Rural Information Provision in Bangladesh: A Study on Development Research Network

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Abstract

This paper aims to explore the rural information provision in Bangladesh and to examine users' opinion regarding such information provision with a case study of Development Research Network (D.Net)- a non government organization. Besides the review of secondary sources, data were collected using an unstructured interview of eight officials of selected Pallitathya Kendra (rural information centre) of D.Net. The case study also conducted a survey of 120 rural dwellers from the selected centres of D.Net to receive their opinions using a structured questionnaire. The analysis suggests that D.Net provides rural dwellers of Bangladesh access to information through a number of innovative programmes and services with special reference to Pallitathya programme and InfoLady Services. The result also shows that ninety percent of the respondents are more or less satisfied with the existing programmes and services of D.Net. The study, however, makes certain recommendations for more effective and efficient rural information provision in Bangladesh made by D.Net.

Keywords: Rural information, development research network, D.Net, Pallitathya Kendra, InfoLady, Bangladesh.

1. Introduction

Information is an important resource for the progress of an individual and that of a nation. Access to right kind of information and possession of correct and relevant information resolves various problems faced by individuals. Information plays a significant role in removing the hurdles of development. Lack of access to the right information at the right time deprives the rural people their right to development (Kumaresan and Chitra, 2003). Knowledge and information are basic ingredients of making one to be self reliant and are essential for facilitating rural development and bringing about social and economic change (Kamba, 2009).

Bangladesh is one of the least developed countries in the world. Almost 80 percent of her population lives in the rural areas. Disparity exists between urban and rural people in terms of access to information and communication facilities along with other socio-economic and cultural factors. But it is not possible to make any development ignoring the large number of rural people. A number of government and non-government initiatives have been taken in Bangladesh to minimize the digital divide and to uplift the livelihood of rural people. In November 11, 2010, Government of the People's Republic of Bangladesh launched Union Information and Service Centres (UISC) in all 4,501 union parishad complexes across the country. About ten years before the active initiatives of the government, Development Research Network, popularly known as D.Net, a multidisciplinary non-government research organization, started to work as an interface of major development issues during 2001. D.Net promotes development through use of Information and Communication technology all over the country. D.Net's mission is to become a premier organization in Bangladesh and beyond by undertaking research and various action programmes in the areas where information and knowledge can contribute to poverty alleviation, economic growth and peace. D.Net first opened ICT-based information and knowledge centre, called *Pallitathya Kendra* in 2003 with holistic service approach towards development. The impact of the innovative programmes, services and activities of D.Net in rural Bangladesh has motivated to undertake the present study.

2. Objectives of the Study

Development Research Network (D.Net) is a non-profit organization, implementing research and action

programmes for economic development of Bangladesh. The aim of this paper is to explore the rural information provision made by D.Net in Bangladesh and to examine users' opinion regarding such information provision. Thus, the objectives of this study are:

- to identify the existing programmes and services offered by D.Net for rural people in Bangladesh;
- to assess user's opinion regarding various programmes and services of D.Net;
- to examine the level of overall satisfaction of users about D.Net's programmes and services;
- explore major problems faced by D.Net's users, and
- to provide some recommendations for overall improvement of D.Net.

3. Research Methodology

The study adopted a case study as its research strategy. Considering the impact of different innovative programmes and services of D.Net in rural areas of Bangladesh, the study selected D.Net as a field of investigation. D.Net has established eight Pallitathya Kendra (rural information centres) Hubs in different areas of Bangladesh. The study selected three Pallitathya Kendra Hubs namely Sariakandi (Bogra), Gongachora (Rangpur) and Sadar (Gaibandha) for investigation. In each Pallitathya Kendra Hub, 15 InfoLadies work to provide door step information service to the rural people/dwellers.

