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Foreword

Two non-governmental bodies, a research institute, namely the International Institute for Applied Systems Analysis (IIASA) and a multilingual satellite television broadcasting corporation, namely ALFA TV, have decided to launch a cooperation in order to contribute to public awareness of critical global issues. Both parties are aware that no part of the world escapes the grasp of the new global communication systems and their virtually instantaneous and universal impacts on many domains of culture, politics, the economy and education.

IIASA, as a unique international, interdisciplinary institution performing policy-oriented research stressing the human dimentions of global environmental, economic and social change, has accumulated timely and relevant information and options addressing critical issues.

ALFA TV was initiated by the "First Foundation of Central and East-European Co-operation" created by leading intellectuals from 25 countries (Albania, Armenia, Austria, Azerbaijan, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Finland, Greece, Georgia, Hungary, Latvia, Lithuania, Macedonia, Moldava, Poland, Romania, Russia, Slovakia, Solvenia, Ukraine, Yugoslavia). The ALFA TV Foundation decided to establish a multilingual satellite television broadcasting system which is to be launched in 1997 with the idea of becoming an alternative quality TV channel for Central and Eastern Europe.

Alternative television is one of the most efficient ways to disseminate quality knowledge to the public. Cooperation is based on mutual understanding, which assumes that the public in the 25 Central and East-European countries share a common set of basic notions. Nowadays, the region is full of confusion.

ALFA TV's mission includes the creation of a common language by creating emotions that open the door to absorb the "21st century's culture of life", the culture of the "information age", the know-how of personal strategic planning, the know-how of analyzing personal scenarios, and by disseminating useful knowledge needed by the public of the region.

The cooperation between ALFA TV and IIASA enables the possibility of disseminating timely and relevant information and options on the critical issues of global environmental, economic and social change issues. Knowledge dissemination would improve public understanding of critical issues for the benefit of the public.

This working paper is a concise exposition of the studies and discussions which lead to the proposal of cooperation between ALFA TV and IIASA.

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1 Introduction

The strategic objective of IIASA has been stated for the 1990s in the document "Agenda for the Third Decade" as follows:

> "To conduct international and interdisciplinary scientific studies to provide timely and relevant information and options, addressing critical issues of global environmental, economic and social change, for the benefit of the public, the scientific community, and national and international institutions."

The document also says:

> "Global changes are not limited to our physical, chemical and biological world. They are, in fact, very much societal matters. No part of the world escapes the grasp of the new global communication systems and their virtually instantaneous and universal impacts on many domains of culture, politics, the economy, and education." [1]

Global change highly depends on the public's awareness of critical issues. There are a lot of objective constraints, the future is highly dependent on our global social behavior. The public should be aware of the critical issues. Nations should understand their interdependence, as well as the role of cooperation in their struggle for survival and sustainable development. A definite shift in public behavior is needed in order to learn how to master global change in a homeostatic way.

The recent evolution of communication technologies, namely the global Internet services and the emergence of *multilingual international satellite broadcasting TV channels*, open new hope. New possibilities have emerged to make an impact on public behavior by the proper and timely dissemination of relevant knowledge.

International and interdisciplinary *balanced* **voices** are badly needed to inform the public on the consequences of public behavior on global, regional and local scenarios.

Individual, local, regional and global life-strategies should be harmonized. Potential scenarios based on scientific state-of-the-art should be disseminated and it should be made clear which issues science is not in a position to answer as yet, or at all. Public credibility of these voices should be established.

International and interdisciplinary research centers, might become these "voices". Among them is IIASA which deserves broad public credibility not only in the developed world but also in Central and Eastern Europe.

The Director of IIASA, aware of these potentials and responsibilities, participated in the "Organized Babel" meeting which was held in Budapest on 21 June 1995, where representatives of 25 national founding organizations established the *ALFA TV International Foundation for Cooperation.* The ALFA TV Foundation decided to establish a multilingual satellite television broadcasting system which would be launched in 1997 with the idea of becoming an alternative quality TV Channel for Central and Eastern Europe.

ALFA TV was looking for competent partners to advise on its programs of knowledge dissemination. On 11 January 1996, a joint Workshop between IIASA and ALFA TV was held in Laxenburg to identify the role of science programs in the "The Cooperation Channel".

Based on the conclusions of the Laxenburg Workshop, a proposal on knowledge dissemination was submitted to the International Board of ALFA TV in April 1996. The Board accepted the proposed *"ALFA TV Encyclopedia"* as the framework of knowledge dissemination. An hour per week at prime viewing time has been allocated to the Encyclopedia (on Sundays, from 19:00 to 20:00 hours).

This Working Paper is a concise exposition of the studies and discussions leading up to the proposal of the *"ALFA TV Encyclopedia".*

A short review of the studies of public awareness and understanding of up-to-date knowledge (Section 2) and quality criteria of public dissemination (Section 3) are presented. The role of international and interdisciplinary research is emphasized in achieving public credibility. Section 4 is devoted to the introduction of *Alternative Television* as the existing example for ALFA TV. Section 5 introduces *ALFA TV*, and Section 6 presents the concept of the *"ALFA TV Encyclopedia".*

2 Public Awareness of Up-to-date Knowledge

2.1 Ignorance and mutual misunderstanding

Development highly depends on public awareness of up-to-date knowledge. The well-being of personal and community life, regional and global stability are determined by informing the public. Life in the information age requires much more and quite different knowledge compared to that of the past. Is the public prepared for the 21st century?

