills to maximise homestead production
- Basic Animal Husbandry

Farmers seeking a challenge (have access to resource)

- Business planning (agri-business)
- Marketing process
- Production Cycle Management
- Quality control Systems
- Advanced technical skills in livestock enterprises
- Advance technical skills in agro-processing
- Seed production
- Computer skills

6.5 Wholesalers

Scope exists to increase profits through considerably improved produce handling and marketing skills. The profession lacks professionalism and is dominated by traders rather than technically qualified wholesalers. They rarely recruit agriculture qualified staff. Very little human resource development is given to this group although the Department of Agricultural Marketing provides limited training on a very small scale.

Requirements

- Very short courses on marketing, produce handling, transport management and financial planning.

6.6 Agro-processing Industries

Bangladesh experiences seasonal surpluses in several agricultural commodities of perishable nature. Development of agro-processing facilities can prevent post-harvest losses and enhance farmers' income. The agro-processing industries are at present in their nascent stage of development. Most of the technologies and facilities for handling, storage, processing and packaging of farm products and by-products are substandard and outdated as they cater primarily to the domestic market.

Requirements

- Technical marketing and entrepreneurial skills for operators of small scale agro-processing facilitator.

6.7 Agricultural Research

Autonomous research institutes like BIRRI, BARI, BJRI BINA and BSRI were established with specific mandates for crop agricultural research in order to make the research system more service oriented and dynamic. National Agricultural Research System (NARS) with all the agriculture related research institutes under the co-ordinated leadership of Bangladesh Agriculture Research Council (BARC) has been established.

Requirements

- Continual exposure to world agricultural research results of key researchers to show the highest level of knowledge is available at the apex of the sector.

6.8 Seed Industry

Quality seed is a fundamental and currently limiting factor to agricultural development. BADC, the primary GoB producer, is in decline and the private industry is being actively encouraged to develop. This creates a significant human resource development issue in the seed sector for staff working for large seed companies, small-scale seed dealers and farmers running small seed production enterprises.

Requirements

Technical skills in the following areas for producers, dealers and seed company staff:

- Train stakeholders in quality assurance/seed law and regulations
- Quality maintenance in the supply system not understood/followed
- Seed law and regulations need to be better understood
- Marketing and book keeping
- Quality maintenance in the supply system not understood/followed
- Seed potato technology required
- Hybrid production management
- Seed potato production and storage
- Business management
- Potato field inspection and certification
- Vegetable seed production and post harvest handling

6.9 Rural Youth

Rural Youth is an increasingly important category. This group are concerned about unemployment. GoB and NGO opportunities are very limited. Self-employment is seen as the main possibility, largely to run enterprises or contribute to making the family farm more productive. This group is willing to invest their own family resources in training. The study found significant demand from this group for skill development.

Table 10 overleaf identifies the top 20 priorities listed by students as returned from 160 training institutes, where frequency indicates the number of times the subject was identified. It is worth noting that DAE does have comparative advantage in some (12 of 20) areas (such as IPM, homestead gardening, soil and fertiliser management), but other subjects (8 of 20) lie outside DAEs traditional agricultural skill areas.

Requirement

- Equipping youths with working skills and suitable training in technical, vocational and professional fields.
- Supporting youths in self-employment programmes through credit and training facilities whilst ensuring the participation of at least 50% women.
- Organising youth groups and motivating them to assist in community development activities through voluntary youth organisations.
- Emphasising modern and non-traditional areas of training with emphasis on optimal use of existing training facilities and creating of selected new facilities for enhancing training infrastructure.

Table 10: Prioritised Training Subjects Demanded by Rural Youth

Priority	Subject Demand	Frequency
1.	Fish Cultivation	28
2.	Poultry Rearing	24
3.	Nursery Management and Seedling Raising	18
4.	Vegetable Cultivation	17
5.	Food Processing and Preservation	15
6.	Livestock Management	15
7.	Seed Production and Preservation	13
8.	Homestead Gardening	12
9.	Beaf Fattening	11
10.	Goat Rearing	8
11.	Fruit Tree Cultivation	7
12.	Integrated Pest Management	7
13.	Pest Management	7
14.	Poultry Farming	7
15.	Agriculture	6
16.	Cow Rearing	6
17.	Marketing	6
18.	Cattle Farming	5
19.	Composting	5
20.	Soil and Fertilizer Management	5

6.10 Rural Women

This group is increasingly participating both in running their own enterprises and farms, and as employees. Their needs are similar to both farmers and rural youth, though meeting these needs can require additional skills from extension service providers. It is expected that this group will in particular have an interest in agro-processing of homestead based products and food preservation techniques.