For the purpose of collecting data about D.Net's recent programmes, services and activities, the study conducted an interview eight officers of D.Net. ranking as Deputy Director (1), Senior Deputy Director (1), Senior Assistant Director (2), Assistant Director (2) and Members of the Executive committee (2). Besides, organizational information was collected from D.Net's official documents, reports and homepages. For users' opinion, the study conducted a survey of 120 rural people, purposively selected from three Pallitathya Kendra Hubs under investigation. Data were collected using a structured questionnaire. Findings were statistically analysed.

4. Review of Literature

A number of studies have been conducted on the information needs of rural people in both developed and developing countries. Studies on rural information needs have focused on the issues like rural information needs and provisions based on library systems (Aboyade, 1987; Dasgupta, 2000; Iqbal and Exon, 2007)), community information centres (Islam and Hoq, 2010), particular user group, e.g. farmers (Nwagha 1992; Akanda and Roknuzzaman, 2012), and so on.

4.1 Rural Information Provision: International Perspective

In a Nigerian study, Aboyade (1984) identified a set of information needs, such as health and sanitation, agricultural production, government policies and programmes, occupation, recreation and leisure, literacy primers, Islamic religious literature, childcare and care of pregnant women, problems of daily existence such as water supply, electricity and roads, employment problems and work opportunities. Aboyade (1987) further categorized the information needs of the rural population as:

- information for increased productivity and income growth,
- information on rural non-farm economic activities,
- information for social amenities, and
- information for social participation and political involvement.

In fact, rural communities do have information needs which have been identified by Correa et al (1997) as information support for health, basic economics and income generation, self-governance and community self management, agriculture and environmental renewal. At the same time, some needs have a distinct location-specific content, arising out of the socio-economic conditions and struggles of a given community. The study further explored a strong need to support primary education and continuing education programmes. Based on a study on rural libraries in India, Dasgupta (2000) identified that the main information needs of the rural environment are on survival, i.e. people living below the poverty line, food, nutrition and health care, law and order, economic activities, education, culture, recreation. The information needs of the rural population differ mainly due to reasons such as level of education, economic activities, social status, which includes caste levels,

family status, inclusive of women's status, and rural policy. According to Okiy (2003) the national development can be achieved through the identification of the information needs of rural dwellers and the provision of innovative rural public library services to improve their level of literacy and education and to enhance their ability to use practical information relevant to their daily lives. Mtega (2012) found that rural communities needed all types of information, although each individual has specific information needs related to specific individual problems. Information needs of the rural people depend on their occupation and basic survival needs.

4.2 Rural Information Provision: Bangladesh Perspective

Iqbal (2003) conducted a study on the information needs and information problems in selected rural and urban slum areas in Bangladesh. He identified major areas of information needs of both rural and urban slum residents as farming, family planning information, financial or loan assistance, flood control or natural disaster management, health related issues, knowledge about the world, and entertainment as their major areas of information need. Islam and Uddin (2005) conducted a study on information support services of the rural development libraries in Bangladesh, and mentioned that the rural development information systems and services in Bangladesh are playing a vital role at providing rural information support services to develop the rural community. The study explored the major information systems and services of rural development libraries in Dhaka, Comilla and Bogra districts in Bangladesh, the tools and techniques used to provide such services, and the problems encountered by these libraries during the period of providing their services. Iqbal and Exon (2007) provide a brief scenario of information services provided in rural areas of Bangladesh including radio and TV programs dedicated to rural dwellers; agriculture extension services; print media services; family planning and health services. This paper proposes that a rural multipurpose community library and information centre could be a more realistic way of disseminating information by both government and non-government agencies. The study on community information centres (CICs) in Bangladesh conducted by Islam and Hoq (2010) reports that in terms of the types of information sought, CICs provide the following types of information to the rural community: agriculture (90.0%), market prices (67.1%), health (46.6%), news (39.3%), job information (31.5%) and entertainment (16.7%).

