

Case Study 1

The Cooperative Model: The Cases of WIST and Tyczyn in Poland

National Telecommunications Cooperative Association

Report Summary

In 1989, telephone density in rural areas of Poland was about 2.4 phones per 100. This situation hindered economic development and was a serious obstacle to democratic transformations. In 1990, national democratic elections gave rise to a set of mostly young, energetic local leaders, motivated to respond to community needs. The National Telecommunications Cooperative Association (NTCA) encouraged the Polish government to enable *village telephone committees* to set rural telephone systems. Up to 30% of the funding was provided by donors, with village committees securing the remaining 70% both in cash and in-kind contributions.

Thus, with funding from USAID, two telecommunications cooperatives were established in southeastern Poland. Village telephone committees and local mayors formed the *WIST* and *Tyczyn Telecommunications Cooperatives*, near the Ukrainian border. With financing from Nortel for central DMS-10 rural switches, they organised self-help construction of lines, buildings and other facilities.

WIST and Tyczyn have since added new services, including Internet access, plan to introduce broadband for remote areas and cable TV, and have evolved into very successful enterprises offering better and cheaper services than their investor-led local counterparts. They developed the first telephone books in Poland, including emergency numbers and yellow pages, and provide access to emergency services such as police and ambulance. Their telecommunications services enhance the functioning of public institutions such as mayors' offices, churches, schools and social clubs. The cooperatives support significant business development, helping to attract new and growing enterprises that require high-quality communications. Businesses customers of the telephone cooperatives operate more efficiently and are able to communicate readily with employees, suppliers and customers. Most important, they have supported and acted as a catalyst for non-telecommunications development in their respective communities, including the launch of several highly successful cooperative enterprises, and the creation of a local authority association to promote local development.

Rural Telephony Cooperatives in Poland: WIST and Tyczyn

While WIST and Tyczyn have much in common, WIST is geographically more extensive 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 led by a four-times elected mayor while WIST leadership tends to come more from its original and on-going manager. In general, WIST is committed to the cooperative way of running its business, while Tyczyn places more emphasis on cooperative methodologies as part of broad-based community development.

Key factors in their success included the context of democratic reforms, the high level of demand, the willingness and capacity (though modest) of the local population to pay for service, the presence of vital technical assistance, the success of local authorities in securing limited initial funds, the existence of local telephony committees, and a somewhat benign and flexible policy environment.

Obstacles included the limited experience with the concept or practice of local rural telephony, the difficulty in identifying and deploying external support volunteers, anti-competitive policies of the main provider, and an initial lack of motivation from the community. The absence of tax incentives, and the reluctance both of the Polish government and external donors to promote the model more widely – focused as they were on commercial approaches – were significant in limiting the extension of the model which might otherwise have gained wide popularity. Nevertheless the prospects for both cooperatives are extremely positive, and steady expansion is likely to continue.

The main lessons emerging are that the cooperative approach does help to solve development problems, but services must be affordable, and the community must be able to afford them; a favourable legal environment is essential for the cooperative business model to gain a foothold; and training and capacity building is needed for officials, politicians as well as local promoters whose appreciation of the concept, potential benefits and policy, technical and legal issues surrounding telecom cooperatives is essential. Finally, the Polish example does not offer a universal solution, and each situation must be examined in its own right.

Summary Features: Information as of end of November, 2004:

Characteristics	WIST	Tyczyn
Form of business	Legal cooperative under 1982 law	Same
Access lines	9,100	9,500
Members	8,279	6,749
Voting	One member/one vote	Same
Form of governance	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.
General Assembly	Meets annually. Elects Board of Directors every 3 years.	Meets annually. Elects Board of Directors every 5 years
Attendance at annual meetings	About 90 percent of elected representatives	Nearly all representatives
Elections	16-17 candidates nominated from floor at annual meetings	15 to 20 candidates also nominated from floor
Board of Directors	13 directors of which 2 are women	11 directors who are all male; chairman is mayor of local <i>gmina</i>
Membership meetings	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)
Audit committee	Only committee on board	Same
Frequency of meetings	Quarterly	Same
Number of employees	37 (outsourcing technical services)	50 (20 of which are technical staff)
Hook up fee	50zl per access line	50zl during "sales" and usually 300zl
Membership	10 shares @ 20zl = 200zl	900zl for residents; 5,000zl for businesses
Membership education	At winter meetings of representational groups; no publications	Similar
Collection system	Mostly door to door (only 200 bills posted in)	Similar
Local costs of calls within cooperative (other set by interconnection agreement)	Free calls for first 40 impulses for members only	All local calls free with cooperative membership
Taxes (no tax advantage for cooperatives)	19% income tax	Same
Profitable	With 4 years	Same

1. Summary description¹

1.1. Services Offered

WIST and Tyczyn are legal cooperatives registered under a 1982 law. They offer an array of services to their respective communities that are better and cheaper than those of commercial competitors, i.e. private telecom companies or the national operator Telekomunikacja Polska (TP S.A.). They offer both basic and advanced services.