Requirements

- Short skill based training courses both residential and at the village level.

7. IMPLICATIONS FOR ATI AND CERDI

7.1 Roles in Extension Service Provision

Currently the ATIs main output are agricultural diplomas of varying quality. Quality is a factor of resource provision, instructor skills, practical teaching, management and commitment. 11 Private Institutes (whose number is expected to increase by 4 in the near future) also offer diplomas. A fundamental issue is whether this is the correct utilisation of ATIs given DAE's mandate of agricultural extension provision stated in the DAE Mission Statement.

"The Department of Agricultural Extension mission is to provide efficient and effective needs based extension services to all categories of farmers to enable them to optimise their use of resources, in order to promote sustainable agricultural and socioeconomic development".

There is an argument that ATIs should use their extensive facilities to run short courses for the farming community and for Block Supervisor in-service training, particularly to upgrade their weakness in up-to-date agricultural knowledge. Indeed, this is the published role of the ATIs, but they do not fulfil this role, nor can they in the future without major management and budgetary adjustment.

CERDI has become a venue rather than an active provider of training courses that it designs and implements. It has no budget to offer in-service courses, which is its primary purpose. It fulfils none of its stated/published roles and does not contribute to the DAE mission statement.

Nonetheless, ATIs currently are operational (whilst similar institutes in DLS and DoF are not) and revenue is generated through conducting the diploma course. This means ATIs do not rely on the revenue budget other than for salaries and contingencies. There is a strong demand for the diploma and opportunities exist for diplomates to work as teachers or for self-employment. However, there is also a significant demand for quality short vocational skill based training for rural youth and the farming community. This is under provided for given the large numbers involved and the GoB policy to encourage intensification and diversification.

Options exist for certain ATIs to specialise either in the diploma or short courses; to specialise by subject area expertise or combinations or for particular target groups. This decision cannot be made by the Principal in isolation and requires direction from DAE management.

An additional factor to consider is a developing private training industry offering a diploma course which produces competition. GoB has a policy of encouraging private sector investment in vocational education. DAE should not stop such investment by offering too much competition, and having unfair competitive advantage through subsidised tuition fees.

In short, DAE needs to decide what the future of the ATIs is. Roles could be exclusive, or combined, and will likely vary between the 12 institutes:

1. Retain current situation and specialise in teaching diplomas, whilst divesting of institutes that have low diploma demand;
2. Specialisation in specific (short course) technical areas such as, seeds, poultry, or agri-business.
3. Conduct new diplomas, such as a livestock diploma, in order to move away from the current one-size-fits all approach;
4. Conduct only the practical part of the diploma on a contract basis with a private ATI
5. Offer specialised training programmes within DAE skill areas on a contract basis to specified client groups with (possible) willingness to pay (e.g. private nursery operators; NGO group members; rural youth; wholesalers and traders)
6. Develop joint public-private operation of the facilities, or simply lease out land or buildings in part or full
7. Divest and use an ATI in a role (change of purpose) more suited to its location.

The key issue is whether DAE should be focussing greater or equal efforts on vocational, skill training rather than on a vocational educational course. If DAE is committed to diploma education consideration could be given to developing new diplomas that more accurately meet the needs of the sector. These diplomas can use the existing diploma as a base course but add in specialist elements. For example, a diploma in poultry rearing, or in agro processing, or farm machinery. Most of these diplomates would be seeking education and training for a career in self-employment. The Technical Education Board would encourage such initiatives, but developing new diplomas or specialist diploma options would be a fairly long process.

