

ON TRANSITION FROM ANALOGUE TO DIGITAL  
BROADCASTING IN ARMENIA  
*Report of the Committee to Protect Freedom of Expression<sup>1</sup>*

*Preface*

The Committee to Protect Freedom of Expression is observing the process of transition from analogue to digital broadcasting in Armenia since 2010. In the period covering April-August 2014, CPFE, with support of OSCE Office in Yerevan, conducted a monitoring to study and evaluate the process.

The monitoring concerns three components of digitalization: legislative, technical and social and envisages to:

- a. Reveal and overcome key issues in Armenia's current Law on "Television and Radio" and related legislation;
- b. Research and evaluate measures connected with creation of digital broadcasting system and its management mechanisms;
- c. Study key social issues related to digitalization and elaboration of recommendations aimed at their solution as well as to formation of the social solidarity environment.

The international experience of digitalization was taken into account when analyzing the activities that are being implemented. During the study the following documents were examined:

1. "Concept Paper on Migrating to Digital Radio and TV Broadcasting" approved by the GoA Decision #47, dated 12 November 2009.
2. All changes and amendments made in the RA Law on "Television and Radio Broadcasting" starting from June 10, 2010 when the Law was changed

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fundamentally for the purpose of regulating the transition to digital transmission, till September 2014.

3. The RA Laws on “The State Duty” and “Licensing”.
4. “Analysis of the Concept Paper on Migrating to Digital Radio and TV Broadcasting” prepared by Dr. Katrin Nyman-Metcalf, Professor of University of Technology of Tallinn and Dr. Andrei Richter, Professor of Department of Journalism at Moscow State University (the analysis was commissioned by the OSCE Representative of Freedom of the Media).
5. “Comments on Draft Amendments to the RA Law on “Television and Radio” (author: Dr. Andrei Richter, Professor of Department of Journalism at Moscow State University, 2010). The paper was commissioned by the OSCE Representative of Freedom of the Media.
6. “Addendum to Comments made by the Office of OSCE Representative of Freedom of the Media with regard to the Changes Recommended in the RA Legislation on Transmission as well as Analysis of Principles of Transition to Digital TV and Radio Broadcasting in the Republic of Armenia” (author: Dr. Andrei Richter, Professor of Department of Journalism at Moscow State University, 2010).
7. The GOA Decision #193-N from February 27, 2014 which approves a new implementation schedule of measures for transition to digital broadcasting.
8. Resolutions #1609 (2008), 1620 (2008), 1636 (2008), 1643 (2009) and 1677 (2009) of Parliamentary Assembly of the Council of Europe.
9. Recommendations No. R (96) 10, R (99) 1, R (2000) 23 of the Committee of Ministries of the Council of Europe.

During the monitoring of digitalization process the important information sources for the review group were the websites of the state bodies in charge of broadcasting digitalization, as well as meetings and conversations held with high officials of the ministries and agencies, responses to letters and inquiries sent by CPFE to the authorities to receive official information. Such letters were sent in particular to the RA Ministry of Transport and Communication, RA Ministry of Labor and Social Issues, the National Commission of Television and Radio of Armenia, etc.

This report, prepared on the basis of monitoring data, is comprised of three sections which correspond to the main components of digitalization process:

- Legislative regulation of broadcasting sector;
- Building of terrestrial digital transmission network;
- Key social issues related to digitalization and possibilities of their solution.

Each Section contains recommendations targeted at improving the process of transition from analogue to digital broadcasting.

## LEGISLATIVE REGULATION OF BROADCASTING SECTOR

Following its adoption in 2000, the RA Law on “Television and Radio Broadcasting” has been strongly criticized by media organizations of the country, local and foreign experts and international bodies. During 14 years of its effectiveness the National Assembly adopted more than 20 laws on introducing amendments and changes therein, but they were mainly of cosmetic nature or solved the present-day problems which served for the interests of different political and/or financial groups.

The most significant change in the Law was introduced in June, 2010, conditioned with the process of switching from analogue to digital broadcasting. Actually, it was a new law, the first Article of which said: “To word the RA Law on “Television and Radio Broadcasting” adopted on October 9, 2000 as follows...”. And the essential thing was that changes and amendments were concerning not only conditions of digitalization and regulation of relations, but also many other provisions having no direct relation to the digitalization process.

The amended Law, however, not only left the old key issues of broadcasting unsolved, but also contains new threats. Local independent experts and representatives of international bodies identified them already at the phase of discussion of the recommended changes, which as a draft was submitted by the Government to the RA National Assembly for discussion. In particular, the media organizations of the country expressed their negative attitude towards the document in a number of joint statements adopted and recommended possible solutions for key issues emerged.

The international organizations, namely, OSCE, the Council of Europe, the European Union, etc, also took active actions in this regard. The most constructive steps were undertaken by the Office of the OSCE Representative on Freedom of the Media, on the commission of which renown international experts Prof. Katrin Nyman-Metcalf and Prof. Andrei Richter prepared a number of analytical documents referring “The Concept Paper on Migrating to Digital Radio and TV Broadcasting” and draft amendments to the RA Law on “Television and Radio Broadcasting”. The expert opinions were provided to the authorities of the country, disseminated among the local public, discussed in seminars organized by the OSCE Office in Yerevan, and local experts referred to them during

parliamentary hearings and other public events as well as in various reports related to key issues of digitalization.

However, the authorities amended the Law in a way they envisaged from the beginning and did not make any compromise on any principle issue. This is the reason why many provisions of the Law do not comply with the international standards.