Tables below indicate services and charges as of the year 2003, with figures for WIST and Tyczyn (figures for basic services only).

Table 1 – The Tyczyn Cooperative Basic services and rates

Service	Zloty	US \$
Cooperative membership	200*	64
Member Fee for Basic Service (monthly)	20	6.4
Non-Member Fee for Basic Service (monthly)	37	12
Additional Line of Service (monthly)	10	3.2
Reconnection	20	6.4
Itemised Billing (monthly)	3**	1
Local Traffic (per pulse)	0.29	0.09
Long Distance Traffic (per pulse)	0.29	0.09
International Traffic (per pulse)	0.29	0.09
Repairs and maintenance	free	

* 361 with hook-up fee; ** anticipated changes in legislation will remove any fees for itemised billing

WIST provides telecommunications services to 933 businesses, including a large regional dairy cooperative, a major sausage plant and the agricultural cooperative bank. It also serves a new regional airport in Rzeszow. WIST clients include food service firms, furniture manufactures, restaurants, shops, home improvement companies, a radio station, a large dance hall, the new swimming complex and many public sector organizations.

The Tyczyn cooperative serves about 445 private businesses including 20 cooperatives. Most of its clients are village based supply and marketing cooperatives. However, there are also several large entities including a bottling plant and an agricultural bank cooperative. Among Tyczyn customers are construction companies, metal and pumping industries and restaurants.

Table 2 – The WIST Cooperative: Advanced services and rates

Service	Zloty	US \$
Dial-Up Internet:		
- Basic: 50 hrs (monthly)	30	9.6
- Standard: 80 hrs (monthly)	40	12.8
- ISDN Connection: Unlimited Usage (monthly)	100	32
Digital Subscriber Line (DSL) Broadband:		
- Installation	100*	32
- Basic: 128 kbit/s (monthly)	65	20.8
- Standard: 256 kbit/s (monthly)	120	38.4
- Business: 512 kbit/s (monthly)	250	80

* for Basic and Standard packages; 500 zl for the Business package.

Table 3 – The Tyczyn Cooperative Basic services and rates

Service	Zloty	US \$
Cooperative membership	900*	288
Member Fee for Basic Service (monthly)	36	11.5
Non-Member Fee for Basic Service (monthly)	30	9.6
Additional Line of Service (monthly)	1**	
Repairs and maintenance	Free	

* + 10 zl. subscription fee; ** for members and their families; 50 zl. for others

1.2 Structures and Participation

The cooperatives, with the technical assistance of the NTCA, adopted management structures similar to those of U.S. rural telecommunication companies. Bylaws provide for a cooperative structure that consists of an Assembly of Representatives, a Board of Directors, and a three person Management Team and a Manager.

WIST and Tyczyn are fully democratically controlled, with one member, one vote. The Assembly of Representatives wields ultimate control of governance and holds hotly contested democratic elections for the Board of Directors. Local member assemblies in turn elect the members of the Assembly of Representatives, to speak and act for them at annual meetings.

The emergence of such democratic structures is all the more remarkable since local governments contributed up to 30% of the system costs and, at one cooperative, business membership is substantially higher than local residents.

1.3 Contribution to the Community

WIST is firmly committed to the cooperative way of doing business, and maintains a strong community ethos. It makes major contributions to its community, including grants to local sports and other clubs, provides low rent space in its building to the local credit union, and invests in restoration of a historic building in the community.

Beyond providing telephone service, the Tyczyn cooperative has spurred the creation of a regional development association of *gminas* (a county level of local government) within its service area. This association has developed a grassroots organisation similar to the cooperatives, to provide wastewater treatment and establish a large drinking water bottling plant and delivery enterprise employing about 400, which also produces and delivers fruit juices and bread. This community development programme aims to bring jobs to this low income, subsistence-farming area with a rate of unemployment of about 40 percent (2003). The "Ourselves for Ourselves" strategy is based on the involvement and motivation of local communities.

