



Keeping Kosovo's Broadcast Transmission System
Independent and Sustainable



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I. EXECUTIVE SUMMARY

Since 2000, USAID, through IREX, has supported the development of the Kosovo Terrestrial Telecommunications Network (KTTN) to provide transmission services to Kosovo's licensed province-wide radio and television broadcasters. After 3 years of support to this system, USAID and IREX agreed to assess the current situation and suggest the best method to ensure efficient, sustainable, and independent broadcasting for Kosovo's broadcaster.

Based on an agreed Scope of Work (See Appendix I), IREX assembled a team of experts to prepare this report and address the following core issues:

- Assess the context in Kosovo for public and private broadcasters (TV and radio) to transmit their signals efficiently and cost-effectively without jeopardizing their independence;
- Assess the context in Kosovo for maintaining and operating broadcast transmission towers;
- Review the present status and operations of KTTN, including the feasibility of its current business plan;
- Make recommendations to USAID and IREX on the best course of action to support the ability of private broadcasters to cost-effectively transmit their signals without jeopardizing their financial or editorial independence.

In examining the context in Kosovo for broadcasting the following points are of key importance in determining the best approach to efficient, sustainable, and independent broadcasting:

- The economy remains extremely weak, limiting both domestic and international investment prospects for both broadcasters and transmission organizations.
- The unresolved legal status of Kosovo additionally limits both domestic and international investment opportunities into broadcasters and transmission organizations.
- The regulatory framework for broadcasting in Kosovo remains incomplete and the extent of independence the completed framework will provide broadcasters therefore remains uncertain.
- Land ownership issues remain unresolved.
- Pervasive distrust between the public broadcaster (RTK) and the private broadcasters (KTV, Radio Dukagkini, and RTV/21) hinders easy cooperation on issues of common concern

In examining the current operations of KTTN, the panel found the following issues of importance:

- The development of the technical system of transmission was dictated by political and financing constraints and was determined the best solution at the time.
- The structure of KTTN governance was dictated by political constraints and uncertainties and was the best solution at the time.
- KTTN has solid management.
- KTTN remains undercapitalized – as such the system lacks appropriate back-ups, redundancies, and facilities at transmission sites.
- KTTN has attracted commercial revenues but needs to aggressively pursue all options for commercial revenues.
- The current management and governance structure is not suited to the needs of KTTN for moving forward in an era of declining donor support and increasing Kosovar control of regulatory issues.

The report recommends:

- The basic KTTN structure as a transmission authority be maintained but consideration be given to modification in the following manner
 - Development of an outside board of directors
 - Definition of a strong executive leadership position
 - Development of a marketing department
 - Consideration be given to altering the non-profit nature of the system by creating a hybrid non-profit/commercial organization (e.g., IPKO)
- KTTN develop a strategic plan with one-, three-, and five-year scenarios that addresses revenue and expenditure projections, investment in upgrading facilities; developing back-up systems; increasing commercial revenue; attracting investment, and modifying the management and governance structure as detailed above.
- KTTN work with USAID and appropriate authorities to resolve land ownership issues as a high priority.
- USAID and KTTN explore the possibilities of achieving legal and regulatory acknowledgement of its role as transmission authority, provided that protects its independence and provides security, rather than providing inroads for government control.
- USAID and IREX consult on recommended manner to approach KTTN and Members with Recommendations. KTTN and members must buy-in to changes.
- USAID and IREX assist in finding additional donors for the achievement of the above-stated goals.

II. BACKGROUND AND CURRENT STATUS OF THE BROADCAST SYSTEM IN KOSOVO

A. Current Status - Summary: The present system of transmission for broadcasters in Kosovo is twofold. The three national television and four national radio broadcasters (those with a license to broadcast across Kosovo) use an analogue transmitter system located on six towers on strategic high ground throughout the region. This system is operated by Kosovo Terrestrial Telecommunications Network (KTTN), an NGO supported by USAID subsidies, user fees and limited commercial activities.

Smaller regional independents (TV and Radio) use low powered transmitters usually located on the building housing their studio or in the immediate vicinity and do not use KTTN facilities. However, at least one regional station is actively trying to arrange use of KTTN facilities to extend its coverage (TV Mitrovica). Also, local Pristina station TVAA is currently transmitting from KTTN's site at Pristina Hill.

The transmission requirements for regional broadcasters, although not a main consideration here, consist of low powered transmitters on or near a broadcast studio. This is not an ideal set up due to potential damage to the studio, increased risk of interference, and even potential health concerns.

KTTN is an independent, non-governmental organization which owns and maintains transmission equipment and facilities for the benefits of its users – the licensed province-wide radio and television broadcasters in Kosovo. It operates under a board comprised of the users and with professional full-time management and technical support. The by-laws of the organization prohibit users from developing or using alternative systems.

KTTN owns seven towers for the purpose of supporting transmission facilities and owns transmitters and related equipment. Six of the towers are in operation, permitting the TV users to reach somewhat more than 70% of the population and radio users to reach approximately 83-87%.¹ If the extra tower (Koliq) is activated, television coverage could rise to 77%. The infrastructure is in place at this tower but not the transmission/broadcasting equipment.

The users and formal founders of KTTN are:

- Radio Television Kosovo (RTK) – the public broadcast organisation with one television and two radio channels
- Radio Television 21 (RTV 21) – a private commercial radio and television operation
- Koha Television (KTV) – a private commercial television channel wholly owned by the Koha group, the publisher of Kosovo's leading newspaper, *Koha Ditore*, owner of a printing press, and internet service provider.
- Radio Dukagjini – a private, commercial radio station

These four organizations are the current holders of Kosovo's licenses for province wide broadcasting. It should be noted that current regulations and drafts indicate that RTK does not need re-licensing and will remain a national broadcaster. The others are subject to relicensing so although they are the current users, there is no guarantee that they would remain users of the system. An important aspect of the system, regardless of the holders of the private licenses, is the coexistence of the public and private broadcasters in one broadcasting system. In many countries, the state favors the public/state broadcaster at the expense of the private broadcasters. In Kosovo, this can still happen but transmission is one area, under the current KTTN system, where this sort of favoritism cannot be effectively employed. Nor can the opposite

¹ No full technical survey has been done to determine exact radio coverage although the figure provided is a sound estimate.

approach be employed – interference in the transmission of one station means interference in all – a step that raises the price the government would have to pay to go after a single broadcaster.

B. Current Status of KTTN – Legal Status: Being registered as a non profit organization with the civil authority, UNMIK, KTTN can receive donor monies, commercial revenue and other means to support its operation. However, this NGO status presents a number of difficulties in raising investment funds from commercial investors or banks. Commercial banks operating in Kosovo will currently not lend or provide overdraft facilities to an organization that cannot offer assets as collateral for loans. External investors are equally unwilling to invest in an organization which has not-for-profit status and assets which are off the balance sheet and ultimately under the control of the original donors.

Several of the existing clients of KTTN expressed the view that for the organization to survive it has to alter its status. And certainly without growth, it is difficult to envisage the organization as self-sustaining by providing services for the broadcast market alone. Some form of public charter company is unlikely to be favored by the TMC since there are severe delays in planned media regulations and it is unfamiliar territory to the existing authorities. Equally there appears to be no scope for bringing KTTN into the realm of the existing public broadcast environment. Such a proposal would damage the relationship with the commercial broadcasters and is not favored by any of the present authorities.

There is a risk that if a clear and well planned strategy for KTTN or a clear alternative is not created, the broadcasters will rely on increasingly short-term measures to solve the inevitable financial decline of the organization. In these circumstances extreme views such as '*maybe in the future a state institution could be involved in donating to KTTN*' or '*it doesn't matter if KTTN were to lose some of its independence if the service price is lower*' are likely to find broad support. If this is the case all the good efforts of the past will have been to no avail.

Currently the more considered opinions are in the majority. '*As an NGO it is at risk. KTTN has to be privatized to enable investment in growth*' or another '*KTTN has to grow and become a for-profit organization*'.

The difficulty is that simple privatization raises several potential threats:

- If a newly privatized organization goes bankrupt, transmission will cease for the broadcasters.
- If the organization is sold on to new owners, it could compromise KTTN's independence. It could even mean the shut down of non profitable services, such as broadcast transmission.
- If one or more of the broadcasters fails to pay their bills, it could result in them being taken off air.

Among the broadcasters there would be understandable disquiet for a wholly privatized business that offered no protection in providing them with a service. Indeed it could create a monopoly supplier that might at some future date start behaving as a monopoly. It is also likely that the existing TMC would not look favorably on such an option.

C. Current Status of KTTN - Governing and Management Structure: The current structure of KTTN has for its highest governing body a General Assembly consisting of all the members of the organization. Members are defined as '*all natural or legal persons which hold one or more licenses issued by the Temporary Media Commissioner...to broadcast across the entire territory of Kosovo...*' However this body does not appear to meet and the responsibilities of the General Assembly are delegated to a Board of Directors as allowed under the statutes (Art.V s.5.5).

The Board of Directors comprises 'Appointed Directors' from each Member organization and, as an *Ex Officio* Director, the President of KTTN (defined as the CEO of KTTN).

In addition, there is the scope to appoint an 'Elected Member' to serve for a period of two years and who *'may not be an officer or employee of a member of the organization or have any financial interest in any member of the organization...but in all cases shall be an individual with substantial business experience and/or substantial knowledge of technical aspects of terrestrial transmission networks'*. This option does not appear to have been exercised and as such appears a significant oversight when assessing the organization's strategic vision and the functioning of the Board.

Current Board membership consists of representatives of the Founding Member organizations together with the Administration/Development Manager of KTTN who is in effect the Senior Manager/Chief Executive at KTTN. This structure raises several issues which need resolving if the organization is to develop successfully in the future.

Certainly the present board membership maintains the independence of KTTN since the broadcasters are able to ensure that the organization meets its public obligations and provides them with transmission on a non-partisan and non-discriminatory basis. Equally they are able to identify and respond to any external threats that may arise from individuals or special interest groups seeking to exert pressure or undue influence on the professional activities of KTTN.

However this Board structure now appears to place limitations on KTTN, in particular in two key areas:

- the capacity of the organization to develop a strategic plan
- the ability of the organization to generate income from its major customers

The evidence for this is seen in the Board Members' differing views of their role and function and the approach they take towards the introduction of fees to KTTN for its services. Several strategic and operational issues examined in detail will provide support for this analysis.

There is acknowledgement among some board members that they have been uncertain as to their function, their authority and purpose as board members. *'...we would like to feel like the owners but until now we have just felt as the customers'* and another *'we didn't use our power...we are a bit reserved...'*. When pressed to elaborate on how they saw their role, one member expressed the view that they were there to protect the interests of their organization. It is the case that the board presents its members with an intrinsic dilemma of being both a user/customer and the controlling authority for the organization.

This means that the normal role of a board member, giving strategic direction and determining investment policy is problematic. Individual interests can and do surface at KTTN, when what is required is a cohesive approach that weighs the future options for the organization in terms of the overall broadcasting and business environment.

