



**Cooperative Development Case Studies:  
WIST and Tyczyn Telecommunications Cooperatives  
Poland**

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*NTCA wishes to express its appreciation to Mr. Ted Weihe  
for his significant contribution to this work.*

## EXECUTIVE SUMMARY

With the leadership of Lech Walesa, in 1989 as head of the Solidarity labor union in Poland and later as President of the Republic of Poland, the Solidarity-led government launched a grassroots effort to rectify 40 years of neglect in bringing telephone service to rural areas. As was typical of much of Eastern Europe, Poland labored under a very low telephone density, with fewer than 2.4 phones per 100 in rural areas. Most telephone installations were limited to mayors and post offices, and those that did exist were antiquated manual systems with limited hours.

The National Telecommunications Cooperative Association (NTCA) recognized this pent-up demand and noted that the government was encouraging the formation of village telephone committees. These committees undertook self-help efforts to build rural telephone systems, and the government arranged to match these efforts with funding of up to 30% of start-up costs through donor resources. Working closely with the founder of Rural Solidarity and Deputy Speaker of the Senate, Josef Slisz, NTCA undertook to help create two independent model telephone cooperatives, located in rural areas north and south of the provincial capitol of Rzeszow in southeast Poland, near the Ukrainian border. This work was accomplished with funding from USAID.

Mayors of *gminas* (a unit of local government equivalent to a county) and dozens of village telephone committees began to organize, and formed Spoldzielnia Telekomunikacyjna w Lace (WIST Telecommunications Cooperative) and Okregowej Spoldzielni Telefonicznej w Tycynie (Tyczyn Telecommunications Cooperative). They obtained financing for central DMS-10 rural switches from Nortel and organized self-help construction of lines, buildings and other facilities. NTCA worked with Josef Slisz in enacting key portions of the Telecommunications Act of 1990. Crucially, the new law permitted the formation of independent telephone systems that would be allowed to compete with TPSA, the national monopoly carrier. The law also created a focal point for rural telephone extension, modeled on the U.S. Rural Utilities Services (RUS).

WIST and Tyczyn cooperatives became the first independent operators in Poland, and the first telephone cooperatives in Eastern Europe, when they began service in October 1991 and June 1992, respectively. They faced stiff opposition from the state monopoly that continues to control national and international traffic, and they also dealt with uncertain and unwritten regulations from the Ministry of Telecommunications. At each step, the model cooperatives relied on both national and local political leadership. In this way they were able to develop the first interconnection and revenue sharing agreements with TPSA, and to negotiate licensing agreements for use of utility poles and TPSA equipment. These two model cooperatives set the standards that eventually enabled 44 independent telephone companies to be established in Poland. Among these were five investor-owned companies that NTCA also assisted.

The NTCA project strategy had six components: (1) registering to become a cooperative development organization (CDO) and thus to be eligible for USAID funding; (2) working closely with grassroots village telephone committees and mayors to design and

implement rural systems, including by-laws, management and operations; (3) helping to create at least one model cooperative, with the intention of spreading more broadly the cooperative approach to rural telecommunications, (4) partnering with Nortel to acquire central switches and other U.S. equipment, (5) reforming the state monopoly to allow the cooperatives to succeed and become profitable, and (6) expanding the model systems.

NTCA received four modest USAID grants of under \$1 million, total, over six years to carry out the technical assistance program in Poland. Execution of project activities relied heavily on NTCA member systems and volunteers to deliver training in both Poland and the U.S. NTCA staffing was slim at this early stage in its international program: there was only one full-time employee at headquarters and one in Warsaw. Most technical assistance delivered was either one-on-one with the cooperatives, or through seminars -- especially in the case of TPSA officials, to educate them in the operations and advantages of a multi-provider system.

NTCA was successful because its intervention on behalf of rural telecommunications in Poland came at the right time, when democratic reforms were occurring in rural areas to address huge pent-up demand. Success also resulted from working with dozens of grassroots leaders as well as at the national political level, and by convincing TPSA to permit the companies to prosper. Both cooperatives indicate that they would not have been successful without NTCA assistance. For example, when building the network, they had no idea how to prepare an interconnection and revenue sharing agreement to hook the system into the national and international grid – a step absolutely critical to their survival and profitability, and one that NTCA was able to help them achieve.

The two model telephone systems are registered cooperatives. Unlike earlier Soviet-era cooperatives in Poland, these cooperatives are fully democratic with one member, one vote. Members hold contested democratic elections for their board of directors, and ultimate governance rests with the many local village membership assemblies, where individual members elect their representatives to speak and act for them at annual meetings.

While their cooperative structures are similar, the two telecommunications service providers are distinctively different in geographic layout and community demographics: one is mostly suburban, and the other totally rural. WIST is very committed to the cooperative way of doing business, for example providing low rent to the local credit union for space in the WIST headquarters building. Tyczyn places more emphasis on cooperative methodologies as part of broad-based community development. For example, the success of the Tyczyn telecommunications cooperative model spurred similar organizational approaches to bring natural gas and waste water treatment to the same rural communities, and resulted in formation of an association of local governments to promote development of the area.

The model cooperatives were profitable within three years and paid back loans ahead of schedule. Currently, they have about 8,500 subscribers each and provide free or limited

free service within their nets for members. This benefit is unique in Poland and builds member loyalty.

The cooperatives have management structures that mirror those of U.S. rural telecommunication companies. Growth in members, revenues and fixed assets has been steady over the last 10 years. They have added valuable new services such as Internet, and plan to introduce broadband, radio service for remote areas and cable TV. With NTCA assistance, they developed the first telephone books in Poland, that are paid for with advertising include emergency numbers and yellow pages.

The cooperatives provide an unprecedented salience to their members, communities and businesses. Members who never expected telephone service in their lifetime value an ability to communicate readily with relatives and friends, and acquire information on farm supplies and prices. They exhibit pride in having better services than their urban neighbors. The cooperatives provide access to emergency services such as police and ambulance, and their telecommunications services enhance the functioning of public institutions such mayors' offices, churches, schools and social clubs. The cooperatives have supported significant business development, helping to attract new and growing enterprises that require excellent communications. In the WIST service area, for example, this includes 30 local cooperative businesses and farm banks, a sausage plant, and a large regional dairy cooperative. Businesses customers of the telephone cooperatives operate more efficiently and are able to communicate readily with employees, suppliers and customers. For example, the Alfred drinking water bottling plant, a Tyczyn cooperative member, provides weekly home delivery to 70,000 customers who can order by phone or Internet. In the WIST service area, the regional airport, with its airfreight and passenger flights to most major cities in Poland and to international destinations, is served with a switch capable of handling up to 120 access lines.

### **Lessons learned from the Polish model telephone cooperatives:**

Reflecting on observations made and lessons learned in the course of this case study, NTCA has distilled three overarching principles that can guide those working to create successful telecommunications cooperatives/community-based systems:

1. *Promote policy and legal/regulatory environments that are hospitable to universal access, are technology-neutral, and allow for cooperative business models in providing telecommunications services.*

This may involve specialized technical assistance in such areas as the development/implementation of telecom cooperative legislation/ regulations, interconnection agreements, and national rural service fund arrangements.

2. *Changing telecommunications technology and varying business conditions mean that no single model of cooperative development works in all cases.*

Different models for cooperative/community-based telecommunications systems and resources should be explored, developed and implemented. In addition to variants of U.S.-style cooperatives (as in Poland), other approaches may include (a) second-level cooperatives in which businesses and communities are member-owners; (b) community-based, single use (e.g., business-oriented) telecenters; and (c) mixed-use community-based telecenters (e.g., that provide business-oriented services and whose resources are also available to address other community needs, such as health).

3. *Provide training, and visits to third-country or U.S. telecommunications cooperatives and facilities.*

In this manner, key policy-makers, regulators, and business and community leaders are afforded hands-on demonstrations of how successful universal access programs and telecommunications cooperatives are designed and run.

## **LIST OF ACRONYMS & ABBREVIATIONS**

ACDI	Agricultural Cooperative Development International
CDP	Cooperative Development Program
CETI	Central European Telecommunications Investment Fund
DMS	Digital Multiplex System
EU	European Union
FDPA	Foundation for the Development of Polish Agriculture
NTCA	National Telecommunications Cooperative Association
PCM	Pulse Code Modulation
OCDC	Overseas Cooperative Development Council
RLCM	Remote Line Concentrating Module
TPSA	Telekomunikacja Polska SA
USAID	United States Agency for International Development

## **PART I ~ THE IMPLEMENTATION PROCESS**

### **A. Project Description**

#### **1. Background and Overview**

##### **a. Project Setting and Target Groups**

In 1990, Poland's rural population numbered approximately 14,550,000, or 38% of the total population of 38,120,000.<sup>1</sup> Only 354,000 rural dwellers lived in homes with a telephone line; of those, 27,000 did not have 24-hour service because their exchanges relied on operators with manual switchboards. Across the country as a whole, teledensity<sup>2</sup> was 2.43 for rural dwellers, ranging between 1.52 and 4.44. There were 41,324 public telephones in rural areas, of which less than 4.5% operated 24-hours a day. About 7,000 out of 55,000 villages had no telephone service at all; another 4,000 lacked 24-hour service. As late as 1992, teledensity in urban areas was roughly four times greater than in rural areas.<sup>3</sup>

Typically, just a few key community figures such as the local mayor and priest had telephones, and rural service was rudimentary – characterized by broken or failed connections, poor reception, overloading of networks due to limited infrastructure capacity during high usage periods. There was limited choice in selection of products and services, or price flexibility.

Predictably, the lack of telephones made life in rural villages unnecessarily problematic in a variety of ways and presented serious obstacles to local economic development. Farmers had to travel – often by horse drawn wagons – in search for available farm inputs and to sell their products. Investors and owners of businesses in rural areas had to find creative solutions to their communication needs – for example, relying on retired pensioners who had telephones in nearby, larger towns, and “runners” who would travel between the business and pensioner's telephone to place or receive calls about shipments, prices, etc. Moreover, because of the lack of “gateway” switches, international calls had to be patched through Sweden.

The historic democratic elections of 1989 brought improved prospects for expanding telephone service across Poland, as Solidarity leader Lech Walesa's new government included Artur Balazs, a leader from Rural Solidarity<sup>4</sup>, who was appointed Minister of Rural Life Quality. Mr. Balazs made rural telephone expansion a high priority and launched a national initiative to support self-help efforts by villagers to obtain telephone

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<sup>1</sup> Mukungu, Philip Joel. “Poland.” United Nations Human Settlements Programme. 28 December 1999. United Nations. 14 August 2003 <<http://www.unhabitat.org/habrdd/conditions/easteurope/poland.htm>>.

<sup>2</sup> Number of telephones per 100 persons

<sup>3</sup> A 10 Year Report on Spoldzielnia Telekomunikacyjna WIST in Laka. Laka: WIST Telecommunications Cooperative, 2001.

<sup>4</sup> Rural Solidarity had opposed the communist-allied Peasant Party.

service. The target group was underserved, rural and peri-urban communities throughout Poland.

Mr. Balazs encouraged villages to form committees (Spoleczne Komitety Telefonizacji) and provided them with financial support from 1989 to 1991. Funding was controlled directly by the office of Prime Minister Mazowiecki, and came from the sale of agricultural commodities donated by the European Union and Canada. When this funding was made available and was announced publicly, hundreds of villages applied. The village committees were required to raise 70% of the costs (in-kind and cash) for central switches, cables, house wiring and handsets. By September 1990, about 1,500 applications were made and about 20% or 300 were funded. The goal was to provide telephone service to 20,000 rural residents.

Throughout this time, however, all telephone service in Poland was delivered by TPSA, the state-owned and operated monopoly. TPSA controlled all telex, postal and telephone services, including telephone service provided by the village committees. In other words, the village committee would raise all the needed capital, string the telephone lines that enabled local service provision, connect to TPSA and turn over to TPSA all ownership and control of the system and assets.

The Balazs initiative resulted in the formation of dozens of village telephone committees in two rural communities, just north and south of the regional capital of Rzeszow, located in Southeastern Poland, near the Ukrainian border. These committees sparked the creation of two telephone cooperatives: WIST Spoldzielnia Telekomunikacyjna (WIST) and Okregowej Spoldzielni Telefonicznej w Tyczynie (Tyczyn).

Local leaders of Rzeszow's rural areas were not keen on the idea that the telephone systems they wanted to create would revert to TPSA; rather, they wanted the systems to be locally owned. These leaders wanted to capture local investment to benefit local subscribers, and were familiar with agricultural cooperatives. This richly agricultural region had a history of independent, member-controlled cooperatives prior to World War Two, and received a host of early cooperative training and technical assistance from U.S. cooperative organizations, Sweden advisors and others. At one of these sessions, local leaders responded with great interest to the suggestion, by a volunteer technical advisor from the U.S., that the time might be right for promoting rural telephone service through telephone cooperatives.