What are the essential gaps in the RA Law on “Television and Radio”? First, it completely hinders the liberalization of the field of broadcasting, access of new players in the field, expansion of free and fair competition. In particular, Article 46 of the Law defines that “The license is the only legal basis allowing implementing the broadcasting of television and radio programs”. Taking into account that the licensing tenders, pursuant to the Law, are held once in 10 years, the entry of new TV companies during that period is practically excluded, i.e., the status-quo is preserved. The referred provision may actually become a ground for prohibiting broadcasting through satellite, internet as well as mobile communication means. By the way, the Law does not make clear distinction between the mentioned types of broadcasting and does not say how relations in their case will be regulated.

Second, the Law does not clarify the conditions and the manner of establishing and licensing of private multiplexes. There are also no provisions about the content of private multiplexes, in particular, whether they must carry free social packages or not.

Third, some basic concepts which are fixed in Article 3 lack clear wording and in other cases there are no definitions at all, although the concepts are used in the provisions of the Law. The legislative sometimes has ignored the international experience and international treaties regulating broadcasting field when fixing the basic concepts. Thus, the concept of “rebroadcasting” defined in the Law, which plays an important role in regulation of certain type of activity in this field, differs from the respective concept used in the European Convention on “Transfrontier Television” (Article 2) and does not contribute to understanding of the meaning of the term. According to Clause 87 of the Explanatory Report of the Convention, the retransmission is characterized by three criteria: it should be simultaneous with the transmission, complete and unchanged. In case of absence of any of the criteria, it will be a new transmission rather than retransmission (broadcasting a program which is prepared by other TV or radio company). Moreover, Article 3 of the RA Law on “Television and Radio Broadcasting” defines “*Retransmission* – simultaneous transmission or further transmission of already

transmitted and fixed (recorded and/or video) television and radio program of other television and radio company by another licensed person”.

Forth, the adopted Law notably increased threats of future commercialization of TV and radio companies to the detriment of humanitarian direction of the activity. Moreover, on May 26, 2011 the RA National Assembly adopted the package of changes and amendments in the RA Laws on “Television and Radio Broadcasting” and “Advertising”, in the result of which the ban on the so-called hidden advertising was eliminated, as well as the permissible size of commercial advertisement during one hour airtime was increased from 10 minutes to 14 minutes. Actually these changes legalized exceeding of the duration defined for advertising, which was observed earlier and about which the organizations conducting monitoring of mass media stated many times. On July 21, 2014 the National Assembly introduced new changes and amendments to the mentioned laws, according to which private TV companies are allowed to show commercials on alcohol from 22.00- 06.00 hours. Previously advertising of such drinks were forbidden, except for the Armenian brandy.

Fifth, the old licensing system envisaged for transmission in the Law retains the old, outdated mechanisms and does not take into account the rapid development of modern technologies and opportunities of creating multimedia platforms. In addition, the acting complex process in the conducted tenders, which have been not singled out for transparency and fairness previously as well, now may turn into the brake for the development of transmission field.

Sixth, the Law does not address the key issues of ensuring independent activity of the National Commission Television and Radio, as well as the Council of Public TV and Radio. In particular, there is a need to review the conditions and manner of their formation, and the remuneration principles of the Council members.

Seventh, the Law does not contain any requirement about ensuring transparency of ownerships of TV and radio companies which are not acceptable from the viewpoint of commitment to the principles of democracy.

To solve the above and a number of other key issues related to the legislation on transmission, the Committee to Protect Freedom of Expression created a working group by involving representatives from two partner organizations: Yerevan Press Club and Media Initiative Center (former “Internews-Armenia”) as well as independent experts. The three journalistic unions, being active critics of the effective RA Law on “Television

and Radio Broadcasting” elaborated recommendations for its improvement also earlier jointly or separately. At present a uniform document is prepared as a result of a 2-months’ work: “The Draft Law on “Introducing Changes and Amendments in the RA Law on Television and Radio” which is called to change fundamentally the legal relations and situation in the transmission field. It contains also a number of ideas which emerged during the previous years as well as new approaches and principles for our reality which are shaped on the basis of the international experience. The related recommendations envisaging changes to the RA Laws on “Licensing” and “State Duty” are also prepared together with the stated document.

All three drafts are attached to this report. Consequently, we present here only general principle approaches for solution of the aforementioned key issues, the essence and peculiarities of the recommended changes.

The key idea of the new draft is transition to a simplified licensing procedure of TV and radio companies. The idea is called to change fundamentally the relations in the field of broadcasting, to update them, to contribute to the development of free and fair competition. In addition to broad opportunities for adopting subjective decisions provided by the current complicated system of accreditation, it does not contribute to extensive application of new transmission technologies. In fact, the possibility of performing any type of transmission (satellite, internet, mobile communication, etc) depends on the availability or lack of over-the-air transmission license in the digital network.

Opposite to it, according to the new draft the license applications may be submitted by legal entities (and not only already operating TV and radio companies) which, in addition to submission of general information (name, location address, thematic vector, etc) must provide the copies of documents verifying the status of legal entity as well as the state duty payment receipt. The National Commission of Television and Radio issues a license with a 23-days’ period in case the submitted documents comply with the Law requirements. After that the legal entity independently decides the transmission system to operate in. The legal entity may participate in NCTR tenders to obtain the right of transmitting its programs, which must carry “social package”, through public digital network of the over-the-air transmission (state multiplexes) or may sign a contract with a private multiplex operator or transmit TV programs through cable, satellite, mobile communication means.