The Royal Society, in its report on the *Public Understanding of Science* in 1985, claimed that people must understand science in order to be able to participate fully in

social decisions. It would also help, if those responsible for public policy knew something about science. Only an increase in scientific literacy, i.e., public access to scientific and technical information in its appropriate social context, can society move toward genuine democracy.[2]

A survey carried out by John Durant and his colleagues at the University of Oxford in 1988 asked questions probing the knowledge of scientific facts. The survey indicated a serious public misunderstanding of what scientists see as basic facts about the world.[3] Only 3 per cent of the 2,000 people questioned associated science with testing theories. Only 63 per cent knew whether the Earth went around the Sun. Only 25 per cent knew that antibiotics do not kill viruses. More than a third of the adults questioned thought astrology to be scientific and about 5 per cent actually used astrological predictions to guide what they did. Yet 75 per cent indicated that they used scientific information from the animal testing of drugs and food to decide what food or medicines they consumed.[4]

In a multilingual region such as Central and Eastern Europe there has always been a danger of misinterpreting verbal notions. Misunderstanding and the incapability for peaceful communication has frequently resulted in bloodshed in Central and Eastern Europe in this century. After the political changes in 1989, all of the nations in this region wish to establish democracy and a market economy now, but progress is extremely slow. The spiritual and economic development of the region is very slow to take off. The spirit for cooperation is missing. Cooperation is based on mutual understanding, which assumes that the public of countries speaking different languages share a common set of basic notions. Nowadays the region is full of confusion. Notions such as democracy, market economy, trade liberalization, regional cooperation, or global change, energy-food-material supply, sustainable development, environmental protection, or macro-economy, stock market, monetarism, or potentials and limits of the modern information services, electronic mail, or the issues of public health, the new technological and scientific contributions, etc., have many different meanings in the region.

2.2 The public's absorption of useful knowledge

Recent studies [5] suggest that surveys of public knowledge have two fundamental problems. They tell us little about how people use, and make sense of, the knowledge they encounter in their lives. And the encounter between knowledge and "the public" is rather one-sided, portraying the public as inevitably deficient. In fact, scholars are not much more knowledgeable than the "public" in fields other than their own. Studies of the scholars' understanding of the public are also needed. Recent research shows that lay people are not really as ignorant as surveys suggest. Most people become quite conversant with knowledge that is relevant to their lives.

When respondents were asked to decide between alternative ways in which a doctor might be sure that a drug was effective, almost two-thirds opted for a comparison between

people taking a drug and those not taking a drug, the basis of clinical trials. People were twice as likely to pick the right answer if the question was medical.

It is misleading to talk about "public understanding" of science. Instead, researchers now stress the needs of different "publics" and the different ways in which different sciences are understood. Ignorance of particular facts should not be seen as failure or incapability.

One thing that recent research into public perceptions of knowledge has shown is that people are often rather better at knowing how to know, or how to make sense of contradictory information, than the results of surveys suggest. But they tend to do so when the need arises, obtaining information and relating it to their own experience.

A study at the University of Bredford, for example, proved how competent those people are, in relevant scientific information, who discover that they have a genetic predisposition to high levels of cholesterol in the blood. People with this condition, familial hypercholesterolaemia, find out what they need to know to understand their own condition.[5]

So, whether knowledge contributes to the individuals' well-being and allows them to make informed choices about their lives depends upon who they are, and what use they can make of the knowledge. Knowledge that cannot be used is unlikely to be empowering (and may not even be remembered). And sometimes, even when people have access to knowledge and have understood it, they may choose to reject it, for good reasons. People may resist scientific explanations if it is not clear how these could help them.

"The public" picks up bits of scientific information and uses them when appropriate; they also reject others. Attempts to improve people's access to scientific knowledge, or any other kind of knowledge, is in principle a good thing. But we must not ask more of the public than we ask from scholars themselves.

People do not want to be told a collection of abstract "facts" by an elite brand of experts. Rather, different "publics" may want access to knowledge in different ways, or to different bits of scientific information, and they will make their own use, and sense of it.

Self-help groups already do this; groups formed of people with particular medical conditions, for example, or women's health groups. Pressure groups focusing on the environment or food are a powerful way of finding a voice.

The issue is not public understanding of knowledge but the basis of trust and authority across the social division of labor. So the problem lies not with the attempts to "popularize" knowledge, but with the way that it tends to be done.

Special attention has to be given to knowledge dissemination in multilingual multicultural regions. Different traditions, different content of notions and historical prejudices must be taken into account. Cooperation needs mutual understanding which can only be based on a common language. Common interpretation of the meaning of major notions has to be established. The basis of trust and authority across national boarders have to emerge.

New ways of enhancing the public's access to knowledge need to be found. We have to begin with the identification of what the public needs and wants to know and the context in which they want to know it.[6]

If the disseminated knowledge appears useful for the multilingual community, the public will be ready and capable of absorbing the sophisticated knowledge of our information age.

3 Criteria of the Quality of Knowledge

3.1 Intellectual quality and usefulness

Everyone shares with scholars the need to find out about their world. A piece of knowledge is accepted to be useful if the experience of the user verifies it. Thus useful knowledge is very similar to scientific knowledge. The experience of the user follows the "scientific" method, that encourages and propels the researcher's work, and that is the experiment.

A user or a group of users called the public segment's everyday experience is nothing else than a series of experiments, which poses questions. Not all of the questions are right and it is not always clear whether a specific question should be asked. That is why there is not always an answer, or at least, there is not always an answer that helps to produce useful knowledge. But when there is one, when reality suddenly begins to answer with something which is intelligible, then that is the time when communication between people and the world has begun. This is the source of a scholar's passion. These passions are the actual motors of knowledge, either scientific or artistic.

Knowledge of this type is obtained through a method, which has three basic principles [3]:

1. *The principle of objectivity*, in which the subject of knowledge chooses the relation which is as independent as possible, regarding the object of knowledge.

2. *The principle of intelligibility*, in which the subject of knowledge assumes, as a working hypothesis, that the world is, to a certain extent, intelligible. So certain meanings of intelligibility can be agreed upon.

3. *The dialectic principle*, in which the subject constantly confronts knowledge with experience.

The third principle of the experimental method, the dialectic principle, suggests *interactivity*, the leading role of experiment. Let us, therefore, assume that in each case as much interactivity as possible should be encouraged. Nothing can replace reality itself in this sense.