The Ministry of Education could be the home Ministry if the main focus is provision of diplomas, but is unlikely they would have sufficient technical expertise. GoB current practice is for technical ministries such as Textiles or Forestry to take responsibility for diploma education. In fact, there is likely to be resistance for a complete transfer to the Ministry of Education. For this reason, should DAE choose retention of the diploma focus, it is recommended that ATIs be transferred as a single establishment directly under the MoA.

With respect to CERDI, it is unlikely that DAE will be able to motivate for the significant funds required to transform the site into an agency that can fulfil its published role. It is recommended that CERDI be revitalised as a conference, training and workshop venue and retained within the DAE structure as a revenue generation centre. Joint operation with the private sector should be considered.

7.2 A Response to the PATP

However DAE decides to clarify the role of the ATIs and CERDI, GoB has published and gazetted the Public Administration Training Policy. DAE is obligated to respond with implementation. In essence, the PATP demands that DAE:

- Review strategic plans / objectives of ATIs / CERDI;
- Formulate business plans, action plans, training plans and manuals;
- Assess training needs or conduct TNA surveys;
- Periodically review course curricula and form a curricula committee;
- Develop a competency framework for trainers;
- Create trainers pool based on criteria defined in the PATP;
- Review job descriptions and redefine roles of ATIs and CERDI for quality improvement and redesign the structure, if needed;
- Create a budget for research and trainer's development;

- Design project concept paper for development of physical infrastructure and to modernise training aids and equipment;
- Develop a training monitoring, evaluation and feedback mechanism;
- Participate in income generating activities to achieve self-reliance;
- Establish networks with other training institutes (foreign and local);
- Organise in-service training programme with priority on basic management, English language and computer skills for all categories of staff;
- Provide incentives to the trainers securing the approval of appropriate authorities;
- Revise service rules (HRM system) including provision of sabbatical leave, study leave, career progression and post-training utilisation, where applicable.

7.3 Management Within DAE

Clearly, the study has shown that the best niche service ATIs can offer is to continue with diploma education, which may best be served by retaining the ATIs as a separate establishment under MoA. Role diversion will be inherently complex, though not impossible. Whatever DAE decides, the ATIs themselves are clear that a major overhaul to management and staffing is required.

These matters can be addressed as part of the intended business planning process as stated in the DAE Strategic Plan. However certain prerequisites need to take place to make business planning meaningful. These can best be dealt with using the expertise of the DAE management committee. The pre-requisites were identified as an output of the wrap up workshop held on 22nd September 2003 attended by DAE Principals and Executive Director CERDI. The pre-requisites are compatible with DAEs obligation to implement the PATP:

Pre-requisites for Progress

A) Role Clarity

1. Redefine the role of ATIs in general and specifically for each of the 13, including details of specialisation by subject / courses and with insurance that comparative advantage exists.
2. Clearly redefine the role of CERDI as to whether it is a venue or training institute and if it should be an autonomous body under MoA or divested.

B) Autonomy and Management

3. New and improved limits of delegated authority to be set and an appropriate executive order issued.
4. Review the options for greater autonomy as envisaged in the PATP, whether within DAE or outside DAE whereby ATIs and CERDI are directly under Ministry of Agriculture control as an autonomous group. Decisions need to be taken of the preferred option.
5. Define a mechanism for ensuring total quality management in ATI and CERDI

C) Staffing

6. Once the roles are defined, review the ATI/CERDI establishment and ensure all posts are filled.
7. Staff to be appointed for their expertise and willingness to work in the ATIs and CERDI and not to be transferred as a punishment. A trainer's pool as specified in the PATP to be established and only officers in the trainer's pool to be appointed to ATIs or CERDI.
8. Ensure transfers of staff are made within/between ATIs / CERDI by creating an establishment within an establishment as per the precedent set by DLS Veterinary Colleges.

9. Review job descriptions so that instructors have clearly defined non-teaching additional duties such as student welfare; farm management; resources; business planning; marketing clearly agreed and issued as an instruction by the Director Training.
10. Ensure all officers in the trainer's pool receive in-service training each year as specified in the PATP.