In general, to justify the idea of switching to a simplified procedure for licensing we would like to specify the following. First, the complicated accreditation procedure was necessary in the past because the TV and radio companies were using only limited public

resources for analogue transmission of radio frequencies. While new technologies expand the opportunities significantly and enable to perform transmission also without using the scarce public resource. Second, the simplified process of licensing allows TV companies, upon receiving the license, to choose independently the type (means) of transmission of its programs and to perform the transmission by signing a contract with those legal entities which have transmission networks under their subordination. Third, the simplified licensing process which provides almost no opportunity for refusing its issuance contributes to liberalization of legal relations and promotes more active use of contemporary technologies. And finally, forth, the idea of switching to the simplified licensing process anticipates that tenders between TV and radio companies must be conducted only for receiving the right of transmission of own programs through the public over-the-air transmission digital network. Such tenders are open for all licensed TV companies. The idea of this approach is that from the list of licensed TV companies the state will choose, through tenders, the “social package” which will be available free for the entire population of country. (Provision of TV and radio programs transmitted by other means, naturally, envisages a fee which not all can afford or are willing to pay). Together with this, the possibility of transmission through other means (cable, satellite, mobile communication, internet, etc) will be available for those licensed TV and radio companies which will not be included in the “social package”.

The draft clarifies the licensing procedure for private multiplexes whereas it is lacking in the effective Law on “Television and Radio Broadcasting”. Article 47 of the acting Law stipulates development and operation of digital transmission network. This network must combine 4 multiplexes established by the state for transmission of programs of 18 national and capital city TV companies as well as one local TV company from each marz of the country.

It is not excluded that the authors of the Law anticipated that private multiplexes should also be included in the same network, which may limit the freedom of their activities in the conditions of Armenia. The new draft addresses this key issue in the following way: since the programs of specified 18 TV companies present the so-called “social package” (“must carry”) and their free provision to the population is a significant public function, the network which unites 4 state multiplexes is called “Public Terrestrial Transmission Digital Network”. It is worth mentioning that it opens possibility for demarcating it from private multiplexes. The latter are referred to in the new Article 55.1 which specifies the manner of their development and operation. The Transitional Provisions specify that private multiplexes may enter into the transmission domain only after July 1, 2015. Their

licensing is conducted by the National Commission of Television and Radio following the same simplified procedure like in case of private TV and radio companies.

According to the Draft, the preparation of contents (package of TV programs) of private multiplexes is left to the discretion of their operators. The working group believes that if they are obliged legally to incorporate “social package” TV programs in their multiplexes it will groundlessly limit the freedom of private business and possibilities of development in the transmission field. In view of this, the requirements set for operators of private multiplexes are related to the necessity of ensuring pluralism and diversity, fair and justified choice of TV programs, observation of the principles of independence and freedom of media. Together with that, the “must carry” will become an obligatory component of packages for cable TV companies, the technical possibilities of which are notably broader compared to terrestrial transmitting multiplexes.

After the digitalization, as envisaged in the draft, the relations between the multiplex operator and the broadcasting operator, if they are different legal persons (there is an opportunity that they are the same) must be built on the contractual basis.

It is also important that the expert group, when working on the draft, recommended options for solution of a number of serious key issues which existed long before starting the transition process of digital transmission. This first of all concerns the manner of formation of the National Commission of Television and Radio (NCTR), as well as the Council of Public Television and Radio Company. As it is known according to the acting law, the RA President appoints the members of the Council of Television and Radio Company based on results of the announced tender in case of vacancies; the winners may be more than one person, but the preference will be given to one person upon the discretion of the head of the country. It should be mentioned that one half of the NCTR members are elected by the RA National Assembly upon competitive basis, and the second half is designated by the RA President. But in all cases these bodies are recruited with people who are devoted to the acting authorities and are ready to fulfill their political order.

In this relation the draft recommends to anticipate organizing of public hearings for selection or nomination of NCTR members, and such hearings, as assumed, will allow to make more transparent the recruitment process for vacancies in the regulatory body and will contribute to increasing the responsibility of both candidates and those who appoint them. It is anticipated to prepare protocols of the hearings, based on which the final decision on appointment (or choice) of each NCTR member will be taken.



Public hearings are anticipated also during appointment of the members of Council of Public TV and Radio Company. But here a more fundamental change in the procedure of formation of this body is recommended. In particular, unlike the current conditions, when the Council members, although appointed upon the competitive basis, still the appointment remains exclusively the competence of the country's President, the draft stipulates to increase the number of its members from 5 to 7 and to reserve the right of nominating one candidate to:

1. The ruling party or alliance which has the biggest faction in the National Assembly;
2. The party or alliance which has the biggest opposition faction in the National Assembly;
3. Public unions with at least 10 years activity in the field of media and journalism and implemented at least 20 programs on media (one candidate jointly);
4. Unions of writers, artists, composers, theatrical workers, cinematographers, architects (one candidate jointly);
5. Human Rights Protector;
6. National Academy of Sciences;
7. Confederation of Trade Unions.

Candidacies are discussed in public hearings which are organized by the acting Council, and taking into account the opinions expressed, which are incorporated in the protocols, the country's President makes a decision on appointment or rejection. In case of rejection of a candidacy the same organizations nominate a new candidate.