Islam and Ahmed (2012a) reviewed literature on information needs and information-seeking behaviour of rural dwellers in both developed and developing countries. Their analysis suggests that the information needs of rural communities from all countries are very similar, although rural communities they do vary from region to region and from country to country depending on socio-economic conditions. These needs are mostly related to the daily life of rural dwellers. The results of focused group discussions (FGDs) highlight the general information needs of rural communities, their reading, listening and viewing habits and awareness of rural library activities. The findings suggest that the rural libraries largely meet the informational needs of the local community and play a crucial role in the educational advancement of local people (Islam and Ahmed, 2012b). In rural library services II, Islam and Ahmed (2012c) provide an empirical assessment of information provision in rural communities in northern districts of Bangladesh. The point-of-exit interview highlights the users' demographic characteristics, their library use and information needs, and their opinion on library collections, performance and impact. The constraints faced by users in using these libraries are also identified. The results show that most users are generally satisfied with the performance and impact of these libraries. Akanda and Roknuzzaman (2012) investigated the extent of agricultural information literacy of 160 farmers working in ten districts in the northern region of Bangladesh. Their analysis shows that farmers need information for various purposes of agricultural activities, and they use different sources and media for access to such information. Many of the farmers, however, are not well aware of modern techniques of agriculture. Besides, high rate of illiteracy, lack of financial support, inadequate transport facility, lack of rural electrification, and ignorance of government responsibility, etc. have caused them problems in accessing agricultural information properly.

5. The Case Analysis of Development Research Network (D.Net)

D.Net, a social enterprise, promotes 'access to information and knowledge' for all citizens achieving constitutional, national and international development. Incepted in January 2001, D.Net obtained legal status under the Societies Act 1860 with the Registrar of Joint Stock Companies, Bangladesh in August 2001. D.Net's mission is to become a premier organization in Bangladesh and beyond by undertaking research and various action programmes in the areas where information and knowledge can contribute to poverty alleviation, economic growth and peace. Under its mission 2010, D.Net's five year strategic plan, D.Net conducts

research action programmes primarily in six thematic areas: access to information and knowledge, enhancing business competitiveness for economic growth, governance and human rights, human resource development, institutional capacity development, economic and development policy research. Based on the interview data, D.Net's official documents, reports, and homepage, the study identified major programmes and services of D.Net.

5.1 Major Programmes of D.Net

- *Pallitathya—* envisions exchange of information for sustainable rural livelihood such as information on agriculture and non agriculture production, marketing and sales, education, health, human rights, empowerment, employment etc. and contributes to the efforts of poverty alleviation.

- *Gunijan—* creates inspiration among the new generation by publishing the biography of eminent person of our country on the web. It attempts to organize several special programmes, school events, talk shows, publish annual compendiums and CD-ROMs of the eminent personalities.

- *Enhancing Professional Skills through Training (EPST)—* offers training to the professionals to develop their skill in various fields based on its expertise.

- *Empowering People through Improved Access to Information on Governance and Human Rights—* aims to provide improve access to information on governance and human rights for rural people using various ICT channels.

- *Empowering Underprivileged Youth in Bangladesh through Computer Literacy Programme—* aims to bridge digital divide among urban and rural children and youth in terms of computer skills.

- *Government Private Initiatives on Information Technology Enhanced Education—* To establish smart class room and computer lab for effective teaching in the rural areas of Bangladesh.

- *Empowerment of Women in Bangladesh through ICTs Innovations in Education—* facilitates knowledge of ICTs to the rural disadvantaged people, particularly women, children and youth.

- *Promoting InfoLady for Building Inclusive Information and Knowledge System—* designed to share sustainable information-knowledge and technology learning system among the rural people through ICT based Pallitathya Kendra and InfoLadies.

- *Pallitathya Bikash—* designed provide know-how, innovations and technical assistance to organizations wishing to take part in the "inclusive and sustainable information and knowledge system for all citizens" promoted by Bangladesh Telecentre Network.