D) Funding

11. Encourage all projects to make full use of ATIs and CERDI where feasible and contributes to the defined roles and income of the ATI/CERDI.
12. Consideration be given to increasing fees at the DAE ATIs to bring into line with private ATIs.
13. Define the minimum standards and resources that must be available at each ATI or CERDI for each specific role it is responsible for. For example qualifications of teaching staff, farm equipment needed and budget required. Appendix 1 defines the budgeting system and calendar.
14. Ensure that sufficient budget is in place to implement any courses within the defined role. This requires budgets to be prepared by each ATI and CERDI for submission to Ministry of Finance as part of the annual budget planning cycle described in Appendix 1. Budgets must be prepared with justification and supported by an action plan.
15. Ensure competent DAE authorities (e.g. Director Training Wing) are present in budget meetings in order to defend budget requests.
16. Define the rules of public/private partnership and give clarification on issues such as the use of ATI /CERDI facilities on a fee basis by private ATIs and the leasing of land for farm production purposes. Issue an executive order to ATIs and CERDI principals on the land leasing rules applicable to instructors at the institutes.
17. Review the PATP and define how DAE will implement it including the financial implications such as the 30% bonus for staff on deputation and the rent free accommodation for all Instructors posted at ATIs/CERDI and making ATIs and CERDI financially self-sufficient.
18. Issue an executive order for venue rental with revised figures and clear instructions on the level of funds that can be retained. This needs to be a substantial part of the funds received for use by the ATI or CERDI for operation and maintenance.

The list is a challenge for DAE Senior Management. However, if ATIs and CERDI are to develop realistic business plans the above list is an essential element of the planning process. Further support as envisaged in the ToRs of this assignment can only be provided should there be progress on a) responding to the PATP, and b) management decision making to meet the pre-requisites.

8. CONCLUSION

The conclusion is:

1. There is a generally high training capacity in Bangladesh, though that in the public sector is generally poorly managed and under-utilised, under-funded and in most cases does not contribute to organisational (agricultural extension) goals (DLS, DAE, DoF).
2. There is a massive demand for specific vocational based skill training amongst the farming/ rural community that is not being met, and training provision is weak.
3. Non-DAE training service providers may be better placed to meet the demand for short vocational based skill training (though possibly with DAE staff contracted in where they have a comparative advantage in a particular skill).
4. The ATIs and CERDI have been unable to fulfill their published functions for some years – CERDI is simply used as a venue, whilst ATIs are used almost exclusively for diploma education. However, in comparison with institutes under some other GoB line agencies, the ATIs are operational and in use.
5. The ATIs are currently (given the diploma function) not contributing to the attainment of DAE core extension functions for farmers (or in-service training), and contribute only indirectly to the attainment of the DAE mission statement.
6. The recommended option is to divest ATIs that are not fully subscribed for diplomas, and move the remainder out of the DAE structure to become an autonomous unit under the MoA directly, whilst retaining the diploma function.
7. The recommended option for CERDI is to recognise it as a venue, retain it within the DAE structure (though possibly enter a joint management arrangement with a private company) and use it as a revenue generating centre for the Department.

APPENDIX 1

Financial Management Issues for DAE

1 Outline

As per allocation of business, MoF is responsible for reviewing, analysing and formulating financial rules and policies. Scrutiny, appropriations, re-appropriations and approval of budget funds remain within the domain of MoF.

In each financial year (June-July), government under constitutional obligation is required to prepare a budget termed the 'annual financial statement' showing estimated receipts and expenditure of the government.

In 1998-99, GOB under the RIBEC project designed a new coding system for budget and expenditure control. A total of 13 digits in coding are used to signify legal, functional and individual line items. In the budget document, items of expenditures are defined and each agency must defray expenses with the defined budget category using code numbers.

In preparing the budget for parliament, MoF collects estimates of receipts and payments in prescribed form from the ministries/divisions/departments and these departments, in turn, collect information from their local / field / attached offices. As per secretariat instruction, the budget must be prepared and printed by May of each year.