Probably the manner of formation of the National Commission of Television and Radio could have been changed fundamentally as well. But the change is seriously complicated because Article 83.2 of the RA Constitution fixes the provision set in the RA Law on "Television and Radio Broadcasting" that a half of NCTR members shall be appointed by the RA President and the second half is elected by the parliament. Therefore, to change the manner of formation of the regulatory body it is necessary to introduce changes in the Constitution, which is a rather complicated process and assumes holding of a referendum.

We consider very important the provision of the draft which requires that in conducting NCTR tenders (in the acting Law – to issue a transmission license, in the draft – to issue a right of over-the-air transmission through public digital network) it should justify not only the choice of a winner but also provide grounds for rejecting a license. The necessity

of incorporating this norm in the law derives first of all from the decision of the European Court of Human Rights adopted on June 17, 2008 on “Meltex” LLC case, the founder of “A1+” TV company. The decision contains a requirement of ensuring transparency in issuing licenses by the National Commission as well as providing respective arguments when the issuance of license is rejected. Therefore, the lack of such provision contradicts the decision of the European Court. Besides, already in 2010 the necessity of incorporating such a provision in the law was highlighted also by the international experts who, commissioned by the OSCE Representative of Freedom of the Media, were preparing conclusions and recommendations on digitalization in Armenia. But at that time this recommendation was disregarded.

Unlike the acting law, the draft recommends a solution of issues related to ensuring transparency of ownership of TV and radio companies. In particular, it is envisaged to forbid founders of private TV and radio companies to become legal entities registered in offshore zones. Besides, according to the draft TV and radio companies must publish on their websites the full names, positions (main job) and share of founder legal persons and those individuals who hold more than 5% of the stocks. In case of changes in the ownership of the property the data must be updated within one month period.

Other significant changes in the draft refer to the elimination of taking an oath by the members of the National Commission on TV and Radio as well as by the Council of Public TV and Radio Company. From the viewpoint of the working group experts the ceremony did not introduce practically anything positive in the activity of the two bodies which very often simply contradicts the content of the oath. It is also recommended to withdraw the requirement from Article 27 which says that there should be at least one female in the composition of the Council of Public TV and Radio Company. The authors of the draft consider such approach irrelevant because there may be an absurd situation at the expiry of the powers of a female member when only representatives of the beautiful gender will have the right to participate in the regular tender. Rather, it is recommended to consider the principle of gender representativeness in formation of the Council of Public TV and Radio Company.

It is anticipated to forward the elaborated draft to Standing Committee on Science, Education, Culture, Youth Issues and Sports of the RA National Assembly, and following respective discussions, including with representative of different state bodies in charge of broadcasting sector, to submit to the parliament for discussion.

The Committee to Protect Freedom of Expression together with its partner organizations Yerevan Press Club and Media Initiatives Center (former “Internews”) will recommend the RA NA to adopt the elaborated draft in its regular session.

## TECHNICAL PECULIARITIES OF BUILDING TERRESTRIAL DIGITAL TRANSMISSION NETWORK

The process, peculiarities and implementation schedule of the introduction of digital transmission program in Armenia is conditioned with decisions adopted by International Telecommunication Union, the international regulator of functions of this field and legislative and sub-legislative acts related to this field effective in the RA territory. From this viewpoint, the current situation partially corresponds to the requirements of the aforementioned documents.

The main discrepancies are connected with the implementation schedule. Thus, “The Schedule of Action Plan of Implementation of the Program of Introducing Terrestrial Digital Transmission System in the RA Territory”, approved by the GoA Decision #193-N on February 27, 2014, says nothing about parallel transmission in digital and analogous formats. While according to the provisions of GOA Protocol Decision #46 from November 12, 2009 on “Concept Paper on Transition to Radio and TV Digital Transmission System” the parallel transmission (switch-over) of analogue and digital transmission of TV and radio programs was to be conducted in the entire RA territory in 2013. The importance of the function is conditioned with the circumstance that in the period of parallel digital and analogue transmission of TV programs a detailed monitoring of audio-video signal is conducted in the entire territory of the country, the acting receiving cable antenna system of the housing stock is tested and tuned as well as the availability of digital decoding add-ons among the population.

It seems the concerns of the experts who visited Armenia are completely forgotten. The experts said that local receiving cable antenna systems which have been deteriorated during years would lead to serious complications in future for receiving clear terrestrial digital TV signals. It is necessary to modify and tune seriously the receiving cable antenna systems of population in the entire territory of the country. At present the collective receiving networks are fully dissembled. Many various constructions and receiving antennas of known and unknown production are installed for receiving analogue transmission signal. The scale of problem of building and tuning the receiving cable antenna systems and complication of its solution is conditioned with a number of factors, which, in particular, include the following:

1. The big number of receiving networks to be built – approximately 1 million beneficiaries in the entire territory of the country;
2. Dependence from the choice of receiving antenna, in particular, the distance from transmission station, the frequency of signal transmitted in the settlement, the output capacity of digital transmitter and geographic location, direction of transmission in case of receiving programs from more than one transmitting station, etc.

Besides, the network of receiving cable antenna systems offered in the international market is rather broad according to its technical features, price (20-150 USD) and purpose of installation (external, internal, mobile, etc). The specialized body, naturally, for the purpose of advising the population, must ensure the opportunity of choosing among several best options (with necessary and sufficient technical features and minimal price). Recognizing the complication of the issue, however, we think it necessary to elaborate a conceptual approach for its solution.

It is necessary to undertake measures aimed at increasing the knowledge and awareness on the use of digital transmission by broadly involving mass media means as well as activities related to formation of service centers in the entire process of transmission in the switch-over regime. As mentioned these activities are ignored in the approved schedule.