Soon thereafter, legislative changes made local ownership possible. With the passage of the Telecommunications Act of 1990, TPSA was privatized, its monopoly over local service provision was ended and local service competition by local, private operators was authorized. TPSA maintained its monopoly over long distance and international calls, but competition in the form of a duopoly was introduced for local service. In other words, one competitive telecommunications carrier was now permitted to compete with TPSA in the provision of local telephone service in each local market.

The local market was defined as the local county or *gmina*. Government policy was to authorize new service providers for small, bounded localities and by 1995 there were 23 new licensees. As a result, telephone service was extended to the most poorly developed and underserved parts of TPSA territories: small towns and villages.

### **b. Intended Beneficiaries**

The WIST and Tyczyn cooperatives led the way in this first wave of competition, and secured the first licenses. With little at the time in the way of a legal framework or precedent to guide new service providers – procedurally, organizationally or otherwise – WIST and Tyczyn found themselves the pioneers in negotiating seminal operational and industry issues, not the least of which was interconnection and revenue sharing arrangements with TPSA. Based on an assessment of local capacity, commitment and prospects for success, NTCA selected WIST and Tyczyn as highly promising beneficiaries of technical assistance for telephone cooperative development.

Time has shown that WIST and Tyczyn were excellent choices indeed, and they continue to thrive today as cooperatives. This is despite the fact that in 1995, Polish telecommunications policy shifted its focus from serving discrete *gminas* to serving broader areas. Through public tenders, independent telephone companies were invited to submit proposals to provide service to a particular set of *gminas* and *voivodships* (provinces), including Lodz, Poznan, Krakow and Katowice. This change led to a more consistent assignment of territories, but encouraged applications from major outside investor groups instead of local entrepreneurs. By 2003, 43 independent companies were formed and held 90 territorial concessions. Except for WIST and Tyczyn, all the companies are investor owned.

## **2. Project Objectives and Strategy**

### **a. Objectives and Milestones**

The first project development milestone was an assessment mission conducted between November 21 and December 2, 1989. The mission, led by Ron Gollehon and Art Fogerty of Agricultural Cooperative Development International (ACDI), explored (among other things) the potential for cooperative initiatives in Poland. The Foundation for the Development of Polish Agriculture, the first independent foundation in Poland, was the counterpart local partner organization.

In the assessment, Ted Weihe, Executive Director of the Overseas Cooperative Development Council (OCDC) met with various rural leaders and found that officials at the highest levels of government were extremely interested in exploring cooperative models:

“We were encouraged to develop a program for rural telephone systems by Rural Solidarity Leader and Deputy of the Senate, Jozef Slisz who asked for a pilot project in his district (and by) Witold Trezeciakowski. [Mr. Trazeciakowski is]

Lech Walesa's economic advisor, coordinates foreign assistance... and established the Catholic Church committee for installing rural water systems... This AID-supported project has helped 200 villages and 60,000 farmers through "topping off" local self-help efforts."<sup>5</sup>

Mr. Weihe also met with an organizing committee representing six communes that had registered with the local government, filed applications for permission to provide telephone service, and were almost at the point of being able to start up operations, all through effort that was 100% self-directed and self-financed.

Mr. Weihe reported that:

"...[u]nder the present system, the committee will go out of existence when the community is connected to the telephone system. However, with removal of the telephone monopoly in January 1990, these [and] hundreds of [similar] civic committee efforts throughout Poland could be turned into small rural telephone cooperatives or companies, similar to the U.S. system. Officials are interested in establishing several pilot telephone systems with U.S. technical assistance and donated equipment."<sup>6</sup>

#### Grant No. 1

As a result of the assessment, OCDC prepared A Proposal to Establish Rural Telephone Systems in Poland for National Telephone Cooperative Association. In cooperation with the Foundation for the Development of Polish Agriculture, NTCA submitted the proposal on February 22, 1990 to the USAID's Office of Private and Voluntary Cooperation. The \$370,202 proposal had two major purposes: (1) to establish NTCA as a new Cooperative Development Organization (CDO) and (2) to help establish pilot systems that could be replicated on a nationwide basis to bring telephone service to rural Poland.

The grant was awarded, NTCA registered as a cooperative development organization (CDO), and project activities were initiated. The project's overarching goal was "to create at least one fully functioning rural telephone system based on private sector cooperative principles within the three year grant period, and if feasible within financial and other constraints, a total of four pilot rural telephone systems." The strategy was to deliver technical assistance through volunteers from NTCA's 500 U.S. cooperative and investor owned member companies, and to deliver donated central office switching equipment to the Polish start ups.

Specific objectives were to:

1. Establish a national committee to promote rural telephone systems with national leaders;

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<sup>5</sup> Weihe, Ted. Initial Assessment Report. 1989.

<sup>6</sup> *Ibid.*

2. Initiate a national planning process for locally owned and controlled rural telephone systems;
3. Provide voluntary technical assistance and advice including site survey, design, construction and operations;
4. Develop technical training manuals;
5. Arrange for the donation of high quality and serviceable equipment such as telephone switching units (analog);
6. Encourage the commercial involvement by U.S. manufacturers in the sale of rural telephone equipment in Poland;
7. Train managers of four pilot systems; and
8. Create sister-to-sister cooperative arrangements with Polish and U.S. rural communities.

Objective number 5 (donation of equipment) was eliminated as not feasible following NTCA's receipt of a letter from the Ministry of Telecommunications dated March 21, 1990, which expressed the government's intention to utilize only digital equipment, and declined to authorize the importing of used analog switching equipment (Stromberg-Carlson XY central switch units) that NTCA had selected for donation.

Following are milestones achieved in support of the remaining objectives:

- In May 1990, OCDC organized a two-day seminar on "Cooperatives in Poland" in the United States. Senator Josef Slisz, founder of Rural Solidarity, was invited as the featured speaker for his first visit to the United States. Following the conference, NTCA sponsored a daylong visit to Hardy Telecommunication Cooperative in Lost River, West Virginia. Slisz saw first hand a successful cooperative that operated in a poor agricultural land as compared to his fertile district in Poland.

USDA officials briefed Slisz on U.S. government policies that promoted rural telephone service and the RUS – Rural Telephone Revolving Fund. NTCA senior staff described how small, rural telephone cooperatives and companies fit into the U.S. multi-provider system. Based on these discussions, he became convinced that the cooperative model could and should be adopted in Poland. Upon his return, he met with community leaders in the service areas in his district, and gave them his commitment to help them form and develop telephone cooperatives. In subsequent discussions with managers of the cooperatives, they cited their discussion with Slisz as the most pivotal moment in the genesis of their cooperatives, and his support in overcoming bureaucratic hurdles in their successful development.

- In November 1990, the Postal and Telecommunications Act was signed into law. NTCA had worked closely with Josef Slisz to draft language in this law that

would authorize independent rural telephone companies to exist and provide service, and that would formalize the “Balasz Fund” within the Ministry of Telecommunications to support and finance rural telephone systems. The Act also separated TPSA from the postal service and set out basic rules for telecommunications operations (e.g. homologation<sup>7</sup>, tariffs, types of equipment, fees and licenses); and established the right of operators other than TPSA to carry out telecommunication services and to interconnect with TPSA.

- NTCA successfully worked with Slisz on a key legislative amendment (Article 85) that required the Council of Ministers to appoint a Government Plenipotentiary for Rural Telecommunications and define its functions. This office, intended to be at a high level within the cabinet and provide on-going support to rural telecommunications, was placed in the Ministry of Telecommunications.

### Grant No. 2

In December 1990, NTCA submitted a second proposal to promote Polish telephone cooperatives to USAID’s ENE/EUR Bureau under its Humanitarian/Development Initiatives Grant Program. Work under Grant 1 was ongoing, and NTCA was awarded a second grant in the amount of \$259,750. This funding was designed to support NTCA’s expansion of the telephone cooperative model to other areas. The Foundation for Promotion of Polish Agriculture had withdrawn as a NTCA counterpart so that it might focus exclusively on agricultural activities, and NTCA had two new counterparts: The Polish Telephone Foundation and the Krakow Industrial Society.

The project goal was to develop the capacity of the two counterpart organizations to train telephone system owners and operators to, develop and manage cooperative telephone companies. Train the trainer sessions for 200 community telephone committee leaders (at least 10 persons in each of 20 villages) were planned. It was anticipated that local telecommunications staff could be hired from within the counterpart NGOs; and that NTCA volunteers would provide expertise in legal and industry issues such as taxation, regulation of services, contracts, management and operations. .

As project activities got underway, however, NTCA determined that the counterpart organizations were not capable of effectively carrying out the training, nor sufficiently motivated to promoting telephone cooperatives. NTCA consequently modified its approach, hired its own in-country coordinator and opened a local office. NTCA collocated its office with Nortel’s, which at the time was seeking to enter the rural markets by selling DMS 10 switches with 12,000 lines – switches ideally suited at the time for rural applications.

NTCA continued under its initial grant to provide training and technical assistance to the WIST and Tyczyn cooperatives, which began operations in October 1991 and June 1992

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<sup>7</sup> Technological consistency with European Union standards.

respectively. They were the first private telephone companies in Poland and the first telephone cooperatives in Central and Eastern Europe.

### Grant No. 3

The third NTCA proposal, submitted in March 1993 to the Office of Private and Voluntary Cooperation, was for an innovative cooperative program grant of \$228,621 and entitled: Training and Technical Assistance Program for Polish Telecommunications Policy Makers and Implementers. While the two private community-owned telephone cooperatives had begun operations and were providing service to approximately 4,000 residences and businesses, they had encountered many significant obstacles along the way. This was largely due to the lack of a cohesive and enabling legal and regulatory structure. Moreover, while the Office of Plenipotentiary for Rural Telecommunications had been created in 1992, it had been unable to make satisfactory progress towards fulfilling its mandate, in part because of lack of expertise.

The grant resulted in additional training and education of key Polish telecommunications policy makers and implementers in the Ministry of Telecommunications and TPSA. U.S. study tours were tailored for senior officials; technical assistance was delivered to the Ministry and TPSA; site visits to the two cooperatives were arranged for Ministry and TPSA representatives; and a variety of training and resource materials were developed.

While the training delivered under this grant was not enough to reverse long-standing attitudes of TPSA and telecommunications officials, or cause them to fully embrace the benefits of a multi-provider system, it was important in advancing an enabling environment for rural cooperatives and investor-owned companies. In particular, substantial headway was made in addressing issues of revenue sharing, interconnection and anti-competitive practices of TPSA.

### Grant No. 4

In November 26, 1996, NTCA submitted to USAID's Office of Private and Voluntary Cooperation a proposal, and received funding, to continue its cooperative development activities in Poland for two years. (This grant further allowed NTCA to expand its activities to five new countries.) By that time, both WIST and Tyczyn were self-sustaining and NTCA's presence was no longer a key ingredient to their continued success. NTCA sought to share the benefits of the Polish cooperative model in other countries.

NTCA's regional office in Warsaw continued to support private, local rural telecommunications development and the creation of new community-owned telephone systems in Poland. The two-year program focused on strengthening the management and operations of five investor-owned companies under the Central European Telecommunications Investment Fund (CETI).<sup>8</sup> NTCA also was to provide "honest

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<sup>8</sup> An IMF sponsored private investment fund for small telephone company start-ups in Poland and Hungary.

broker liaison with communities and manufacturers, funding institutions and other private sector elements.”

## **b. Implementation Strategy**

The NTCA project strategy had six components: (1) registering to become a cooperative development organization (CDO) and thus to be eligible for USAID funding; (2) working closely with grassroots village telephone committees and mayors to design and implement rural systems, including by-laws, management and operations; (3) helping to create at least one model cooperative, with the intention of spreading more broadly the cooperative approach to rural telecommunications, (4) partnering with Nortel to acquire central switches and other U.S. equipment, (5) reforming the state monopoly to allow the cooperatives to succeed and become profitable, and (6) expanding the model systems.

### NTCA Registration

With the initiation of the project, NTCA pioneered the export of the US telecom cooperative model and embarked on new territory organizationally, formally adding an international component to its core activities. In fact, NTCA’s initial grant was awarded through the National Rural Electric Cooperative Association, as NTCA had not yet registered with USAID as an international NGO. The grant was transferred to NTCA in 1990 when that registration was effected.

### Grassroots Structures

Rural Solidarity was part of a grassroots democratic movement for change and new democratic local leaders looked for ways to deliver immediate benefits to rural constituencies, such as telephone service. The Solidarity Movement invigorated civil society to make rapid changes for social and economic development.