1.4 Basic Characteristics and Teledensity

The demographic and geographic profiles of the two differ significantly.

WIST is more extensive geographically and mostly suburban, whereas Tyczyn is more compact and rural. The area served by WIST includes some 6,000 residents, stretching along a major highway running north-south and neighbouring Rzeszow, centre of the region. The area of Tyczyn has a population of 40,000 (with half of the population served by the cooperative). The Tyczyn service area has no major towns, is completely rural and is located southeast of Rzeszow.

However, at the time of the launch of WIST and Tyczyn, they had in common very poor telecommunication services.

In 1992, Polish rural residents had fewer than 2.4 phones per 100. There were 41,324 public telephones, of which less than 4.5% operated 24-hours a day. About 7,000 of the 55,000 villages had no telephone service at all. Teledensity in rural areas was four times lower than in urban areas. Most telephone installations were to be found only in mayoral premises and post offices, comprised obsolete manual systems and provided access during limited hours.

All telephone service in Poland was delivered by the Telekomunikacja Polska S.A. (TP S.A.), the state-owned and operated monopoly, which was unable to reach underserved rural areas. TP S.A. controlled all telex, postal and telephone services, including telephone service provided by the village committees. Compared to those offered later by WIST and Tyczyn, its services were more expensive and less efficient.

Telecommunications service in WIST and Tyczyn was characterised by poor reception, limited infrastructure resulting in network overloads in high usage periods, and broken

or failed connections. There was limited choice in the selection of products and services, and little price flexibility. Moreover, because of the lack of “gateway” switches, international calls had to be patched through Sweden.

2. Origins and launch of the Cooperatives

In 1989, rural telephone expansion became a high priority. A national initiative was launched to support self-help efforts by village residents to obtain telephone service. The target group was underserved, rural communities throughout Poland. Hundreds of telephone committees were formed and could access financial support from the Balazs Social Trust Fund (launched by the Minister for Rural Life Quality, Artur Balazs) specifically established to support rural telephony. The goal was to provide telephone service to 20,000 rural residents.

The Fund provided telephone committees with financial support from 1989 to 1991. Funding was controlled directly by the office of the Prime Minister, and came from the sale of agricultural commodities donated by the European Union and Canada. When the availability of funding was announced publicly, hundreds of villages from throughout rural Poland applied. The village committees were required to raise 70% of the costs (in-kind and cash) for central switches, cables, house wiring and handsets. Rural residents were well used to paying high fees for telephone service (for example, US\$500 to US\$1,000 for line installation); in villages, residents were accustomed to paying for line extension to the home, internal wiring and the premises equipment. It was thus possible to raise significant start up costs through membership and hook-up fees.

By September 1990, about 1,500 applications had been submitted, and about 20%, or 300, were funded.

In two rural communities, north and south of the regional capital of Rzeszow, located in South-eastern Poland near the Ukrainian border, dozens of village telephone committees appeared and initiated the setting up of two telephone cooperatives: Spółdzielnia Telekomunikacyjna WIST and Okregowa Spółdzielnia Telefoniczna w Tyczynie (Tyczyn). WIST and Tyczyn were formed through uniting village level telephone committees and local governments; they led the way in this first wave of competition, and secured the first licenses. Based on an assessment of local capacity, commitment and prospects of success, NTCA selected WIST and Tyczyn as beneficiaries of technical assistance for telephony cooperative development.

2.1 Role of the community: Ownership, Financing, and Control

Both WIST and Tyczyn were created through the leadership of locally elected mayors in the service area of the *gminas*. They provided the impetus to the cooperatives 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 TP S.A. The self-help model of telephone committees providing cash and in-kind services helped the cooperatives to quickly build out their systems.

Moreover, local leaders of Rzeszow’s rural areas were not keen on the idea that the telephone systems they were building would revert to TP S.A. They wanted instead the

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systems to be locally owned, to capture local investment and benefit local subscribers. They were familiar with agricultural cooperatives and saw the advantages of owning their own telephone systems, rather than turning their self-help efforts over to the monopoly. Furthermore local governments had the authority to tax and in order to develop the core systems, including switches and initial lines.

2.2 Sourcing Technical, Managerial and Legal Expertise

NTCA received a grant of under US\$ 1 million from USAID, over a period of six years, to provide technical assistance. With this relatively modest figure, training was offered at several levels.

Key Polish telecommunications policy makers and implementers in the Ministry of Telecommunications and TP S.A. were trained in the operation and advantages of a multi-provider system, especially on issues of interconnection, revenue sharing and anti-competitive practices. Later, training was provided to the managers of the cooperatives. Twenty volunteers from NTCA members 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. A site survey was performed, and assistance in design, construction, operations and developing technical training manuals was provided.

