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Center for International Development
Local Environmental Management Project

**REPORT OF A FIELD TRIP TO POLAND
AND HUNGARY**

NOVEMBER, 1992



Research Triangle Institute
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Report of a Field Trip to Hungary and Poland

November 3 - 22, 1992

Local Environmental Management (LEM) Project

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PART I

Summary and Conclusions of Field Trip

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DECEMBER 18, 1992

SUMMARY OF FIELD TRIP TO HUNGARY AND POLAND

November 3 - November 22, 1992

FROM: William Sommers, Senior Institutional Analyst, RTI/LEM

Purpose: To meet with officials of municipalities in Hungary and Poland who are interested in participating in the Local Environmental Management (LEM) project and from these meetings to choose the LEM municipalities by December 1992.

Trip Participants: Alexi Panehal, Deputy Chief, AID/EUR/ENR; and Bill Sommers, Senior Institutional Analyst and Project Manager, RTI/LEM. In Hungary we were accompanied by Ferenc Melykuti, A.I.D. Project Assistant, on part of our field trip to Miskolc/Borsod County. In Poland we were accompanied on our field trip by Andrzej Pecikiewicz, Program Assistant, USAID/Poland. Ms. Panehal left the field trip in Poland on November 18 to return to Warsaw for a series of environmental program meetings.

Municipalities Interviewed: In Hungary we visited five municipalities and one water/wastewater company; in Poland we visited 13 municipalities. We also visited the Ministry of Environment and Regional Planning (MERP) in Hungary; in Poland, we met the voivodship staffs, including the Voivod, in Katowice and Wroclaw. We met and discussed the project with 66 people.

The municipalities visited were those that had responded favorably to proposals made during the first "reconnaissance trip" in September. In Hungary, MERP made some suggestions; we received others from Borsod County and from an activist at a nongovernmental organization (NGO). In Poland, Mr. Pecikiewicz sent out notices to the Katowice and Wroclaw voivodships, as well as to other environmental organizations, setting out the nature of the LEM project and asking for suggestions. He also asked them to define specific environmental problems faced by the interested municipalities.

The names of the municipalities visited are listed below:

HUNGARY

Gyor
Miskolc City
Miskolc City Water Company
Kazincbarcika
Sajoszentpeter
Edeleny
Ozd

POLAND

Wodzislaw Slaski
Czechowice-Dziedzice
Rydultowy
Miedzna
Ogrodzieniec
Namyslow
Ziebice
Krosnice
Dlugoleka
Katy Wroclawskie
Borow
Sw. Katarzyna
Nowa Sol

Criteria Used to Evaluate Municipalities: The criteria used by the team generally were those set out in our September trip report.

1. The municipalities had to have the will and enthusiasm to try to solve environmental problems at the local level.
2. There had to be evidence of both political leadership and administrative strength that could be relied upon for working out the project details within the context of the municipal operation.
3. The municipality had to know what it wanted to do and have (a) a "plan," either on paper or well articulated, on environmental problems; and (b) a set of priorities to guide that plan.
4. Both elected officials and residents had to show evidence of commitment—that is, the local community had to be willing to bear some of the cost burden to make particular projects financially feasible.

In addition, the problems had to be serious and based on a critical environmental need. Thus, for example, some of the smaller, more rural municipalities we visited in Poland were very interested in solving certain environmental problems. However, these problems were on a much smaller scale than the pressing needs of some other municipalities interviewed. The team also recognized that LEM has a limited budget and limited staffing. Only a few municipalities could be chosen within each country, no matter how many appeared to meet all elements of the selection criteria.

Field Trip Results and Choice of Participating Municipalities: The team took extensive notes during the trip (these notes comprise the remainder of the report) and held discussions at the conclusion of each meeting. Based on the notes and points raised during the discussions, the team reached a consensus on participating municipalities. As agreed upon, a meeting was held at

AID/EUR/ENR on December 4, 1992, to make the final choices. A preliminary draft proposal was prepared as a summary of the field trip findings and was sent to the meeting participants prior to the December 4 gathering.

Both the draft proposal and the final results that came from the December 4 meeting are attached and serve as the conclusion and findings of this trip report.

December 3, 1992

TO: Alexi Panehal, AID/EUR/ENR

FAX: 202-647-6962

FROM: Bill Sommers, RTI/LEM

In preparation for discussion on Friday afternoon I've worked out a rough draft suggestion for the municipalities in each country along with justification and arrangement into project packages. I've also appended a quick "by the step" suggestion for LEM project operations once the municipalities are chosen. Obviously, all this is for discussion purposes.

DRAFT PROPOSAL FOR SELECTION OF PARTICIPATING MUNICIPALITIES IN THE LOCAL ENVIRONMENTAL MANAGEMENT (LEM) PROJECT.

I. Hungary

We propose to select three municipalities and to work with a fourth municipality in concert with a study already in-process. Two municipalities have solid waste problems which include siting, management/operations planning and financial planning/funding proposal. We believe that Ozd and Edeleny can be done as a "package." Gyor is also a solid waste customer and we may be able to include it in the package; however, we should know more about T&D project so we can coordinate with it. Sajoszentpeter is hazardous waste and should be done separately.

a. City Selection:

1. Ozd, 47,000 (Solid Waste)
Edeleny 14,000 (Solid Waste)

Comment: Both cities are in Borsod County and have similar problems of siting landfill, constructing new one under best possible technology, setting up management systems including collection. Producing both a management operation and financial plan. Two cities could be developed in parallel using same technical assistance for both.