- *Mobile Alliance for Maternal Action (MAMA)—* delivers vital health information to new and expectant mothers through mobile. Mobile health messages are designed to quickly and easily disseminate information that informs women of ways to care for themselves during pregnancy, dispel myths and misconceptions, connect women with local health services, reinforce breast feeding practices, make new mothers aware of how best to care for their babies give reminder for immunization; and advise about nutrition of mother and child.

5.2 Major Services of D.Net

- *Content Development Service:* The content development comprises of texts, pictures and sketches related to villagers livelihood information and is served through the software developed by D.Net.

- *Help Line Support Service*: D.Net provide a functional help line support service for the poor, particularly women and physically handicapped with both online and mobile phone based channels. Eight experts (helpdesk) on the following areas have been deployed for providing counseling and reference services to the rural community

- *Agriculture:* Pallitathya Kendra provides information on improved seeds, better land preparation, insecticides, prevention of disease of domestic animal, poultry farming, modern cultivation technique etc.

- *Health:* Health information and services include medicine supply on payment, techniques of preventing diseases, family planning, primary treatment of diseases, doctors counseling on mobile phone etc.

- *Education:* D.Net provides a number of services on education for the rural underprivileged people like creating digital informational content for the pre school student, allocate education loan, provide information for higher education, inform exam result from online and inspiring to learn technical education etc.

- *Law and Human Rights:* Law and human rights services include information and consultation about marriage and divorce, land ownership, child rights, labour rights, local governance, succession and minority rights etc.

- *IT Skills Training on Basic and Advanced Computer Education:* D.Net offers basic computer application curriculum, developed under Computer Literacy Programme (CLP), for the underprivileged youth.

- *Disaster Management:* Pallitathya Kendra offers disaster management information service like preventive measures of flood, drought, cyclone, river erosion, earth quack etc.

- *Employment:* It includes sharing self employment techniques and methods like making candle and bamboo products, designing block and batik on cloths, making cake and chanachur, making fuel serving oven etc. among the rural dwellers.

- *Government Services*: This service aims to make available different government forms i.e. Birth registration, citizenship, Passport and visa, Pension, Vehicle registration, driving license etc. to the rural people.

- *Directory Information:* D.Net provides information about detail address of different product sellers and service providers, availability of products, pricing information and so on.

- *Ancillary Service:* In general, the available ancillary services are soil test, photography, composing and printing, internet use, diversity visa application, nebuliser rental etc.

5.3 InfoLady Service

"InfoLadies" are spearheading a revolutionary idea - giving thousands of Bangladeshi women, trapped in a cycle of poverty, health problems and natural disaster, access to information through various information and communication technologies (ICTs) on their doorstep to improve their chances in life. A typical InfoLady is a trained rural young woman, who cycles about five to ten kilometers a day and offers variety of ICT-based and other services at the door-step of rural community. She is supported with a range of offline and online knowledge and useful information for women. InfoLadies offer a range of distinctive services to various target groups.

- *Special Support to Pregnant Women:* InfoLadies provide various services for pregnant women such as checking blood pressure, recording and observing women's weight, checking hemoglobin counts, making appointments with doctors etc.

- *Education-related Services Edutainment for Children:* InfoLadies offer a range of CD/DVD-ROM based educational content to children studying at pre-school and primary school.

- *Multimedia Content for School Children and College Boys:* High school and college students can learn English, Math, science and other subjects using infoLadies' services.

- *Online Content Services for Teachers and Students:* InfoLadies regularly brows online newspaper and popular educational websites and offer online content service for rural students.

- *Organizing Mock Exams:* Using internet resources and local software, Infoladies arrange online mock exams for public examination candidates (SSC).

- *Information Services for Youths:* InfoLadies browse various job related websites and become credible sources of information regarding job for youths in villages.

- *ICT- enabled Life Skill, Sexuality Education and Computer Training:* Through video and animation services offered by infoLadies, adolescent girls can access to life skill information, sexual education, and personal hygiene.