2 Budget Calendar

Sl.	Particulars	Last date
1	Printing of departmental estimates	31st July
2	Printing and distribution of budget (estimating officer's and controlling officers' forms)	31st August
3	Preparation, printing and supply of budget forms to the accounts officer concerned	30th September
4	Submission of estimates by the estimating officer	10th October
5	Receipts of estimate in the accounts office and MOF with 3 months actual	31st October
6	Receipts of consolidated estimates in the MOF with 3 months' actuals from the accounts officer	25th November
7	Completion of examination of budget estimate in the MOF	20th January
8	Receipt of schedule of new expenditure in the MOF	22nd January
9	Receipt of 6months' actual from the accounts officer	15th February
10	Completion of review of the estimates on the basis of 6 months actuals in the MOF	28th February
11	Preparation and dispatch to press of the 1st editions of the budget and schedule of new expenditure	1st March
12	Receipt back of the 1st edition of the budget from press and dispatch to ministries/divisions	10th March
13	Forecast of foreign assistance for development program	14th March
14	Completion of discussions of the estimates with administrative ministries/division	28th March
15	Receipt of final development program from MOP	28th March
16	Preparation and printing of budget document	May

Usually, major variations from the previous year's budget are not allowed. For the development budget, the planning commission furnishes details of approved projects to the MOF for incorporation into the annual financial statement.

3 ATI Financial Management

All public sector organisation, DAE including ATIs must follow the financial rules, procedures and process of budget preparation, revenue receipts and expenditure control. The accountants of ATIs prepare the first budget estimates based on the following criteria:

- Previous years budget and expenditure
- Growth / expansion plan / program or decline in income / activities
- Number of officers and staff / manpower situation
- Salary increase / likelihood of pay commission
- Acquisition / replacement of equipment / assets etc. if any
- Transfer of development expenses to revenue, if any
- New demand / expenses from any units / sections

The budget categories are clustered according to the defined budget codes and prescribed budget formats. The budget proposals are then reviewed and compiled by DAE for submission to MOF through MOA.

To defray any expenses, ATI through the usual submit requests (except for salary and allowances) for allotment of funds and MOF issues fund allotment letters through MOA. This letter ensures payment of expenses by the treasury. The ATI maintains following books of accounts / registers:

- Allotment register
- Bill register
- Cash book
- Cheque register
- Sale register
- Stock register

ATIs can earn income on following accounts

- Tuition fees from diploma students
- Course fees from short courses
- Sale proceeds from seeds, saplings and other crops
- Rents according to norms set by the DAE Management Committee

Out of the above income, ATI can retain 51.72 percent of the tuition fees including Taka 100.00 for revolving fund as per office order issued by the BTEB. Major sources of retained income include centre fees, honorarium, practical fee, learning centre fee, audio-video fee, institute's examination fee, mark-sheet fee etc. Other incomes, as per financial rules are deposited to the Treasury.

There are three key problems with the current system as applied by DAE:

1. ATIs have minimal autonomy – even rental incomes are set according to standards from the DAE Management Committee, which ensure income accrual for the Treasury, rather than as 'service charges' for the ATI.
2. ATIs have no justification/action plan – and thus no rational basis for preparing a budget in the first place. ATI Principles did not choose to be in post, are usually in post for a short time, and have little interest themselves anyway – and the budget calendar normally slips.
3. DAE does not fully represent itself at budget meetings – there is little interest, and the process is perceived as a simple paper trail.

