Short Brief of Technical Profile of BTV

Bangladesh Television (BTV) is a Public Service Broadcaster (PSB) and only state owned National Television of Bangladesh. Being a PSB, BTV continues to make significant contribution to accelerate socio-economic changes, promote national integration and accelerate scientific idea among the people. It contributes to disseminate knowledge, education and information for public awareness about means of population control, family welfare, environmental sustainability, ecological balance and measures for women and children welfare.

History, heritage and culture of the country are also portrayed and elaborately disseminated in BTV on regular basis. Programme basing on the spent of our different national movements including liberation war are the subjects and issues which are regularly broadcast in BTV. Hope and aspiration of the people and development efforts of the government including private and non-formal sectors are the prime issues of BTV's programme initiatives. BTV has been bringing positive change in human behaviours in line with the objective of the MDG interventions. Presently BTV is redesigning its efforts in order to achieve the target of SDG.

BTV has established on 25th December 1964. With the passage of time, Bangladesh Television has emerged as a powerful and effective mass media. BTV has 16 Terrestrial Transmission stations located all over the country. About 97% geographical area of the country has come under Transmission coverage. Dhaka TV station is the main program originating station and Chittagong is the regional program originating station.

In 2004, BTV has started worldwide Broadcast through its satellite based earth station BTV world. BTV has been transmitting its programs 24 hours through satellite since 5th November 2012.Coverage area of BTV National, BTV World and Sangsad Bangladesh Television are from Japan to the East, Australia to the South, Cyprus to the West and CIS country to the North.

BTV has started IPTV & Web TV Broadcasting in 2013 and Mobile TV Broadcasting through Teletalk 3G SIM in 2014. At present BTV has eight studios in Dhaka Station for program production, three Outdoor Broadcasting (OB) Vans and a FLY-AWAY DSNG has been using for live telecast. BTV Chittagong has introduced a separate satellite test transmission on 16th June 2015 and regular transmission start on 31st December 2016.

BTV started Digital Video Broadcasting-Terrestrial (DVB-T) Test transmission from 3 stations with 3.5 KW r.m.s transmitting power in the VHF Band-III. Sangsad Bangladesh Television has started its transmission on 25th January 2011 (both satellite and digital terrestrial) by using the equipments of Bangladesh Television. It covers the Sangsad session and Development activities of Government.

BTV has formed a committee in integration with the concerned department like Bangladesh Television, Bangladesh Betar, BTRC, Ministry of Information, Ministry of Post & Telecommunication, Cable Operators and ITU experts. This committee (Team) has prepared a National Roadmap for the transition of analogue to digital terrestrial television in Bangladesh under the framework of the International Telecommunication Union (ITU) digital broadcasting project. This roadmap has some guidelines and directions to migrate smoothly from analogue to DTTB and to introduce MTV. For this reason BTV has taken a project namely "Establishment of Nationwide Digital Terrestrial Television Broadcasting of Bangladesh Television (1st Phase)". The main objectives of this project is to adopt Digital Terrestrial Television Broadcasting system from Analogue as per National Roadmap and ITU guidelines.

Now BTV has 04(four) program generating stations i) BTV ii) BTV World iii) BTV-Chattogram & iv) Songsod TV (Parliament TV). Another 06(six) program production stations will be available after the completion of the ongoing development project named "Establishment of Full Fledged 06 (Six) TV Station of Bangladesh Television". After the completion of this project BTV will have 10(ten) content available stations which needs to broadcast nationwide. So BTV needs to design the frequency planning, channel selection regarding geographical conditions and neighbouring country spectrum planning.

Main objective of the project are

- To adopt Digital Terrestrial Television Broadcasting (DTTB) system from Analogue to Digital as per National Roadmap and ITU guidelines.
- To Create better Facilities i.e. Multi channel transmit in single Transmitter.
- To improve strengthen the institutional capacity for digital technology.
- To prepare with good knowledge of the DTTB system which will be implemented and achieve this goal for system understanding, analysis, simulation and implementation.
- To improve transmission video and audio quality, qualities of Programme and News as per viewers demand.
- To implement portable reception, mobile TV broadcasting in DTTB network.
- To earn Government revenue through Advertisement & Sponsoring of multi channel terrestrial transmitted programmes.

Rationale of the Project:

The process of transition from analogue to Digital Terrestrial Television Broadcasting (DTTB) as per ITU guidelines within the stipulated time.

- With the advancement of technological development TV transmitter manufacturer will discontinue the existing analogue TV transmitter and spare parts.
- New business opportunities will be emphasize for implementing DTTB.
- Rural broadcasting accessibility will be improved and accelerate to digital broadcasting.

To cope with the change of the TV technology is day by day. Analogue equipment & spare parts are not available from the manufacturer supplied due to production of the equipment is going to be stopped. So on that purpose BTV *needs to* modernize & digitalize to face the challenge of modernization. So, the terrestrial broadcasting system shall be converted into digital.