In addition to on-site trainings, community and telecom officials could observe an effective cooperative model work during their visits to the United States – no such models existed in Europe in the telecoms sector. NTCA assistance also helped to create cooperative arrangements between rural communities in Poland and USA, and high-quality equipment necessary for operation was obtained from Nortel (a US manufacturer, which donated some initial equipment to WIST in accordance with its strategy to enter Polish market).

2.3 Sourcing Initial Investment

With the cooperatives legally up and running, WIST secured initial capital through loans from the *European Fund for the Development of Rural Areas* and the *Bank Gospodarki Żywnościowej* (one of the largest banks in Poland), needed for its basic system in *Laka* to finance a central switch, four concentrators and four lines. It also secured credit from the 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.

2.4 Regulatory Issues

WIST and Tyczyn were pioneers in negotiating key operational and industry issues, not the least of which was interconnection and revenue sharing arrangements with TP S.A. This was a precedent in the framework of Polish legislation.

Soon after training, legislative changes were enacted that made local ownership possible. With the passage of the Telecommunications Act of 1990, TP S.A. was privatized, its monopoly over local service provision was ended and local service competition by local, private operators was authorized. TP S.A. 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 TP S.A. 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, defined localities and by 1995, 23 new licensees had been issued. As a result, telephone service was extended to the least developed and under-served parts of TP S.A. territories: small towns and villages.

Table 4 – **WIST Start-up Investment Costs - Year One**

	US \$
DMS 10 Mainframe Central Switch (Nortel)	270,000
Delivery and Installation of Switch (POLMAiK)	11,066
Property Lease	3,927
Additional Nortel Equipment (Panels for DMS 10)	380,000
Additional Equipment and Services (concentrators, optical cables, power supply units, renovations)	544,000
	1,208,99

The Telecommunications Act also separated TP S.A. from the postal service and set out basic rules for telecommunications operations (for example, tariffs, types of equipment, fees and licenses). It also established the right of operators other than TP S.A. to offer telecommunication services and to interconnect with TP S.A. A Government Plenipotentiary for Rural Telecommunications was appointed and placed in the Ministry of Telecommunications to provide on-going support to rural telecommunications. Being supportive of the local telephony idea from the beginning, the Polish government later placed no obstacles in the way of local telephone cooperatives.

2.5 Choice of the Cooperative Business Model

The familiarity of the local community with the cooperative model was a factor in its selection. The agricultural region of Rzeszow already had a history of independent, member controlled cooperatives before World War Two. During consultations with technical advisors these leaders agreed to promote rural telephone service through telephone cooperatives.

It was thus already clear that a cooperative could successfully exist and compete with a TP S.A. monopoly, as long as it provided a superior quality and broad range of services. These goals could be achieved only using modern digital equipment and employing modern technologies. Of course, in order for the cooperatives to become financially sustainable, services had to be affordable to the local population. Cooperative activists were confident that residents of *gminas* could pay their proportion of the installation costs and member fees because they were used to pay high fees for telephone services to TP S.A.

2.6 Management Structure and Community Participation

The cooperatives' Board of Directors is responsible for regular planning of business activities. At annual meetings, it presents to members the accomplishments of the previous year, and plans for the next year are discussed and approved. The Board controls activities of the cooperative and performs the following duties:

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1. Appoints and dismisses the management board and its chairman;
2. Supervises the cooperative;
3. Approves actions concerning property, and membership in other organizations;
4. Makes organizational changes in the cooperative;
5. Processes member complaints;
6. Sets wages of employees.

A three person Management Team appointed by the board = implements all activities not reserved for the Board or Assembly. It prepares business plans, manages cooperative operations, secures loans and credits, prepares annual reports, and liaises with local authorities and others.

But the decision making process within the two cooperatives is deeply democratic.

Membership, and hence the right to vote, is open to all subscribers, though not all avail themselves of it (Tyczyn charges more for business members than for residents, but each have the same voting right). In each cooperative, about 1,000 members participate at least twice annually in numerous local assemblies (70 for WYST and 28 for Tyczyn). These elect representatives to the cooperative's annual Representative Assembly meetings, which in turn take major decisions and elects board members nominated from the floor

The Representative Assembly is thus the highest level of governance. The Assembly determines development priorities, accepts or rejects annual reports, votes in the Board of Directors and decides on the distribution, if any, of surplus or how to cover losses.