In rural areas, NTCA was able to build on pent-up demand for telephone service that disenfranchised rural people from full participation in society. Hundreds of telephone committees had been formed to access financial support from the Balazs Social Trust Fund for rural telephones. Prior to this initiative, a village would apply for telephone service, be provided telephone numbers and wait years, if not decades, for service. WIST and Tyczyn were formed through uniting these village level telephone committees with local governments. The self-help model of telephone committees providing cash and in-kind services was a boon to the cooperatives in rapidly building out their systems.

In 1990, national democratic elections created a new set of mostly young, energetic local leaders who were motivated to respond to community needs. Telephone service was a high priority for rural residents, making it politically appealing for local leadership to remove obstacles to success of the newly formed cooperatives. *Gminas* had limited taxing authority, and could access credit. Rural residents were accustomed to paying high fees for telephone service (e.g. \$500 to \$1,000 for line extensions); in villages, residents were accustomed to paying for the line extension to the home, internal wiring

and the premises equipment. Thus, it was possible to raise significant start up costs through membership and hook up fees.

### Model Cooperatives

NTCA's implementation strategy was to provide technical assistance and surplus equipment from its members to help form at least one model cooperative. The grant resulted in the creation of the WIST and Tyczyn. Since the Ministry of Telecommunications did not permit the importation of used U.S. telephone switches, NTCA aligned itself with Nortel to promote DMS 10 switches that were built in North Carolina (and the only U.S. switches then manufactured for rural applications).

The preliminary NTCA visits indicated that farmers and rural residents were highly skeptical of "promises." Thus, NTCA's strategy was to work from both the top on policy reforms while, at the same time, forming two model rural cooperatives that would force policy changes from the "bottom up."

A telephone system involves three components – local service within a local net, long distance service outside the net and throughout the country and international service. Only private local companies were permitted and they could only succeed based on satisfactory interconnection and revenue sharing arrangements. Local systems require initial investment capital that must be recaptured through the ability to charge reasonable rates and rapid build-out to achieve size to become profitable. Under favorable policies (often small systems are cross subsidized by larger carriers as in the U.S.), local telephone companies can be profitable.

Given the difficulty of working with TPSA, the model cooperatives pioneered in each step of the development process, including technical aspects of building their local system, obtaining licenses, and negotiating the first interconnection and revenue sharing arrangements in Poland. Through these actions, NTCA had broader impacts than the cooperative models and help set the stage for the 44 current private local telecommunications companies in Poland in terms of political support, legislation, regulations, licenses, interconnection and other arrangements.

### Partnering with Nortel

As part of its marketing strategy to enter the Polish market with DMS 10 switches, Nortel donated a mainframe to Slizs' village that was the initial core equipment for WIST. As part of the donation that provided for an initial 1,000 access lines (frame and one panel), WIST donated \$35,000 to Tyczyn to help them purchase a Nortel switch as well. In contrast to more rugged analog equipment, the DMS 10 digital switch requires air conditioning with reliable electricity and backup batteries for power interruptions. NTCA supported training on DMS 10 switches and used U.S. volunteers familiar with American equipment and technical issues unique to rural areas.

Neither WIST nor Tcysyn relied on outside investors. They were able to finance start up operations with 30% of capital from subscribers (shares and hook up charges), 30% from local governments, and 40% credit from national banks through Nortel at preferred rates (which were paid off early). In contrast, the CETI commercial companies raised 60% of their capital through investments from a joint venture capital fund and were expected to generate 20% minimum returns to these investors.<sup>9</sup>

### Reforming the State Monopoly

Throughout the development process, TPSA remained hostile to a functioning multi-provider system. There was no source of government funding (other than the short-lived Balazs Social Trust Fund) to provide financial support for rural systems. With “privatization” of TPSA, technical assistance to rural systems was also curtailed, thus, the cooperatives had to rely on NTCA or contractors for technical help.

TPSA wanted to produce its own digital systems through concessions in controlling equipment import licenses. The Ministry of Telecommunications awarded licenses to only three manufacturers – excluding Nortel. The Nortel official in Poland told an evaluator that the company was unwilling to bribe officials as European companies.

European manufacturers of telephone equipment courted TPSA for the large Polish market since TPSA controlled the national network. Senior employees of TPSA formed consulting firms that had exclusive rights to import equipment and often provided consulting services, which at the time was not seen as a conflict of interest. If a group of villages wanted to start up a system, they were obliged to work through intermediaries, often current and former TPSA employees. One of the reasons that WIST was successful is that it employed a former regional TPSA director from the very beginning.

USAID spent considerable resources on telecommunications privatization that was considered a failure. The U.S. Ambassador decided to cut off any USAID involvement in the telecommunications field as a result. This was exacerbated when Nortel DSM 10 switches were denied a license.

### Spreading the cooperative and private telecom system

NTCA worked hard to spread the cooperative model and several cooperatives were formed, but unsuccessful in raising sufficient funds to be operational. NTCA also supported five Polish private telephone companies that were financed and organized by CETI. NTCA provided training to five CETI managers and Boards of Directors. These activities came to a close in September 1996. NTCA did support cross-border training between the cooperatives and organizing groups in Bulgaria and Ukraine from 1997-1998.

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<sup>9</sup> First International Conference on Rural Telecommunications. National Telecommunications Cooperative Association. Washington, DC: 30 November – 1 December 1998.

The expansion of the cooperative model was hindered because (1) the project lacked sufficient support from USAID to scale up the project, and (2) its local partners were unable to mobilize other communities to adopt the cooperative approach.

NTCA was unable to transfer its support from central offices (PVC and E&E Bureau) to the local USAID/Poland mission. With mission support and sufficient funding, NTCA may have been able to roll out the cooperative model on a national scale.

USAID/Poland's focus on privatization of TPSA meant that they were not open to the bottom up approaches that NTCA had successfully demonstrated. USAID declined to support a NTCA proposal to create a national association of private operators that could have provided an organizational basis for training, technical assistance and advocacy on behalf of small and rural telecommunication systems.

NTCA had weak local NGO partners that were unable to identify and work with local community leaders to start up cooperatives. The Foundation to Promote Polish Agriculture had frequent leadership turnover. The Polish Telephone Foundation was composed mostly of professors who were more interested in new technologies than organizational and management concerns. The Krakow Industrial Society had similar limitations and could not mobilize local staff to assist the project. NTCA also worked with two regional foundations in Southern Poland (community development foundations of Rzeszow and Kielce Oblasts) that were helpful in sponsoring seminars, but not effective in technical assistance.

### **c. Project Components**

For the purposes of the case study, the NTCA grants are considered together. The three Polish cooperative grants were modest at \$858,573 and provided NTCA only with support for a small field office, headquarters staff, limited paid consultants and mostly volunteer assistance.

The grants funded seminars in Poland, and observational trips to the U.S. to learn about the multi-provider system and visit rural telecommunication cooperatives. NTCA was able to leverage its relationship with Nortel, which helped with installation costs and training of local staff in their equipment. The NTCA grants resulted in more than \$28 million in U.S. investments, including \$2.7 million in U.S. telephone equipment and services. Subsequently, the cooperatives purchased all 11 of the Nortel DMS 10 switches when TPSA discontinued their use at a steep discount. They are the only independent operators in Poland that continue to use U.S. manufactured equipment.

NTCA provided the following assistance in start up activities, largely through two-week assignments by member system volunteers:<sup>10</sup>

- Management
- Organization
- Technical construction
- Investment processes

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<sup>10</sup> Norton, Marlee. "A New Day Dawns in Poland." Rural Telecommunications. May-June 1998: 14-19.

- Engineering
- Planning
- Billing and collection systems
- Tariffs
- Capital Credits, Lobbying, Business plans
- Separations related to pay stations
- Value-added services (e.g. telephone books, Internet)
- Board-Manager Relations
- Settlements
- Computer networks
- Staffing issues

The critical component of the project was to obtain advantageous interconnection and revenue sharing arrangements:

The real challenge proved to be getting fair interconnection and revenue sharing agreements from TPSA and the national regulator, the Ministry of Telecommunications. NTCA had to convince policy makers of the benefits of a multi provider system and reassure them that the co-ops would not be a competitive threat. This policy dialogue was carried out not only in private meetings, but through a series of formal seminars developed to various aspects of the multi provider system. More than 500 Ministry and TPSA employees attended these seminars.<sup>11</sup>

NTCA volunteers developed business plans, trained managers and their staff in the U.S. and conducted formal seminars for local leaders and senior TPSA and regulators on various aspects of a multi-provider industry. NTCA trained over 517 people in a variety of telecommunications issues and prepared 19 training modules for:

- Marketing
- Customer services
- Business management of telecom
- Value-added services (e.g., call waiting)
- How to start a telephone cooperative
- History of Telephone cooperatives in the United States
- Global information infrastructure
- Separation, cost allocation and interconnection principles
- Benefits of telephone cooperatives in rural areas
- Principles of regulation
- Cable TV operations
- How to write a business plan for telephone companies
- How to negotiate an agreement with TPSA
- Wireless load system
- Transmission systems
- Legal aspects of telecommunications
- History and principles of interconnections and telecommunications
- Telecommunications for the disabled

The project also published seven articles in the Telecommunications Review, the most important telecommunications industry trade publication in Poland. It held eight national seminars and participated in two agricultural trade shows in Posnan. The project introduced several new technologies in Poland including: fiber-interloop for interactive

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<sup>11</sup> *Ibid.*

TV, suspended optical cable (less extensive than buried fiber cable), and two pilot wireless local loop systems for large loads such as apartments.

NTCA helped draft and adopt by-laws for the two cooperatives. The by-laws are significantly different from Polish socialist era cooperative ways of operation. The 1982 Polish cooperative law has not been substantially updated. Although an effort by U.S. cooperatives to rewrite the law nearly succeeded, it was vetoed under pressure from old-line cooperative leaders. The current law is strong on democratic rhetoric but, in effect, allows a top-down system in which cooperative presidents and managers are one and the same. General assemblies had nominal powers and are frequently management controlled.

In the case of the two Polish telecommunications cooperatives, power is firmly placed in the General Assembly with one member, one-vote procedures. The *gminas* (local governments) and businesses have only a single vote. This democratic structure was created despite that fact that local governments contributed up to 30% of the system costs and, at one cooperative, business membership is substantially higher than local residents. Cooperative by-laws provide for a decentralized system in which each village or group of 1,000 subscribers has a single representative which assures that all villages participate equally in governance even if they have a population of less than 1,000.

#### **d. Reasons for NTCA Project Success**

- It came at the right time when rural areas were demanding telephone service as a major dividend of democratic reforms.
- NTCA's basic strategy worked at two key levels: organizing telecommunication cooperatives at the local level forced decisions on critical policy issues at the top. Local political support was essential for intervening with national government institutions. Thus, NTCA worked from the "bottom up" rather than the "top down."
- The cooperatives had and continue to have extraordinary leadership from local mayors in the communities where they were formed.
- Through funding trips to the U.S. and in-country training, NTCA built support for the idea of a multi-provider system and was able to convince some TPSA officials that it would be "win-win" for them and local communities since both gained increased resources. Afterwards, TPSA was more willing to allow small rural systems where they had no intentions of providing service anytime soon, although they still opposed establishing independent investor-owned systems in major towns and regions where TPSA's most profitable clients lived and worked.
- Within three years, both telephone cooperatives were profitable and able to pay back loans ahead of schedule and finance additional equipment for building out their networks. A key component of build out was territorial rights and in both

cases, the cooperatives were able to shift over TPSA clients and reach underserved areas for early profitability. The telephone cooperatives also attracted significant business revenues through household enterprises, farm processing and businesses that relocated in the service areas due primarily to excellent phone service.

- The two Polish cooperatives had cutting edge of technology, better and less expensive service than TPSA or other private competitors. They benefited from expertise from U.S. cooperatives in creating profit centers such as selling fax services, expanding into Internet and other services, and producing telephone books with yellow pages. They were service oriented based on U.S. models. When clients were given an option of the cooperatives or TPSA, they preferred cooperative connection. Part of this advantage was superior customer service: for example, the cooperatives would repair a downed line immediately while it might take weeks or months to restore service from TPSA.

#### **e. Conditions Expected at End Of Project**

NTCA's end of project objectives were to create a favorable policy and enabling environment and to help form at least one model telephone cooperative. Today, the two successful cooperatives provide modern telecommunications services (including Internet and soon broadband) to over 18,000 clients – the largest private system in Poland. The models pioneered the opening the Polish rural and small town markets to investor-owned systems, and were profitable within three years. They overcame numerous regulatory and bureaucratic obstacles from TPSA and the Ministry of Telecommunications. Today, they provide less expensive telecommunications services than other carriers in Poland.

Unlike investor owned companies, they were able to build out their systems, pay off their loans rapidly, and prosper while many investor-owned systems - dependent on outside capital and profit, rather than service as their motivation – have been less successful or failed. A critical element in the success was their community ownership.