Targets of the Project:

A scheme to provide digital connectivity through digital transmission. A large part of the nation will cover with digital signal and the viewers will watching multiple choices of programmes in single transmitter in free of cost.

The project will improve broadcasting in the following ways:

- Improved signals quality resulting in better reception.
- Multi channel nationwide coverage with high quality Sound.
- Transmit at least 5-7 Programmes in single transmitter.
- Provision of availability of all program source at each & every site of transmitting station.
- Improve signal to noise ratio.
- Regional channel will cover entire area and adjacent areas.
- Digital coverage area will be same (as much as technically possible) as analogue coverage area.

To Expand and upgrade Public Service Broadcasting (PSB) and also improve the quality of transmission, as per direction of ITU, BTV will migrate digital broadcasting within the stipulated time. So, before migrating digital broadcasting the target is to change analogue equipment to digital equipments which is included in this project.

Outcomes of the Project:

- Programme will telecast by digital system, quality and quantity of TV channel will increase. Digital Technology of terrestrial Broadcasting will adopt.
- Facilities will enhance and develop for Dissemination of Information, Expansion of Education, Entertainment and Motivation to expedite development works like Health, Agriculture, Environment, Children and Women Education and contribute to promote Cultural activities through digital transmission.
- National and Regional Culture will be focused through multi programme transmission in single transmission.

Outputs of the Project:

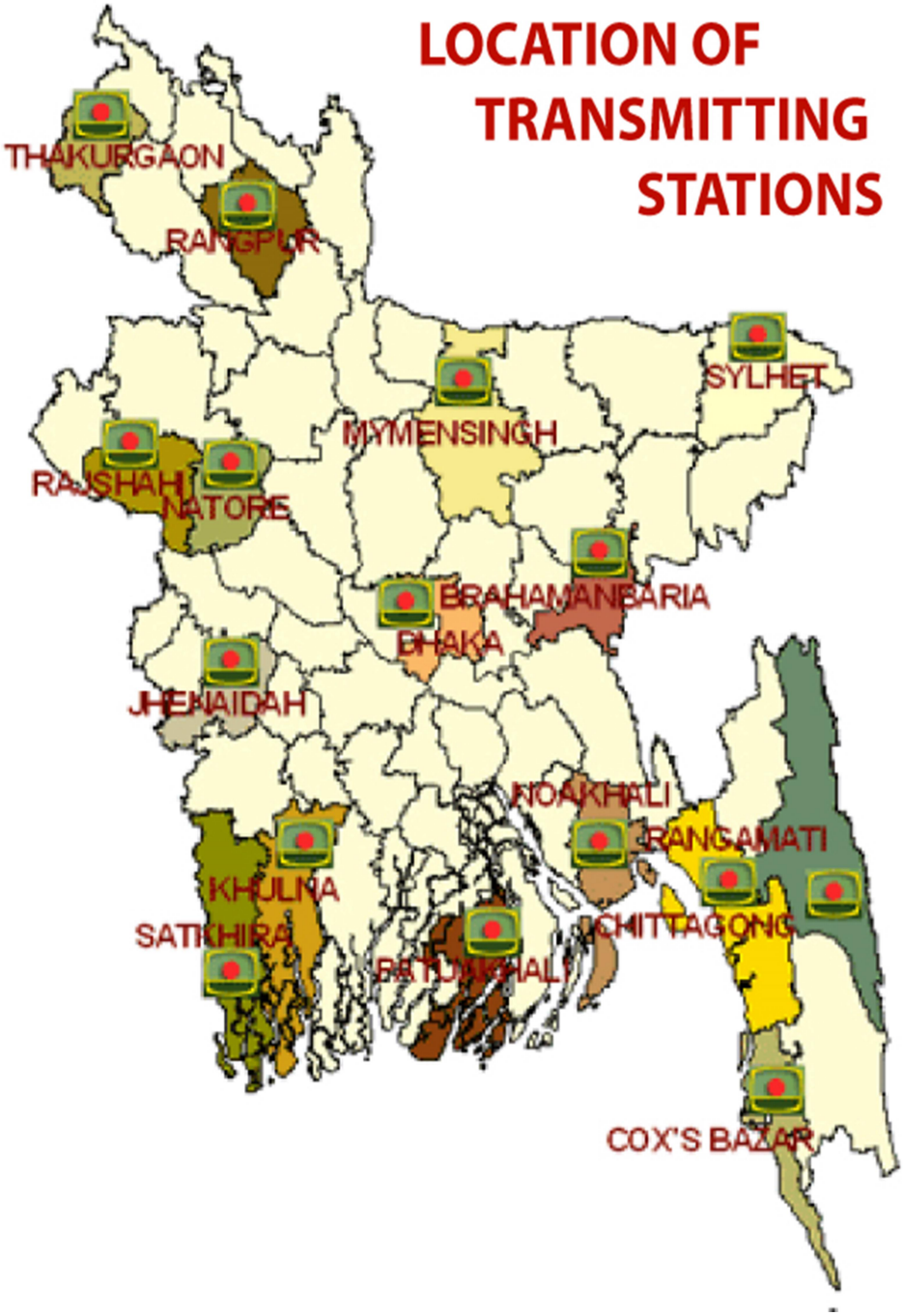
- To enhance and develop capacity a better transmission system of BTV. Increase digital transmission coverage area. Hence, the project output/result is to provide the services for better quality program as the viewer can enjoy the local program, news etc.
- Latest technology in TV broadcasting will establish..