Table 5 – WIST: Fixed Assets

	Fixed assets, \$US	Increase over previous year
1994	765,696	
1995	1,080,596	41%
1996	1,463,461	35%
1997	1,724,869	18%
1998	1,890,430	10%
1999	1,888,902	0%
2000	2,096,669	11%
2001	2,628,915	25%
2002	2,687,817	2%
2003	3,839,262	43%

3. Ongoing evolution

3.1 Evolution of the Business Model

Both Tyczyn and WIST showed substantial growth during their first decade, many subscribers switching from TP S.A. to the cooperatives. Subscribers can freely choose their service provider - (there are no regulations requiring them to subscribe to a specific provider) The cooperatives offered better and cheaper service so subscribers migrated to them.

The best data is available for WIST, though the figures for Tyczyn are comparable. The fol-

lowing tables and figures track substantial growth in fixed assets, workforce, and labour productivity in WIST.

Fixed assets grew steadily during the early years of operation, with at least 10 percent growth each year from 1994 to 1998. WIST achieved an annual average growth in fixed assets over the nine years of a substantial 20.55%. In 2003, it made a substantial investment in a new building, giving it two large well equipped buildings, enhancing productivity and offering good working conditions

Since it began operating, the WIST Cooperative achieved steady revenue growth, added subscriber lines every year, and built up its force. Staff turnover is low. WIST has successfully increased the number of its employees from 10 to 37. Marginal rate of return for each new employee rose from \$23,640 to \$46,000 between 1999 and 2004. During this period, WIST continued to build out its local network and reached an employee to subscriber line ratio (246:1) far better than the national average (159:1). Now, WIST is in a period of rapid and sustained growth, with no sign of productivity loss in the near future.

The table below demonstrates changes in the number of subscribers and employees for WIST over the period from 1992 to 2004, showing also the number of TP S.A. subscribers in the WIST catchment area.

Table 6 – WIST: Employees, Subscriber lines, and Revenue

	Employees	Subscriber lines	Revenue (\$US)
1994	10	2185	259,253
1995	11	2228	321,313
1996	13	2997	358,507
1997	15.5	4000	468,510
1998	21.75	4482	612,100
1999	27	5564	638,259
2000	30	6308	883,371
2001	31	7008	1,110,299
2002	N/A	7928	1,435,196
2003	34	8300	1,688,959
2004	37	9100	1,701,815

Table 7 – WIST: Subscribers, New, Total and TP.S.A

Year	New subscribers	Total subscribers	TP S.A. subscribers
1992	160	770	-
1993	954	1820	96
1994	365	2185	115
1995	43	2228	113
1996	1520	2997	864
1997	1040	4000	864
1998	482	4482	860
1999	1082	5564	770
2000	744	6308	456
2001	700	7008	245
2002	920	7928	153
2003	N/A	N/A	N/A
2004	440	9100	112

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Table 8 – WIST Sources of Revenue (Jan - October 2004)

Source	Zloty	US Dollars
Member fees	1,632,527.13	522,542.44
Sales of Telecom services	15,095.35	4,831.75
Sales of Internet services	653,012.70	209,018
Local Traffic	492,360.84	157,595.81
Long Distance Traffic	1,311,423.79	419,763.07
International Traffic	259,579.29	83,086.646
Regional Traffic	825,679.30	264,285.03
Other Revenue	127,135.02	40,693.623
Total revenue	5,316,813.42*	1,701,815.9

*zl.6.4 million project to the end of 2004

3.2 Sustainability

WIST receives its revenue from a variety of sources:

Operating income of WIST increased steadily from 1994 through 2003 12% to 38% increase over the prior year, with the exception of a marked hold up to a 4% growth rate in 1999. In general, operating income increased an average of 24% from 1994 through 2003, and an average annual rate of 28% from 2000 through 2003.

Despite strong sales, however, margins were strikingly modest, changing year to year within the \$18,000 to \$48,000 range. During the period from 1999 to 2003 WIST was really able to generate liquid funds. However, degree of financial leverage, and solvency of WIST, is remarkably low, indicating a very high degree of flexibility for capital expansion. Profitability indicators are quite low. WIST leadership indicated an objective of keeping margins low, and member value high, and in this the cooperative has succeeded. Since WIST is not publicly traded, there is no reason to maintain high margins, and the tax regime seems to encourage sheltering of revenue.