Investor owned approaches appeared to be less successful because: (1) they were overbuilt, (2) they faced increasing competition from cellular providers, (3) TPSA was expanded and upgraded to all digital service in towns where the companies were present, and (4) the telecommunications bubble burst (and investor losses took place).

The projects proved the importance of telecommunications for community strengthening and local economic development. In both cases, their success resulted in the formation of relationships among local mayors and *gminas* that lead to other important public services, including wastewater treatment and household natural gas networks. The cooperatives spurred enterprise development, helped in the formation and success of a credit union and large dairy cooperative. While it is difficult to quantify the economic impacts of the telephone cooperatives, leaders in both communities attribute their ability to mobilize their communities and to attract investment for business development directly to quality telecommunications services.

## **B. Project Implementation**

### **1. Project Management and Organization**

#### **a. Staffing**

Because of severe budget constraints, NTCA had only two full-time staff assigned to the projects – a headquarters manager and a field representative. To improve coordination and save on office space, NTCA shared its office with Nortel and later CETI, an IFC and joint venture group. While NTCA provided modest grants to two local foundations for training, its greatest success came from hands-on training that NTCA volunteers, consultants and headquarters staff provided directly, and U.S.-based training at its member systems.

#### **b. Organization/Activities Plan**

NTCA's in-country presence in Warsaw was essential in overcoming political and bureaucratic hurdles. Critical interventions were: (1) to convince TPSA to permit the models to move ahead prior to official regulations; (2) initiate and draft the first interconnection agreements to the national network; (3) design revenue sharing so that the model cooperatives were able to be profitable, and (4) train managers and technical staff in the business operations of the cooperative.

U.S.-based hands-on training and observational visits were important because there were no existing European models, and telephone cooperatives were not familiar to government and local leaders. NTCA provided 19 training modules; helped design 35 telephone systems and business plans and 500 community and telecommunications officials participated in training programs.

NTCA fielded 20 volunteers from its members who provided practical expertise especially in management, organizational and technical issues. Many of these volunteers had a lifetime of experience in telephone cooperatives and were involved in the initial start-up of their systems.

### **2. Project Reporting/Monitoring**

#### **a. Baseline Data and Performance Monitoring**

Given the lack of telephone service in the two cooperative service areas, baseline data was not necessary. At the beginning of the project, NTCA officials visited the manually operated village systems, which approximated the technologies of the 1930s. NTCA observed outmoded analogue systems at nearby regional towns; and met with TPSA national and local officials to discuss and promote the benefits of a multi-provider

system. This baseline understanding of the Polish situation in rural areas helped in the design and management of the project.

The NTCA headquarters project managers visited Poland over 25 times to monitor local staff, project implementation and carry out training sessions. Senior NTCA staff provided general oversight including accompanying volunteers to assure quality control and properly targeted technical assistance and training.

Over the six-year period, NTCA employed the same evaluator who undertook four assessments to make independent recommendations and review project activities. He consulted with USAID officials in the field and Washington to give updates and assessments. These evaluations included project mid-course corrections.<sup>12</sup> Monitoring of results was readily available through annual cooperative financial reports and growth in access lines. Through Internet and telephone communications to project sites, NTCA was able to monitor performance and coordinate technical assistance and training. NTCA had Polish-speaking staff that enhanced communications.

NTCA used standard USAID indicators for the projects that target expansion and improvement of municipal services, business formation and policy reforms.

NTCA created an international membership category to provide on-going support to the Polish cooperatives and CETI investor-owned companies after the end of project.

### **b. Levels of Output**

The most effective inputs were volunteer contributions by NTCA members. Though technical assistance was sometimes uneven and required careful management (most volunteers had very limited travel and no developmental experience), results were gratifying.

The WIST Telecommunications Cooperative points out the following NTCA assistance in its 10 Years of Activities:

- Training, materials and consultations on the general operations of a cooperative, the Board of Directors, financial training and technical expertise.
- Drafting and adapting to Poland the cooperative by-laws and structure.
- Purchase of an IBM PC computer and a photocopier to run the accounts and maintain records of subscribers and members.
- Purchase of a PCM<sup>13</sup> testing device including technical and English language instruction for the PCM technician to test the DMS 10 switch.
- Training in operations of DMS 10, remote control of the exchange, operating software, detecting damages, transmission protocols and operating elevated modules RLCM.

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<sup>12</sup> Weihe, Ted. Final Assessment: The Polish Telephone Training Project. August 1996.

<sup>13</sup> Pulse Code Modulation: The most common method of encoding an analog voice signal into a digital bit stream.

As the WIST manager commented during NTCA's 1998 International Conference:

“As a manager of the first cooperative founded in Poland I'd like to express my gratitude to the employees and volunteers of NTCA who visited us in 1991... Together, we designed the structure of our cooperative and adapted it to Polish conditions. There were many problems we would not have been able to deal with. The greatest was the monopoly of TPSA. Thanks to your employees, we managed to solve those problems and now our cooperative itself is a model.”<sup>14</sup>

NTCA delegates participated in the first meeting of the newly elected WIST Board of Directors in June 1998 and held meetings with six other independent operators. As a result of this meeting, NTCA provided WIST with sufficient funds (\$30,000) to purchase U.S. equipment and install Internet capacity that was activated with the assistance of an NTCA expert.

WIST and Tyczyn cooperatives continue to work with NTCA in its current Ukraine program and have sponsored training and observation visits by local Ukraine and project leaders in 1999 and 2000 to learn about telecommunications cooperatives and share rural telephone and Internet experiences by independent operators. The training included how to form a cooperative, its management and accounting for an independent operator.

### **c. Implementation Problems/Issues**

NTCA's membership includes rural cooperative and investor-owned companies. While NTCA was able to help create highly successful telephone cooperatives in WIST and Tyczyn, its support for five investor owned companies was not as successful.

In 1994, the International Finance Corporation and private investors (Creditanstalt Bankverein, PanEuropean Financial Services and two joint venture funds) created a \$20 million fund for the start up of small telecommunication companies in Hungary and Poland. The concept was to start up the companies and sell them to local investors or issue stocks on the markets. NTCA moved from its quarters with Nortel when Nortel did not win a license to import DMS 10 switches. NTCA helped CETI with basic management and other training for its five companies. In the interviews for this case study, a telecommunications contractor and equipment supplier indicated that these companies had gone into bankruptcy due to over investment and his firm had received only 10% of its outstanding bills. He reported that all five managers had been fired and a single investor now owns the CETI companies.

Key factors of difference appeared to be:

- NTCA had more time to help the cooperatives, than investor systems that came late in the project cycle.

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<sup>14</sup> First International Conference on Rural Telecommunications. National Telecommunications Cooperative Association. Washington, DC: 30 November – 1 December 1998.

- Investor systems had less self-financing and their cost of money appeared to be too high for them to return a profit.
- TPSA was more obstructive to the investor systems in rural towns than cooperatives, which served largely rural areas.
- As competition arose from cell phones, the demand for landline systems declined at the same time as build out for investor systems.

NTCA was unsuccessful in spreading the cooperative model beyond WIST and Tyczyn. The national expansion strategy was three-fold: (1) create a REA-type telephone fund, (2) create a training center for local officials interested in forming coops, and (3) formation of a trade association of private telephone companies. While successful in creating a policy office and working with the Balasz Fund (which rapidly depleted its resources), NTCA was unable to convince the government or donors to create a rural telephone revolving fund to finance start-ups. The NTCA training center was initially successful, but not sustainable. There still remains a need for a private telephone company association to address problems with TPSA and regulatory issues. USAID turned down a NTCA proposal to create such an association, which could have provided a platform to expand the cooperative model.

NTCA created many modules of training curriculum on telecommunication issues, which were used in workshops. The idea was to use the Polish training center for rural telephone cooperative development in Poland, Ukraine and Bulgaria. While some exchanges and training did take place across NTCA projects, the policy framework was not in place in either country to allow the creation of cooperatives and multi-provider systems. For NTCA's current project in Ukraine, a key manager of one of the Business Internet Centers was an intern at the Tyczyn cooperative. NTCA applied for a grant for expanding cross-border training, which was turned down.

The concept of used equipment failed in Poland, Bulgaria and Philippines for different reasons. In Poland, TPSA did not permit their importation since they were "going totally digital." The potential cooperative in Bulgaria could not be formed due to restrictive legislation. In the Philippines, equipment was provided but could not be gotten out of customs. NTCA abandoned use of surplus equipment and its member supplies dried up as they were dismantled and discarded.

NTCA had a poor record in working with Polish foundations. It tried to initiate the proposal through the Foundation for the Development of Polish Agriculture (FDPA). FDPA went through several senior staff changes and decided to focus exclusively on agriculture. NTCA explored working with the CRS Water Foundation that was putting in drinking water systems in rural areas, but this was a poor fit. NTCA decided to work with regional foundations that agreed to promote rural telephony. These multipurpose community foundations did conduct workshops but were unable to find sufficient funding and local entrepreneurship to form cooperatives. Based on these lessons, NTCA decided it should to form its own Polish foundation exclusively focused on rural telephones. The foundation came late in the project and did not have sufficient time and resources to

become sustainable. In hindsight, NTCA should have created a separate foundation earlier, rather than work through existing ones.

NTCA had problems recruiting strong local project staff. It sought candidates that were open minded and had telecommunications background. Candidates interviewed were primarily concerned with long term assured employment, or in technical matters rather than organizational issues that were the focus of the project. Finally, NTCA hired a local project manager who had strong computer skills and was trained in rural telephone approaches and concepts. However as the project evolved, the NTCA representative become more focused on the CETI investor-owned project than promoting the cooperative model.

NTCA found that local managers and mayors, staff and boards of directors were the most critical factors in the cooperative development success. One-on-one technical assistance appeared most effective. Seminars and U.S. training for policy makers helped at critical times in gaining support for the multi-provider system but was insufficient to turn around ingrained monopolistic attitudes.

## **C. Impact of the Project**

### **1. Impact on the Target Population**

As elaborated in Part II. B., “Salience,” the presence and activities of WIST and Tyczyn Telecommunications Cooperatives have had a major and positive impact on the communities within their service areas. Most obviously, member households, enterprises and public organizations have benefited by having readily available, high-quality, low-cost telephone service – which could not be had from the monopoly/dominant provider. In addition, these cooperatives came into being and have thrived as a consequence of cooperative action by members, including member *gminas*. The cooperative nature of the telecommunications enterprise at an early time in Poland’s post-Soviet history proved to be freeing and stimulating: other cooperative enterprises sprang up in Tyczyn specifically modeled on the telecommunications cooperative experience; and in the WIST service area there developed a beneficial cooperative spirit between local government, citizens, and enterprises which has supported growth and improvement in the quality of life.

### **2. Potential for Institutionalization**

The Polish telecom cooperatives are thriving community-owned businesses that are growing and offering improved and new services such as Internet and broad band service. Their growth is expected to continue through expansion of profitable services, such as Internet access, where the cooperative can retain a higher portion of revenue. In addition, growth is taking place through geographic expansion into poorly served areas where TPSA is the provider. Recently, for example, an entire village made the decision to shift their business to the WIST cooperative.

Given sunk costs in basic equipment, it is likely that the cooperatives will be able to continue providing substantial cost savings and value to their members. There appear to be no major competitive threats to their continued success. The most recent interconnection agreement (1998) on sharing of revenues is more financially supportive of private, independent systems. Assuming that TPSA becomes more investor-oriented under its ownership by France Telecom, it may tend to focus on higher profit areas such as major towns and urban centers and continue to provide poor or deteriorating services to rural areas. This would leave ample market space for independent rural providers such as Tyczyn and WIST

Thus, it appears likely that the cooperatives will achieve their goals for growth, with each more than doubling the number of access lines over the next ten years. This would take WIST from 8300 to 10,000 lines, and Tyczyn from 8500 to 10,000 lines.

However, the lack of tax incentives for cooperatives may hinder the growth of the cooperative model in Poland. However, the potential exists for communities to purchase less successful small independent systems and convert them to either municipal or cooperative ownership. A cooperative of local *gminas* might be a successful approach. For example, a small system of 1,400 residents was created by a private company and spun off as a separate corporation. Similar community based solutions for telecommunications may become possible.

A major deficiency in institutionalization is the lack of any trade association for independent and small telecommunications systems. Without such an organization, it is unlikely that these private systems will be as successful in overcoming the market dominating practices of TPSA in order to grow their systems rapidly.