- *Health Checkup for all Rural People:* InfoLadies offer to help with issuing health cards, recording various health data such blood pressure measurement, diabetic levels of patients etc.

- *Livelihood Information for Farmers and Professionals:* InfoLadies, with multimedia content in local language, help the farmer and professionals to understand better livelihood practices.

- *Communication Services:* InfoLadies provide communication services like mobile call, email, skype, messenger, etc.

- *Homestead Gardening for Housewives:* InfoLadies provide information about homestead gardening to the rural women, and supply improved seeds and time to time follow up the gardening.

- *Vaccination for Poultry Farmers:* Infoladies provide vaccination services for the poultry and they charge a small service cost and this is yet another useful income generating service.

- *Eye, Cleft and Burnt Care for Disadvantaged***:** InfoLadies play an important role to make aware of rural parents whose children suffer from cleft palate or lip.

5.4 User Studies

This section analyses the opinion received from 120 D.Net's users of three Pallitathya Kendra Hubs. The users were asked to provide their opinions regarding D.Net's major programmes, services with special reference to InfoLady services, and the problems faced by them on five point Likert scale. The users were also asked to indicate their level of satisfaction with the existing programmes and services of D.Net.

5.4.1 User Opinion on Major Programmes of D.Net

Table 1 shows that the majority of the respondents considered pallitathya programme (m = 4.62) as highly effective for the rural disadvantaged people. Mobile alliance for maternal action (m = 4.37) was ranked as an effective programme, followed by empowering underprivileged youth in Bangladesh through computer literacy programme (m = 4.35), empowering people through improved access to information on governance and human rights (m = 3.98), pallitathya bikash (m = 3.73), gunijan (m = 3.69) and promoting InfoLady for building inclusive information and knowledge system (m = 3.66). Respondents regarded enhancing professional skills through training (M = 2.74) as moderately effective programme and government private initiatives on information technology enhanced education as effective to some extent (m = 2.37).

Table 1: Effectiveness of Major Programmes of D.Net

Major Programmes	Mean	Std. Dev.
Pallitathya	4.62	0.88
Mobile alliance for maternal action (MAMA)	4.37	1.02
Empowering underprivileged youth in Bangladesh through computer literacy program	4.35	1.00
Empowerment of women in Bangladesh through ICTs innovations in education (CLP-BD)	4.18	1.18
Empowering people through improved access to information on governance & human rights	3.98	0.92
Pallitathya bikash	3.73	0.81
Gunijan	3.69	1.05
Promoting InfoLady for building inclusive information and knowledge system	3.66	0.85
Enhancing professional skills through training (EPST)	2.74	0.88
Government private initiatives on information technology enhanced education	2.37	0.95
Valid *n* (listwise) = 120		

Notes: 1-5 scales are measured according to the range of the following mean scores: 1.00-1.49 = Not Effective, 1.50-2.49 = Effective to Some Extent, 2.50-3.49 = Moderately Effective, 3.50-4.49 = Effective, 4.50-5.00 = Highly Effective.

5.4.2 User Opinion on the Major Services of D.Net

Users were asked to indicate about the importance of major services offered by D.Net. As reported in Table 2, help line support service was ranked as highly important service with the highest mean score (m= 4.66).

Table 2: Importance of Major Services of D.Net

Major services	Mean	Std. Dev.
Help Line support service	4.66	1.03
Agriculture	4.33	1.11
Education	4.16	1.18
Ancillary service	3.75	0.87
Law and human rights	3.74	0.83
Self Employment	3.58	1.00
Government service	3.55	1.01
Health service	3.50	1.04
IT skills training on basic and advanced computer education	3.21	1.02
Content development	3.20	0.86
Disaster management	2.82	0.88
Directory information service	2.55	0.78
Valid *n* (listwise)= 120		

Notes: 1-5 scales are measured as the following mean scores: 1.00-1.49 = Not Important, 1.50-2.49 = Less Important, 2.50-3.49 = Neutral, 3.50-4.49 = Important, 4.50-5.00 = Highly important

The services which were considered as important include agriculture (m= 4.33), education (m= 4.16), ancillary services (m= 3.75), law and human rights (m= 3.74), self employment (m= 3.58), government services (m= 3.55), and health (m= 3.50). Respondent were neutral about the importance of IT skills training on basic and advanced computer education (m= 3.21), content development (m= 3.20), disaster management (m= 2.82) and directory information services (m= 2.55).