3.3 Satisfying Ongoing Finance

Both cooperatives received external financing at initial stages of their development. Having achieved self-sustaining growth from member fees and sale of services, WIST and Tyczyn can now attract external financing in the form of bank credits. From the beginning of business and through the year 2004, WIST has received total credits of some €3.6 million (about US\$4.8). All credits were obtained through the Polish banks, mostly in national currency, and all credits are routinely fully paid off. The credit situation at Tyczyn is similar.

The cooperatives were also supported through EU's Phare Programmes and in 2002,

Tyczyn's performance was somewhat similar.

Both cooperatives deploy traditional wire-based technologies and despite worldwide progress in wireless deployment, feel that VoIP and WiFi would not be popular in their communities in the immediate future. WIST and Tyczyn believe further improvement is needed before they can guarantee high quality of service, while still offering a cheaper service. Given major recent wire-based investments to their existing networks, both plan to expand their cable networks rather than build up satellite or other coverage.

Tyczyn received €50,000 (US\$67,000) for transmission equipment. As Poland has joined the European Union, local businesses can apply for money from the European structural development funds. WIST intends to apply for €300,000 (US\$400,000) from the fund in August, 2005. Under current regulations, Tyczyn is not qualified to receive financing from the structural funds.

Neither cooperative has published business plans, but they have relied on NTCA and local consultants in the development of each phase of the business. They prepare “working plans” that are project specific, such as for upgrading their systems with Internet and introducing broad

band services. Each cooperative has invested in major facilities (e.g., the headquarters building for WIST cost €75,000/ US\$100,000) and new equipment, including the purchase of 11 DMS 10 Nortel switches from TP S.A. as well as smaller Israeli and Polish switches used for clusters of clients like the regional international airport.

3.4 Ancillary Community Development Activities.

The success of Tyczyn inspired the creation of the regional development association, which brings new jobs and helps local entrepreneurs adjust to new economic conditions following Poland’s membership in the EU. The association is designing and implementing pilot projects for sustainable development, with an emphasis on organic and sustainable farming that is environmentally sensitive.

The most successful community enterprise now, in addition to the telecommunications cooperative, is the earlier-mentioned regional drinking water plant, built through volunteer labour and serving 70,000 families. This central facility, along with its fleet of delivery trucks and ICT resources, is intended as 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.

Both cooperatives also sponsor community events such as sports and polka contests. In 2003, WIST donated €6,300 (US\$8,400) to the local community. In addition, computers replaced after planned renovations at the cooperative’s office have been given to local Internet cafés. Tyczyn also makes its contribution to local development, for instance offering local schools free use of Internet services provided by the cooperative.

Table 9 –WIST Growth in Operating Income

	Operating Income, Euro	Increase over previous year Euro	Percent Increase over previous year
1994	259,253		
1995	321,313	62,060	24
1996	358,507	37,194	12
1997	468,510	110,003	31
1998	612,100	143,590	31
1999	638,259	26,159	4
2000	883,371	245,112	38
2001	1,110,299	226,928	26
2002	1,435,196	324,897	29
2003	1,688,958	253,762	18

Telecommunication services are a major feature of the promotional materials used by the local mayors to attracting investments like the regional international airport.

3.5 Regulatory Developments

U.S. cooperative methodologies were successfully adapted to Polish conditions, resulting in by-laws and management and governance structures that reflect democratic values (despite an obsolete Polish cooperative law that gives most power to management, not owners). The Postal and Telecommunications Act of 1990 was successfully modified to create the new post of Plenipotentiary for Rural Telecommunications. But this was a limited achievement as the office has had high turnover, hampering advocacy for rural interests within the Ministry of Telecommunications.

In 1995, Polish telecommunications policy changed from serving individual *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 Łódź, Poznań, Kraków 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.

3.6 Cooperation between WIST and Tyczyn

WIST and Tyczyn shared their own experiences and sound business practices to overcome common obstacles in their work. At the beginning TP S.A.'s reluctance to cooperate was the main obstacle for the cooperatives. They advocated common solutions to pressing issues, such as restrictive regulations regarding sharing TP S.A. equipment and lines; obtaining financing; and difficulties in connecting their exchanges to the public telephone network.

Both have adopted similar positions on how to deal with the "point of connection" issue with TP S.A. in Rzeszow. Each cooperative lent construction equipment to the other. Tyczyn technicians helped WIST in all phases of installing the DMS 10 that had been purchased from TP S.A., (disassembly, transportation, assembly, and connection to the network and testing). Currently, the two cooperatives share billing services and produce joint telephone books.