## PART II ~ THE PARTICIPATING COOPERATIVES

### A. Cooperative Organization and Governance

A comparison of WIST and Tyczyn Telecommunications Cooperatives reveals substantial similarities, as outlined in the table, below. On closer inspection, some interesting and characteristic differences appear:

- Different demographic characteristics and service areas: WIST is more extended geographically and suburban, Tyczyn more compact and rural.
- Leadership generally comes from local mayors and a pool of activists involved with the founding of the cooperatives. Tyczyn is lead by a four-time elected mayor while WIST leadership tends to come more from its original and on-going manager.
- Tyczyn has internalized its technical services while WIST contracts out these activities.
- In general, WIST appears very committed to the cooperative way of doing business while Tyczyn places more emphasis on cooperative methodologies as part of broad-based community development.

Characteristics	WIST	Tyczyn
<b>Form of business</b>	Legal coop under 1982 law	Same
<b>Access lines</b>	8,300	8,500
<b>Members</b>	7,850	6,500
<b>Voting</b>	One member/one vote	One member/one vote
<b>Form of governance</b>	1 representative per 1,000 or one per village if less than 1,000. 70 membership groups who have a representative each at annual meetings.	1 representative per 1,000 or one per village if less than 1,000. 28 membership groups with a representative each.
<b>General Assembly</b>	Meets annually with elections every 3 years	Meets annually with elections every 5 years
<b>Attendance at annual meetings</b>	About 90 percent of elected representatives	Nearly all representatives
<b>Elections</b>	16-17 candidates nominated from floor at annual meetings	15 to 20 candidates also nominated from floor
<b>Board of Directors</b>	13 directors of which 2 are women	11 directors who are all male; chairman is mayor of local <i>gmina</i>
<b>Membership meetings</b>	1,000 members involved in local communities through winter meetings (about 1 in 8 members)	1,014 members at local communities voted for representatives (about 1 in 6 members)
<b>Audit committee</b>	Only committee on board	Same
<b>Frequency of meetings</b>	Quarterly	Quarterly

<b>Number of employees</b>	34 (more out sourcing of technical services)	46 (more technical staff)
<b>Hook up fee</b>	50zl per access line	50zl during "sales" and usually 400zl
<b>Membership</b>	10 shares @ 20zl = 200zl	900zl for residents; 5,000zl for businesses
<b>Membership education</b>	At winter meetings of representational groups; no publications	Similar
<b>Collection system</b>	Mostly door to door (only 200 bills mailed in)	Similar
<b>Local costs of calls within cooperative (other set by interconnection agreement)</b>	Free calls for first 40 impulses for members only	All local calls free with coop membership
<b>Taxes (no tax advantage as cooperative – same as all businesses)</b>	27% income tax	Same
<b>Profitable</b>	With 3 years	Same
<b>Interconnection with TPSA: revenue on outgoing calls retained by cooperative</b>	22% for international calls; 80% for long distance	Same interconnection agreement with TPSA
<b>Largest source of revenues</b>	Member Fees Long Distance Traffic Regional Traffic Internet Local Traffic International Traffic	Member Fees Regional Traffic Wireless Traffic International Traffic Local Traffic (non-members)

## 1. Mission

The mission of WIST cooperative is to fulfill the needs of its present and future members, first by providing basic telephone service, and then by providing more advanced services. WIST's vision for the future is to grow its membership to 10,000 access lines from the present 8,300 by 2006. The cooperative's main growth strategy is to enlarge its service area by encouraging neighboring *gminas* to join en masse by shifting services from TPSA. Because WIST service is less expensive and more efficient than TPSA's, pressure on local mayors comes from the grassroots. Shifting of services is permitted under the dual-provider system. In terms of more advanced services, WIST plans to purchase radios to provide service to inaccessible areas, introduce cable TV, install additional public telephones, and modernize its system including constructing an optical network.

WIST is very committed to the cooperative approach to doing business and is very community-minded. The cooperative makes major contributions to its community, including grants to local sports and other clubs. The cooperative subsidizes the local credit union by providing space in its building at low rent. WIST is also investing heavily in the restoration of a historic building in the community.

*Basic Services and Rates ~2003*

Service	Zloty	US Dollars
<b>Cooperative Membership</b>	200.00	\$ 52.12
<b>Member Fee for Basic Service (monthly)</b>	17.00	\$ 4.43
<b>Non-Member Fee for Basic Service (monthly)</b>	35.00	\$ 9.12
<b>Additional Line of Service (monthly)</b>	10.00	\$ 2.61
<b>Reconnection</b>	20.00	\$ 5.21
<b>Itemized Billing (monthly)</b>	3.00	\$ 0.78
<b>Local Traffic (per pulse)</b>	0.29	\$ 0.08
<b>Long Distance Traffic (per pulse)</b>	0.29	\$ 0.08
<b>International Traffic (per pulse)</b>	0.29	\$ 0.08

*Advanced Services and Rates ~2003*

Service	Zloty	US Dollars
<b>Dial-Up Internet</b>		
- Basic: 35 hrs (monthly)	30.00	\$ 7.82
- Standard: 60 hrs (monthly)	50.00	\$ 13.03
- Business: 120 hrs (monthly)	80.00	\$ 20.85
- ISDN Connection: Unlimited Usage (monthly)	100.00	\$ 26.06
<b>Digital Subscriber Line (DSL) Broadband</b>		
- Installation	100.00	\$ 26.06
- Basic: 128 kbit/s (monthly)	100.00	\$ 26.06
- Standard: 256 kbit/s (monthly)	150.00	\$ 39.09
- Business: 512 kbit/s (monthly)	250.00	\$ 65.16

Tyczyn's mission, like WIST, is to serve the needs of its present and future members. The cooperative's vision for the future is to grow to 20,000 access lines in ten years (roughly doubling from the present level of 8,500 lines), and to provide strong Internet coverage within 3 years.

Beyond providing telephone service, the Tyczyn cooperative has been the impetus for creating a regional development association of *gminas* within its service area. This association has used grassroots organization similarly to Tyczyn cooperative's, to provide wastewater treatment, and to establish a large drinking water bottling plant and delivery enterprise, which also bottles and delivers fruit juices and bakes and delivers bread. Ten percent of the bakery production (including imperfect loaves) is donated to local soup kitchens.

This community development program, in which Tyczyn Telecommunications Cooperative participates as a minority shareholder, aims in part to bring jobs to this low income, subsistence-farming area where the present rate of unemployment is about 40 percent. The strategy is termed "Ourselves for Ourselves" and is based on the involvement and motivation of local communities. The association is trying to address

low unemployment, loss of market for traditional farm products, insignificant experience with the market economy and lack of infrastructure. At the same time, the association builds on traditional local values and culture. The mission of the association is to:

- Create chances for a better standard of living in the community (Strug Valley)
- Produce healthy food
- Build an agro-tourism industry
- Establish a health resort
- Promote the region

In line with its mission, the association is designing and implementing pilot projects for sustainable development with an emphasis on organic and sustainable farming which is environmentally sensitive. The most successful community enterprise to date, in addition to the telecommunications cooperative, is the regional drinking water plant mentioned above, that was built through volunteer labor and serves 70,000 families. This central facility, along with its fleet of delivery trucks and phone/fax/Internet resources, is intended to become the basis for processing of additional organic crops, such as jams, potatoes and meats. The goal is to interlink the business functions of these enterprises with Internet.

## **2. Leadership and Decision Making**

Both WIST and Tyczyn Telecommunication Cooperatives were created through leadership of locally elected mayors in the service area of the *gminas*. They provided the impetus to the cooperative through dozens of village level telephone committees, that had been formed to provide in-kind and cash contributions in order to obtain telephone service from TPSA. These telephone committees were required to raise 70% of TPSA's costs to extend service into the local area, and could obtain funding from the Balazs Fund during the transition to democracy (1989-91). With the encouragement of NTCA, these local government leaders saw the advantages of owning their own telephone systems, rather than turning their self-help efforts over to the monopoly. These local governments had the authority to tax and in order to develop the core systems, including switches and initial lines.

In setting up the cooperatives, the local mayors and telephone committees adapted by-laws and operating procedures used by NTCA member cooperatives, and made available to them through NTCA volunteers and NTCA-sponsored training in the U.S.

The decision making process within the two cooperatives is a democratic one, in which local assemblies of 1,000 members meet to elect representatives to the cooperative annual meetings. These representatives hold annual meetings to discuss and vote on major issues, and periodically to elect board members. Board member candidates are nominated from the floor and all positions are contested, with at least twice as many candidates as director positions.

### 3. Membership and Member Participation

Membership and voting rights are acquired through share capital, and the required membership contribution is different for each cooperative (as shown in the table at the beginning of Part II.A, above). WIST membership dues are the same for all classes of members while Tyczyn has two classes of membership: residents and businesses. Tyczyn cooperative has substantially higher buy-in requirements for businesses. As a result, many businesses opt simply to subscribe, rather than to become members, giving Tyczyn more non-member subscribers than WIST (about 2,000 compared to 450 for WIST). Several *gminas* also are members. Regardless of membership class (residents, businesses, *gmina*) each member has only one vote. A recent change in public conflict of interest laws will not permit elected public officials to serve on boards of directors.

Membership in Tyczyn entitles members to free calls within the local net, and WIST members get 40 impulses per month worth of free service (local, long distance, or international).

Membership participation is very high. Over 1,000 members participate in local assemblies during the winter months, through 70 assemblies for WIST and 28 for Tyczyn. At these local assemblies, annual financial reports (audited by a three-member committee of the board) are presented along with any changes in services or major anticipated activities.

The major tool for communicating with members and the community is a combined annual telephone book covering both WIST and Tyczyn subscribers (the first in Poland) that lists major events (e.g., 10 year anniversary of the cooperatives) and includes local emergency and other numbers. Yellow pages are included. Both cooperatives also advertise in local publications and sponsor community events such as sports and polka contests. The telecommunication services are a major feature of promotional materials of the local mayors in attracting investments, such as the regional airport that serves international flights.

Neither cooperative is a member of any type of trade association – telecommunications, cooperative, or small business. Both subscribe to technical journals and materials provided by the Ministry of Telecommunications.

## B. Business Operations

### 1. Start-up Costs and Difficulties

WIST secured initial capital through loans from the European Fund for the Development of Rural Areas and the Bank Gospodarki Zywnosciowej for its basic system in Laka to finance a central switch, four concentrators and four lines. It also secured credit from the Jasionka Spoldzielczy (cooperative bank) for expansion to four additional *gminas*. WIST was able to obtain a foreign currency guarantee with the U.S. Export-Import Bank held by the First Chicago International, to purchase the Nortel DMS 10 central switch. The initial investments are below:

#### *WIST Start-up Investment Costs - Year One*

	US Dollars
<b>DMS 10 Mainframe Central Switch (Nortel)</b>	\$ 270,000
<b>Delivery and Installation of Switch (POLMAiK)</b>	\$ 11,066
<b>Property Lease</b>	\$ 3,927
<b>Additional Nortel Equipment (Panels for DMS 10)</b>	\$ 380,000
<b>Additional Equipment and Services (concentrators, optical cables, power supply units, renovations)</b>	\$ 544,000
	<b>\$ 1,208,993</b>

In beginning their operations, WIST and Tyczyn Cooperatives had to overcome monopolistic foot dragging and obstacles by TPSA such as:

- TPSA was unwilling to sign a mutually negotiated contract to lease its existing lines and equipment for WIST start up. TPSA also refused to issue terms for suspending cables from their utility poles.
- As the WIST cooperative began its operations, its interconnection traffic exceeded the TPSA capacities in its existing bundle of 40 lines, and TPSA was unwilling to upgrade this critical connection. WIST went ahead and renovated them, and requested a rental agreement that was not forthcoming. TPSA demanded that the work be discontinued until an agreement was reached.
- Subsequently, TPSA filed a lawsuit against WIST for suspending cable on their utility poles and requested its removal. The suit forbade WIST from using any telephone lines or devices owned by TPSA, and required WIST to restore TPSA equipment, such as antiquated manual switches, to their original condition.
- WIST began shifting over former TPSA customers under a negotiated agreement TPSA was unwilling to sign. TPSA filed an additional suit arguing that WIST was hurting their customers. WIST refused to disconnect the customers because

“no one was brave enough to take away from the subscribers the possibility of making automatic calls and switch them back to a manual exchange operated by [TPSA] telephone operators.”

- A settlement was worked out, but WIST was required to “officially admit” to illegally switching over 783 TPSA subscribers and that the action constituted a “breach of contract.” TPSA insisted on full compensation and went to court to require WIST to pay all legal proceedings.
- In the end, the judge ruled that WIST was within its rights and dismissed TPSA claims.