The first principle of the scientific method, the principle of *objectivity*, regulates and harmonizes the interactivity, because objectivity too should reach the highest possible degree.

Now, what does *understanding* really mean? The principle of intelligibility provides the key. There are three types of scientific comprehension: comprehension from *compression*, comprehension from *causality*, and comprehension from *structure*.

1. *Compression.*[7] An event is considered to be comprehensible if it is also, in any sense, compressible. For example, the digital series:

   0101010101010101010101010101010101010101

   is compressible to the expression: print "01" 20 times. And so it is also reasonably comprehensible. In addition this type of comprehension allows predictions. We can guess that the next digit will be a zero.

   In the same way, we say that a series of experiments can be comprehended if we assume that future experiments follow the same pattern observed in the past. Trust in experience is the foundation of knowledge. The knowledge is therefore comprehensible because there is a model which compresses it. On the other hand, the series:

   00110110100011010110011110100101100 11

   does not accept a more compact description. It is incompressible, and so it is also incomprehensible. It is impossible to guess the next figure.

   Scientific models, from the greatest theories to the most humble model, satisfy us because they provide this kind of intelligibility through *model compression*, that is compression to a model: the minimal form with the capacity to reproduce the experiment. But there is another type of comprehension through compression. It occurs when compressing identifies the same essence in two objects or phenomena which are otherwise different. Two objects or events are compressed, according to a certain criterion, into one: the *class*. This second type of compression introduces an important scientific concept: the breaking up of a whole into classes *or classification*. A doctor "comprehends" when he/she manages to diagnose a patient, that is when the patient has been classified. This scientific way of comprehension through compression, *compression of class*, also allows sensible predictions. It is what a doctor relies on (and the patient) when medicine applies the principle of "all patients of the same kind are always cured with the same treatment".

2. *Causality.* An event is thought to be scientifically comprehensible if it is possible to identify one or several causes that make the event in question necessary, or else the event itself is identified as the necessary cause of another event. The first case is called the *preceding cause* and the second is called the *final cause*. The first is the most common in the simple cases of the cause-effect binomial. The second does not

necessarily mean a teleological relation between events, as would be the case with the intervention of intelligence as an object. Compatibility with the environment, the concept of natural selection or certain traits of animal behavior can be understood with the help of this sense of final cause. Thus, the triumph of mammals may be intelligible in terms of a preceding cause, such as the extinction of the dinosaurs. On the other hand, our present concern for the environment may be intelligible in terms of a final cause, such as some particular kind of imagined or envisaged future. The predicting power of comprehension through causality is obvious.

3. *Structure.* This requires two concepts: the whole and the parts. Thus, it depends on the previous partition of the object or event in certain parts according to certain criteria. It is then said that an object is comprehensible according to its structure, when a relation among the parts that renders them compatible with their whole is identified. If the whole is the starting point, comprehension is through *analysis*; if the starting point is the parts, then comprehension is through *synthesis*. A large part of what is nowadays understood in science as computer simulation is based on this idea of intelligibility.

A piece of knowledge disseminated to the public may be "assessed" according to the personal experiences of a specific segment of the public meeting three criteria:

1. Its degree of interactivity.

2. Its degree of objectivity.

3. The wealth and variety of its intelligibility.

The intellectual quality of a piece of knowledge disseminated is determined by these criteria. Dissemination of knowledge will be rewarded by the public's trust if, and only if, the experience of the public verify the knowledge. The public should never be cheated. The criteria of quality should always be checked.

A high quality piece of knowledge can be more or less useful. Usefulness of knowledge depends on the extent of the related public-segment and also on the degree of impact on homeostasis. A piece of knowledge that benefit groups should be preferred to individuals' idiosyncrasies.

3.2 International and interdisciplinary research

The identification of a good strategy for disseminating high quality and useful knowledge to multilingual and multicultural communities is a challenge for international and interdisciplinary research communities. Even the study of public awareness of high quality scientific knowledge is not a conventional academic discipline. Rather, it is an emerging interdisciplinary research activity.

This research field is not something that Thomas Kuhn might describe as "paradigmatic".[9] Instead, there is a rich diversity of complementary, contrasting and occasionally conflicting research practices. These practices reflect not merely academic but also cultural diversity. If the issues appear differently to people trained within the natural and social sciences, they also appear differently to people working in England, France, Central and Eastern Europe, USA, Japan and China. For this reason, *research* should bring together not only different intellectual traditions but also different international communities.

The transition in Central and Eastern Europe needs special attention. A knowledge dissemination strategy should be developed to serve the prevention of instabilities. Misunderstandings, misinterpretations and prejudices should be identified and corrected. Missing up-to-date knowledge-bases should be completed.

We need to know the most effective methods to use in order to get messages across to a wide variety of target audiences. Research into the public awareness of knowledge needed to cope with global change and sustainable development is in its infancy. There are remarkable efforts launched already. The UK's Committee on the Public Understanding of Science (COPUS) brings together the Royal Society, the British Association for the Advancement of Science and the Royal Institution. COPUS is carrying out a wide-ranging program of action which is designed, as far as resources allow, to use all available means to develop understanding and to offer encouragement, help and sometimes grants money to others who share its aims.[3] COPUS's own program is designed to reach different target audiences in ways most likely to capture their interest and fire their enthusiasm.[8]

It would help if we knew more about the ways in which various target audiences may be reached most effectively with knowledge which research has shown they want. This would be the standard approach for anyone marketing goods or services and a similarly professional approach should be taken for the public dissemination of high quality and useful knowledge. Social scientists may be able to help by identifying opportunities.

The level of public awareness of high quality and useful knowledge should be monitored from time to time, to identify the needs and interests of the different segments of the public. But, in addition to this, those interested in research on public understanding and awareness could greatly help improve it by undertaking projects to help us understand better which approaches are most likely to enthuse our target audiences.

4 Alternative Television

Alternative television is one of the most efficient ways to disseminate quality knowledge to the public.