5.4.3 User Opinion on InfoLady Services of Pallitathya Kendra

Table 3 presents users opinion regarding the significance of InfoLady services of Pallitathya Kendra. The respondents indicated special support to pregnant women as highly significant with mean score 4.62. Livelihood information for farmers and professionals (m= 4.36) was considered as significant, followed by organizing mock exams (m= 3.99), information services for youths (m= 3.82), health checkup for all rural people (m=3.79), vaccination for poultry farmers (m= 3.73), communication services (m= 3.55) and education related services edutainment for children (m= 3.53). The InfoLady services which were ranked as moderately significant include multimedia content for school children and college boys (3.35); eye, cleft and burnt care for disadvantaged (m= 3.30); online content services for teachers and students (3.10); ICT enabled life skill, sexuality education and computer training (m = 2.88); and homestead gardening for housewives (m= 2.79).

Table 3: Significance of InfoLady Services

InfoLady Services	Mean	Std. Dev.
Special support to pregnant women	4.62	1.01
Livelihood information for farmers and professionals	4.36	1.14
Organizing mock exams	3.99	0.72
Information services for youths	3.82	0.74
Health checkup for rural people	3.79	0.96
Vaccination for poultry farmers	3.73	0.93
Communication services	3.55	0.93
Education related services edutainment for children	3.53	0.96
Multimedia content for school children and college boys	3.35	0.79
Eye, cleft and burnt care for disadvantaged	3.30	0.80
Online content services for teachers and students	3.10	0.87
ICT enabled life skill, sexuality education and computer training	2.88	0.93
Homestead gardening for housewives	2.79	0.91
Valid *n* (listwise) =120		

Notes: 1-5 scales are measured according to the range of the following mean scores: Not Significant = 1.00-1.49; Significant to Some Extent = 1.50-2.49; Moderately Significant = 2.50-3.49; Significant = 3.50-4.49; Highly Significant = 4.50-5.00

5.4.4 Level of Users Satisfaction towards Various Programmes and Services of D.Net.

The respondents were asked to indicate their level of overall satisfaction towards various programmes and services of D.Net. As shown in Figure 1, only 10% (12) respondents were not satisfied with the existing services and programmes due to some obstacles, while 15% (18) were highly satisfied. A larger portion of the respondents, i.e. 40% (48) were satisfied with the information and services they get from D.Net. The result also finds that 20% (24) users were moderately satisfied and 15% (18) were satisfied to some extent.
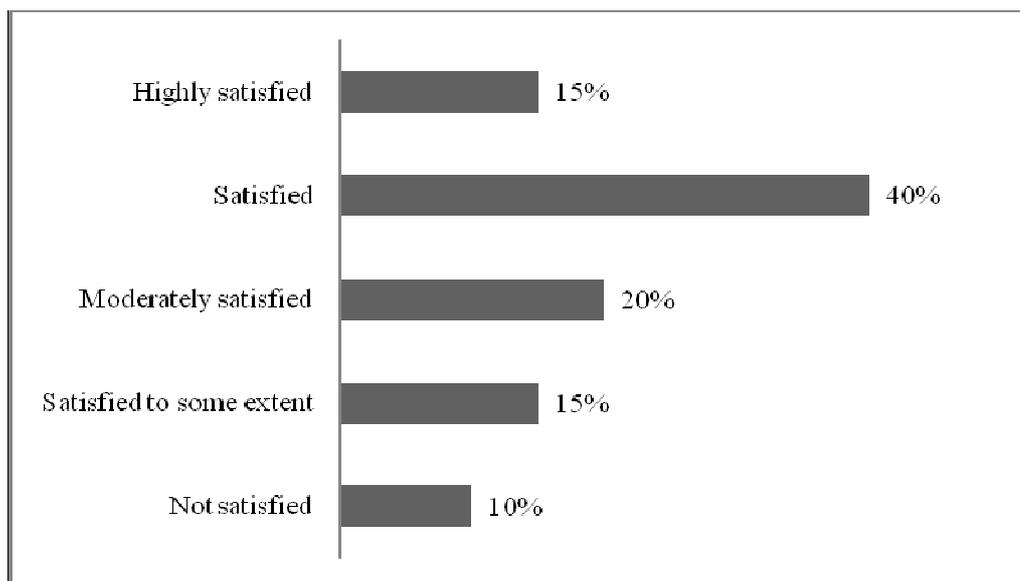