As an example, members were asked their views of the ongoing investment program² of new transmitters to raise the national coverage from its current 70-75% to a planned 95-99%.

For the 'public' broadcaster RTK, with a requirement to serve the population throughout the territory and provide programs in five languages to reach minority audiences, there is an overriding interest in seeing its output extend to as many geographic areas as quickly as possible. *'We receive letters from the public asking why RTK is not sending the signal to this or*

² Construction work for transmitter tower 7 at Koliq is complete (Oct 2003) with the mast, support building (for housing transmitters/ emergency generator equipment/guard room) and perimeter fence in place. Once operational this site will bring national radio and TV to a population of approximately 100,000 in the region of Podjeve and surrounding villages for the first time since 1999. In addition, this transmitter will bring the border posts at Merder and Prapaslatice into the reception area for national radio and TV.

that municipality.' Another factor for RTK is the collection of the license fee through KEK which is made that more complex when coverage is not complete.

In contrast, the business needs of the commercial TV companies mean they are more concerned with ensuring full coverage to areas like Pristina, where there are 'holes' in the existing coverage from transmitters. Filling these gaps will more quickly meet the demands of their advertisers.

Among other issues worth noting is the apparent misunderstanding by some that presence at Board meetings can be delegated to another person without formal notification of a change of representative, or that more than one representative can attend a meeting. Not only does this severely hamper the Board's ability to function as a decision-making body but also it undermines its status. Furthermore this action contravenes the statutes (Art. IV s.4.3).

At the centre of KTTN's ability to plan strategically lies the issue of fees for the service it delivers to its member organizations, the broadcasters. Here again there is a divergence of views among Board members. So while one Board member's view is '*... we have expressed a willingness to pay if an agreement can be reached by all the members*', another states that '*it needs to be step by step ... and the economic situation precludes payment now*'.

However whatever the individual opinions, it is hard to imagine anybody easily taking a decision to self-impose charges. It is in effect like inviting the members to choose a reduction to their own organization's income.

While members acknowledge that payment for transmission services provided by KTTN is an issue they must resolve, they are unwilling to accept them at a level that will cover the costs. For some, there is still a wish to defer their introduction to an unspecified future date. But it should be noted that the current revenue of KTTN consists of donor revenue and commercial revenue. If donor revenue (USAID) declines substantially, commercial revenue at current rates cannot sustain the system. This is a point that many users fail to see.

This situation provides the clearest evidence of a fundamental dilemma that is holding KTTN back from adopting a more commercial approach to its activities. Is the Board serving a group of customers who are intent on maximizing their advantageous position (a short sighted view)? Or is it a policy-making body determined to see KTTN prosper as an independent organization? Answering this issue would greatly clarify the future for KTTN. Without income from its users the organization is not viable and is sustainable only by continuing donor support.

A minor, but significant detail of the current situation is the continuing use of the term 'membership' which conveys the idea that KTTN is not a business that needs to cover its operating costs and ultimately make a profit for its own survival, but a 'club' serving the founder members. All users of KTTN's transmitter network need to be thought of as customers who demand the best quality of service and the most efficient system of charges

The issue is getting the existing board members to modify their own status in their interest and those of KTTN's future.

It should also be noted that any continuing delays in implementing a fair system of payment for KTTN's services may jeopardize its status as an NGO. The UNMIK regulations under which it is currently constituted state that: "... Any transaction between the organization and its members, officers, members of the Board or employees must be concluded at fair market value or on terms more favorable to the organization." (Section 7, REGULATION NO. 1999/22 ON THE REGISTRATION AND OPERATION OF NON-GOVERNMENTAL ORGANIZATIONS IN KOSOVO)

Consultant Craddock reiterated this view by proposing that the Chairman of the KTTN board should ideally be a local respected Kosovar, who has stature in the community, Chairman or

President of a large commercial organization that has strong contacts with all levels of society. The Chairman should be responsible for interfacing at Board level with all radio and television organizations, guiding the Board and Directors of KTTN in making sound financial decisions and guiding and helping them to raise funds and finances as and when necessary. The Directors should not be "users" of KTTN and again though probably no more than four or five in number, they should be selected from the community to represent all views of the general viewing public. The present system of having the Board of KTTN also being the station owners and operators means they can influence decisions concerning the rates to be charged for KTTN's services to their own organizations. The Board of Directors should also be appointed from a group of local dignitaries, again from the wider community, who can fairly represent unbiased views and opinions.

The present management structure of KTTN appears to place technical leadership in parallel authority with the senior manager role. This obscuring of the manager figure as the CEO seems an unnecessary confusion. If the organization is to pursue a business plan for growth there needs to be a clear voice leading the organization who has the confidence of a strong and supportive Board of Directors.

Successful management of the financial, technical and human resources will require many skills and the CEO of the organization will need full authority to lead the organization. While the organization is contemplating considerable financial investment it may be worthwhile conducting a skills audit on employees and assessing what future training needs can be identified. Investment in the human capital of the organization will be as important in meeting the challenges of an enlarged business as the technical issues. Preparation of job descriptions with identification of the key tasks, core skill requirements and personal qualities for all posts would bring benefits to the organization and assist managers in the project planning and the successful implementation of any investment plan. Job descriptions exist for the administrative posts but not technical personnel.

D. Current Status of KTTN – Financial Operations: KTTN management has presented a monthly payment schedule to the four member broadcasters which aims to bring annual revenue of \$ 174,499.07 to KTTN starting on January 1 2004. This represents a significant part of KTTN's operating budget, and if achieved, would substantially improve its viability in the future.

However, all of the broadcasters expressed the view that for them to afford transmission fees there needed to be more customers for KTTN so that charges overall could be lower for everyone. The logic of this is apparent but until KTTN can generate more revenue streams its fixed costs remain. If these charges are applied now, it seems likely that there will need to be a major re-evaluation of donor support to the broadcast organizations, or investment coming in from other sources.

In terms of the private companies the donors will need to take a view on whether the current owners should provide more working capital through their existing businesses or through loan support. While there is every reason for ensuring that the broadcasters adopt a realistic approach to the true cost of their operations and pay transmission fees to KTTN determining what is a fair market price is difficult.

The proposed charge rates for broadcasters were drawn according to a formula based on the total use of each broadcaster at each site and annual operating costs. Given the nature of the current Board structure, it may be useful to consider resorting to a simple independent arbitration panel comprising media experts, international and local, with local knowledge, to advise on whether this formula should be revised for the rest of the year ahead.

The KTTN sites have been selected for the purpose of delivering the most effective transmission of broadcast signals throughout the territory. Given the present KTTN transmitter infrastructure

and the considerable investment this represents it seems unlikely that a third party would be able to site an alternative terrestrial network in Kosovo at a reduced cost to broadcasters.

Broadcasting and its associated activities require considerable capital investment, particularly in the start-up phase or when technological advances mean upgrades to systems are necessary to remain competitive. It is acknowledged that there are financial risks attached to such investment - which often requires long term losses before reaching commercial viability - even in established economies. In the limited economy of Kosovo a return on investment (ROI) is far harder to achieve.

KTTN has to date received its capital investment through donor support and in addition has received funding to support its daily operations. Consequently the existing financial management of the organization has been primarily concerned with ensuring that all spending is prudent and can be fully accounted for through accurate systems of monitoring and control. This it has fully achieved, and its satisfactory standard of operations has been recognized in a recent Review³.

It has not had to review its expenditure against income or consider the likely ROI from its policy decisions. Both these and other financial tools will be need to be employed in future if the organization is to survive without donor support continuing to cover nearly 100% of its operating costs.

The annual operating costs of \$588,343 in 2003 are set to increase to \$696,488 in 2004. The major part of this increase is accounted for by two items:

- an almost 50% increase in site expenses for the transmitter towers up from \$138,000 to \$189,600. This is as a result of bringing new transmission facilities into operation with tower 7 at Koliq and tower 8 at Kranidell (Spring 2004)
- the introduction of insurance cover for the towers, equipment and instruments which is estimated at \$21,000

Both these items are justifiable expenses to meet its future obligations to the broadcasters of Kosovo and ensure a secure system. However, there is very little opportunity to recover these extra costs from among that particular group of customers.

Herein lies a feature of the current situation: any increase in the cost of the transmitter network cannot be amortized over a broad customer base. The investment is for the same small group of broadcast customers who currently do not contribute any income to KTTN.

If the organization is to become financially independent it will need to find entirely new revenue streams that will enable its operating costs to be spread over a broader number of clients and so offer the prospect of lowering the charges that will be levied on the broadcasters.

The KTTN management has been successful in finding new clients and there is a healthy list of international and local organizations who are now paying fees to the organization for use of its towers (see Appendix). However, this 'rental' income, \$84,231 in 2001-02, while increasing in the current year 2003-04, is still not enough to enable any lowering of the costs to be shared by the broadcasters. Consequently there is a substantial shortfall of 'earned' income against expenses even allowing for the broadcasters making their payments from January 1st 2004 as currently planned.

It was noted that there appears at present to be no capital depreciation costs included in the accounts. This will need to be considered in the near future if investment plans are to go forward.

³Management Systems Review of KTTN, USAID, July 2003

Further capital expense considerations revolve around six of the seven transmitter sites currently in use by KTTN, which are still in the original containers that were supplied in 2000. Containers by their very nature, have a finite life and this is normally about five years. Containers are intended to be temporary structures and most, if not all, are coming to the end of their useful life. Many containers are showing signs of rusting through, which is not unusual considering the weather conditions to which they are exposed. It is vital that these containers are replaced with properly constructed buildings that can house all the equipment. KTTN has constructed such a building at the latest site, that admirably serves the purpose for which it was designed at a cost in the region of €40,000 and is large enough to hold all of the equipment, generators, fuel tanks etc. as well as providing secure and warm space for the guards that protect the sites. If this is not done very soon then there is a very high risk that if a container leaks on to one of the operational transmitters, either a fire could occur that would destroy the complete container and its equipment or at best cause serious damage to at least one transmitter that would put that site "off air" for some considerable time.

Another cost item is the current agreement for no office rental being paid for the premises in Pristina. They are provided by IREX, Kosovo. It would seem prudent to introduce a realistic monthly Euro amount into the operating budget so as to reflect the true costs for the future. In the short term this expense can be itemized in the book keeping as a 'gift in kind' from IREX.

There is also a severe problem with debt collection. At the time of preparing the business analysis section of this report, over 62,000 Euro was owed to KTTN by commercial clients with much of the debt being 60-90 days overdue. Another feature of the current financial management is the absence of a cash flow analysis on a weekly/monthly basis. If the organization is to move away from donor support to a more commercial situation with greater amounts of revenue from its customers then management will need to have a much greater awareness of how to make the best use of its cash resources.

E. Current Status of KTTN - Technology: KTTN operates an over the air analogue broadcast system, reliant on a series of transmission sites throughout Kosovo that are connected by microwave links. This is a standard transmission mechanism used throughout the world and mirrors the technology being used in neighboring states.