Emerging new technologies of information processing and dissemination, namely the convergence of telecommunication, computing and broadcasting shall be with us in the near future. The next generations will be citizens of a "global village". The technologies will provide individualized access to interactive services. Multi-media, virtual reality via

global networks of information (e.g., INTERNET), multilingual satellite broadcasting with digital coding will reach everybody.

At the heart of the multi-media phenomenon lies a common technological core — the translation of all forms of information — graphics, text, still and moving pictures and sounds — into digital bits.

What we call television today is an institution, a set of relations and practices, which has considerable historical stability. We call this institution of television with which we are familiar "classic television".[10, 11] It is by far the cheapest form of leisure activity that occupies a large proportion of available leisure time — typically around 3 hours per person per day. In entertainment services the cost of transmission are a low percentage of the total costs.

Classic television borrows forms from previous media — the theater, films and newspaper journalism. It took over some of their functions but it did not drive them out of business. This institution has dominated our cultural lives for about 40 years.

Research projects show that in the U.S. young people play with electronic games for more than 50 hours per week, watch TV for more than 40 hours per week but go to school for just 35 hours, while a lot of children do not talk to their parents for more than 60 minutes per week. Consequently, the problem of giving proper education on how to use the media and electronic services arises. Concern is not only the audience viewing time, but also the content of the programs.

Out of the 241 satellite channels operating in Europe (as of March 1995), 229 target Western Europe (350 million people) and only 12 channels want to reach Central and Eastern Europe. The vast majority are commercial channels.

The public is becoming disappointed in the commercial TV channels. Government controlled public television is loosing its popularity as well. In both types political issues have always played a dominant role. As a result, the position of television personalities, announcers and commentators has been given far greater influence than their real importance. Their dominance has directed contemporary television towards words, dialogue and comment.

Technology is developing and there are already attempts to dominate it by commercials. American research projects show that there is a danger that interactive networks will be taken over by teleshopping and electronic game companies instead of educational programs as was initially hoped for and planned.

But it is widely realized that television is more than an amusement bank. It is a tool for ideas, it is also a school for manners and styles, for clichés of speech and feelings, for images. Television suggests how to talk, look, behave, think and live. There are different viewer needs emerging, such as reliable information, acquisition of useful knowledge and recreation. An artistic approach reflecting the quality of human life is on the way to become popular again.

In meeting these emerging needs, alternative quality TV channels have been launched. CHANNEL 4, ARTE, IBIO, EURONEWS and a French channel recently announced — "The Knowledge–TV" — are popular examples.

Television is moving, along with other media, from an era of one-way mass communication to an era of interactive, personalized multi-media. The classic television with which we are familiar has been characterized by a few, heavily regulated channels watched by large audiences for long periods of time and organized on national bases. New technologies of distribution such as satellite, cable and VCRs, CD-Roms and CDIs are abolishing spectrum scarcity, leaping national borders and placing viewing decisions in the hands of individual viewers.

The audio-visual world into which we are moving will be characterized by a rich choice on the global market, fragmented audiences unified by taste, active participation rather than passive consumption, direct payment for each unit of consumption (the so-called pay-preview).

Multilingual satellite television broadcasting is a reality today. Eurosport, Euronews, etc., are good examples. Digital technology enables TV programs to be broadcast with 7, 15 or even more accompanying sound channels. The footprint of the latest members of the Eutelsat fleet to be launched in 1997 covers the whole of Europe, from the British Isles to the Ural mountain, including the Mediterranean, Turkey, the Baltic States, and even the Caucasian Republics (Figures 1 and 2).

Now, at the end of the 20th century when television can exert more and more influence on people, the professional skill and sense of responsibility of television are becoming increasingly important. The role and place of television within society in the information age have to be reconsidered. Television experts or rather motion picture experts alone cannot cope with this task. Without social and natural scientists this task remains unresolved.[11]

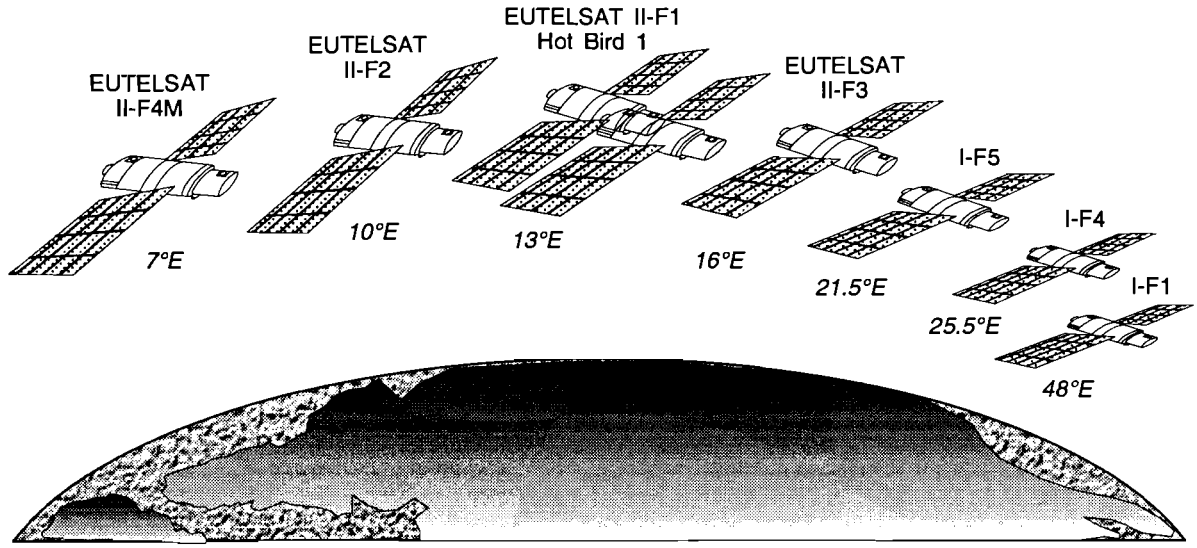
5 ALFA TV — The Cooperation Channel

5.1 The mission of ALFA TV [12]

ALFA TV "The Cooperation Channel" is a multilingual satellite television broadcasting system which is to be launched in 1997 with the idea of becoming an alternative quality TV Channel for Central and Eastern Europe.