## 2. Cooperative Growth

While both Tyczyn and WIST cooperatives demonstrated substantial growth during the period, greater availability of data permits closer analysis for WIST. The following tables and figures track substantial growth in fixed assets, workforce, and labor productivity during the initial years of operation:

### Fixed Assets

	1994	1995	1996	1997	1998	1999	2000	2001	2002
<b>Fixed Assets</b>	\$765,696	\$1,080,596	\$1,463,461	\$1,724,869	\$1,890,430	\$1,888,902	\$2,096,669	\$2,628,915	\$2,687,817
<b>Increase over pervious year</b>		\$314,900	\$382,865	\$261,408	\$165,561	-\$1,528	\$207,767	\$532,246	\$58,902
<b>Percent increase over previous year</b>		41%	35%	18%	10%	0%	11%	25%	2%
<b>Average annual increase 1995-2002</b>									18%
<b>Average annual increase 2000-2002</b>									13%

Fixed assets increased steadily during the early years of operation, with at least 10 percent growth each year from 1994 to 1998. Fixed assets more than doubled during this four-year period. Growth tapered off after 1999, but remains substantial, with an average annual increase of 13 percent between 2000 and 2002.

### Labor Productivity

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Employees</b>	10	11	13	15.5	21.75	27	30	31	N/A	34
<b>Subscriber Lines</b>	2185	2228	2997	4000	4482	5564	6308	7008	7928	8300
<b>Revenue (USD)</b>	\$259,253	\$321,313	\$358,507	\$468,510	\$612,100	\$638,259	\$883,371	\$1,110,299	\$1,435,196	N/A

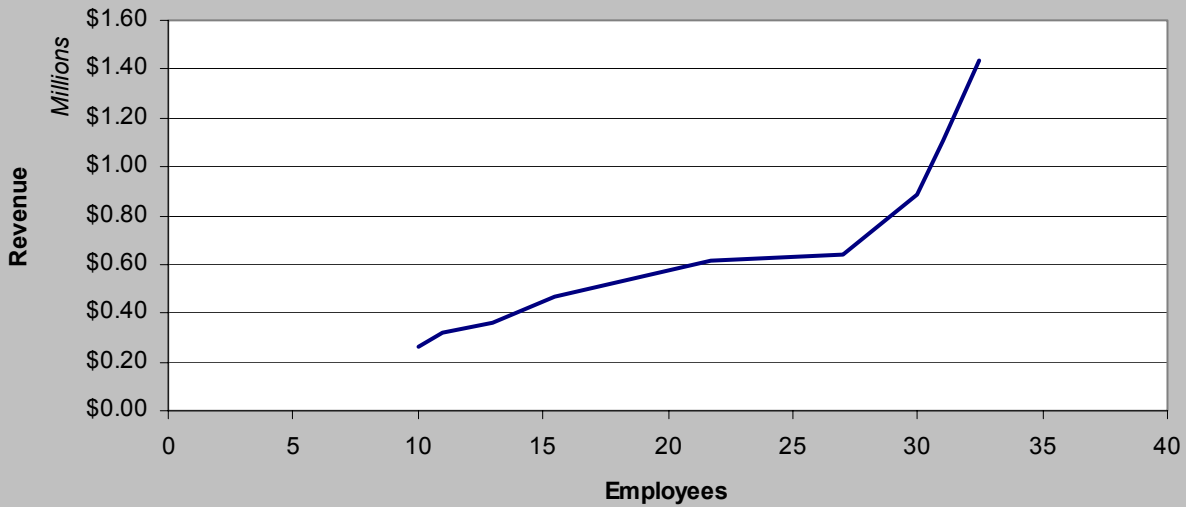
Over the first ten to twelve years of operation WIST Telecommunications Cooperative generated revenue increases and added subscriber lines every year, as it steadily built its workforce. A fundamental challenge any business faces is how to expand the workforce, in such a way that each additional worker improves the firm’s ability to generate business.

The two charts below examine this marginal productivity of labor for WIST, in financial terms (Figure 1) and in real terms (Figure 2). Classically, such curves take the shape of a band shell: rising steeply in the early years, then tapering off and flattening as an enterprise runs toward its productivity limits. Successful firms take advantage of the

period of upward sloping productivity. Then, before entering the period of waning productivity, these successful firms reconfigure their business mix of resources and market strategy in order to re-start the productivity curve.

While Figure 2 shows a generally up-trending pattern, Figure 1 demonstrates clearly that WIST has successfully ridden the productivity curve upward from 10 employees to 27 employees. WIST then restarted the curve with a spectacular upslope in marginal productivity as it added labor to reach its present level of 34 workers. The marginal rate of return for each new employee rose from \$23,640 to \$44,160 between 1999 and 2002. During this period, WIST continued to build out the local network and reached an employee to subscriber line ratio (244:1) far better than the national average (159:1). WIST is currently in a period of rapid and sustained growth, with no sign of productivity loss in the near future.

**FIGURE 1**  
**Revenue per Employee**  
**WIST Telecommunications Cooperative, 1994-2002**



**FIGURE 2**  
**Subscriber Lines per Employee**  
**WIST Telecommunications Cooperative, 1992-2003**



### 3. Management

#### a. Policies and Procedures

All indications are that the two cooperatives are run in an orderly fashion, guided by appropriate policies and procedures. Staff turnover appears to be low, and the cooperatives pay labor-related taxes as required by law. Financial records for WIST cooperative are sufficiently detailed to capture significant information, and indications are the same for Tyczyn.

Year	Number of New Subscribers	Total Number of Subscribers	Number of TPSA Subscribers	Full time Employees
1992	160	770	-	5
1993	954	1820	96	7
1994	365	2185	115	10
1995	43	2228	113	11
1996	1520	2997	864	13
1997	1040	4000	864	15.5
1998	482	4482	860	21.75
1999	1082	5564	770	27
2000	744	6308	456	30
2001	700	7008	245	31
2002	920	7928	153	N/A

#### b. Organizational Structure/Personnel

Based on the bylaws, the cooperative structure consists of an assembly of representatives, board of directors, three-person management board and manager (Polish terms do not correspond to U.S. cooperative structures). The assembly is the highest level of governance with the following powers:

- Basic decisions on the development of the cooperative,
- Receiving reports from the supervisory board,
- Accepting annual reports,
- Approval and voting on members of the board of directors, and
- Decisions on the distribution of surplus or covering losses.

The assembly is made up of representatives of members who live in villages within the service area. These groups meet at least twice a year prior to annual meetings to elect and dismiss their representatives, prepare motions to be discussed at the general assembly, consider annual reports and prepare motions to the board of directors.

The board of directors controls the activities of the cooperative. Its rights and duties include:

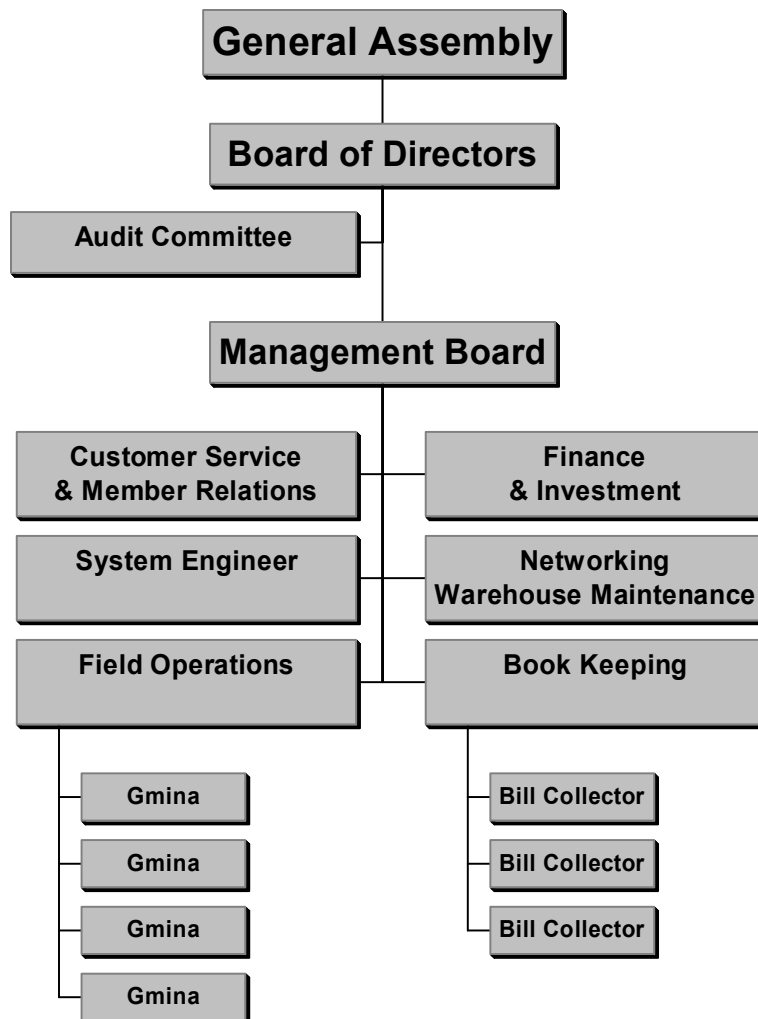
- Appointment and dismissal of management board and its chairman,

- Supervision of cooperative,
- Approval of actions concerning property, and membership in other organizations,
- Making organizational changes in cooperative,
- Processing member complaints, and
- Setting wages of employees.

Management consists of three persons appointed by the board of directors including its chairman. The management board can implement all activities not reserved for the board of directors or assembly. Their main responsibilities include:

- Preparation of business plans,
- Management of cooperative operations,
- Purchasing cooperative property,
- Securing loans and credits,
- Preparation of annual reports, and
- Cooperation with local authorities.

*Organizational Chart*



#### 4. Business Activities

##### a. Planning and Performance

The cooperative boards of directors carry out regular planning for business activities. At annual meetings, the accomplishments of the previous year are presented to membership, and plans for the next year discussed and approved by the membership.

Neither cooperative has written business plans, but they have relied on NTCA and local consultants in the development of each phase of the business. The cooperatives do prepare “working plans” that are project specific such as upgrading their systems with Internet and introducing broadband services. Each cooperative has invested in major facilities (e.g., the headquarters building for WIST cost \$100,000) and new equipment, including the purchase of 11 DMS 10 Nortel switches from TPSA as well as smaller Israeli and Polish switches used for clusters of clients, such as the regional international airport.

For the WIST cooperative, the present state of business development is mirrored in the array of sources of revenue:

##### *Sources of Revenue ~ January-May 2003*

Source	Zloty	US Dollars
Member Fees	676,717.58	\$ 176,366.32
Sales of Telecom Services	40,540.44	\$ 10,565.66
Sales of Internet Services	285,926.68	\$ 74,518.29
Local Traffic	240,143.20	\$ 62,586.19
Long Distance Traffic	606,193.38	\$ 157,986.29
International Traffic	113,066.94	\$ 29,467.54
Regional Traffic	396,880.37	\$ 103,435.07
Other Revenue	25,090.77	\$ 6,539.16
	2,384,559.36	\$ 621,464.52

See Appendix 1 for greater detail on WIST’s first 10 years of operations including reports to the general assembly on each year’s major accomplishments and goals for the upcoming year.

##### b. Transparency/Accountability

Both cooperatives are fully transparent with annual internal audits, and presentation of financial results at annual membership assemblies. Financial data is audited by committee of board of directors and available to all members. Cooperative by-laws, based on those in the U.S., provide protection to members on accountability. WIST has compiled a detailed 10- year record of its accomplishments, including difficult

interactions with TPSA and related policy and financial issues during start-up and build out (and NTCA has obtained a full translation of this document into English).

Moreover, outside audits are carried out unannounced and randomly by government officials, and usually instituted when the cooperative carries out major investment activities to make sure they are paying their 27% income tax. There are no cooperative reporting requirements to any government officials.