Instead, it seems digitalization measures are marked out and performed in haste due to scarcity of time as the process should be completed by July 1, 2015. Undoubtedly, this is the outcome of the thing that before 2011 the digitalization program became a sort of headache for different agencies and GoA. In particular, from 2006 – 2011 the Government twice changed the agency in charge of the implementation of program upon its decisions: at one time it was the RA Ministry of Transport and Communication, then the RA Ministry of Economy, then again the RA Ministry of Transport and Communication. The result of such changes certainly had negative impact on consistency of the program implementation, the scarce forces of specialists were wasted and, the most importantly, less time was left for the program implementation. Unfortunately, during that period the steps on digital network building were elaborated and adopted in the result of closed negotiations between business representatives and government, without public discussions and participation of society.

Already in 2010 the Committee to Protect Freedom of Expression specified, in the similar report, some peculiarities preferable for terrestrial digital transmission TV and radio network to be built in Armenia, such as the choice of relevant standard, building of single-or multi- frequency network, etc.

At the current phase it is already known that the Swedish “Ericsson” Company was the winner of the international tender announced in summer of 2013 for building of digital terrestrial transmission network in Armenia, and that the network construction works are progressing according to the agreement signed between the Company and “Television and Radio Transmission Network of Armenia” CJSC. Despite this, in response to our letter addressed to the RA Ministry of Transport and Communication, the letter signed by A. Arakelyan, Deputy Minister, says that “Implementation of activities has no relation with “Ericsson” Company, they

are conducted by “Television and Radio Transmission Network of Armenia” CJSC. Whereas in his interview with CPFE from August 15, 2014, Grigor Amalyan, the General Director of TRTNA CJSC, described how the functions envisaged for building of digital network is divided between the Armenian and Swedish companies. On this point the deputy minister shows strange unawareness.

Below we would like to present our considerations about some technical features of the digital network to be built. The network is designed according to DVB-T2 standard, and for signal compression MPEG-4 standard is used which enables to transmit TV images through IP networks and is the most effective system. MPEG-4 standard is used for over-the-air transmission and video-telecommunication and includes many functions of MPEG-2 and similar standards, increasing possibilities of high precision of imaging.

Application of DVB-T2 standard terrestrial receiving network allows simultaneous transmission of different quality TV programs (HDTV, SDTV, LDTV resolution TV). Digital DVB-T2 system is characterized by tuning of data transition speed which conditions the number and audio-video quality of different TV programs broadcasted through one TV channel, tuning of size of protection from reflected electromagnetic waves, availability of alternative modulation schemes, security from errors in data communication information, etc.

In general, transition to digital transmission system ensures special information needs of consumers by offering additional services, TV electronic program guide (EPG), teletext, alternative options of audio settings of programs, etc. Since there is no need of transcoding between TV colored systems and standards (PAL, SECAM, NTSC) digital transmission via DVB-T2 standard significantly simplifies the issue of internal and international exchange of TV and radio programs which is so important in the area of globalization.

The designed digital network is multi-frequency network. It is known that digitalization of TV and radio transmission contributes to increase of efficiency of frequency application range, multiplies the number of radio and TV programs transmitted. The International Telecommunication Union divides the territory of Armenia into 9 transmission zones. Obviously in the case of our country, to which quite few channels are provided (43) according to GE(06) Digital Television Plan, the single-frequency network model would have been preferable. It would significantly save the frequency resource, in particular that of 277<sup>th</sup> transmission zone (channel #11) which covers the Ararat valley with the capital city Yerevan. However, the realization of single-frequency network model is connected with serious financial expenses and at present is rather complicated from the technical aspect because of the necessity of ensuring

broadcasting transmitter high level synchronization (1 Hz) which is accomplished through GPS system.

However, we believe that the subject matter digital network must have the possibility of transforming into single-frequency transmission network (SFN) in future, if necessary. This is especially important for the aforementioned 227<sup>th</sup> zone which is the most attractive zone also from the perspective of private businesses. As for the remaining transmission zones, taking into account the peculiarities of Armenia's relief, the frequencies allocated for digital TV transmission may be reapplied several times in different transmission zones which opens the broadest opportunities for planning of frequencies and areas.

The digital transmission in the RA territory is possible through 241 channels. The remote settlements which are cut off from the main communication routes receive TV programs of Public TV Company via satellite. The terrestrial digital transmission network to be built in Armenia will have approximately 120 stations.

4 public multiplexes with application of European DVB-T2 standard are organized. The first multiplex is transmitted in the entire territory of Armenia, and the second, third and fourth multiplexes only in Yerevan and its suburbs. The republican multiplex (1<sup>st</sup> multiplex) is comprised of 9 TV programs and 4 radio programs, and each of the Yerevan multiplexes (2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> multiplexes) from 6 TV and 4 radio programs.

Inclusion of marz TV program in the republican multiplex is exercised on-site, in the center or main station of marz. With this view it is envisaged to build a de-multiplexing station in each RA marz for including marz TV programs.

A satellite transmission station is under construction in Yerevan for the republican multiplex telecommunication. Once the multiplex is ready in the main station of Yerevan it is transmitted to the marzes of Armenia. In the center or main station of the marz it is demultiplexed and one of marz TV programs is included in multiplex for broadcasting in the territory of the marz.