ALFA TV was initiated by the "First Foundation of Central and East-European Cooperation" created by leading intellectuals from 25 countries (Albania, Armenia, Austria, Azerbaijan, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Finland, Greece, Georgia, Hungary, Latvia, Lithuania, Macedonia, Moldava, Poland, Romania, Russia, Slovakia, Slovenia, Ukraine, Yugoslavia). The population of ALFA TV's member countries can be seen in Table 1.

The EUTELSAT Fleet April 1995



The EUTELSAT Fleet 1998

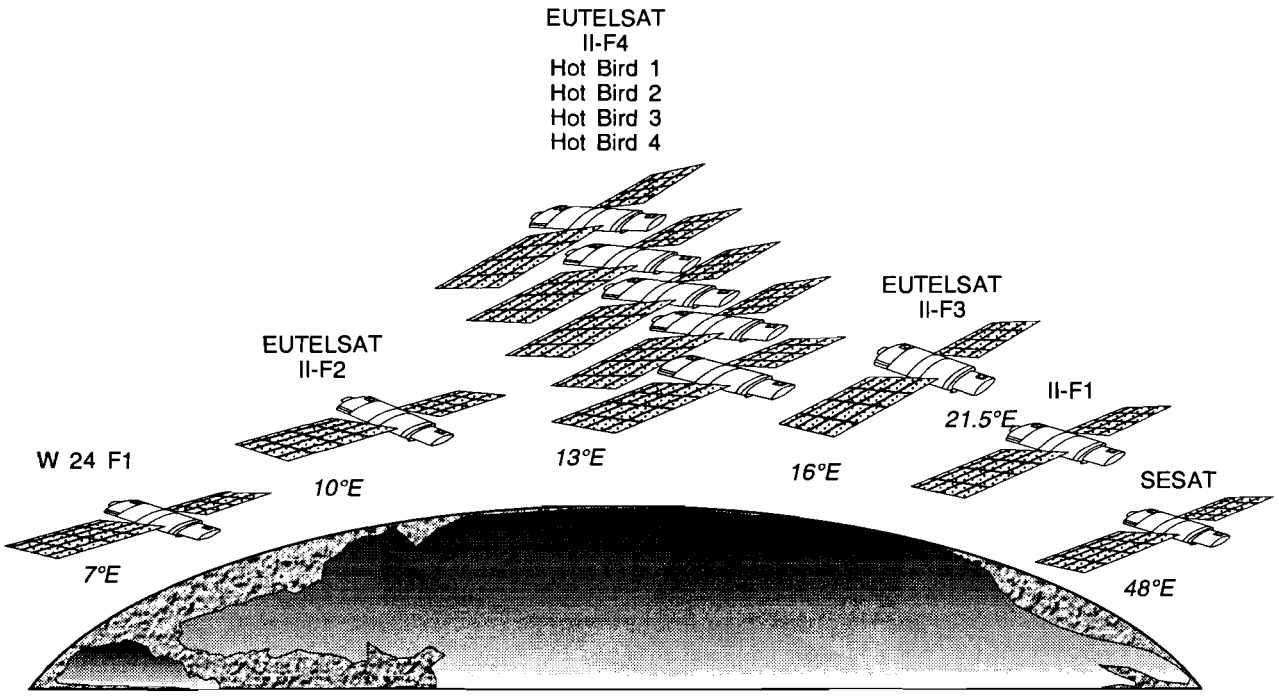


Figure 1: The EUTELSAT Fleet 1998

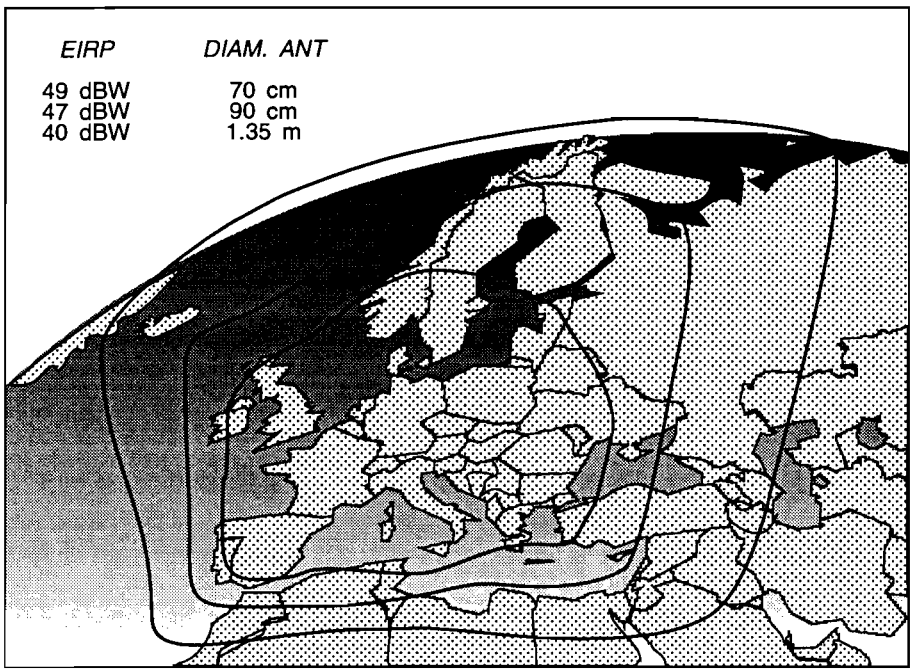


Figure 2: Hot Bird 1 Coverage

The incapability for peaceful communication has frequently resulted in bloodshed in Central and Eastern Europe in this century. After the political changes in 1989, all nations of the region wish to establish a market economy now, but progress is extremely slow. Political tensions and uncertainties do not help the development of markets.