Project Site Information:

Analogue Transmission							
S/N	Transmitting Station	Geographical Details			Tx Frequency (MHz)	Tower Height (Meter)	Tower type
		Latitude	Longitude	Elevation (Feet)			
01	Dhaka	23°45′55″N	90°25′24″E	36.83	202-209	112	Self support
02	Chattogram	22°21′40″N	91°48′00″E	40.47	174-181	133	
03	Thakurgaon	26°03′23″N	88°30′33″E	197.70	209-216	120	
04	Rajshahi	24°22′05″N	88°34′46″E	78.74	223-230	120	
05	Jhenaidah	23°32′44″N	89°08′49″E	37.71	174-181	120	
06	Patuakhali	22°21′40″N	90°19′39″E	20.31	188-195	120	
07	Sylhet	24°54′13″N	91°52′46″E	68.24	188-195	106	
08	Mymensingh	24°44′42″N	90°23′09″E	55.70	223-230	106	
09	Brahmanbaria	23°57′32″N	91°06′34″E	39.37	174-181	120	
10	Rangamati	22°38′55″N	92°08′15″E	49.00	195-202	120	
11	Khulna	22°51′27″N	89°32′35″E	30.62	216-223	150	Guy
12	Noakhali	22°53′26″N	91°05′57″E	31.22	223-230	150	
13	Natore	24°25′25″N	89°00′04″E	60.57	195-202	150	
14	Rangpur	25°44′47″N	89°13′47″E	112.72	181-188	120	
15	Ukhia	21°13′45″N	92°10′16″E	50.95	209-216	150	
16	Sathkhira	22°43′31″N	89°03′57″E	20	188-195	150	

Digital Transmission (Band III-VHF)							
S/N	Transmitting Station	Geographical Details			Tx Frequency (MHz)	Tower Height (Meter)	Tower type
		Latitude	Longitude	Elevation (Feet)			
01	Dhaka	23°45′55″N	90°25′24″E	36.83	181-188	112	Self support
02	Chattogram	22°21′40″N	91°48′00″E	40.47	202-209	133	
03	Khulna	22°51′27″N	89°32′35″E	30.62	195-202	150	Guy

Location of Analogue Terrestrial Television Stations in Bangladesh:



Transition Planning:

In Phase-I, Digital transmission will be started from existing 16 (Sixteen) transmitting stations in Ultra High Frequency (UHF). After successfully completion of transition from analogue to DTTB under Phase-I, Another technical survey will be conducted to find out the need assessment of required transmitters for the *Phase-II.* As per survey report, Low power television transmitters (LPTV), gap fillers, or new transmitting station will establish in different places for rural communities for nationwide digital transmission. It will be emphasized that a meticulous planning of the Phase-II with respect to incorporating reference from Phase-I, BTV will arrange some workshop with the respective stakeholders to prepare an integrated plan of action for a smooth and flawless transition in Phase-II.

Scope of Work of Consultant:

The key assignments of the consultant to implement the project are given below:

- Evaluate the current scenarios of analogue & digital terrestrial networks and develop the plan for transition of existing transmitting system.
- To Survey the whole country and recommend the new location of transmitting location, Digital Tx power and antenna direction for transition from analogue to digital broadcasting transmission networks within the boarder.
- To survey the existing 16 transmitting location i.e environment, power system, transmitting tower conditions (if needed balancing possibility), TX power, local channel insertion process & way etc.
- Create a workflow for digital terrestrial broadcasting according to Roadmap and latest technological transmission standards.
- Prepare a guideline to implement mobile TV, portable reception in DTTB network.
- Elaborate the role of implementing digital broadcasting, e.g. Frequencies Managing, the impact of transition (A to D), switchover process etc.
- Prepare a spectrum planning table for DTTB with the help of simulation software considering the neighbouring countries spectrum planning.
- Prepare workflow with required (necessary) equipment list and also recommend different types of Brand & model name of each equipment/module for the transition from analogue to digital terrestrial transmission.
- To recommend the appropriate standard & combination of digital transmission with respect to the building pattern of Bangladesh, socio economic status of the people etc.
- Economic Issues- how Digital migration can contribute to socio economic factors, unexpected risks & mitigation process etc.
- Human resource capacity, training and development regarding Technology and standards

***** Bangladesh Television has reserved the right to modify the aforementioned information.**