KTTN owns the towers, transmitters, and related equipment. The operation of this network relies on the towers being sited on the peaks of mountains due to the mountainous terrain of Kosovo. Each tower site (currently 7 are in place and 6 are operational) has transmitters, tower, antennae, power supply, and back-up generator. Sites are guarded.

In order to ensure a reliable system, KTTN has built roads, leveled site areas and extended high power electric lines. However, Kosovo is subject to power cuts and mountain storms which can and do affect the uninterrupted signal supply from the transmitters. Consequently, generators have been installed along with tanks for diesel fuel on the sites for use when power fails.

The transmitter equipment has been housed in large metal commercial containers but these have a limited life. Some containers are already in need of replacement. At the seventh site at Koliq (North of Pristina) a purpose built structure has been erected to house this equipment. Engineering consultant Dave Craddock has noted that this structure is ideal for the purpose.

Fuel to the sites is delivered by truck for most of the year, but in harsh winters KTTN personnel have used horses to transport diesel up the mountain side.

While analogue is the prevailing technology and can support the present demands of the broadcast users, it is a technology being taken out of service in many parts of the world and replaced by digital systems. It should be noted that most analogue systems in mature market economies will cease to operate within ten years according to experts.

Finally, KTTN is in the process of building four new sites and has finished one completely, (the Koliq site). The other two (at Kranidell and Gllloboçica) are already fenced and new 27-meters towers have been erected. The old building at Kranidell has been refurbished. Potential costs are for the old buildings at Gllloboçica and Bajrak, which need to be refurbished and the power lines at Kranidell, Gllloboçica and Bajrak – which need extensive repair. The roads are satisfactory. The entire infrastructure is under KTTN's control and it has made significant investments at these sites to date. These facilities are available for all nation-wide broadcasters, even if unilateral expansion for RTK is provided (granted by a non-US donor).

Additionally, the site which overlooks Pristina airport was the main transmission and distribution site before the troubles in Kosovo. But KFOR has refused access to the site for security reasons but also because they believed that transmission over the airport towards Pristina would interfere with airport communications. Craddock discussed this subject with various transmission engineers who were part of the old RTS transmitter maintenance network and says he does not believe that is a valid argument. Pre-1999 Yugoslavia had a major military base at Pristina airport and there is no evidence of any communication problems in that area at that time. Irrespective of this point, at some time in the future KFOR will vacate the site, therefore provision should be made for KTTN to legally occupy the site and to move transmitter equipment into position. This would give KTTN the chance to better expand its network and greatly improve not only the television signal over Pristina itself but also to expand the coverage of the whole Kosovo region.

G. Current Status of KTTN – Existing Potential Competitors: There are other existing networks that in theory could emerge as competitors, either directly for transmission services or through seeking to lease space and other communications systems.

There currently exists an UNMIK communication network put in after the end of the war. It is largely a microwave system covering almost all of Kosovo with satellite links also in place, although they are used predominantly for back-up. A Government Data Network project has been initiated and is making some progress in providing data networking for the municipalities and some Ministry operations. A partial fibre optic loop is in place within Pristina and links the UN building, several administrative buildings, and the media building. However, the system is fairly low in bandwidth and as such offers limited opportunities for extensive use. Nevertheless the issue of what happens to this system when the UN reduces its presence is not known. At present there are discussions taking place on how the system might be handed over to the Government and who might operate it. It is anticipated that this network will probably be run by the Ministry of Public Services, which is the highest authority for Government data infrastructure.

IPKO is a successful organization offering government, private companies and individuals, data transmission and Internet services. It is a customer of KTTN with several antennae sited on KTTN towers across the territory. It is an interesting organization in that it has made the transition from NGO status into a commercial company while retaining its original 'not-for-profit' activities under a separate legal identity.

Telekos is a private company offering Internet and data carriage with some government clients as well as broadband services to home subscribers. It is currently a client of KTTN.

Kujtesa is a private company with its own towers sited in the main towns and offering data transfer to banks and commercial companies.

KEK, the electric company has been in talks with the World Bank for a loan agreement that would enable the organization to upgrade its telecommunications system. The scheme is reported to include a fiber optic hub in Pristina with links along the grid network to Serbia, Albania and Macedonia. KEK has received an offer from a western company to provide the investment funds and lease it back for free. Under this arrangement KEK will get a fiber optic system of its

own and the operator will possess a long-haul fiber optic system linked internationally. Such a system would enable the establishment of end-point connectivity into telecom systems like mobile telephony or private data networks. However, unconfirmed reports indicate that the discussion process has stalled. It was not possible at the time to verify the veracity of this information.

PTK (post and Telecom of Kosovo) is a public telecommunication company, currently administered by KTA. It has 4 main entities within its organizational and service infrastructure: fixed telephony, mobile operator (VALA 900), postal service and ISP (DardaNet). It has an extensive microwave and terrestrial (PSTN and partly digital) network all over the country with a strong infrastructure and personnel assistance. It specifically uses the infrastructure for its own needs and does not lease transmitting capacity, housing and tower space. It has continuously been upgrading its microwave network and working on designing the fiber optic ring throughout the country. However there is no information available on why it has been stalled.

H. Background and History of KTTN: KTTN arose from the unique circumstances following the withdrawal of Serbian troops from the province and the imposition of UN administration in 1999. The terrestrial broadcast network controlled by Serbia (used by Radio Television Pristina [RTP] and local municipal broadcasters, the only operational broadcasters while Kosovo was under Serbian control) was bombed during the NATO air campaign of 1999, rendering most sites non-operational. This left Kosovo without any effective means to broadcast television or radio signals to the population.

Previous attempts to rebuild portions of the system had been made by USAID/OTI, RTK, OSCE, and others before IREX became involved through the ProMedia II/Kosovo and Montenegro project. However, no comprehensive plan had been proposed or undertaken. Based on the holding of Kosovo's first free and fair elections - scheduled for October 2000 - the US Government committed to a major effort to rebuild the terrestrial broadcast network, which would serve the interests of private and public broadcasters in a fair and equal manner. USAID asked IREX to handle this project in late June 2000, setting a completion date before local elections that same October, based on US State Department policy imperatives. At this very time, the OSCE had been negotiating with UNDP over a donation of broadcasting equipment from the government of Japan and intended that this equipment would be used for the sole utilization by RTK.

Although understanding that the political imperative was otherwise, a timeframe of less than four months to design and build a terrestrial system was impractical for a number of reasons: Kosovo is a small mountainous area making it difficult to reach the population with TV and radio broadcasting; there were no governing regulations for frequencies; KFOR controlled, to a large extent, the frequencies and many of the "high sites" making it difficult to secure cooperation as security imperatives prevailed in many cases; Kosovo had no effective land ownership registry and its uncertain legal status under UN mandate made land issues difficult to resolve; the budget available meant that the system had to be as bare bones as possible.

Therefore, IREX proposed that the network be operational by later in the Fall and that private broadcasters be broadcast on satellite to meet the US policy objective of private independent television prior to the October elections. The subsequent project, the Kosovo Telecommunications Terrestrial Network (KTTN), combined the skills and resources of KFOR, UNDP, OSCE, RTK, the Association of Media Executives and Programmers of Kosovo (AMPEK), Internet service providers, Post and Telecom of Kosovo (PTK), the Kosovo electricity company KEK, and others. Phase 1 of the plan envisaged a 5-site terrestrial network carrying not only TV transmitters but also radio and possibly Internet and telephone links. It broadcast its first signal from Pristina Hill on December 4, 2000, only five months after IREX was assigned the project. IREX would also work to ensure that KTTN operated in a fair and apolitical manner that guarantees private broadcaster access to broadcast facilities.

The KTTN project came to dominate the cooperative agreement in terms of time, human resources, and complexity. A number of factors contributed to this: IREX was asked to develop KTTN in late June 2000 for a launch date less than four months later; the project had a minimal budget that was not even finalized prior to the launch of the project; the previous system was not able to be rehabilitated; there were no clear political and regulatory structures in Kosovo for broadcasting (e.g., frequencies, property rights); and the electrical system remained unreliable. IREX therefore had little time for system design, proper system testing and troubleshooting, or the complex political negotiations with all the players involved (OSCE, UNMIK, KFOR, UNDP, RTK, KohaVision, RTV-21, the Government of Japan, KEK, PTT, and the British, US, French, and German militaries).

Starting in late June, IREX began the process of system design and political negotiations with the interested parties. IREX hired a Project Manager for the Terrestrial Project, Mike Furlong, who took the lead on behalf of IREX. A major component of these negotiations was the need to bring the OSCE on board and integrate a Government of Japan donation originally intended for RTK into the KTTN system. The original Government of Japan donation (prior to IREX involvement in KTTN) was not properly configured to provide adequate coverage of Kosovo, largely due to the lack of technical expertise at OSCE at the time. The Japanese government, through UNDP funding mechanisms, agreed with the OSCE, USAID, and IREX on terms to integrate its donation of equipment and to contribute financially to the construction of Zeleni and Zatric sites. In September 2001, The Japanese government paid to subcontract the work at the Zatric and Zeleni sites. The money was reinvested into KTTN infrastructure and operations. Until the equipment donated by the Japanese government was completely ready for installation in October 2001, IREX installed temporary transmitters to bring KTTN to 78-80% population coverage for television by September 15, 2001.

IREX also sought to develop KTTN as a non-partisan NGO as a means to protect its independence and ensure that neither RTK, UNMIK, or future political leaders could control the transmission system. A commercial structure was considered but the need to receive buy-in from the broadcasters themselves, OSCE, and UNDP meant that the NGO route was the most feasible.

In December 2000, IREX prepared a concept paper approved by USAID and State Department for the development of a non-partisan NGO to run the transmission system. Upon approval, IREX legal counsel from Sonenthal and Overall met with all concerned parties to begin the work of creating statutes for the NGO. Other legal experts, USAID, OSCE, and the stations utilizing the system commented on drafts. The NGO statutes were adopted on June 11, 2001 by all KTTN stakeholders (RTK, RTV-21, KohaVision, and Radio Dukagjini).

After negotiations between KTTN stakeholders, the OSCE, USAID and IREX, the final draft of the statutes included a non-compete clause forbidding members from building parallel institutions in light of the fact that RTK had reportedly expressed interest in reviving the old RTP repeater system for its own use. KTTN finalized its registration as an NGO in July 2001, completing all necessary documentation in August and becoming an official NGO under UNMIK regulations.

In addition, IREX worked with KTTN to ensure that the NGO would function much like a business, raising revenue from leasing space on its sites in order to support equipment maintenance and operations. IREX worked to develop rates and terms for leasing KTTN to private telecommunications companies and others interested in using tower space. In April 2001, IREX received USAID/Budapest permission to lease space on KTTN towers and reinvest the income generated back into the system. Consequently, IREX and KTTN devised a rates and terms sheet for lease of the KTTN system to private companies. Several Internet companies requested information on tower space, inclusion in the KTTN system, and rates. In August 2001, IREX made strides with Internet Project Kosovo (IPKO), the largest Internet service provider in Kosovo, in drafting a lease agreement. Additional organizations that IREX worked closely with for potential lessees in 2001 included Telekos (the Kosovo representatives of Cisco Systems), Mine

Action Committee, and Brown & Root (who relocated from Macedonia due to the 2001 conflicts in the region). IREX also worked towards developing KTTN's staffing plan and a one-year operating budget plan during this year.