After the political changes in 1989, the spiritual and economic development of the region were very slow to take off. At this time, the countries of the region, as well as the political and business communities of the developed world, had great expectations for the birth of a new, huge market of some 400 million consumers. But, instead of wealth and prosperity in the foreseeable future, national and nationality conflicts flared up with numerous tragic local wars.

After the collapse of the Soviet regime, the Central and Eastern European region has been shocked by three interconnecting changes: the Empire has been replaced by a number of independent small national states, new market economies had to be established on the ruins of the centrally planned Comecon, and an under-developed region had to face the challenges of fast moving modernization.

These shocks, each being immeasurable in itself, affected a region extremely fragmented in view of its historic and cultural traditions, the maturity of its new political structures, the collapsed state of its economy, and the language and communication barriers of the nations of the region.

It has been a mistake to believe that by simply eliminating wrong practices established under the former system something new will spring up spontaneously and quickly. A disappointing experience of the last six to seven years has been that the gap between

Table 1: The Population of ALFA TV Member Countries

Country	**Population in 1000**
Albania	3400
Armenia	3700
Austria	7900
Azerbaijani	7400
Belarus	10300
Bosnia-Herzegovina	4400
Bulgaria	9000
Czech Republic	10300
Estonia	1500
Finland	5100
Greece	10400
Georgia	5500
Croatia	4800
Trunc. Yugoslavia (Serbia+Montenegro)	10700
Poland	38400
Latvia	2600
Lithuania	3800
Macedonia	2200
Hungary	10300
Moldava	4500
Russia	148500
Romania	22800
Slovakia	5400
Slovenia	2000
Ukraine	52100
Total	387000

economic performance of developed and less developed countries increased. If the countries of Central and Eastern Europe continue this trend and they are falling more and more behind Western Europe, if the existing potential human and material resources of Central and Eastern Europe could not become active in restructuring and reconciling the region, the consequences on the whole of Europe, and even on the global community, would be tragic.

The founders of ALFA TV have been convinced that there is hope to solve the region's deep crises. The region is full of hidden treasures. In addition to natural resources there are rich cultural and spiritual traditions as well. However, there is a need for new initiatives for creative work. There is a need for cooperation with Western experts. There is a need for projects capable of facilitating and managing economic and cultural successes of the region, of integrating, on equal terms, the spiritual and cultural potential of the region into the European tradition and thus mitigating and eliminating inherited and newly produced tensions pertaining to the region. This is one of the vital conditions that can make this market of nearly 400 million consumers attractive for global cooperation and capital investments.

The founders of ALFA TV are aware that people living in the region must play a crucial role in resolving the crises of the region. To achieve this goal, their self-estimation must be regained and the region's self-consciousness awakened. No economic success has been achieved by lethargy, unemployment and intensifying social tensions. Far-reaching and effective projects, committed to the development of the region, are indispensable. Projects that help to build the realistic awareness of the present situation and realistic prospects of the future. Projects that respect a participant's interests and reach each nation in its own language.

The mission of the ALFA TV Channel is the service of the sustainable development of Central and Eastern Europe. ALFA TV is willing to become the initiator, promoter and beneficiary of these processes. This is the main economic, cultural and political reason for the founding of ALFA TV.

The channel will be devoted to assist in changing public thinking of the region. It will be instrumental in directing attention to the questions of building a market economy, a precondition of the rise of the region, instead of political and power struggles.

The channel will help the nations of the region to learn more about themselves and to reinforce their identity. The only way for the countries to fulfill this task is through cooperation motivated by economic interests which, if beneficial for all parties, will serve as an example of achieving tolerance and mutual respect within the region and attract developed countries to take part in the excessive and steady revival of the region.

People of the region are far from being well informed and are full of delusions about one another. One of the major missions of ALFA TV is to provide the individuals, communities and nations with information on the economy, market and social life of the region. The population of the region need to recognize that their land has a future and

there is a chance of personal well-being; that is why it is worthwhile remaining in their homeland.

There is no need to prove that one of the central roles in the mission is played by communication, high quality and useful knowledge to the citizens of Central and Eastern Europe. The knowledge that they need to succeed and cooperate in overcoming the threatening crises.

Multilingual satellite television broadcasting is probably the most efficient way to disseminate the "good news", the hope and the useful knowledge needed for reconstructing the region.

5.2 Television in Central and Eastern Europe

The television sector in Central and Eastern European countries is a market primarily characterized by the small number of players as compared with the developed countries. This is partly due to political reasons — the establishment of independent and private television channels were not tolerated by the former totalitarian regimes in these countries, and partly by economic reasons — the absence of sufficient liquid demand, poor technical background for television and weak state support for communication infrastructures.

Private, even commercial television, has no tradition in the region. The first private television stations in Central and Eastern Europe is the Czech NOVA IV, which began broadcasting in February 1993, and the Polish ECHO-RV broadcasting from Wroclaw as the television station of the Polish Catholic Church.

The region's satellite television broadcasts include Russian stations, the Hungarian public service — DUNA TV — launched in December 1992 to transmit in Hungarian language to the Hungarian minorities outside the country, the POLSAT TV — launched from the Netherlands to broadcast in Polish, three other Polish stations, and a Croatian, a Serbian, and an Albanian station. Altogether there are 12 stations compared to the 241 West European satellite broadcasting channels. On top of the national and local stations broadcasting the languages of the region, more and more satellite channels can be received in the region. The most significant channels are as follows:

German stations:	PRO7, SAT1, 3SAT, RTL1, RTL2, VOX, DSF
Austrian stations:	ORF 1, 2
English stations:	MTV, CNN, Eurosport, Super, Sky News, EBN
French channels:	TF1, Canal Plus, TV5
Swedish station:	STV4
Finnish station:	YLE TV 1,2, MTV3
Russian channels:	OSTANKINO, Russian State TV
Multinational stations:	Euronews, ARTE, Nordic TV

According to a study in Poland, the Czech Republic, Hungary and Slovakia, 18–35 per cent of households can receive a satellite signal via cable systems including direct broad-

Table 2: General Survey of Cable TV (CATV) in Selected IIASA Member Countries (1994)

Country	1	2	3
Poland	11 million	2 million (18% of TV households)	1.2 million
Hungary	3.4 million	1.2 million (30% of TV households)	n.a.
Czech Republic	3.7 million	0.6 million (16% of TV households)	0.425 million (25% of TV households)
Slovakia	1.7 million	0.425 million (25% of TV households)	0.2 million (12% of TV households)

1: TV household.