## **5. Financial Analysis**

A full financial analysis is provided in Part IV. However, the following is worth noting:

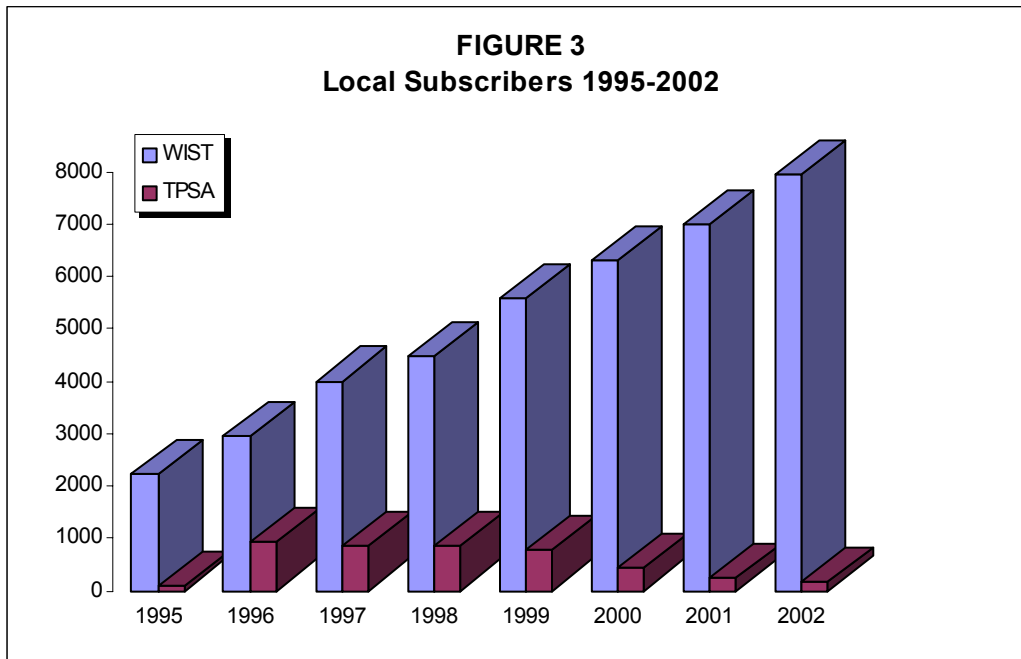
While the two cooperatives provide lower cost services than TPSA or other local providers, there is no financial advantage to being a cooperative (e.g. tax exempt). Since they were built through local telephone committees and mayors, their “cooperativeness” derived from their formation and ownership, not tax benefits. As investors become active in the local market, the lack of tax-exempt status may have been a major reason that the cooperative approach was not tried or successful in other communities. Also, as cell phones become readily available, the need for local telephone committees phased out and TPSA improved services, there was less local motivation to develop telephone cooperatives. In fact, the interconnection agreements with local providers were so disadvantageous that most locally invested telephone systems were not very profitable, many licenses turned back to TPSA and a number went bankrupt. Today there are about 44 local providers in some 88 communities and about 100 licenses at the end of 2002.

## **6. Salience**

Since the two cooperatives began providing telephone service in 1991, their importance to their communities has grown to the point that few can imagine life without them. Locals in Tyczyn note that, “the telephone cooperative activated the social fabric,” and that “telephones were the first priority” for improving village life. One leader thanked NTCA for encouraging the Tyczyn cooperative, “because I learned that with my friends we can create progress.” People expressed appreciation that the cooperative “was not theoretical, but based on action” and was suited for rural areas.

Turning to the WIST service area, the mayor of Trzebowńsko *Gmina*, in the heart of the WIST service area, believes that “the influence of expanded telephone service has been positive and big. It is hard to imagine any economic activity without the phones. Without phones, we would have to go back to the 19th century, practically.”

Data demonstrate the huge presence of WIST cooperative across its service area, compared with TPSA:



**a. Value/Importance to Members**

Most members are households, and the cooperatives' mission of meeting member needs by providing basic and, over time, more advanced telecommunications services has brought these members a measure of comfort, safety, convenience, and ability to conduct home-based enterprises more successfully.

The Tyczyn cooperative serves over 6,500 residences in a primarily agricultural community with a population of 40,000 and about 8,000 farms, averaging 3.5 hectares apiece. At an average of three people per household, one can estimate that Tyczyn members represent about half of the population, in an area where many still do not have phones. In general, the Tyczyn service area, which is relatively compact, is completely rural with no major towns; it is located just southeast of Rzeszow, the provincial capitol.

The nearby WIST service area is more suburban and linear, drawn out along a major highway running north-south, and next to and surrounding Rzeszow. Plans are underway to construct a beltway around Rzeszow, and part of this highway will run through the WIST service area. WIST serves about 6,000 residences.

**b. Significance to the Community**

The Tyczyn cooperative provides telecommunications services to about 67 public sector providers including schools, mayors, police, social and sports clubs and churches. The service area of 300 square kilometers includes 40 villages within four *gminas* (a small political unit equivalent to a county).

Similarly, the WIST cooperative provides telecommunications services to many public sector organizations including the Rzeszow regional airport and a large, new indoor swimming complex. In order to provide adequate service to the new airport, WIST installed a switch nearby, with a capacity of 120 access lines. WIST serves seven *gminas* and 33 villages.

Both cooperatives are pillars in their communities in supporting local businesses, public services and governments. The two cooperatives were the first successful community owned enterprises in their villages, and generated momentum for other community-based services including wastewater treatment facilities and the drinking water company in Tyczyn. In each case, the methodology of community mobilization was similar, with outreach by the mayors of local *gminas*, joint planning and sharing of start up and operating costs. In the case of Tyczyn, the cooperative resulted in a formal community planning organization that promotes the region as a tourist location, conducts joint activities and applies for national and international grants and commercial investments.

### **c. Importance to Business Sector**

The Tyczyn cooperative serves about 445 private businesses including 20 cooperatives. While most cooperatives are village based supply and marketing cooperatives for farmers, several are large cooperatives including three large multi-purpose farm cooperatives and an agricultural bank cooperative. The largest community based business is Alfred, a bottling plant and delivery system for drinking water and juices, as well as a bakery. This firm has over 400 employees and a fleet of more than 1,000 trucks. Other firms include grain mills, construction firms, home appliances retailers, vendors of farm equipment and supplies, veterinarians, metal and pumping industries, furniture manufacturing concerns, auto repair businesses, film and art shops, restaurants and small shops. The regional development association is promoting agro-tourism and other environmentally “clean” businesses such as organic agriculture. Given that the Tyczyn service area has about 40% unemployment, the cooperative is a critical component in supporting business development, and is predominately displayed as a means to attract investment.

WIST cooperative provides telecommunications services to about 171 private businesses including 11 cooperatives. It provides services to a large regional dairy cooperative, Rzeszowska Spoldzielnia Mleczarska, which was founded in 1906. This cooperative has over 300 employees and serves small farmers throughout the region with cooling tank collection sites. The dairy cooperative also operates retail outlets in major cities including Krakow. WIST also provides telecommunication services to the agricultural cooperative bank and a major sausage plant. On the WIST office premises, the cooperative provides low-cost space for a community-based credit union. WIST serves a new regional airport with passenger, freight, flight school and other services. Other types of firms served by WIST are small and large furniture manufacturers, food service companies, home improvement firms, a radio station, restaurants, small shops and a dance hall.

The WIST service area has relatively low unemployment at about 12%, and is becoming increasingly attractive as a place to live and to locate business. In its promotional literature Trzebowńsko Gmina, in the heart of WIST's service area, identifies the well-development local telecommunications infrastructure as an asset:

“Technical infrastructure fulfills very important functions connected with social development for the Gmina of Trzebowńsko. Fast development of infrastructure in all villages is among the result of consequent policy conducted by the Management of the Gmina, co-operation of inhabitants expressed by paying optional taxes on behalf of investments and donations received from funds and other organizations of similar character.

“As a result of that policy, 78.5% of households are connected to the telephone network and technical conditions enable everyone in the Gmina to be connected to the network. Telecommunications in the Gmina are conducted by two operators: “WIST” Telecommunications Co-operative operating in 8 villages (2,818 subscribers) and Telekomunikacja Poska S.A. operating in two villages (445 subscribers).” [A picture of the WIST headquarters building accompanies the text.]<sup>15</sup>

As the area develops, WIST cooperative collaborates closely with the power company on use of common utility poles. WIST contracts out much of its work to local firms, for installation of equipment, burying of cables, design of expansion plans to new areas, construction of optical cable lines, and installation of air conditioning for its main switches.

#### **d. Cooperation Between WIST and Tyczyn**

The two cooperatives worked closely together in sharing experiences and overcoming common obstacles presented by TPSA, especially in the early years. They wrote and advocated common solutions to pressing issues, such as: the absence of regulations for sharing TPSA equipment and lines; securing adequate financing; and the difficulties of connecting their exchanges to the public telephone network. The two cooperatives adopted similar positions on how to deal with the “point of connection” issue with TPSA in Rzeszow. Each cooperative lent construction equipment to the other. Tyczin technicians helped WIST install the DMS 10 that had been purchased from TPSA, including its disassembly, transportation, assembly, connection to the net and testing. Currently, the two cooperatives share billing services and produce joint telephone books.

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<sup>15</sup> Gmina Trzebowńsko (multilingual promotional document published by the community of Trzebowńsko). 2003: 3.

## **PART III ~ LESSONS LEARNED**

### **A. During Project Implementation**

The experience of helping to establish these two telephone cooperatives in a greenfield environment – WIST and Tyczyn were the first of their kind in post-Soviet Central and Eastern Europe – confirmed what logic would dictate: independent, rural telecommunications cooperatives require a favorable multi-provider policy environment, along with strong political and grassroots resources to raise capital, mobilize self-help labor and services, and overcome obstacles.

The cooperative approach demonstrates to community participants the significant contributions that even cash-short households and small businesses can make toward their own betterment. Significant self-help efforts include stringing lines, doing household wiring, and accomplishing various construction activities from erecting poles to refurbishing offices and equipment facilities.

Leadership, especially by local officials, is critical to the success of telecommunications cooperatives. This leadership is substantially strengthened if it has, like the local mayors in WIST and Tyczyn communities, the legal authority to raise funds through taxation and debt to begin the initial systems.

A large grassroots network of telephone committees provided the basis for the cooperatives. This appears to prove the contrary point that, if the community or its leaders believe outside investors will do the work and create the system, there may be less incentive for self-help cooperative approaches – especially without tax exemption or national support structures similar to the Universal Service Fund in the U.S.

Residents in the communities must be able to afford basic telephone service and willing to pay for it. In contrast, in Bulgaria and Ukraine during this same timeframe NTCA had difficulty identifying similar leaders or communities with an ability to raise sufficient capital to start a cooperative.

NTCA successfully adopted U.S. cooperative methodologies to the Polish setting, including by-laws, and management and governance structures (despite an outmoded Polish cooperative law that vests most power in management, not owners).

### **B. Addressing Problems/Issues**

In Poland from 1990-1996, NTCA was pioneering a rapidly evolving field where there was very limited development experience. Established principles or documentation of methodologies, while abundant in other sectors, were lacking for rural telecommunications in emerging and developing countries. NTCA learned by doing, and some actions attempted fell short of desired results. For example:

- NTCA worked unsuccessfully to convince senior Polish government officials to create a rural telecommunications revolving fund, to replace the Balazs Social Trust Fund. It was also hard to persuade the EU and other major donors to provide funding for rural telecommunications, because their attention was driven by commercial interests: at that time international firms were competing vigorously to enter the potentially large Polish telecommunications market, and this competition emphasized the more financially rewarding urban sector.
- NTCA was successful in modifying the Postal and Telecommunications Act of 1990, to create the new post of Plenipotentiary for Rural Telecommunications. This was, however, a limited achievement as the office suffered high turnover, which impeded consistent and effective advocacy for rural interests within the Ministry of Telecommunications.
- While NTCA was successful in deploying volunteers from its member cooperatives to provide technical assistance to the Polish project, the identification and deployment of volunteers became increasingly burdensome. Matching skills to needs on a volunteer basis was difficult, and these volunteers had scant or no overseas experience to guide them. It would have been helpful to employ more professional technical advisors and consultants, both in the field and at headquarters.

On the other hand, from a broad perspective, the Polish experience offers two signal lessons on addressing issues in cooperative development:

- *The success of the Polish telecommunications cooperative experience should not be construed as a boilerplate solution for every rural community.* Rather, it represents a case in which the local conditions called forth a particular project design and implementation strategy, which was well executed by all participants.

To elaborate on this essential point: in the Polish case it is evident that the cooperatives enjoyed a combination of favorable conditions, including precursor village telephone committees, strong political leadership both locally and nationally, a facilitating legal environment, adequate financing, and technical assistance from NTCA. This illustrates that, in each development situation, the imperative is to assess the conditions correctly, and to deploy resources and a strategy that respond to those conditions.

- *The power of the cooperative approach to solving development problems is remarkable.* This case shows WIST and Tyczyn Telecommunications Cooperatives leading the way for subsequently filling other community needs. As a direct result of the telecommunications cooperative success, these communities undertook to establish wastewater treatment plants, village natural gas systems, and recreation facilities. For example, in Trzebowno Gmina (the WIST service area), a new public swimming facility has been built, which is fully equipped with saunas, massage rooms, facilities for handicapped swimmers, lanes for

competitive swimming, two-story water slide, warm-water pool, instruction and conference rooms, snack bar, message center, and a two-story atrium furnished with tropical plants and fountain. In the Tyczyn service area, the telecommunications cooperative experience gave rise to the development of an array of other community-owned businesses.

The Polish case also proves the notion that cooperative development invigorates civic life. For example, in 1994 Kazimierz Jaworski, Manager of the Tyczyn Cooperative, was re-elected mayor of the region. Tyczyn had a voter turnout of 45%, compared to the national average of 30%. Mr. Jaworski attributed this higher level of involvement to the influence of the cooperative, which has helped people understand and appreciate the power of the vote.