In 2002, KTTN continued to become more independent of IREX, in accordance with USAID and IREX's plan for greater sustainability of KTTN.

III. THE OPERATING ENVIRONMENT FOR BROADCASTING IN KOSOVO

In examining the context in Kosovo for broadcasting the following points are of key importance in determining the best approach to efficient, sustainable, and independent broadcasting:

- The economy remains extremely weak, limiting both domestic and international investment prospects for broadcasters and transmission organizations
- The unresolved legal status of Kosovo additionally limits both domestic and international investment opportunities into broadcasters and transmission organizations
- The regulatory framework for broadcasting in Kosovo remains incomplete and the independence the completed framework will provide broadcasters therefore remains uncertain
- Land ownership issues remain unresolved
- Pervasive distrust between the public broadcaster (RTK) and the private broadcasters (KTV, Radio Dukagjini, and RTV21) hinders easy cooperation on issues of common concern

A. The Economy and Kosovo's International Status

The economy in Kosovo remains fragile and despite initial progress in reconstruction there is still a long way to go with its economic recovery⁴. The short-to-medium term outlook for Kosovo is uncertain and it is reported that unemployment is about 57%⁵ with over half of the population living below the poverty line⁶.

Statistical data is incomplete and this absence of reliable data hampers economic analysis. However, growth is expected to be around 5% in 2003 and could be sustained at 4% in 2004 if supported by an increase in government spending.¹ However, there are major uncertainties related to further expansion as the prospect of lower levels of support from foreign assistance programs, delays in the implementation of privatization and the improvement in infrastructure, and the lack of foreign investment due to Kosovo's unresolved status, serve to slow growth.

Much of the economic fortunes of the broadcast sector as a sustainable business relies to a great extent on the fortunes of the Kosovo economy as a whole. This also impacts on their ability to pay for various transmission alternatives.

RTV21 and KTV both transmit pictures domestically and internationally by a satellite link. RTV21 is by far the more active in using this system. The use of satellite depends on payment to several satellite operators from outside Kosovo, based on a profitable return and a growing audience among the diaspora. It appears that customer figures are growing, although some fees have been deferred while this process is taking place. The threat to this means of transmission is simply economic. If the customer base grows, then the two stations can pay for the service.

Until January 1 2004, all broadcasters, including the public broadcaster have received the terrestrial service from KTTN free of charge. A schedule of fees has been introduced by the KTTN board for use of the system as of 2004. The ability of the independent (commercial) broadcasters to pay these fees will depend on their success in attracting advertising, along with renewal of at least part of the monies received from international donors.

⁴ IMF Staff Visit June, 2003

⁵ SRSG Report to UN Security Council, October 2003

⁶ World Bank Report 2002, Report No.24275-KOS

If the KTA untangles its privatization problems, 2004 could be the year for the bulk of the privatizations to come on stream. This will release investment and marketing spending from the new owners of these enterprises.

There are signs of increased regional spending by international advertisers (Reckitt Benckiser and P&G). This should help push the price per minute higher.

It is evident that the advertising sector is becoming more professional. The example of Albania is an important one to consider. Its advertising industry is better structured and better performing, even though levels of personal wealth are probably lower as outlined in IREX's 2002 Media Sustainability Document. The audience research process is now well established and is being used by the TV stations to sell more effectively. On the basis of these figures and data, it can be estimated that E1.2m advertising revenue from both independents, and around E2.5 from RTK, which would mean an advertising take of around E5m for the three national TV stations for 2004.

The view from within the private television companies is not quite as confident as that of their business advisor, but nor is it pessimistic. They reported to business analyst Paul Andersen that the available revenue from advertisers has fallen during the current year as the economic climate faltered. Anecdotal evidence certainly supports this, with reports that executives from a global brand operating within the territory at one time offered to purchase block quantities of air-time at 1 Euro per second, substantially below the current advertising rate of 2.5 to 3 euros.

However, while the market place for TV advertising is undoubtedly difficult, the private TV stations have been working hard to achieve their income targets set out in their respective business plans. On the basis of discussion with IREX advisers in Pristina, it seems credible that if company growth continues at its present rate through to 2004-05, then the private TV operators will be in a substantially better financial situation than now. However, organizations require investment to expand. TV 21 has been active in developing satellite channels to market its output to paying customers in the USA and Europe. This is a financial risk for a company that has limited access to capital and an operating budget that still relies on donor support. However it demonstrates its wish to find new revenue streams and a healthy approach to the business.

The introduction in 2003 of Television Audience Measurement Surveys is another indicator of the steady development of the industry. In contrast to this, the view from within the private radio company, Radio Dukagjini, reflects the opinion of others that the advertising market is '*... already a poor situation. One client has offered just half of last years advertising fee for this year's contract.*' Also mentioned was the introduction of new cost items for broadcasters, as copyright/authorship payments are introduced in the future and a fee system for the allocation of broadcast frequencies becomes part of the proposed regulations from the TMC.

So opinion is divided concerning the economy, advertising spends and the ability of commercial broadcasters to generate cash.

Although it is a matter of some considerable contentious debate, the public broadcaster will likely be funded by a combination of public money, donor money, license fees and advertising revenue. The international community wants a strong and independent public broadcaster. It also broadly supports a plural broadcasting system. However the methods of achieving these objectives are far from agreeable to all. So the public broadcaster is a competitor to the independents in generating commercial revenues and as such is a threat to them in the business environment.

Bearing in mind the different views on the economy expressed above, any transmission system needs to take into account the anticipated decline in donor funding and the possibility of a worsening economy. In this scenario, the advertising market conditions are likely to deteriorate, thus reducing the operating funds available to the independent TV stations.

Although initial indications are that the RTK billing system for broadcast customers is working, revenue problems for independent broadcasters and other commercial customers becomes a threat to KTTN.

The decline or cessation of donor funds to existing broadcast clients will create problems, as will any moves by existing non-broadcast clients to find an alternative supplier. As it stands at the moment, KTTN's legal status inhibits private funding and there is no finance for lifecycle of investment. Other concerns are that Return On Investment would be affected by any marketing failure and a failure to attract a new client base.

The transition to a market economy is of central importance in securing a viable business model for broadcasting since income from advertising revenue is a pre-requisite for sustaining the TV and Radio stations and hence their ability to pay for any transmission system.

B. Licensing and Frequency Allocation

Any system, both technical and organizational, of broadcasting Kosovo's television and radio stations must take into account the system of frequency allocation and licensing. Kosovo's system was created under the UN administration and can be considered provisional as there remains no Kosovar institution to oversee the system, licensing done to date has been done by the international administration of Kosovo, and the foreign military forces in Kosovo have affected frequency allocations.

1. Frequency Management – This is a “reserved power” of the SRSG in the Constitutional Framework. Broadcast frequencies are implemented by the Frequency Management Office (FMO) of the Central Regulatory Unit (CRU) within Pillar IV (EU). KFOR, however, reserves frequencies for military and other uses under reserve powers, and has the final say in spectrum management.

The FMO has developed a broadcast frequency plan for Kosovo which generally adheres European and international convention (except for certain NATO/KFOR accommodations), and as such has allocated conventional broadcast frequency bands to the Temporary Media Commissioner to meet the needs of the broadcast sector.

Frequency assignment to broadcasters is vested in the powers of the Temporary Media Commissioner (TMC) as part of the licensing process. These powers will likely be passed on to the Independent Media Commission which is expected to come into being during 2005. However, until the regulation creating the IMC is finally signed by SRSG, no one can be certain of all provisions it will hold.

2. Licensing - The TMC presently allocates frequencies to TV/radio stations individually under terms of their individual licenses with the TMC. The current licenses with the TMC for KTTN users expire when the Independent Media Commission comes into being.⁷ No frequencies are assigned to KTTN. However, frequencies are allocated by the TMC compatible with those licenses to KTTN to allow them to transmit the signals of their users.

The TMC has offered the suggestion that any license issued by the TMC/IMC to any applicant nation-wide broadcaster should define the exact area for broadcast, specify frequency and require that the applicant only use a specified KTTN tower for transmission on that frequency. This would provide KTTN with protection from anyone setting up parallel systems and would provide a measure of protection to the same national broadcasters from interference by government. The TMC should also explore requiring stations licensed for “regional” coverage to use KTTN facilities since these are the best sites for regional coverage and they would concentrate the higher powered transmitters in one location.

⁷ This may be by 2005, although it has been 3 years since the IMC has been proposed in various forms.

3. Telecommunications - A new independent regulator for the telecom sector was appointed by the Kosovo Assembly under legislation passed in 2003 (UNMIK Regulation 2003/16). This authority is charged with allocating new licenses for the existing mobile telephony network – currently operated by PTK as Vala 900. It will have responsibility for approving and awarding other telecom licenses. On 17th December 2003 the Ministry of Transport & Communications (MTC) announced the launch of an international competitive tender for an additional mobile GSM license. It is anticipated that the second network license could be awarded by the start of Q4 2004.

Any new entrant into the mobile telephony market will need to demonstrate operational experience of mobile networking. It will therefore likely be a company that could be a competitor if KTTN or another broadcast entity attempts to develop into services such as digital transmission. There is also the possibility that present services could be affected by this action, if any new company decided to offer network facilities to broadcast companies. Under EU regulations, which the Kosovo Law on Telecommunications follows, any licensed operator can request space on any existing transmitter tower for the purpose of situating its equipment (providing there are no technical complications).

A condition of the new operator license will be a requirement for national coverage and it is likely to require a backbone network to support this

In addition, the project plans for PTK, the national phone company, under the new legislation may well have consequences for KTTN. Further research is needed to determine the likely outcome on the data transmission market and DARDANET, the PTK system for data transmission and its consequences for KTTN.

4. Non-Broadcast Licenses - In the past, UNMIK has issued non-broadcast licenses for low powered purposes (taxi companies, etc.) as long as there was no interference with other operators. However, pursuant to the new telecom law (UNMIK Regulation 2003/16), the new telecom regulator (TRA) is responsible for frequency assignment to all non-broadcast users. The law defines broadcasting as the one-way path, while telecom is defined as a bi-directional (return) path.

With no central authority for issuing licenses to both broadcast and non-broadcast entities and little coordination contradictory activities can arise. For example, UNMIK issued a permit to a taxi company without specifying the exact geographic coordinates. The taxi company then erected a tower near a KTTN tower, causing propagation problems for FM broadcasts, although there was no frequency interference.

This has implications for any entity that may serve to broadcast the signals of television and radio stations. Namely, if there are to be non-broadcast services offered to commercial customers, they may come under the authority of the TRA.