2: TV household connected with cable systems transmitting satellite signals.

3: TV household linked with commercial cable systems.

casting satellites (DBS). Table 2 shows the number of TV households and the number of those connected to cable systems of different services.

6 ALFA TV Encyclopedia — A Framework for Knowledge Dissemination [13, 14, 15]

ALFA TV is planning to communicate a broad variety of cultural values, to broadcast the cultural treasures of mankind with a special emphasis on the treasures of the region. Its programs will disseminate, for example, the best movie-products of the region.

However, cooperation is based on mutual understanding, which assumes that the public in the 25 Central and Eastern European countries share a common set of basic notions. Nowadays the region is full of confusion. Notions such as democracy, market economy, trade liberalization, regional cooperation, or global change, energy-food-material supply, sustainable development, environment protection, or macro-economy, stock market, monetarism, or potentials and limits of the Internet services, electronic mail, or the issues of public health, the new technological and scientific contributions, etc., have many different meanings in the region.

ALFA TV's mission includes the creation of a "common language" and a "new enlightenment" in Central and Eastern Europe by:

- creating emotions that open the door to absorb the "21st century's culture of life", the culture of the "information age", the know-how of personal strategic planning, and the know-how of analyzing personal scenarios;
- disseminating useful knowledge needed by the public of the region;
- addressing individuals and providing them with the useful knowledge they need;
- launching adequate science programs; and
- inserting the necessary knowledge into daily programs.

In order to fulfill this mission ALFA TV needs a dedicated knowledge-base and a technology to record, archive and broadcast the items of the knowledge-base.

A two-level structure called "ALFA TV Encyclopedia" is envisaged for this purpose. Identified pieces of knowledge form the titles or items of the knowledge-base. Each item of the knowledge-base will be represented by a short multi-media video clip and a longer video-film or booklet with in depth information about the item. The collection of the clips would be called "micropaedia", while the set of films/books "macropaedia".

The mission of the ALFA TV Encyclopedia is to serve a "New Enlightenment" in Central and Eastern Europe by disseminating high quality and useful knowledge needed by the region.

At the Board Meeting of ALFA TV in April, 1996, the concept of ALFA TV educational programs has been accepted on the basis of the Workshop held at the International Institute for Applied Systems Analysis (IIASA), in Laxenburg, Austria, on 11 January, 1996.

The ALFA TV Encyclopedia has been chosen as the framework of the educational programs. A resolution was accepted on the basis of cooperation between ALFA TV and IIASA, and the Executive Director of the ALFA TV has been authorized to realize the cooperation according to the Memorandum of Understanding between ALFA TV and IIASA signed in February 1996 by Dr. Peter de Jánosi and Executive Director Ferenc Köhalmi. ALFA TV appointed the director of NETI to represent ALFA TV in the cooperation.

6.1 Preliminary content of ALFA TV Encyclopedia

The selection of the list of titles to be included in the encyclopedia will be subject of extensive international and interdisciplinary research. During the 25 year experience of IIASA a series of critical items have already been identified to be included in the list. These important knowledge items relate to:

- Transboundary Air Pollution;
- Regional Material Balance Approaches to Long-Term Environmental Policy Planning;

- Land Use and Land Cover Change;
- Water Resource Management;
- Demography of the Region;
- Environmentally Compatible Energy Strategies;
- Forest Resources; and
- Economic Transition and Integration.

The public is certainly interested in issues concerning future trends as follows:

General long-term societal trends:

Economic prosperity, interest rates, inflation
Opportunities for the very poor and the middle-class
Demographic trends
Acceptance of cultural diversity
Opportunities for minorities
Integration of national societies
Mobility of personal life, location and occupation

Technological trends:

To what extent does technology dominate economy and society? Information technologies. Transportation
Internationalization of the economy
The role of the media in the economy and society
Medical advances and their impact

Educational trends:

Demand for life-long education and training
Costs of education
The role of new technologies in education
The role of business in education
New educational institutions

Trends in the labor and work force:

Specialization
Services
Shrinkage of agriculture and manufacturing
Information industries
Women in labor
Retirement — pensions and pension funds
Mid-life changes in occupation
Second and third careers
Unemployment

Trends in values and concerns:

Changing societal values
Diversity is becoming an explicit value
Personal health movements
Concern for environmental issues
Consumerism

Family trends:

Birthrate
Rates of marriage and divorce
Single headed families
Diversity of family structures
Life expectancy
Aging

Institutional trends:

Government institutions
The role of local government
The role of multinationals
To what extent is big bigger?
Can the small survive?
Are the middle-sized squeezed out?

Potential Chapters of the knowledge-base have been selected according encyclopedic completeness, but priorities should follow the needs of the region's public. Potential chapters include:

The Family of Humans:

People and their Lands
Languages and Communication
Demography
Social Organization
Social Change
Our 25 (Countries of the region)

Dignity of Humans:

Human and Minority Rights
Human Values
Culture of the 25 (Countries of the region)

The Production, Distribution, and Utilization of Wealth:

Economics, Growth and Planning
The Consumer and the Market
The Organization of Production and Distribution
Labor Force and Work

Politics and Government:
- Public and Private Law

The History of Mankind

Technology

Human Life

Fauna and Flora

The Earth:
- Geography

Matter and Energy:
- Structure of Matter
- Global Energy Reserves

Societal Values and Concerns:
- Quality of Life
- Environment

Medical Care:
- Personal and Public Health

Religion

Social Knowledge:
- Philosophy

Research and Development

Education

Arts:
- Fine arts
- Architecture
- Literature
- Music
- Theater
- Dance
- Folk heritage

Sport

6.2 Multimedia-clips and in-depth films

In order to build a multimedia knowledge-base a dedicated technology is needed. An institute in Budapest, NETI (the R&D Institute of the Puskas Tivadar Foundation), has expressed its willingness to open up links to the necessary technology.