### **C. Participant Perspectives on Value of Project Assistance**

Managers and local officials of the cooperatives cited similar perspectives about NTCA assistance. They said:

- NTCA and its technical assistance and training, especially in the U.S., were essential for their success. For example, as they went about building their initial systems, cooperative leaders had no idea how to draw up an interconnection and revenue sharing arrangement with TPSA – yet, this agreement was critical to their profitability and was made possible through NTCA technical help.
- NTCA helped the WIST and Tyczyn communities see their cooperatives as “democracy in action,” a practical response to community needs, and “prudent risk taking” by local leaders.
- Grassroots organizing through village telephone committees was critical to engage communities and get them involved. The social energy of the cooperatives that followed “activated the social fabric,” in the words of one of the founders.
- The cooperatives were able to keep politics out of the business, and to garner support from diverse political parties. Communities saw the cooperatives as community-owned, not affiliated with any particular party or policies of national governments during the difficult market transition in Poland.
- The cooperatives advanced rapid community and business development. As one leader said, the cooperatives were the “foundation for everything else.”
- The cooperatives continue to grow and provide superior service at less cost. As an example of their attentiveness to member-owners, both cooperatives early on and down to the present provide a level of free service as a major membership benefit that provides a sense of customer ownership. (Non-members must pay for all calls within the local communities.)

## **D. Conclusions**

Reflecting on observations made and lessons learned in the course of this case study, NTCA has distilled three overarching principles that can guide those working to create successful telecommunications cooperatives/community-based systems:

1. *Promote policy and legal/regulatory environments that are hospitable to universal access, are technology-neutral, and allow for cooperative business models in providing telecommunications services.*

This may involve specialized technical assistance in such areas as the development/implementation of telecom cooperative legislation/ regulations, interconnection agreements, and national rural service fund arrangements.

2. *Changing telecommunications technology and varying business conditions mean that no single model of cooperative development works in all cases.*

Different models for cooperative/community-based telecommunications systems and resources should be explored, developed and implemented. In addition to variants of U.S.-style cooperatives (as in Poland), other approaches may include (a) second-level cooperatives in which businesses and communities are member-owners; (b) community-based, single use (e.g., business-oriented) telecenters; and (c) mixed-use community-based telecenters (e.g., that provide business-oriented services and whose resources are also available to address other community needs, such as health).

3. *Provide training, and visits to third-country or U.S. telecommunications cooperatives and facilities.*

In this manner, key policy-makers, regulators, and business and community leaders are afforded hands-on demonstrations of how successful universal access programs and telecommunications cooperatives are designed and run.

## PART IV ~ FINANCIAL ANALYSIS

The data shown on these financial statements (Appendix 2) were extracted from yearly financial statements prepared by the WIST Telecommunications Cooperative, translated into English and reconfigured for the OCDC standard formats used in CDP-sponsored case studies. Analysis provided here applies solely to WIST, as similar documentation was not available for the Tyczyn Telecommunications Cooperative.

During the post-Soviet period of the 1990s, the accounting profession was evolving in Poland and other countries within the former Soviet realm. The unsettled nature of accounting, which was quite different under a command economy than for a free-market economy, no doubt speaks to some of the difficulties that NTCA encountered in understanding the financial statements that WIST so kindly provided to us. For example, during the period under review, approximately six different standard forms were used for balance sheet accounting.

### A. Operating Statement

Historical analysis is hampered by the fact that for the four years 1995-1998, specific line items for many expenses are not provided. Rather, a single large entry covers cost of goods sold, personnel expense, amortization, contracted services, commissions, and other variable and fixed costs.

In broad strokes, it can be observed that operating income increased steadily over the course of the eight years 1994-2002, ranging from a 12% to 38% increase over the prior year, with the exception of a marked slowdown to a 4% growth rate in 1999. Overall, operating income increased an average of 24% year to year from 1994 to 2002, and at an average annual rate of 31% from 2000-2002.

#### *Increase in Operating Income*

	1994	1995	1996	1997	1998	1999	2000	2001	2002
Operating Income	\$259,253	\$321,313	\$358,507	\$468,510	\$612,100	\$638,259	\$883,371	\$1,110,299	\$1,435,196
Increase over previous year		\$62,060	\$37,194	\$110,003	\$143,590	\$26,159	\$245,112	\$226,928	\$324,897
Percent increase over previous year		24%	12%	31%	31%	4%	38%	26%	29%
Average annual increase 1995-2002									24%
Average annual increase 2000-2002									31%

Despite robust sales, however, margins were strikingly modest, fluctuating year to year within the \$18,000 to \$48,000 range. This surprising result is illuminated in greater detail by ratio analysis, below.

### B. Balance Sheet

The most striking feature of the historical series is the chiasmus that occurs during the period 1997-1998-1999, which centers on 1998 when memberships disappear, and are mingled with that year's entry for accumulated operating margins. In the preceding year (1997), memberships were small relative to accumulated operating margins; in the

following year (1999) memberships were large relative to accumulated operating margins.

Leading up to this 1998 event: in the 1994 statement, memberships and accumulated operating margins were recorded at similar levels (about \$160,000 and \$170,000, respectively). Over the next four years, however, the two grew at divergent rates. Memberships grew a total of 52%, while accumulated operating margins built by over 640%. How this happened cannot be analyzed with the information available, as the increases in accumulated operating margins are not fully explained by feeding in current-year operating margins.

Coming out of 1998, it appears that the entries for memberships and for accumulated operating margins were essentially switched. In 1999 and subsequent years, memberships represent by far the larger value, compared to accumulated operating margins. Possibly tax considerations were involved in this reclassification of liabilities (NTCA learned that Polish cooperatives are taxed at the same rates in all categories as any for-profit business entity).

### **C. Ratio Analysis**

Given the imprecise nature of some expense classifications 1995-1998, and the reclassification of memberships and accumulated operating margins in 1998, ratio analysis is not likely to be useful for years prior to 1999. Reviewing the last four years, then, 1999-2002, the following observations can be made:

#### Liquidity

In all respects except the interest coverage ratio, WIST demonstrates an impressive ability to generate liquid funds.

#### Solvency

The degree of financial leverage, and conversely the solvency of the firm, is strikingly low, indicating a very high degree of leeway for capital expansion.

#### Profitability

Here the indicators are quite surprisingly low. WIST leadership indicated the firm has an objective of keeping margins low, and member value high, and in this they appear to have succeeded. Since WIST is not publicly traded, there is no incentive to maintain high margins, and the tax regime appears to encourage the sheltering of revenue.

## **Appendix I WIST Milestones**

July 23, 1991	WIST founded by 15 members from four <i>gminas</i> . Draft articles of associations are presented at founders' meeting.
July 30, 1991	2nd founders meeting discusses by-laws, which were unanimously approved with amendments. A three person provisional board of directors is elected with Tadeusz Sliz as president.
August 5, 1991	WIST cooperative registers with courts.
August 10, 1991	Nortel DMS-10 is delivered – WIST accepts responsibility for losses in transit, installation, and building improvements with assistance from Nortel U.S. specialists for testing and start up.
October 11, 1991	Ministry of Telecommunications issues license that allows WIST to use of DMS 10.
November 10, 1991	With 14 members present, cooperative agrees to incur debt of \$270,000, leases a line from TPSA in Rzeszow, set wages of manager and agrees to location of offices.
January 17, 1992	DMS 10 takes over telephone service from TPSA in Laka.
February 22, 1992	Cooperative files tax obligations with initial revenues to begin March 1, 1992 from members based on cooperative law and articles of association.
March 14, 1992	First General Membership Meeting in which earlier activities presented and motions concur with actions of founding meetings and provisional board. A 15-member board of directors is elected representing <i>gminas</i> and villages.
March 30, 1992	Officers of Board are elected and three committees formed for audit, operations and investments. <i>Gminas</i> and villages agree to join cooperative based on bilateral contracts.
July 1992	Contract is signed for additional telephone equipment to be financed with loan from European Fund for the Development of Rural Areas in Poland. Loan funds line extensions, cable and batteries for concentrators.
December 31, 1992	During previous year, problems include lack of strong organization and technical supervision, unsatisfactory cooperation from TPSA

with delays in signing contracts, and poor connections on local lines due to unsatisfactory support from TPSA employees.

Thanks are conveyed to Deputy Speaker of the Senate, Jozef Sliz who initiated idea of forming a cooperative, to Vice Governor Jan Tomaka who helped with obtaining investments, and NTCA for providing computers, financing ESL in English, a course on operating DMS-10 switch, and general advice, consultations and seminars on operating a cooperative telecom. End of year financial report of audit committee was verified and accepted by board.

July 4, 1993      2<sup>nd</sup> General Membership Meeting held in which WIST activities and plans were presented. During 1992, cooperative has 770 telephone subscribers including 160 new ones during 1992. Plans are presented to buy three concentrators for three towns and begin extending lines to them. The Nortel exchange is upgraded to accommodate new subscribers.

July 24, 1994      3<sup>rd</sup> General Membership Meeting held including receiving the annual report for 1993 which notes that there are now 2,010 subscribers with 960 added in 1993. At the end of 1993, cooperative property is valued at \$1.3 million including the Nortel central switch, three concentrators, optical lines and telephone distribution networks.

Difficulties encountered in 1993 include: (1) unfavorable contract with TPSA in which WIST is charged 97.2% of international calls and 100% for operator managed traffic, and (2) authorities do not permit two *gminas* (Sokolow Maloposki and Kamien) to joint the cooperative for telephone service.

June 18, 1995      4<sup>th</sup> General Membership Meeting accepts report on 1994 activities. Highlights include: purchase of 3 reducers in order to increase number of subscribers, and new contract signed with TPSA with more favorable terms in which the cooperative is charged 22% for long distance calls, and 92% of TPSA operator assisted calls. Cooperative is worth \$1.7 million in fixed assets and \$240,000 in share capital, which increased by 26.4% through taking over shares from six *gminas*. Financial report accepted from audit committee.

Elections are held with 15 members approved for the Board of Directors (elections held every 3 years).

June 11, 1996      5<sup>th</sup> General Membership Meeting notes expansion of network with 2,341 subscribers as of the end of 1995, successful permits to

- operate in three more *gminas* and construction of networks in four villages. A decision was made not to increase phone rates.
- June 22, 1997 6<sup>th</sup> General Membership Meeting lists achievements in 1996 as renovation of building for telephone central switches, purchase of an additional DMS 10 and major expansion into new service areas.
- June 28, 1998 7<sup>th</sup> General Membership Meeting at which board reports on expansion and agrees to the major renovation of a headquarters' building. Future plans call for activating a digital transmission line to TPSA, and purchasing new smaller switches for various towns. The board is charged with improving billing services to subscribers, educating subscribers on extras services from digital exchanges (e.g. call waiting) and begin to provide Internet access.
- June 27, 1999 8<sup>th</sup> General Membership Meeting at which board reports on installation of optical cable which expands service, the purchase of another switch for connecting new subscribers, opening of a customer service center, and installation of computer network for cooperative employees. At this point, cooperative operates two DMS 10 switches, 3 concentrators, 3 smaller switches and owns two buildings. The board is charged with popularizing Internet uses, installing a public phone at the train station and expansion of the overall network. A NTCA Ukraine delegation participates in the meeting.
- May 13, 2000 9<sup>th</sup> General Membership Meeting, which was attended by NTCA staff and manager of West Kentucky Rural Telephone Cooperative as well as seven Ukrainians who are participating in NTCA project there. During 1999, the cooperative activates its Internet service, purchases two switches (DMS-10 & DGT) and reaches another 1,000 subscribers. Its net worth is approaching \$2 million including 4 DMS 10 switches, 3 concentrators, 5 DGT smaller switches, 57 km of optical cable, locate networks and two buildings with 27 employees. The board reports its focus on the coming year as continuing to modernize the network and continued growth.
- March 31, 2001 10<sup>th</sup> General Membership Meeting again attended by representatives from Ukraine and potential new villages interested in switching to their services. The meeting notes the death of Jozef Slisz, former deputy in the Senate and a strong supporter of the cooperative. Key events in 2000 are activation of the new central switches, renovation of buildings for the equipment, expansion to additional villages, and purchase of a new headquarters' building. Net worth is now over \$3 million and the cooperative generated

about \$200,000 in profits. Eleven members are elected to the Board of Directors.

April 14, 2002

11<sup>th</sup> General Membership Meeting in which it was reported that the cooperative has activated its new optical cable, extends service to the new regional airport where a SDA (small switch) is installed and switches over a number of new subscribers from TPSA. Net worth is now nearly \$4 million with a profit of \$35,000 in 2001.