This is an issue that should be addressed (or at least anticipated) in the enabling legislation of the IMC. What flexibility should be allowed to utilize broadcast frequencies for unambiguously non-broadcast purposes and what changes might be necessary as international regulations change?

If KTTN continues and its ownership composition changes to include non-broadcasters, or if it sells capacity to non-broadcasters - BUT it continues to utilize ONLY frequencies assigned by the TMC/IMC, then its biggest exposure will be FUTURE rulings (normative acts) of the IMC related to legitimate uses of broadcast spectrum.

But KTTN should also watch very closely the final language of an impending UNMIK Regulation to establish the Frequency Management Office (Pillar IV).

If KTTN or another broadcast entity upgrades to digital transmission, which may require a move to a different set of frequencies, and its business plan includes sale of capacity to the public, this would be defined as a telecom service under UNMIK Regulation 2003/16, and SHOULD be regulated by the TRA. However, this is highly speculative, and in any event, probably won't be "caught" for a while because of a lack of frequency monitoring equipment at present.

5. Regional Frequency Issues - Recently, the state broadcaster of Serbia, RTS, has increased the strength of its signal in border areas. This has affected the quality of signal produced by KTTN transmission facilities in those areas (North of Podujeva). This has forced KTTN to use a Microwave (MW) link to beam the signal from its Černusha site (near Mitrovica) towards Koliq (the new KTTN site North of Pristina, which will cover Podujeva and the Llapi Valley). This has caused a significant increase in the equipment cost for Koliq and forced KTTN to make a request for new frequencies for MW links to UNMIK's FMO. KTTN does not have an update for problems in the border areas with FYR of Macedonia (Kačanik, Viti, Dragash, etc.), because the latest measurements were taken by KTTN a year ago (early 2003). Disputes such as this are normally resolved under ITU agreements, but since Kosovo's final status is unresolved and Serbia considers Kosovo part of Serbia, the problem seems unlikely to be resolved.

C. Legal issues

Some of the legal issues surrounding transmission have been discussed above. Additionally, the national broadcast industry in Kosovo faces some common threats to its independence. The major problem involves the question of real estate and the ownership of land and buildings. This has been outstanding since day one of the start of KTTN and the private television stations. Until it is resolved KTTN and the licensed radio and television stations are living in a state of limbo. Millions of dollars have been spent on establishing both studio and transmitter installations, but not one enterprise (TV or transmission), has a long term lease for the land/premises they are occupying. If donor nations really wish for a KTTN network free from political control, then this issue must be faced. When the donors and aid organizations withdraw from Kosovo, then a simple order from either a municipal or government organization, depending on which one lays claim to the site, can effectively close that organization be it KTTN itself or one of the licensed radio or television stations. This could be done by either giving notice that the space is required for other purposes, by increasing the leasing fees to a level that is totally uneconomic, or at the very worst by taking direct control and confiscating the contents under the guise of non payment of debt, real or otherwise. IREX has experience with this type of "control". It allows governments to bring broadcasters to heel without violating their own "independent" regulations. Any radio or television studio or transmitter site takes months to install and commission so even simple eviction without any confiscation of equipment would put them "off air" for months, which is a very effective way to censor a stations output.

The two private television stations are located in buildings in Pristina which were former state media premises. RTV21 rents space from UNMIK in a former daily newspaper building. There are other media located in the same premises but both are print enterprises. The buildings are administered by the United Nations under the Kosovo Trust Authority (KTA). KTA is charged with implementing the privatization of Socially Owned Enterprises in Kosovo, although the process has met legal problems and is temporarily stalled. It appears RTV21 does not pay rent for the premises but this is not based on a formal written agreement. RTV21 could find that the KTA would evict its operations at some time in order to sell the building. Opinions differ on the likelihood of this action but the present situation is a threat. If eviction took place, then the transmission leg between RTV21 and the KTTN Hub Station would be disrupted, at least temporarily. RTV21's owners have set plans to have their own studio complex built. However, this is a costly process and is probably not realistic in the short term.

KTV operates from a very small space in the former RTP Radio building. The public broadcaster RTK occupies most of this building, some commercial entities are located there, and there is also a reasonable amount of unoccupied space. KTV has made constant attempts to lease more

space in the building from KTA. The latest attempt resulted in an offer of a three month lease. As broadcasting is a long term proposition that requires substantial modification to premises, this was unsatisfactory to the company. Three month-lease-contracts are standard practice at KTA and these contracts are renewable for additional three months. However, the refusal of KTA to offer a long lease demonstrates some uncertainty about its disposition of assets, confirming that the premises and land issue could be a threat.

KTTN's transmitter towers and systems are located on land that is presently administered by the municipalities. In some areas, the land is rent free (municipal authorities have granted KTTN free use of land), in one case a rental is levied (Zatriq, where KTTN pays an annual fee) and with some, a lease is held. Once more, the KTA is the agency that holds the future disposition of these sites in its hands.

KTTN therefore faces an uncertain future because not only its users, but its own facilities, are on land whose ultimate disposition is uncertain. Within the recent past, commercial operators of low frequencies have demanded the right to place low powered transmitters on KTTN sites. PTK has also erected towers on these sites. In all cases, the municipalities have either supported these intrusions or refused to intervene. In the case of Kaqanic Municipality, they have used the local police force to assist such facilities being placed there. While UNMIK regional officers have taken up at least one of these intrusions, no action has been taken. This gives rise to fears that multiple towers could be placed on and around KTTN transmission towers, as has happened in Albania, causing weakened and interrupted broadcast signals.

Unless the land issue and ownership of these sites is resolved, then this multiple use is as big a threat as eviction from the sites.

Discussions have taken place with USAID about approaches to the Kosovo Trust Authority about transfer of ownership, but no serious discussion has so far taken place with KTA. While the KTTN management has good records for the existing land sites occupied by the transmitters, there is an urgent need to guarantee ownership through negotiation with KTA. No one is sure of the status of these land sites, previously under the control of Socially Owned Enterprises (SOE), and there is a need to confirm ownership status by the transfer of all these properties to KTTN.

If the KTA has the authority to transfer ownership, most of the sites have no residual transfer problems. However, a potential problem exists for the key Pristina Hill site where there is a 'temporary agreement' with the Water Company. It appears further complicated by an 'old rights' claim. While the KTA is free to sell all socially owned enterprises (SOE) they are not selling publicly owned enterprises (POE). The water companies were originally SOE and as such could have been expected to be privatized at some future date. However, it seems that there will be an exception made in the case of the water companies which will become publicly owned (POE), thus specifically excluding their assets from sale by the KTA.

It is also important to take into account that the future of Kosovo as an independent country, part of a bigger state or federation of states has not yet been determined. This 'floating' situation also causes uncertainty about the operating conditions for media and supporting institutions such as KTTN as the rule of law passes to a governing body other than UNMIK.

Kosovo's future status depends upon the successful implementation of eight well documented standards that the International Community has set for self determination. Kosovars and Internationals are working together to try and realize these standards. It is anticipated that by the middle of next year (2005), the first evaluation will take place of how these standards have been met. This would then form the basis as a first step for the start of discussion about Kosovo's future status.

IV. ALTERNATIVE TRANSMISSION SYSTEMS: SYSTEMS IN OTHER COUNTRIES AND POSSIBILITIES FOR KOSOVO

This section of the report examines practical technical delivery and organizational management alternatives to the system in Kosovo as well as trends and examples from other countries.

As discussed above, KTTN is a not for profit NGO owning, operating, and maintaining a transmission system for 3 television stations and 4 radio stations. The system is an over the air analogue delivery system, broadcasting from six shared towers and utilizing microwave links between sites and the signal's origins in Pristina. The analysis below finds that the technical delivery system is fairly standard and common practice throughout the world while elements of the organizational structure of KTTN are similar although the not for profit status is unusual.

A. Alternative Technical Delivery Systems:

There are a number of alternatives to the present analogue network system operated by KTTN, including:

- a) Each station operates independently, owning and operating transmitters and towers.
- b) Direct to viewer satellite delivery
- c) The current system is modified to use satellite to deliver the signal to transmission towers
- d) A fiber optic cable system delivers signals direct to home
- e) Switching to a digital network

The positives and negatives of these various systems are:

Stations Operating Individually: The system of stations owning their own transmitters is the norm in the United States but not usual elsewhere. If national television in Kosovo adopted this system, the stations would still have to place their transmitters on high ground. The most suitable locations are where KTTN already has transmitter towers. Ownership of these towers and the transmitting equipment required would either have to come under some central authority or organization or an organization such as KTTN. Either that or alternative locations for the station's towers would need to be found.

Transmitters or towers for national television and national radio cannot be situated on the buildings occupied by the broadcasters, as is the case with regional stations, because the power and the range required need the transmitter to be on high ground and also of a more sophisticated, therefore more bulky nature. It should also be noted that the regional stations that employ this approach are not operating optimally from a technical standpoint as it can cause interference, poses some health risks, and can cause interference with viewers who may have an antenna pointed at a mountain transmitter site.

At the moment, a microwave signal is sent from the two stations (RTV 21 and RTK TV) KTTN's Hub Station, which is located on the roof of RTK Radio building. The two RTK radios (Radio Kosova and Radio Blue Sky) and KTV send their signals to the KTTN's Hub Station – through cable, because they are in the same building. From there, it goes by MW links to Prishtina Hill and Golesh and then to the various transmitters which cover Kosovo. This entire system would need to be replicated, at great expense, by each station.

Therefore, it is IREX's opinion that this would represent a step backwards in Kosovo. It would raise costs to stations, cause unnecessary competitive pressure between stations in transmission issues; and allow for authorities – current or future – to play stations against one another. It could marginally increase the difficulty of a government going after a transmission system to control broadcasters as there would be a greater number of sites to go after. At the same time if the government wanted to go after one station via the transmission system, it would make this easier than the current KTTN set up where that could cause all stations to go off the air.

Direct Satellite: Delivering a signal to television sets by satellite (direct to home – DTH) is technically possible and in fact satellite is prevalent in Kosovo for receiving foreign programming. In fact the three TV stations already do this, primarily for the expatriate audience. However, delivering programs to 80-90% of

the Kosovo population would mean that each household would need a 'digi' box in order to receive the satellite signal.

The cost of these systems, even for a basic converter runs from \$150 and up. This scenario shifts costs from the broadcaster to the citizen. This is unacceptable, especially for RTK, which gets funds from a license fee. This further cost is beyond the pockets of many Kosovars and indeed is likely to be so for some time. This can provide some protection from government control as there is not a transmitter network that is vulnerable. Instead the uplink facilities would be the target and these are, in most countries, subject to regulation.