In parallel, the republican multiplex is loaded to the respective communication satellite via satellite transmission station of Yerevan. Those areas of Armenia where microwave radio lines are not accessible will receive the republican multiplex via the communication satellite through approximately 150 receiving satellite stations built and then transmit over-the-air in the area. However, in the aforementioned areas the transmitted public multiplex will not have the TV program of the marz.

This is a new problem which is not reflected in “The Concept Paper on Migrating to Digital Radio and TV Broadcasting”, is not regulated in any way by the RA acting Law on “Television and Radio” and has been never mentioned by the authorities. Meanwhile, according to the RA State Statistics Service data, the total number of the aforementioned settlements is approximately 5% of the total number of the country’s population. Transmission of marz TV programs in these areas will be possible only after 2015 when digital transmission private networks will be built. However, there are serious doubts about profitability of that business.

According to the agreement signed between “Television and Radio Transmission Network of Armenia” CJSC and “Ericsson” Company, the activities of digital broadcasting and organization of transmission in the Republic are divided into 3 phases. They conditionally may be called as discussion phase, implementation phase and operation phase. The first phase of activities envisages the study of physical state and saturation of existing infrastructures (TV towers, capital buildings, roads, wire lines, etc), commissioning and conducting of digital transmission network design, elaboration of an action plan, selection of technical equipment suppliers, elaboration and preparation of construction documents, education and training of technical personnel.

The next phase envisages the building of digital network, testing of stations and technical equipments and final tuning. The third phase of activities envisages optimization of the digital transmission network, switching off the analogue transmission, management of digital network, measuring of its qualitative indicators, provision of current services.

In addition to the mentioned issues, there are also three technical issues which we would like to bring into attention.

First of them is anticipation of the backup opportunity for digital transmission, in other words, anticipation of the opportunity for choosing alternative (reserve) channels of telecommunication network. It is one of the basic requirements set for designing and building the republican digital transmission network. From this viewpoint the structure of the proposed digital network allows to communicate the digital video-signal to a certain area through bypass road in case emergency in separate districts.

In addition to the aforementioned, two alternative options are also recommended for ensuring reserve channels of digital transmission network:

- a. Taking into account some international experience and considering the circumstance that the option of the republican digital transmission network to be built envisages construction of satellite TV stations in the areas where microwave radio lines are not accessible it is recommended to install satellite receiving stations in the remaining TV-stations of the network

(except Yerevan), rather than to exercise national multiplex telecommunication transmission through satellite in ordinary situations. According to initial estimations this approach will require approximately 160,000 USD additional financial investment but will ensure the presence of alternative option of the republican multiplex telecommunication. It should be mentioned that this option may be applied also after building of the main digital transmission network within the framework of its possible development program.

b. Rapid development of IT and high technologies and formation of electronic society assumes also, in particular, construction of new fiber optical networks in the entire territory of Armenia. According to the GoA Protocol Decision #7 on “Approval of Concept of Formation of Electronic Society in the Republic Armenia” from February 25, 2010, it is envisaged to install the next generation broadband network with 100Mb/sec capacity in the entire RA territory, including rural areas, and the communication with citizens’ houses and flats will be expanded from its main junctions as hybrid (Wi-Max, fiber optical, etc), ensuring in the midterm the accessibility of the fiber optic network to houses.

Taking into account the technical features of such networks and protection of digital flows transmitted through them from external interruptions it is recommended to consider also the fiber optic networks as reserve networks for organization of digital TV and radio transmission. In terms of shortcoming it should be mentioned that fiber optic networks in Armenia are mainly possessed by private companies although according to the RA Law on “Television and Radio” the republican TV and radio digital transmission network under construction is state property.

The next technical issue which needs solution is organizing and supervision of advisory and maintenance centers (call centers).

The creation of such centers has significant social importance, however first it is necessary to solve technical issues related to it. It is necessary to establish “hot lines” as a component part of the centers which will enable to receive comprehensive answers to all issues of interest for the population (related to connections of digital TV set-top-boxes and cable antenna systems, etc) during and after implementation of the program, as well as rapid technical assistance when problems occur. The number of such centers should be determined according to the size of service catchment and number of beneficiaries.

To control the efficiency of activities of centers it is necessary to collect and analyze, on a regular basis, such statistical data as number and nature of phone calls, number of visits made, etc. It is necessary also to create a special internet site which will provide necessary consultations to those who wish to.



It is necessary to conduct careful monitoring of developments to ensure the efficiency of digitalization process and to use it for attaining the aforementioned objectives. It assumes collection of quantitative and qualitative data from all involved state and private structures in the course of implementation as well as conducting of opinion surveys among the population and TV companies. Then the collected data should be analyzed to improve the future activities.

And finally, the third is to ensure accessibility of digital TV for the population. In this view it is necessary to organize import and sale of digital set-top boxes and cable antenna equipment (free provision of vulnerable families), technical support to consumers and delivery of maintenance services.

Choice of digital set-top boxes covers the prevailing majority of over-the-air digital TV consumers. The choice of these devices should be made by taking into account necessary and sufficient technical standards, giving preferences to options with optimal prices.

Manufacturing of digital set-top boxes is broadly organized in foreign countries a long time ago, and the problem of population may be only the proper choice from offered varieties. This issue may be addresses through sufficient awareness of the aforementioned serving groups and population. Currently the price of MPEG-4 standard digital set-top boxes is 20-100 USD in the international market and has the tendency of further decrease.