APPENDIX 2

Analysis of Physical Facilities and Financial Information

**Table 2.1:
Total Annual Budget, Amount of Spent on Training by
Institution other Than DAE (2001-2002)**

Name of Institute	Total Annual Budget (Tk)	Amount Spent on Training (Tk.)	Spent on Training (%)
GO Others			
BARI	621000000	6700000	1%
Officers Training Institute	3246000	0	0%
BRRRI	120000000	2000000	2%
Bangladesh Sugarcane Research Institute	62500000	200000	0%
Vocational Training Institute, C. Nawabgonj	1897095	1811210	95%
School of Social Forestry	2800405	1011500	36%
Livestock Training Institute	1194000	0	0%
BINA	70000000	400000	1%
NGO			
BDSC	16000000	5200000	33%
Caritas Bangladesh	35000000	22000000	63%
NRDS-HRDC	300000	300000	100%
CCDB	1500000	500000	33%
Srizony Bangladesh	127500000	150000	0%
Sylhet Jubo Academy - SJA	20000000	1500000	8%
Chak-Kirti Girls High School	500000	0	0%
Gram Bikash Kendra - GBK	14878000	813600	5%
Gram Unnayan Sangstha (VDS)	375000	26250	7%
Bhangnagar Kandi High School	100000	2000	2%
LDRO Training Institute	2700000	500000	19%
Voluntary Paribar Kalyan Association (VPKA)	15000000	1450000	10%
VARD	2184000	1864500	85%
Community Development Association	1544000	1000000	65%
Jamuna Karigori Institute	650000	160000	25%
Daridrya Nirashan Prochesta (DNP)	26500	26500	100%
Society Development Committee	50000000	1000000	2%
Action in Development - AID	14200000	350000	2%
Prattasha Samazik Unnayan Sangstha (PSUS)	50000	47538	95%
Surid Sangha	5000000	300000	6%
Bagatipara Technical and Business Mangt. Inst.	120000	0	0%
Bangladesh Mohila Unnayan Shongstha	340000	340000	100%
ITDG-Bangladesh	5000000	500000	10%

Welfare Efforts	11547550	190810	2%
Thengamara Mohila Sabuj Sangha	1072995840	5000000	0%
Naria Unnayan Samity (NUSA)	5510000	150000	3%
JARDI	5000000	844500	17%
Gana Unnayan Kendra	13026500	1480980	11%
Bera Girls Pilot High School	282090	282090	100%
Mennonite Central Committee (MCC)	1000000	1000000	100%
Barisal Samaj Unnayan Sangstha (BSIS)	1866960	100000	5%
Social Advancement Through Unity-SATU	130168775	1110000	1%
BSD Shahid Muktijodda Technical High School	200000	80000	40%
BVDP	1050000	360000	34%
AKOTA	8824350	188750	2%
New Live Foundation	1704250	1024000	60%
Takinagar Ideal High School	25000	0	0%
Sun Flower - SF	3500000	0	0%
Others			
Rural Development Academy	27500000	650000	2%
BMDA	2300000	1100000	48%
Private			
Tamaltala Agriculture & Technical College	5011812	160000	3%
Cholonbil Technical & Commercial College	1000000	300000	30%
Kalikapur-Bonpara Krishi & Karigari College	522875	0	0%
Rajore Girls High School	2218311	268192	12%
Sankair Sekh Khalilur Rahman Girls High School	867134	0	0%
Katila Shabuj Shanga Adarsha High School College	1200000	5000	0%
Ghior D N Pilot High School	2494121	1680000	67%
Monohardi Pilot High School	200000	50000	25%
Velayet Hossain Bahumukhi Uchcha Bidyalay	2627530	110988	4%