Using Satellite to deliver to terrestrial transmission sites: Delivering the signal by satellite from the stations to a distribution point is also technically possible. This would mean that repeater stations could be built to cover a large part of Kosovo, possibly more than 90% of the population. However, KTTN would need to install a system of Television Receive Only (TVRO) dishes at each transmission site to allow reception of the signal. This distribution system would have four advantages over the current microwave system. It would allow transmission from areas not in line of site from existing KTTN facilities, giving KTTN more flexibility in covering the entire province. It would allow small communities in hollows shadowed from the main transmitters to get the signal for low powered repeaters and there is the possibility that remote consumers could use the satellite signal directly. It would also put the signals on a satellite where it can be brought down in other places, like in Western Europe, for relay to other areas where news from Kosovo could be taken off the signal by other European broadcasters. The advantage this may have is directly dependent of the availability of satellite channels at the time of negotiation and KTTN's ability to negotiate reasonable prices. Current rates would require an approximate \$500,000 annual expenditure.

Fiber Optic Cable: Television pictures are delivered in a substantial part of the world by fiber optic cable, although in all cases as an adjunct to other means of delivery. This needs a cable system throughout Kosovo which does not exist at the moment.

It is worthy of note that cabling in Britain is still not complete despite a decade of laying cable and has cost millions of dollars. There is some suggestion that cabling would be done by the domestic telephone company PTK. But this is unlikely to be either a short or medium term option, if indeed it is an option at all.

Digital Network: A digital network would not require a change in KTTN structure but an upgrade from analogue technology to digital, a process underway in much of the world.⁸. There are two steps in the digitalization process. The first is digitalizing the distribution of signal from studios to the transmitters. This is already happening in much of the world and is an essential first step in digitizing transmission. Analogue studio equipment is already being phased out by manufacturers.

The second step is digitizing the transmitters themselves for distribution of digital signals to consumers. For digital transmission, this means the ability to broadcast multiple channels of data and improved picture and sound quality. For viewers there is an initial expense in acquiring either a converter or a digital television or radio set. For broadcasters there is an expense in acquiring digital technology – an expense that many broadcasters in the US, not to mention poorer countries, are having a difficult time with.

However, digitalization should be included in any plan as in developed countries most experts say that analogue has a useful five to seven year life remaining.

Preferences: IREX's assessment is that there are only two possible technical delivery systems that are practical for transmission facilities in Kosovo: Satellite services or the current system of a network of towers and transmitters.

⁸ It should be noted that the transition from analogue to digital has been occurring far slower than predicted as broadcasters and consumers have been slow to adapt to the new technology due to the initial cost factor. The FCC has had to force the issue of transition in the US as it was not happening voluntarily.

IREX believes the use of satellite is of marginal importance to delivering a television signal in the short term, either directly or indirectly. If the stations used their present uplink signal to satellite transponders, then down linked them directly to domestic satellite TV receivers, the number of residents able to receive a picture would be limited. RTV21 does currently transmit to Europe on a Sirius satellite and that signal in turn is taken to US Telstar 5 satellite for coverage of the greater United States. According to Aferdita Kelmendi, the encryption fees are virtually at the breakeven point. The RTV21 signal is also currently being broadcast on the Optus satellite covering Australia, but my understanding is that this is a short term, no cost to RTV21, using a Globecast multiplex. KTV and RTK both use satellite distribution but in a far less ambitious way than RTV21.

There is no researched percentage figure but the Helen Harrison Audience Survey over a twelve month period showed only an average 25% of viewers watched satellite TV as opposed to almost 85% viewing terrestrial. The average share of satellite viewing was only 16% of total audience. Over the long term, the number of viewers able to receive this signal will increase but evidence in other countries is that this is a slow process. The weakness of the Kosovo economy makes it doubtful that an increase in the number of receivers purchased would be significant, even in the medium term.

If a satellite signal was sent to the towers for redistribution, this would avoid the microwave links to the KTTN's Hub Station (located on the roof of the RTK radio building) and could serve to marginally offset the danger that TV signals could be threatened by any government action. However, the disadvantage to this is the infrastructure that may need to be put into place within TV stations' premises (up-link facilities) and on the KTTN towers (down-link, receiving facilities). The system could be altered such that the current links to KTTN's central facility are used and have only KTTN utilize uplinks on a multichannel digital satellite channel.

It is possible that any sympathetic international government with proper resources could assist in keeping satellite transmissions safe from government interference by offering broadcasters their own transponders on a government owned satellite. For example, the US government, which owns many satellites, could offer one transponder to all independent (or public) broadcasters in the Balkans, sharing the cost across the region. This would then always guarantee the ability of independent broadcasters to broadcast into a country. The cost would run into the millions of dollars and would need a big coordinating effort. But it is a technical possibility if not a likely scenario.

This system is mentioned as being the best option against transmission being taken over or interrupted by government control. As noted, the drawback is cost.

The system presently used by KTTN of a grid of towers, distributing an analogue signal into the homes of Kosovars is a practical system which can continue. The major technical drawback is that the system is analogue and as noted this technology is a dying technology. However, if a proactive view is taken for the future of this system, whether operated by KTTN or others, it is a basis for change that will slowly bring technology up to date.

B. Transmission Management in Other Countries:

The KTTN system has some unique characteristics but also finds similarities with systems in other countries. IREX therefore examined various means of broadcasting employed in the developed and developing world. This report has examined systems in the United States, Canada, Australia, the UK, Singapore, France, Israel, South Africa and Montenegro.

There are at least five trends IREX has isolated in looking at transmission systems:

- *Consolidation of separately-owned broadcast transmission facilities in common locations.*
Consolidating transmission facilities in common locations serves several purposes:
 - Economies of scale.
 - Ease of reception. Consumers can get by with one receiving antenna aimed in the same direction to pick up several stations.
 - Scarcity of good sites – this is particularly true in mountainous regions.

- Local zoning regulations are increasingly forcing commonly located facilities.
- Toughening health standards on non-ionizing radiation are causing broadcasters to concentrate the problem in limited areas. In the US one motivation for this is fear of liability.
- Digital broadcasting in Europe works on multiplexes - one transmitter sending out up to 16 radio signals and possibly several TV signals. This forces competing broadcasters to combine transmission.
- *Privatization of transmission facilities.* State-owned institutions that have owned transmission facilities through companies, regulatory agencies or state agencies (like the Post Office) are getting out of transmission and privatizing. In the UK, France and Australia transmission facilities that used to be owned, either by regulators, public broadcasters or state companies (The Independent Broadcasting Authority and the BBC in the UK, national Telecom in France or the Post office in Australia) have been privatized to commercial companies. The major privatizations have involved venture capital companies (Like Berkshire Partners) and several have common investors. (French Telecom was involved in the privatization of the British system, later the French system was privatized, using a British firm for capital.) These systems can be referred to as "operating authorities" that provide a range of services from ownership to operation to maintenance for multiple users.
- The involvement of venture capital. Because of the capital-intensive nature of broadcast infrastructure transmission facilities have had to involve major venture capital firms to get the resources to upgrade networks. This has increasingly turned transmission into a business venture in and of itself.
- In part to attract venture capital and to increase profitability, Private companies taking over broadcast transmission infrastructures have expanded into other activities, using the towers and real estate from the broadcast transmission facilities to branch out into providing towers for cell phones, two way, Internet backbones and other similar services. It is this expansion that gives them hope of profitability. Companies offering broadcast transmission services have become full service out source providers to competing private broadcasters who need economies of scale to compete with state broadcasters. These include providing studio and transmitter maintenance, service and links for remote broadcasts (vans, etc.), studio design, internal communications between studios, satellite brokering, Internet access, and filling out regulatory forms. One company even provides colorful coverage maps for stations to use in sales brochures.
- Digitization of media. Most of the companies involved in this process are heavily involved with the digitization of media. This includes building and managing digital broadcast platforms for broadcasters, providing digital cable services, Internet backbone or provision and providing GSM and new generation mobile telephone companies with transmission facilities and digital interconnection backbone services.

It should be noted that the broadcasters in most countries are primarily protected from hostile government interference through the legal and regulatory system, not the method of transmission system employed. This is not to minimize the role that the system can play in protecting broadcasters, particularly in an uncertain and transitional environment such as Kosovo.

The United States: The system in the US is generally for stations to own their own transmitters but operate from common towers and diplexed antenna. Often one engineering firm takes the maintenance contracts for all the collocated stations to lessen access to the site. In several communities the common facility is owned by the public broadcaster both because they were able to get grants for site development, cutting the overall cost, or because of tax considerations. In Anchorage, Alaska, Alaska Public Telecommunications owns the Goose Bay tower and site. In Grand Rapids, Minnesota, Minnesota Northern Community Radio owns a common tower, on land owned by the county, and, for years, operated the maintenance contract for the commercial stations on the tower. Tower space was also rented to the forest service for fire control radios and to Motorola for two repeater and relay service.

At Shoreview, Minnesota, three Twin Cities commercial stations formed a joint company to develop one tower site and lease out space to other commercial and non-commercial FM stations. At the Empire State Building a private company operates a joint FM antenna that, at one time, served 17 stations.

UNITED KINGDOM: In the UK, both the BBC and the independent regulator used to operate transmission facilities. Beginning in 1992, the British began to privatize transmission and since then three companies have taken over transmission responsibilities.

Crown Castle International, a Texas firm, formed a new company, Crown International Transmission, to take over the BBC sites. The company had US \$400,000 in capitalization with investment from Berkshire Partners and French Telecom. Crown Castle operates 17 broadcast networks in the UK, and also provides tower space for cellular phones. The original 166 sites acquired from the BBC have expanded into 2500 sites that Crown Castle owns in the UK and another 4000 leased rooftop sites for cell phones. Crown Castle provides transmission service for some commercial networks, like Virgin Radio, and operates several digital multiplexes.

NTL grew out of the privatization of the Independent Broadcasting Authority's transmission networks beginning in 1992. The regulator formerly issued licenses and ran the transmitters. After privatization, NTL operates several of the commercial transmission facilities, and developed the digital radio and TV transmission networks for national private broadcasting networks. It also operates some local BBC transmitters. NTL also rents space out on its towers. It provides "retail" broadband, Internet and cable services in the UK. NTL also supports the commercial broadcasting community by providing a host of other services and by sponsoring annual awards for commercial broadcasting programming.

VT Merlin is the firm that took over the BBC World Service transmitter network. It was originally owned by the employees who ran the transmission system. It has been absorbed by the VT group (which provides services to government, including defense communication and satellite infrastructure. VT also builds warships for several nations

FRANCE: In France the Office of Radio and TV France (ORTF) was broken up in 1975 and transmission was taken over by a public company. Later it was transferred to French Telecom. Finally, with capitalization from venture companies, about 65% was privatized. TFF has provided transmission infrastructure for mobile phones and cable TV as well as other communications services. It provides transmission for everyone from national and regional networks to small community radio stations. It operates over 6,000 sites and has an annual turnover of over €650 million.

AUSTRALIA: The Australian Broadcasting Commission (ABC) is the company that went through a similar process to that in France. It was originally owned by the post office. It then went to the national telecom company, a single purpose public transmission company, and finally it was privatized to NTL in 1999. Commercial broadcasters, which had begun to expand in the 1960s, owned and operated their own sites. Many commercial transmitters were co-located with Broadcast Australia transmitters and separate crews maintained and operated the two systems. Gradually many of the commercial sites, while remaining privately owned, were serviced by ABC crews.