## SOCIAL COMPONENT OF DIGITALIZATION

The rapid development of modern technologies and new media significantly broadens citizens' opportunities of choosing information sources necessary and comfortable for them. In this regard some experts think that digitalization of over-the-air transmission is losing its urgency. However, two important circumstances prove the opposite. First, according to the surveys conducted in 2013, the television still remains as an important source of information for more than 80% of Armenia's population, and second, according to the official data, approximately one third of the population is poor, and this huge layer of the population will hardly consider the possibility of affording paid television services. Therefore, it should rely on "social package" ("must carry") of over-the-air broadcasted TV programs which, according to the international commitments and the RA acting Law on "Television and Radio" should switch to digital transmission system from July 1, 2015.

According to estimations of the Committee to Protect Freedom of Expression, approximately 50% of the country's TV audience will make use of "social package" after switching to digital transmission. This forecast is argued first of all by the fact that the

real poverty level in Armenia, as claimed by independent experts, is notably higher than the official data and is approximately 40%. Besides, there is a certain part of population whose welfare is between the poor and middle layers and obviously they will consider payment for television as luxury and will watch only free TV programs. And finally, there is also the factor of habit: “If we did not pay during our whole life, why should we pay now?”

Although these predictions are close to the reality, they do not reflect the situation with scientific accuracy and market perspective, which will appear following the transition to digital transmission. The state should have conducted appropriate researches. It was envisaged, in particular, in the GoA “Concept Paper on Migrating to Digital Radio and TV Broadcasting”. Clause 7 of this document says that important mechanisms of ensuring the effectiveness of digitalization process include public opinion and continuous study of the market, in the course of which it is necessary to identify the coverage of digital TV-s and the dynamics of use of TV channels in Armenia. The mentioned Clause also highlights the necessity of conducting detailed survey on “consumers’ opinions and willingness of payment for additional services”.

As of September 1, 2014, however, the state bodies in charge of digitalization did not conduct such research. Practically nothing is done also in terms of notifying the public about outcomes expected after the digitalization, its deadlines, goals and objectives. Whereas the second part of the Concept, entitled “Main Strategic Goals”, says that it is necessary “to inform and prepare the interested parties” in order “to carry out transition to digital transmission effectively”.

The international experience shows that digitalization is successful in those countries where it has been accomplished in consent with the public, in conditions of broad involvement of citizens. We would like to draw attention on Estonia’s experience where the deadlines for completion of the digital transmission were clearly defined and all actions were completed within the defined schedule. It is worth mentioning that one of the main factors which did not allow to break the timeframe were educational campaigns among the population due to which the digitalization process was always at the center of their attention and each citizen of Estonia knew what to be connected to digital transmission.

Opposite to it, the Armenian authorities took the route of obtruding their decisions on switching to digital transmission on the society. The government is pushing on its vision on digital transmission since 2009 when the aforementioned Concept was approved and

2010 when fundamental changes and amendments were introduced in the RA Law on “Television and Radio”. And opinions and recommendations of local journalists’ unions, other public organizations, international bodies, as a rule, were ignored.

Simultaneously, the state bodies in charge for digitalization did not elaborate and implement a plan of action on public awareness, preparation of citizens’ for the process, provision of advisory services to them. Grigor Amalyan, the General Director of “Television and Radio Transmission Network of Armenia” CJSC in his interview with the Committee to Protect Freedom of Expression in August said that these works would start from September 2014. However, the international experience proves that it was necessary to launch educational and information campaigns and other social actions related to switching to digital transmission parallel to legislative, technical and other measures. From this viewpoint the period from 2010 to September 2014 may be considered irreversibly lost.

However, perhaps the most sensitive key issue related to digitalization is providing support to vulnerable layer of population so that after switching off the analogue transmission they continue to receive TV signals. It is understandable such citizens of the country use old TV sets which cannot receive digital signal and the state must help such families. The support may be in the form lump-sum predicted for obtaining devices (decoders) for turning analogous signal into digital or by providing such devices free of charge.

The Government’s Concept envisages “subsidizing the families registered in the republican family assessment system for obtaining digital decoders. To announce a state open tender for providing the population with available and qualified devices...”. At the time when that document was elaborated it was still unclear in which specific form the support would be provided. It seems currently the state has taken the decision: to provide free digital decoders to vulnerable families since there is high probability that monetary assistance will not always serve to its purposes, and in conditions of digital transmission the issue of general availability of digital transmission will remain unsolved.

However, one problematic issue still remains: in particular how many families will receive free devices. In the aforementioned interview Grigor Amalyan, making reference to the Digitalization Concept, mentioned that free digital devices will be provided to 100.000 families. While page 11 of the Concept states other figure - 150.000. In this regard CPFE sent a request to the RA Ministry of Labor and Social Issues, in respond to

which it was informed that there were 130,000 vulnerable families registered in the country as of May 1, 2014.

Simple comparison of these figures leads to a rather alarming conclusion: tens of thousands families, registered in the vulnerability rating matrix, cannot receive decoders and starting from July 1, 2015 when it is anticipated to switch off analogous transmission they will not be able to receive TV programs. It is true that there is some comfort in assurances of the authorities that the analogue transmission will not be switched off until the issue of availability of TV signal is not solved for the entire population. However, in the process of switching to digital transmission the society had several opportunities for not trusting the state bodies in charge for digitalization and not believing their promises since 2010 when the legislative changes in this area were discussed.

The RA Ministry of Labor and Social Issues also stated in its response that following the adoption of normative acts on providing free digital devices, the list of vulnerable families would be prepared for that purpose. In other words, the current list may be reduced and adapted to the aforementioned smaller figure – 100,000 families. Probably it will allow to solve formally the issue of providing state assistance to vulnerable families in switching to digital transmission. But in case of such an approach tens of thousands families in need of assistance will be unduly neglected and face with social injustice. Therefore, it is necessary to study the situation more carefully and provide targeted support to all vulnerable families.