Figure 1: Level of User Satisfaction

6. Conclusion and recommendations

It is recognized fact that knowledge and information are very important for achieving meaningful development. The diverse nature of rural communities in a developing country like Bangladesh indicates that their information needs are many and multidimensional. A number of government and non-government initiatives have been taken in rural Bangladesh to provide information and to minimize digital divide. Development Research Network (D.Net) is such a non-government organization which has adopted a number of innovative and effective programmes and services with special reference to InfoLady services to ensure free flow of communication of information in rural areas of Bangladesh. Rural dwellers are getting access to different types of information services for solving problems in their day-to-day lives, including their academic, social, political, economic and professional endeavours. The study suggests that ninety percent of the rural people in Bangladesh are more or less satisfied with the programmes and services offered by D.Net. Some of the users, however, indicated a number of problems faced by them while using D.Net's services, such as the lack of skilled manpower to help them, insufficient number of InfoLady services, lack of proper technological support, power disruption, etc. Based on the existing situation and the authors' own observation, a set of suggestions are made for an effective and efficient functioning of D.Net:

- In most of the cases it has been observed that pallitathya kendra is operated from union parishad office. For this, users of the PK face a great problem with the accommodation facilities. To provide extended seating arrangement and accommodation facilities for the user, separate office building should be established for each pallitathya kendra.

- Sufficient skilled manpower should be appointed at D.Net. In order to enhance the skill of the staff,

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training program should be introduced at regular intervals.

- The government should take initiative to strengthen co-operation between the Government and Non-government organizations of national and international level. So that they become interested to work in collaboration with D.Net to provide effective information service for the rural communities.

- Sufficient number of InfoLady should be appointed in each pallitathya kendra. Because InfoLadies are considered as intermediary between pallitathya kendra and rural community for providing information services as well as livelihood information services to the rural dwellers. In fact, InfoLady helps to empower the rural woman and youth to become self-sufficient and self-reliant.

- Enhanced rural library programmes should be introduced to empower information services.

- Good transport facilities should be ensured so that infolady or intermediary could reach to the door step of rural dwellers within a possible short time for providing information service and consultancy.

- Both the government and non government organizations should come forward to extend their co-operation to D.Net. They should encourage the activities and services of D.Net that are designed for providing information support for rural dwellers.

- Proper technological support should be made available for the smooth operation of D.Net.

- In order to enhance access to information by rural dwellers, the government should provide and maintain proper communication support infrastructure.

- The Government and the concerned authority should pay proper attention and allocate sufficient funds to support and develop the information services of rural development libraries,

- Social dignity of the infomediary of D.Net should be established.

- Power supply is vital for the successful operation of any kinds of activities. Therefore, continuous electricity supply should be ensured to get effective information support from D.Net in the rural areas of Bangladesh.

- Rural inhabitants should be fully incorporated into effective use of ICTs.

- Proper infrastructural facilities should be provided for the better information services of the rural community

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