3.7 Content Development

The telephone book jointly produced by WIST and Tyczyn includes subscribers of both cooperatives. It is the first book of that kind in Poland, has important local numbers (emergency etc.) and lists major events. This is a major and powerful communication tool for both members and community. Yellow pages are included.

4. Analysis and conclusions

4.1 The Benefits to the Community

A well-developed telecom infrastructure is critical for local economic development and

WIST and Tyczyn have brought this to their communities. . Households, businesses and public institutions now receive high-quality, low-cost telephone service, something TP S.A. had never been able to provide. In addition, both cooperatives work to empower and strengthen their communities in a variety of other ways.

In Tyczyn area, with 40% unemployment, the cooperative plays a vital role in supporting business development, and is a critical factor in attracting investments. Beyond providing telephone service, it resulted in a formal community planning organization to promote the region as a tourist location, organises collaborative activities within the community, and applies for national and international grants and commercial investments. It initiated a regional development association of gminas within its service area. Encouraged by Tyczyn's success, the association has developed grassroots structures similar to the cooperative's, has built a facility for wastewater treatment and established a large drinking water bottling plant and delivery enterprise, employing about 400, which also produces and delivers fruit juices and bread. Ten percent of bakery production is donated to local soup kitchens.

Unemployment in WIST area is much lower at about 12%, but the cooperative significantly adds to the area's attraction as a place to live and to locate business. It assisted the formation of a credit union and makes ongoing contribution to community development activities.

The two cooperatives were the first successful community owned enterprises in their villages. The cooperative approach demonstrates to the community the significant contributions that even low-income households and small businesses can make toward their own development. Participants can directly help themselves by stringing lines, wiring households and accomplishing various construction activities from erecting poles to renovating offices and equipment facilities.

While it is difficult to measure the economic impact of WIST and Tyczyn, leaders in both communities attribute their ability to mobilize their communities and to attract investment for business development directly to quality telecommunications services. The cooperative nature of the telecommunications enterprises, coming at an early time in Poland's post-Soviet history, proved to be liberating and stimulating to the communities. Other cooperative enterprises sprang up in Tyczyn specifically modelled on the telecommunications cooperative experience. In the WIST service area there developed a beneficial cooperative spirit among local government, citizens, and enterprises that has supported growth and improvement in the quality of life to this day.

4.2 Key Success Factors, and Obstacles Encountered

A number of factors stand out as central to the success of both WIST and Tyczyn cooperatives:

1. The timeliness of these initiatives was a critical factor. An initial impetus was given by the initiation of democratic reforms in rural areas and the enormous pent-up demand for quality telephone service.
2. Technical assistance and training, especially from the NTCA both in Poland and in

the US, were essential for the success of the cooperatives. Assistance in negotiating interconnection agreements proved particularly important. Before building their initial systems, cooperative leaders had no experience in establishing interconnection and revenue sharing arrangements with TP S.A. that are so critical to profitability and sustainability.

3. The availability of initial funds, and legal authorization of local mayors to secure those funds through grants, taxation and loans were vital.
4. Organising the local communities through village telephone committees was central to engaging and involving the people. It generated considerable value in terms of donated time and effort, motivating members and other investors of time and money in the enterprises.
5. Thanks to democratic reforms achieved, a favourable multi-provider policy environment was created in the region. This, combined with strong political leadership by local officials, helped raise capital, mobilize self-help labour and services, and overcome obstacles. These were key factors that triggered the cooperatives' success.

The main obstacles encountered were as follows:

The rural telecom sector in Poland had limited experience and no established principles or methodologies for development. Largely due to the lack of a cohesive, enabling legal and regulatory structure for telecommunications, there was a failure to achieve desired goals. 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 the lack of expertise. Overcoming these obstacles required thorough training and practical experience in the course of the cooperatives' activities.

1. Identification and deployment of volunteers was not easy. Matching skills to needs on a volunteer basis was difficult (e.g., those with requisite skills were often unavailable during operative timeframes), and many volunteers had little international experience. However, good management and volunteer oversight largely mitigated these issues.
2. Anti-competitive practices of TP S.A. were very difficult to overcome. Among other things, the monopoly refused to execute a mutually negotiated agreement for leasing its existing lines and equipment to WIST, and to issue terms for a pole attachment agreement. The matter was finally resolved after WIST attached its lines to TP S.A.'s poles, TP S.A. sued for their removal and the court ruled in favour of the cooperative.
3. The community initially displayed a reluctance to participate. At first, they were simply unaware of the benefits that membership in a telephone cooperative would bring and concerted community education activities were conducted. These, combined with the pent-up demand for service that the local monopoly had failed for years to provide, eventually persuaded the communities to actively engage.
4. The absence of tax incentives is a serious obstacle for the cooperative model in Poland. However, the potential does exist for communities to purchase less successful small independent systems and convert them into municipal or cooperative ownership. A cooperative of local *gminas* might offer a successful approach to this.