Production of multimedia-clips needs the cooperation of a team. An author providing the scenario, and a special team composed of a film-director, a music-director, a camera man, graphic artist etc., are needed to realize a clip. It is envisaged that each clip be about 50 seconds, or up to a maximum of three times 50 seconds. The clips will be stored on a CD ROM disc as an archive. The macropaedia units are videos and/or booklets. The length of the films stored on the video tapes would be in the range of between 10 to 30 minutes and would also be stored on CD ROMS.

7 Conclusions

1. Only "enlightened" people are able to contribute to wise social decisions. Only an increase in scientific literacy, i.e., in the public's access to scientific and technical information in its appropriate social context, can society move toward genuine democracy. Thus, dissemination of knowledge to the public plays an ever increasing role in the prevention of local and regional instabilities, in the prevention of a further deterioration of the environment, and in building an awareness of the present situation and realistic prospects for the future. Only "enlightened" people can contribute to sustainable development.

   The critical issues of global environmental, economic and social change addressed by IIASA deserve public dissemination.

2. Recent research into the public's perceptions of knowledge has shown that people are often rather good at knowing how to know, or how to make sense of contradictory information when the need arises to obtain information and relate it to their own experience. If the disseminated knowledge is useful and verified by experience then the public will be ready and capable of absorbing the sophisticated knowledge. Therefore new ways of enhancing the public's access to knowledge need to be found. Research has to begin with the identification of what the public needs and wants to know and the context in which they want to know it.

   A study is proposed to be undertaken on the public perceptions of high quality knowledge of Central and East-European countries which could be based on local and national surveys.

3. Special attention has to be given to knowledge dissemination in multilingual multicultural regions. Different traditions, different contents of notions and historical prejudices must be taken into account.

Important examples of knowledge items relating to the issues addressed by IIASA, are:

- Transboundary Air Pollution,
- Regional Material Balance Approaches to Long-Term Environmental Policy Planning,
- Land Use and Land Cover Change,
- Water Resource Management,
- Demography of the Region,
- Environmentally Compatible Energy Strategies,
- Forest Resources,
- Economic Transition and Integration.

It is proposed to identify basic notions relating to global change, to economic transition and environmental issues studied at IIASA, and to launch a public dissemination campaign.

4. The intellectual quality of a piece of knowledge disseminated is determined by the following criteria:

   (a) Its degree of interactivity.

   (b) Its degree of objectivity.

   (c) The wealth and variety of its intelligibility.

   Dissemination of knowledge will be rewarded by the public's trust if, and only if, the experience of the public verify the knowledge.

   The criteria of quality should always be checked.

5. Alternative television is one of the most efficient ways to disseminate quality knowledge to the public. ALFA TV "The Cooperation Channel" is a multilingual satellite television broadcasting system which is to be launched in 1997 with the idea of becoming an alternative quality TV Channel for Central and Eastern Europe.

   The channel will be devoted to assist in changing public thinking in the region. It will be instrumental in directing attention to the questions of building a market economy, a precondition of the rise of the region, instead of political and power struggles.

   The channel will help the nations of the region to learn more about themselves and to reinforce their identity. The only way for the countries to fulfill this task is through cooperation motivated by economic interests which, if beneficial for all parties, will serve as an example to achieve tolerance and mutual respect within

the region and attract developed countries to take part in the excessive and steady revival of the region.

There is no need to prove that one of the central roles in the mission is played by communicating high quality and useful knowledge to the citizens of Central and Eastern Europe. The knowledge that they need to succeed and cooperate in overcoming the threatening crises.

It is suggested to establish active cooperation between ALFA TV and IIASA according to the Memorandum of Understanding signed on 21 February 1996.

6. Cooperation is based on mutual understanding, which assumes that the public in the 25 Central and East-European countries share a common set of basic notions. Nowadays the region is full of confusion.

   ALFA TV's mission includes the creation of a "common language", a "new enlightenment" in Central and Eastern Europe. In order to fulfill this mission ALFA TV needs a dedicated knowledge-base and the technology to record, archive and broadcast the items of the knowledge-base.

   A two-level structure called "ALFA TV Encyclopedia" could fulfill this mission. Identified pieces of knowledge would form the titles or items of the knowledge-base. Each item of the knowledge-base would be represented by a short multi-media video clip and a longer video-film or booklet with in depth information about the item. The collection of the clips would be called "micropaedia", while the set of films/books "macropaedia". The clips would be broadcasted frequently, but the longer macropaedia units would be available through the shop-network of ALFA TV.

   All of the activities and the mission of UNESCO are motivated by the aim to collaborate in creating an understanding between people and nations, learning to accept other cultures and lifestyles, and mutual respect for each other — all in all to create and preserve peace. The same target was the basis of the courageous work of those intellectual communities, from 25 countries in the region, which imagined and created ALFA TV.

   The knowledge-base of the Encyclopedia will also be available for UNESCO. It is well known that in some parts of the region where ALFA TV will broadcast there are serious conflicts which have been illustrated by the tragic events of the last few years.

   The survey, analysis and evaluation of the film and video heritage of the region promoting the production of the ALFA TV Encyclopedia will be an additional result of the project. Furthermore, the fact that ALFA TV acknowledges UNESCO sponsoring this project could strengthen the public's appreciation of UNESCO in 25 countries.

It is suggested that a project on the realization of selected prototype titles of the ALFA TV Encyclopedia be launched according to the Project Proposal submitted to UNESCO by NETI and IIASA.[15]

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