In 2002 an Australian company, Macquarie Communications Infrastructure Group bought NTL Australia and renamed it Broadcast Australia. BA is Macquarie's first acquisition but its website states that it hopes to buy communication infrastructure in other countries. BA is more limited than the British and French firms, offering primarily TV and radio transmission facilities to broadcasters (as well as satellite services) and renting tower space to local broadcasters. Its major project now is developing digital transmission facilities for Australian broadcasters. Crown Castle has most of the business in providing mobile telephone sites.

MONTENEGRO: The recently passed law sets up a Broadcast Center. The center operates public broadcasting transmission facilities, sometimes in cooperation with Telecom and the Military. The BC does not operate a transmission system for nationwide private broadcasters. Stations have their own transmitters and operate and maintain them themselves. The Montenegrin sites serve microwave distribution backbones and backhauls, transmitters, telecom, and mobile phones. A good number of the local and regional stations use the sites and get good coverage but sometimes complain that they are treated as second-class broadcasters on the sites. At times the engineers who do maintenance for

private broadcasters have trouble gaining access. However, the Broadcast Center does provide private broadcasters access to most (but not all) of the best transmission sites and BC engineers can sometimes be convinced to help the private stations with small scale maintenance and monitoring.

CANADA: Much of Canada's development mirrors that in the US with local antenna farming as needed. However, Canada has adopted the European digital audio broadcasting standard. This standard allows several audio channels to be broadcast on one transmitter. So far there has been less consolidation than one might have anticipated. The CBC and private broadcast have developed their own transmitters and broadcast their own services. Several digital transmitters have unused channels while other transmitters in the same market are being built. This seems like a waste in resources. In Vancouver two broadcasting companies, Rogers and Standard Radio are sharing transmission facilities. Canada started out with a common company, the Digital Radio Rollout Inc, that included both the CBC and private stations but now, Canada, for the present, does not seem to provide a model.

SERBIA: The leading TV station B92 has its own set of transmitters, using towers owned by the state broadcaster, Radio-Television Serbia (RTS). The other private stations have similar arrangements, although some own their own towers in addition to renting from RTS. Municipal stations have a combined number of solutions. Some have their own tower and transmitters, other share a mix of defense dept, RTS and telecoms towers.

As the Broadcasting Council is not working in Serbia yet and the new Telecommunications Act is not in force, Serbia is still in regulatory limbo. The new law, when passed, may change the current arrangements.

In sum, one can see that there are many possible approaches to terrestrial broadcasting being employed, ranging from each station controlling its own transmitter, tower, and maintenance, to operating authorities, public or private, serving to provide a wide range of services to broadcasters including transmission and maintenance. In addition, in most cases, owners of towers have come to the realization that they are a valuable commodity and have sought to lease available space for non-broadcast uses, including telecoms and communications. It should also be noted that in cases where there are operating authorities, the legal and regulatory system is well-developed and protects the rights of independent broadcasters.

Looking to the case of Kosovo, KTTN works as a voluntary operating authority for province-wide broadcasters, under rules developed by the users themselves. KTTN owns, operates, and maintains the broadcast infrastructure. Local and regional broadcasters are in the situation of operating their transmission in any method possible – owning and operating their own transmitters and towers or, in some cases, seeking to use other towers.

In comparing KTTN to prevailing world trends in broadcasting, one sees two major external differences and one internal difference. The major external differences, discussed in detail elsewhere in the report, are that Kosovo has unresolved land ownership regulations and an incomplete legal and regulatory framework. Therefore, KTTN is operating in a type of legal limbo. The internal difference is that the global trend is towards privatization and operating transmission as a commercial venture. KTTN is an NGO and is controlled by a board made up of the users. As such it is not a true commercial venture.

V. RECOMMENDATIONS

This report has traced the history of broadcasting radio and television signals in Kosovo post-1999 and the development of the existing system, KTTN; has examined the legal and regulatory factors affecting broadcasting in Kosovo; has examined technical considerations for broadcasting in Kosovo and examined alternative technical means of delivering radio and television to viewers and listeners; and has examined prevailing models and trends in the region and in the developed world.

It is clear that KTTN developed under extreme circumstances – inadequate capital; politically-imposed deadlines; an incomplete legal and regulatory system for broadcasters; and a weak economy. Given this, achieving the coverage levels it has and maintaining a quality service, independent of political pressures, is to be commended. In addition, KTTN has sought commercial revenue to offset donor contributions and eventually users' fees.

This report concludes that the basic model of KTTN - an independent non-governmental operating authority - should be maintained and that this approach is sound. This comports with prevailing trends in broadcasting globally where to varying degrees individual stations are seeking economies of scale by combining aspects of transmitter and tower ownership, operation, and maintenance. The benefits of the KTTN model are multiple: it reduces overall costs by creating economies of scale through sharing of facilities, sharing operating costs, and sharing maintenance; it links the public broadcaster and private broadcasters, making it difficult for government authorities to use interference in transmission as a means of controlling stations as any action affects all national broadcasters; it is based on the needs of Kosovars and delivers a free signal to a relatively poor population; it allows the concentration of technical and management expertise in one entity; and its NGO status and by-laws mean that it cannot be controlled by any one station or by unfriendly capital.

The authors have examined the alternatives and believe that they suffer from serious weaknesses.

The first alternative is having each station fend for itself. This suffers from several weaknesses. The regulatory environment for broadcasting is likely to remain uncertain for years in Kosovo. Even after the Independent Media Commission is instituted, it seems likely if one looks at the region, that broadcasting reforms – good or bad – will be on the agenda for years to come and the system will remain uncertain. As such, having multiple broadcasters compete with each other for broadcasting privileges allows for the authorities to play one off against each other. If their broadcasting capacity remains in an independent operating authority, the broadcasters are strengthened in their capacity to lobby the government and remain independent.

Second, the TMC/IMC could serve as the operating authority for broadcasting, in effect replacing KTTN. While this parallels the initial development of broadcasting in European countries, as discussed above, the trend in developed countries is away from both state and regulatory authorities operating transmission systems. While it may serve to strengthen the ability of the system to receive land rights via KTA, it suffers from a key weakness. Namely, the uncertain and incomplete broadcast regulatory system means that the independence of the IMC, and hence the transmission infrastructure, could not be certain. As such, this would be a highly risky and speculative move.

Third, transmission could shift to non-terrestrial delivery which could change the nature of and need for any operating authority. The alternative means of delivery are Direct to Home (DTH) satellite and cable.⁹ However, the authors judged that these are not currently feasible alternatives. First, both cable and satellite would entail costs to viewers. For satellite, viewers

⁹ As discussed above, one can also switch to satellite as a means to deliver from the hub to transmitters.

would have to purchase converter boxes. For cable, viewers would have to pay a subscription fee. Given Kosovo's economy, the ability to charge for domestic programming at this time is limited. Second, both alternatives would be costly to the broadcasters and would not necessarily solve the issue of radio. Satellite would require using satellite time for each station at a cost currently more than KTTN costs, when one also calculates initial capital improvements needed. Cable is not feasible as there is virtually no cable infrastructure in the country and the capital outlay to cable the country would be too large.

Fourth, KTTN could be completely privatized, allowing market forces to determine the nature and extent of KTTN's role as an operating authority. However, the authors believe that no serious investor would purchase KTTN as it is presently structured. Additionally, total privatization would endanger the provision of television signals, the reason USAID has supported KTTN. A private operator, without constraints, might use the system for other purposes as the broadcast sector may not be the most profitable.

Therefore, the authors focused on the strengths and weaknesses of the current system and sought to provide suggested priorities for strengthening and reforming KTTN to make it more independent, more sustainable, and to provide a better quality product for the benefit of Kosovo's broadcast sector.

Recommendations:

1) The basic formula of KTTN - an independent operating authority serving the interests of all licensed province-wide broadcasters – should be maintained. An independent KTTN, free of control from any one broadcaster or governmental body, should maintain ownership of transmitters, towers, and provide for the operation and maintenance of the system.

2) KTTN should examine approaches to altering its current board structure to:

- allow for outside board membership to bring independent business, technical, and financial expertise to the organization
- decrease control of users via their dominant position on the board

The authors believe that the current board structure, while necessary at the time of founding of KTTN, inhibits the development of the organization. Lack of outside participation also narrows the ability of KTTN to attract capital, outside management expertise, and independent technical expertise. However, any modification of board or bylaws should preserve the current strength that keeps any broadcaster or any unfriendly outside party from controlling KTTN.

3) KTTN should consider altering its current non-profit status to allow for greater commercialization. This could improve prospects for investment and allow a greater ability to develop commercial revenues through lease of facilities and provision of services to broadcasters, telecoms, governments, and private businesses that have the need for a communications infrastructure. The current client base of broadcasters is too small to support the current operating costs of the organization on any realistic fee paying basis in the near future. Ways of gaining new clients and new markets are essential to ensure KTTN's future as both a financially secure and politically independent organization.

The dual structure that IPKO employs should be examined as a way of protection from external interference, both political and economic. With expert legal guidance, an evaluation should be of this option to create two separate but related legal entities. One would enable an 'operating company' to successfully pursue all options to raise finance. The other would be a 'not-for-profit' company, retaining a controlling influence through a powerful Board of Management drawn from experienced business leaders (Kosovar or international) and representatives of Kosovo broadcasters.

IPKO was established in 1999 as an NGO, financed by IRC until March 2000. In May 2001, IPKO was divided into two parts in order to sell its commercial activities but continue to run its 'social' training activities on a non-profit basis. Thus IPKO org and IPKO net were formed from the divided NGO.

The NGO-IPKO runs technical training in computer work, software and other more academic approaches to data processing and is called the IPKO Institute. IPKO the commercial pod runs as a business, selling a variety of computer services, including the provision of internet access.

It is constructed around a Chief Executive, appointed at the NGO stage who now presides over two boards of directors, appointed by the CEO. Two internationals are involved in the Board, one a COP of a USAID supported NGO and the other a representative of USOP. The detail of responsibilities and the construction of the two groups are not gone into detail here. However, the system is designed to keep the Institute safe from a sold-on privatized division, while ensuring sufficient funds to keep the NGO afloat.

The drawback seems to be a rift among board members concerning the operation of the organization(s).

One means of resolving this would be to:

- Separate the organization into two parts with a private operating company, the 'operating company', holding an agreement for the long term leasing of the existing network and assets. A separate organization, established on a 'not-for-profit' basis, would retain the land sites and use any rental income (or profit sharing) it receives from the operating company to support the TV and Radio organizations (and if necessary subsidize their transmission fees). The not-for-profit organization, the 'not-for profit company', would be protected by a powerful Board of Management chosen from experienced business and legal figures in the USA and Europe. A member representative from the donor organization and affiliate member representatives from the Association of Independent Electronic Media of Kosova (AMPEK) and the public broadcaster, RTK would also be appointed

Independent valuation of the assets would be required and agreement reached to donate these assets to the 'operating company' against future payments of ground rent to the 'not for profit' company. Such a scheme would require expert legal advice on the most effective arrangement for ensuring that the 'not-for profit' company retained its rights, i.e. a controlling 'golden share' in the 'operating company'. Another option would be to explore with the TMC a form of regulation requiring the 'operating company' to be diverse in their corporate management and to guarantee the broadcasters' rights.