5. It proved impossible to convince senior Polish government officials to create a rural telecommunications revolving fund to replace the Balazs Social Trust Fund, which would have given a major boost to the replication of the model. The EU and other major donors were reluctant to provide funding for rural telecommunications, because their focus and priorities were driven by commercial interests. At that time international firms were strongly competing to enter the potentially large Polish telecommunications market, and this competition emphasized the more financially rewarding urban sector. As a result, only WIST and Tyczyn were created and the cooperative model was not spread into the rest of the Poland.

4.3 Prospects for the Future

The cooperatives are expected to grow through the expansion of profitable services, such as Internet access and broadband service, as by steadily increasing the subscriber base. WIST plans to increase its membership to 10,000 access lines from 9,100 (2003) by 2006. Its main growth strategy is to enlarge its service area by encouraging neighbouring *gminas* to join together by shifting services from TP S.A. In terms of more advanced services, WIST plans to provide service to inaccessible areas, introduce cable TV, install additional public telephones, and modernize its system, e.g. build a fibre optic network. Tyczyn plans to grow to 20,000 access lines in ten years (roughly doubling from the 2003 level of 9,500 lines), and to provide strong Internet coverage within three years.

In addition, growth is underway through geographic expansion into poorly served areas where TP S.A. is the provider. Given sunk costs in basic equipment, it is likely that the cooperatives will continue to provide substantial cost savings and value to their members. There seem to be no major competitive threats to their continued success, and the fact that TP S.A. and the Polish government have refrained from actively hindering the development of local telephone cooperatives is helpful. The last interconnection agreement of 2000 on sharing of revenues is more financially supportive of independent systems. TP S.A. has become more investor-oriented under ownership of France Telecom, focusing on higher profit areas such as major towns and urban centres and continuing to provide poor or deteriorating services to rural areas. This leaves a large market for independent rural providers such as Tyczyn and WIST. Hence, the cooperatives have good prospects to achieve their goals for growth.

4.4 Lessons Learned.

Several conclusions can be drawn from the activities and success of Polish telecommunications cooperatives.

1. The cooperative approach helps solve development problems. As a direct result, WIST and Tyczyn communities have launched new initiatives such as environment friendly production, recreation centres and socially important services. Unemployment in these regions has significantly decreased due to creation of new businesses and new jobs.
2. The services offered, initially basic telephony, must be affordable to residents and businesses in the communities. Put another way, the community must in the long term be in a position to support the cost of the services.

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3. To establish thriving cooperatives, a favourable legal environment must be created. Official policy should support and promote cooperative business models in providing telecommunications services.
4. Public officials, local and national political leaders should be provided with training and on-site visits. Policy makers should be made cognizant of all the benefits of multi-provider system and cooperative models.
5. Cooperative employees, managers and other staff, should be assisted both in legislative and technical issues, such as interconnection and revenue sharing agreements, and in start-up and on-going management and technical problems.
6. The Polish cooperative experience does not offer a universal solution for every rural community. Changing telecommunications technology and varying business conditions mean that no single model of cooperative development works in all cases. In this case local conditions stipulated particular project design and implementation strategy. WIST and Tyczyn were formed under favourable conditions such as the existence of village telephone committees, strong local and national political leadership, facilitating legal environment, adequate financing and technical external assistance. In each development situation, it is critical to carefully assess the conditions, and to deploy resources and strategy that respond to these. Different models of 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 are:

- Second-level cooperatives in which businesses and communities are member-owners;
- Community-based, single use (e.g., business-oriented) telecentres;
- Mixed-use community-based telecentres (e.g., that provide business-oriented services and whose resources are also available to address other community needs, such as health).

A few concluding words.

Finding the right people to devote their skills and energies to the enterprise is the single most important factor in the success of local telecommunication cooperatives. This principle applies to local economic development in general since motivated and active people, especially local residents interested in their own welfare, form the basis for success. "People are everything and money will be found".

¹This Report draws heavily on, and was inspired by, an NTCA Report of August 2003: Cooperative Development Case Studies: WIST and Tyczyn Telecommunications Cooperatives in Poland. See www.ntca.org