In general, the social issues related to digitalization of transmission, together with legislative key issues, are fully neglected. In fact, during 5 years following adoption of the Concept, nothing is done for their solution. In view of this the recommendations elaborated by the Committee to Protect Freedom of Expression in 2010 concerning the social aspect of digitalization still retain their actuality nowadays.

In particular, despite the time lost, even in the last year of digital switch-over, it is necessary to initiate a large-scale informative educational project addressed to all layers of the society, the components of which may be:

- Preparation and transmission of social advertisement on TV and radio, also publication in newspapers, internet, etc;

- Preparation of booklets and flyers of informative educational nature and their dissemination in all settlements of the country, house by house, just like candidates' booklets are disseminated during pre-election campaign. These flyers must provide TV

viewers with the most necessary information on switching to digital transmission as well as contain information for feedback communication channels.

- Organization of educational training courses at schools and universities for young generation to obtain technical knowledge and skills of making use of digital transmission. In this case schoolchildren and students are more preferable target group since they will quickly digest the knowledge and skills and transfer them to their family members, relatives and friends.

- Organization of workshops and presentations as well as TV programs in different regions of the country to disseminate essential knowledge and skills which are necessary for making use of digital television broadcasts.

- Creation of a special website which should contain information about transition from analogous to digital transmission in Armenia and have sections which are understandable and briefly present:

- a. what is digital transmission?
- b. What should TV viewers know on switching to digital transmission?
- c. Which devices are necessary and where to obtain them?
- d. Which social groups will be provided with free devices and how?

- Opening of free “hot line” where citizens may receive advice on devices obtained in conditions of digitalization, information about companies delivering digital services, etc.

In transition period all information coming from all marzes through “hot line” with regard to arising technical problems will contribute to operative solution of problems as well as will become a tool of observation for digital transmission quality.

To orient TV and digital device buying citizens it is recommended to establish a special guarantee sign and provide to those organizations which import digital transmission devices complying with local standards. This will reduce the import of incompliance technique and most importantly, will allow buyers to be confident in the right choice and quality of product obtained.

It is very important to ensure active elucidation of digitalization in media. To encourage this activity it is necessary to set awards for national and local media which will prepare special informative-educational publications and a series of programs about digital transmission, elucidate issues related to digitalization in the best way.

## CONCLUSION

Out of the aforementioned three areas of digitalization – legislative, technical and social – the technical dimension has the most advance status. Following the adoption of GoA Decision #193-N from February 27, 2014 by which the new schedule of action plan was approved, the reequipping process of digital transmission system became notably active.

It was supposed that the tenders conducted in 2012-2013 would identify those companies to which the implementation of activities might be trusted, but they were announced as failed (because of lack of a winner) and the winning company was identified only in the new tender: it was the Swedish “Ericsson” Company. The Company builds the digital transmission system together with “Television and Radio Transmission Network of Armenia” CJSC which is one of the structural subdivisions of the RA Ministry of Transport and Communication. As of September 1 2014, the measures are conducted in accordance with the approved schedule.

Together with this, the CPFE monitoring revealed a very serious key issue which is not reflected in the “The Concept Paper on Migrating to Digital Radio and TV Broadcasting”, is not regulated in the RA Law on “Television and Radio” and may lead to violation of the right of receiving information for a part of the country’s population. In particular, in creating the digital transmission infrastructures it turned out that the population of villages located far from main channel routes and on complicated reliefs which are unreachable for microwave radio lines cannot receive programs of their local TV companies and will have to be restricted only by national multiplex TV programs broadcasted via satellite. This problem requires a non-standard solution because, according to the official data, such villages are approximately 5% of the country’s population.

Less than one year remains till transition from analogous from digital transmission but there are many non-solved legislative key issues. The RA Law on “Television and Radio” needs full fundamental improving and updating. In view of this the Committee to Protect Freedom of Expression, together with the partner organizations Yerevan Press Club and Media Initiative Center created a working group which elaborated a new draft on introducing changes and amendments in the legislation on transmission. It is envisaged to forward this document to the parliamentary Standing Committee on Science, Education, Culture, Youth Issues and Sports, and following detailed discussions with different state bodies, interested NGO-s and international bodies, to submit to the RA National Assembly for discussion and recommend its adoption.

According to the data available as of September 1, 2014 the social dimension of digitalization is the most neglected dimension. The state had done nothing in practice in terms of informing the population about transition from analogous to digital transmission, goals of the process, expected results, accomplishment of actions necessary for full application of new technologies. No survey on public opinion was conducted, which could have enabled to receive objective data about consumers' opinion about digitalization, their readiness to pay for additional services. It is worth mentioning that such measures were anticipated in "The Concept Paper on Migrating to Digital Radio and TV Broadcasting" of the government.

And finally, the most problematic social issue related to digitalization remains the provision of free decoders to vulnerable families which will enable them to receive digital signal. The mentioned Concept Paper says that it is necessary to provide such devices to 150,000 families. Nowadays the Government determines to obtain free decoders for 100,000 families, whereas according to the data of the RA Ministry of Labor and Social Issues there are 130,000 vulnerable families registered in the country as of May 1, 2014. Will all of them receive free decoders? The opportunity of ensuring transition to digital transmission in consent with the public greatly depends from this.