If such a scheme was to be followed it would enable several other options to be explored:

- invite tenders for the running of the 'operating company'
- invite venture partners to purchase a controlling interest in the 'operating company' or operate it as a joint venture
- following suitable management support and the recruitment of an experienced Board to the 'operating company', it could raise commercial capital independently

4) KTTN should seriously address the need for RTK to reach a maximum audience, while also seeking to accommodate the differing, commercial considerations of the private broadcasters, which must undertake a cost-benefit approach to investment in increased penetration. Currently, virtually all citizens, via electric bills, are paying for RTK yet the current system means that only approximately 70% of citizens can see RTK. This has the potential to cause a backlash against the system of collecting revenue through the KEK license fee. It endangers an independent source of funding for RTK and encourages it to rely on advertising, in competition to the private stations. KTTN can address the TMC for funding or discuss the ability of RTK to contribute to KTTN for the specific purpose of expanding its own transmission.

The TMC is gathering information that would enable an application for funds from the KCB for infrastructure such as towers, electric cables, etc. on an extra three or four sites which would permit transmitters to be installed for RTK use.

This would not preclude the independents from using them but they would have to bear the cost of their own transmitters. This would help resolve minority communities receiving a signal, albeit for Albanian language programs, would help negate the threat of RTK from setting up a parallel system and help resolve board disputes over which direction KTTN should take.

The expansion would also provide power lines for KTTN sites. These could be shared with local communities, thus spreading the cost, bringing new services to some areas and engaging municipalities much more closely with KTTN and the users.

5) KTTN should make the resolution of land rights a top priority, drawing on the assistance of USAID, the TMC, and the KTTN users.

6) KTTN should become more engaged in legal and regulatory issues, acting as an interested party, independent of its users' interests. To date, RTK and the private broadcasters, individually and through AMPEK, have been engaged in legal and regulatory reform issues with the TMC, OSCE, UNMIK, and Kosovo Assembly. KTTN has not been active in this field yet it has distinct concerns over the development of the legal and regulatory system of Kosovo.

7) KTTN should examine the possibility of a regulatory or legislative "mandate" that ensures its status as the provider of broadcast transmission services for Kosovo's province wide broadcasters and possibly broadcasters with regional licenses.

8) KTTN should have outside experts review its development plan, which calls for the development of a digital backbone, taking in to account the recommendations above. KTTN's development plan, described briefly earlier in this report, may be too ambitious given the limited resources that are likely to be available in the near future. The review should include recommendations for change and should consider the impact of the likely entry of a mobile telecoms firm into the market, and the potential for microwave and data communications services in Kosovo. Once a plan is finalized, KTTN should examine both donor and commercial support.

If KTTN considers that its strategy to introduce a digital service is the proper way to proceed, it will need to devise a suitable investment strategy. Its business plan will need to examine in detail the overall market for digital data transmission and how potential competitors may influence the outcome

Other issues raised by consultants concerned how international standards for a microwave network would affect development? For instance, would and could, neighboring countries object? KTTN's present plans indicate that the introduction of a new digital network would be 100% compliant with international communication standards and thus would be of no harm or threat to the current users in Kosovo or others countries surrounding it.

What capacity is planned? Would the system be able to meet market demands (fit for purpose)? KTTN's response is that the projected transport capacity would be the highest offered on the market and would meet the growing demands of the market for connectivity (broadcasters, banks, insurance companies, government, second mobile operator, etc...).

How great would the affect be of third party/competitor projects on service quality? Although the projected and designed network will offer the highest quality as used in other countries, it is still "aging". However, it has been designed in such a way that it can be easily modified, upgraded and meet the requirements of the market. Uniqueness of the services KTTN offers at the moment forces its competitors in the field to use KTTN's infrastructure (IPKO, KUJTESA, TELEKOS...).

Would the infrastructure be unsuitable for growth? The infrastructure has been carefully planned and designed, and meets the growing needs of the market. It needs essential upgrade (improvement) of the physical (building) infrastructure.

Will disaster recovery/continuity planning be completed? Disaster recovery and backup solutions are unfortunately very much connected to the issue of financial means, which at the moment are not sufficient to implement any disaster recovery plans or backup links. Dave Craddock notes that although the current operational sites operated by KTTN are well maintained by the current staff, most lack any form of emergency transmission facilities and urgently require back up transmitters and automatic changeover equipment to maintain transmissions in case of technical failure. The standby transmitter should be approximately half the power of the main transmitters and the whole system should be capable of being remotely controlled over microwave or satellite channels. "I think this is very important for KTTN as the sites are manned and protected by local villagers and not by transmitter engineers." However, full remote control of sites does not make sense until the old containers are replaced with proper buildings and until such time as standby transmitters etc. are available. This would make the moving of equipment from containers to transmitter building practical, in that the changeover could be accomplished with little if any downtime of the existing three services.

9) As an urgent interim measure, KTTN should establish an independent, expert panel (two members plus KTTN CEO) to determine the fees that KTTN should charge the broadcasters. This panel could recommend a percentage support of donor funding to the users (public and private) towards the cost of meeting KTTN's annual charge to each broadcaster, as they allocate monies for each year.

Any support decided by the donors should be 'ring-fenced' for KTTN within an individual broadcaster's budget, the level of support being agreed to be reduced to zero over a set time-scale. The present system of allocating monies for support of fees is erratic and gives no assurance to KTTN that it will receive its fees.

10) The absence of a debt recovery policy is hampering the cash flow. The introduction of weekly procedures for notifying clients of overdue amounts, determining a method for international clients to make regular direct bank payments and introducing service level agreements that identify prompt payment as a contractual obligation can help to improve the situation. Consider introducing cash flow analysis and assess the need for financial management training within the organization. Consider capital depreciation and office rental costs in future budget planning.

11) KTTN needs to develop a marketing department first to research and then to actively solicit more business, both from local and regional broadcasters and beyond broadcast transmission.

**APPENDIX I
TERMS OF REFERENCE¹⁰**

Background:

The US Government goal is to design and implement long-term management of the Kosovo Terrestrial Telecommunications Network (KTTN) that is apolitical, serves the interests of all legally licensed broadcasters, serves the interests of the citizens of Kosovo, and contributes to the sustainment and further development of KTTN.

USG policy has been aimed at the development of private, independent broadcasters. No broadcaster can remain independent if its transmission system is under political control or under threat of political control. Back in year 2000 USG examined three options for construction of KTTN: developing a system only for private stations and allowing other donors to construct a system for RTK; contributing funding to IC effort to build a system (which would have been led by OSCE), or taking the lead on building a "shared" system for use by private and public broadcasters. The third option was chosen for various reasons, with the explicit understanding that this system must become independent of political control.

1. IREX has recognized for some time that the survival of the Kosovo Terrestrial Telecommunications Network, KTTN is of paramount importance
2. Currently, KTTN has extremely efficient and creative management, which has not only acknowledged this fact, but has drawn up a strategy for its survival as well as its future development.
3. USAID has accepted and indeed embraced the need to establish a way forward to ensure that KTTN survives and flourishes in a time when donor support is either limited, decreasing or has ceased altogether.
4. IREX and USAID accept that KTTN is unique in the emerging economies as being independent of control from government, TMC/IMC or other quasi government organizations.
5. All three entities, KTTN, USAID, and IREX want to try and find the best way to ensure a sustainable present as well as a viable future for KTTN.
6. KTTN management and IREX management have a very good working relationship and have jointly done much to try to ensure an acceptable strategic plan to achieve these objectives is put into place.
7. KTTN has assembled a professional development team which has produced a plan that would enable KTTN to become privatized and become a profitable organization. This plan needs substantial investment but is being looked at by commercial banks and investment organizations to see how attractive it might be.
8. In order to satisfy USAID that funds are being appropriately used to further these ends, USAID has asked that a business review by an independent consultant should be made, as a condition of approving the final sub-grant monies donated under the KIMP program which ends in July 2004.
9. It is therefore recommended that an assessment of the present operations and financial commitments to KTTN, including a view of future plans should be properly assessed.

The consultant shall:

- Assess the context in Kosovo for public and private broadcasters (TV and radio) to transmit their signals efficiently and cost-effectively without jeopardizing their independence;

¹⁰ Specific staff and consultants engaged in this project were given more detailed SOWs for their assignments, based on the above SOW.

- Assess the context in Kosovo for maintaining and operating broadcast transmission towers;
- Review the present status and operations of KTTN, including the feasibility of its current business plan;
- Make recommendations to USAID and IREX on the best course of action to support the ability of private broadcasters to cost-effectively transmit their signals without jeopardizing their financial or editorial independence.

Although it is hoped that the best course of action is to continue to build upon the previous donor support for KTTN and KTTN's success to date, the assessment recommendations shall not exclude any viable alternative(s) the consultant concludes are reasonable. Recommendations regarding KTTN should be made having considered options as a private (commercial), non-profit, public, or quasi-governmental entity, and should be as specific as possible regarding its legal status, the composition of its board/members, and its mission or mandate. All recommendations in the assessment shall consider financial factors, (e.g., financial sustainability) as well as political factors (e.g., avoiding situations which might threaten the independence of broadcasters or limit freedom of speech).

The consultant shall also make recommendations for any additional assessments or evaluations that may be necessary subsequently, such as technical feasibility studies or reviews of business plans.

**APPENDIX II
Individuals and Organizations
Interviewed or Consulted**

IPKOnet, Chief Executive Officer, Akan Ismaili

Kosovo Trust Agency, Head of Agriculture & Forestry, Daniel Themen

Bearing Point, Senior Adviser, ICT Legal-Regulatory, Oliver Dziggel

Radio Dukagjini, Feim Kurhasani

Raiffeisen Bank, Prishtinë, Branch Manager, Afrim Tahiri

RTK, Director General, Agim Zatriqi

RTK, Director of Technical Operations, Agron Dida

RTV-21, Managing Director, Aferdita Kelmendi

Temporary Media Commissioner, Robert Gillette

KTV General Manager Leke Zherka

KTTN, Staff and Managers

Andrew Clayton, Business Advisor to TV21/KTV

USAID, David Black and Tina Grazhdani

Consultants unofficially consulted with numerous other individuals not listed here.

**APPENDIX III
Kosovo Documents Examined**

IMF Staff Visit June, 2003

KTTN Annual Financial Reports

KTTN Statutes, Policy and Procedures,

KTTN Personnel Manual

KTTN, Concept Paper, Digital Microwave Network Backbone,

KTTN – Consultants Engineering Report, unknown date

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