APPENDIX 3

List of Persons Met During Study

Sl. No	Name	Job Title
1.	Mr. Safar Raj Hossain	Additional Secretary, MOE
2.	Mr. S. M. Jahrul Islam	Director General, RDA, Bogra
3.	Mr. Md. Habibur Rahman	Joint Secretary (Extension) MOA
4.	Mr. A B M Abul Quashem	Joint Secretary (Rules) MOF
5.	Md. Safiullah	Deputy Secretary, MOE
6.	Md. Ayubur Rahman Khan	Deputy Secretary (O&M) MOE
7.	Mr. A.H. M. Kamruzzaman	Assistant Chief, MOE
8.	Mr. Emdadul Hoque Khandakar	Director General, DAE
9.	Mr. Tarique Hasan	Director, Field Services Wing, DAE
10.	Mr. Sirajul Hoque	Director, Training Wing, DAE
11.	Mr. Md. Abu Bakar	Project Director, SIDATAC
12.	Mr. Md. Giasuddin Ahmed	Project Director, ASIRP
13.	Mr. Md. Sanaulah	Director (Training), DoF and Director OTI (Fisheries)
14.	Mr. Jagobandhu Biswas	Director (Economic Theory), BPATC
15.	Mr. Md. Abul Hashem,	Principal, OTI (Livestock)
16.	Mr. Akramul Hossain	Deputy Director, NYTC
17.	Ms. Rukshana Yasmin	NYTC, Savar
18.	Mr. Mahbubur Rrahman	Joint Director (Planning), BRDB
19.	Mr. Maniruzzaman	Assistant Director (Training) BRDB
20.	Ms. Zinnat Begum	Assistant Director (Training) BRDB
21.	Mr. Mohammad Lokman Hakim	Superintendent Engineer and Project Director, LGED
22.	Mr. Abdur Rahim	Training Coordinator, LGED
23.	Dr. Q. R. Islam	Agriculture & Water Resources Specialist, LGED
24.	Mr. Md. Abul Kalam Pramanik	Executive Engineer (Training), LGED
25.	Mr. Md. Munir Hossain	Training Specialist, RD Project-21, LGED
26.	Mr. Md. Sharifuzzaman	Executive Engineer (Training) , LGED
27.	Mr. Md. Zakir Hussain	Principal, ATI, Tajhat Rangpur
28.	Agriculture Diploma students (19 numbers)	ATI, Rangpur
29.	Mr. Md. Mosharraf Hossain	Principal, ATI, Gaibandha
30.	Mr. Md. Zulfiquer Haider	Senior Instructor, ATI, Gaibandha
31.	Mr.Md. Abudl Hamid Mia	Instructor, ATI, Gaibandha
32.	Mr.Sushanta Kumar Pramanik	Instructor, ATI, Gaibandha
33.	Mr.Md. Alamgir Hossain	Principal, ATI, Gaibandha
34.	Dr. A.K.M. Ruhul Amin	Lecturer, ATI, Gaibandha
35.	Dr. Alam Ara Yasmin	Lecturer, ATI, Gaibandha
36.	Mr. M. Abuds Salam	Coordinator, GUK, Gaibandha
37.	Nurun Nahar Begum	District Women Affairs Officer, DOWA
38.	M. G. Neogi	Coordinator (Agriculture), RDRS
39.	Mr. Md. Khorshed Ali Talukder	Deputy Director (Agriculture Department), TMSS
40.	Mr. A. K. M. Khairul Alam	Deputy Director (Training), RDA, Bogra
41.	Dr. Matiur Rahman	Chairman, ATMDI
42.	Mr. Khd. Md. Sohrab Ali	Principal, ATMDI
43.	Mr. Mohammad Masum Khan	Lecturer, ATMDI
44.	Mr.Md. Mainul Islam Choudhury	Professor, ATMDI
45.	Mr. Syed Abu Raihan	Junior Lecturer, ATMDI
46.	Mr. Md. Abdun Nafiu	Junior Lecturer, ATMDI
47.	Mr. Md. Ashik Masum	Lecturer, ATMDI
48.	Mr. Kh. Md. Kamruzzaman	Principal, Dr. Serazol Hoque Technical Institute
49.	Dr. M. Shahidul Islam	DG, BARI
50.	Mr. M. A. Satter	Director (T&C) BARI
51.	Dr. Jahirul Islam	PSO & Head, BRRI
52.	Mr. Md. Shafiul Islam	SPO, BRRI
53.	Mr. Golam Mawla	SSO, BRRI
54.	Ms. S. S. Parul	SSO, BRRI
55.	Mr. M. N. A. Dewan	Executive Director, CERDI
56.	Mr. Md. Shahjahan	Deputy Director, ICU, CERDI
57.	Dr. Kaiser Khan	Senior Instructor, CERDI
58.	Mr. MoksudurRahman Ghazi	Senior Instructor (Plant Protection) CERDI

APPENDIX 3

List of Persons Met During Study

Sl. No	Name	Job Title
59.	Mr. Abudlla-al-baquee	Senior Instructor (Dev.Mgt), CERDI
60.	Mr. Benoy Chandra Sen	Senior Instructor, CERDI
61.	Dr. Abdul Jalil Khan	Deputy Director (TMD), CERDI
62.	Ms. Nilofar Sanaullah	Senior Instructor, CERDI
63.	Mr. Md. Abdus Sattar	Agriculture Engineer, CERDI
64.	Mr. Kazi Nazim Uddin	Deputy Director (FIA), CERDI
65.	Prof. Md.Abul Bashar	Director General, Technical Education
66.	Mr. Md. Maniruzzaman	Director, Technical Education
67.	Mr.Md. Babar Ali	Assistant Director, Technical Education
68.	Mr.A. N. M. Saleh Uddin Khan	Assistant Director, Technical Education
69.	Mr.Md. Shahjahan Mian	Assistant Director, Technical Education
70.	Mr.Md. Abudl Hoque	Senior Instructor, ATI, Sherpur
71.	Mr.Ram Krishna Paul	Senior Instructor, ATI, Sherpur
72.	Mr.Md. Al Mamun	Instructor, ATI, Sherpur
73.	Mr.Md. Abdul Hoque	Senior Instructor, ATI, Sherpur
74.	Mr.Md. Nurul Islam	Instructor, ATI ,Sherpur
75.	Mr.Md. Azizur Rahman	Chief Instructor, ATI, Sherpur
76.	Mr.Tariqul Islam	Senior Instructor, ATI, Gazipur
77.	Mr.Md. Abul Abbas	Senior Instructor, ATI, Gazipur
78.	Mr.Ruba Najneen	Senior Instructor, ATI, Gazipur
79.	Mr.Mahfuza Khatun	Senior Instructor, ATI, Gazipur
80.	Mr.Md. A. Saleque	Programme Coordinator, PSE, BRAC
81.	Dr. Harun Ur Rashid	Sr. Technical Manager, BRAC
82.	Mr.Per L. Andersson	Training Specialist, SID
83.	Mr.Chye-Hear Teoh	Extension Training Specialist, NCDP
84.	Mr.A K M Tafsiruddin Siddiqui	Project Management Specialist , NCDP
85.	Mr.James A. Litsinger	Consultant, IADIPMFS
86.	Mr.Chye-Hean Teoh	Consultant, World Vision, Australia
87.	Mr.Md. Afzal Hussain	Marketing Manager, EWSL
88.	Mr.M. Enamul Hoque	Team Leader SPFSP, FAO
89.	Mr.Md. Samir Uddin	Expert, HRDS, SID/ASPS, MOA
90.	Mr Md. Samik Shaheed Jahan	Associate Director, Friends in Village Development Bangladesh (FIVDB)
91.	Mr. M. A. Samad Talukder	Director, Training, Bangladesh Sericulture Board, Rajshahi
92.	Mr. S.M. Abu Taleb	Member, Bangladesh Sericulture Board, Rajshahi
93.	Dr. Asaduzzaman	Executive Director, BMDA, Rajshahi
94.	Mr. Md. Mazhar Ali	Superintending Engineer, BMDA
95.	Mr. Alauddin Ahmed	Principal, VTI, Chapai Nawabgonj
96.	Mr Ruhul Amin	Farm Manager, Horticulture Centre, Chapai Nawabgonj
97.	Mr. Majedur Rahman	Principal, Tamaltala Agriculture and Technical College, Bagatpara, Natore
98.	Mr Abul Hossain Molla	Principal, ATI, Dhaka
99.	Mr.Md. Osman Ghani	Principal, ATI, Gazipur
100.	Mr. A K M Anwarul	Principal, ATI, Sherpur
101.	Mr. Kazi Md. Ataul Hoque	Principal, ATI, Faridpur
102.	Mr. Anowarullah	Principal, ATI, Hathazari, Chittagong
103.	Mr. Golam Kibria	Principal, ATI, Bemgumganj, Noakhali
104.	Mr. Nesarul Islam Kutubi	Principal, ATI, Khadimnagar, Sylhet
105.	Mr Lalmohan Miah	Principal, ATI, Rahmatpur, Barisal
106.	Mr. Siddiqur Rahman	Principal, ATI, Daulatpur, Khulna
107.	Mr. Yeasin Ali	Principal, ATI, Ishurdi
108.	Principal Imam Training Academy	Sylhet
109.	Principal	RDTI, Sylhet
110.	Principal	Veterinary College, Sylhet
111.	Principal	Youth Training Centre, Sylhet.

APPENDIX 4

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