2. Sajoszentpeter, 14,000 (Hazardous Waste)

Comment: The request here is to determine the extent of the hazardous waste site, potential contamination and a management and finance plan for its control and/or elimination. This would require a very specialized, initial inquiry which would then determine what could be done; financial plan would then be predicated on the technical report.

3. Gyor (Solid Waste)

Comment: Assistance can be given to Gyor but it should be built upon the outcomes of the study now being conducted through the Trade and Development Grant. The first part of the study was a regional focus on solid

waste problems; the second was the report on Gyor proper which was completed in English and which is now being translated. We should contact the Washington office of T&D to see what more is going to be done and then arrange our assistance to compliment the T&D effort.

II. Poland

Our field visits reveal five cities in two "packages" with other cities that may be included indirectly through outreach based on progress achieved in the focused cities. All are in the waste water category but separated by type, approach and character. The first three cities, i.e. Ziebice, Sw. Katarzyna and Nowa Sol are cities that dump their untreated or partially treated effluent into the Olava and/or Oder River. All three need extensive modifications, extensions of their treatment plants plus collection systems and all have the impetus to do something. Ziebice and Sw. Katarzyna have direct involvement in the pollution of the Wroclaw water supply while Nowa Sol dumps directly into the Oder. These could be included as one package which would have both local, regional and national implications, particularly as a concentrated, demonstration project on the municipal efforts to clean up the Olava/Oder; it would also involve the Regional Watershed Management entities.

The second group of cities would be those of Miedzna and Namyslow.

These two cities have similar problems in waste water: trying to coordinate waste water treatment with the gmina center as well as with the outlying villages that form the whole of the gmina. Both cities are active and have done a lot of work on where they want to go and how to get there. Here, they would need technical review and advice on the application of various technologies to apply both to the gmina center and to the outlying villages. When applications have been decided upon, then a cost and financial analysis can be provided to devise a financial/funding plan.

As this second project moves along, then other gminas visited with similar problems can be brought in through outreach training and workshops to show what has been accomplished, the variant in applicable technologies and the costs, etc.

I. Cities:

Project A: Wastewater Treatment on the Olava/Oder

a. Ziebice (Woj Walbrzy) 20,000. Are under extreme pressure to expand, modernize plant to reduce pollution of Olava. Have already taken steps to seek tenders for the design of expanded, modernized treatment plant with help from the Olava Ecological Foundation. Estimated cost for basic work is about Zt 24 billion. Would need expertise to work with them to review details of expansion in conjunction with their chosen consultant, management plan and financial/funding plan. Are keenly interested in participating and willing to participate in costs.

b. Swieta Katarzyna (Woj Wroclaw) 12,000. Have gone a long way on their problems with preliminary design of central sewage treatment plant at Siechnice and Zerniki Wroclawskie; energetic and ready to move with high calibre staff. Very well presented details. Their sewage dumps into the Olava/Oder and needs to be corrected. Willing to participate in costs.

c. Nowa Sol (Woj Zielona Gora) 43,000. Very active, interested and progressive group who have done a lot of work on the planning for modernization of their waste water plant which now is limited, has only mechanical treatment and dumps into the Oder. Willing to participate and willing to share in costs. Need similar technical, management and financial assistance as two above. Appear to have very able technical staff in gmina.

Project B

a. Miedzna (Woj Katowice) 14,000. Very active, interested and well planned proposal for bringing solid waste collection, treatment to the gmina center and its 6 villages. Were well prepared in presentation and agreed to share costs. One of the best gminas visited on our trip. They need technical assistance on the application of current technology for waste water treatment to each of their villages, management study and finance/funding plan

b. Namyslow (Woj Opole) 11,000 in 32 villages. Very active, interested and willing to share costs. Have a commendable record in bringing improvement to the gmina in the last two years. Want to plan for waste treatment for all 32 villages but do it prudently over time; however, don't have the complete range of most effective, efficient technologies available to them. Need similar approach as suggested for Miedzna.

With respect to Project B, we recommend that other gminas which we visited and which have similar problems be brought into the training, workshop "outreach" program as work progresses on these two gminas as follows:

1. Ogrodzienice (Katowice), 2. Borow (Wroclaw), 3. Krosnice (Wroclaw),
4. Dlugoleka (Wroclaw) and 5. Katy Wroclaw (Wroclaw).

III. Project Operations

An outline of the preliminary steps/objectives in project operations follows:

1. Notify chosen municipalities as well as the contact person in the central ministry, the county/voivodship.
2. Draft a project information questionnaire and send to each of the participants in order to get detailed background information for project records. This should include administrative, managerial and financial data as well as particular designation of project contact person as the office of the participating gmina/municipality.
3. Arrange contracts with local firms/ ngos to supply qualified technicians, management and finance experts, translation and interpretive personnel to assist in administration of the project. One fact of their responsibility would be to give support to any US expertise brought to Poland/Hungary to implement the project.
4. Identify US expertise to be included in first round of project visits and and analysis. Should be arranged to cover the "package" approach suggested in the choice of the municipalities as noted above. May need a mix of local utility manager (solid waste, waste water), particular engineering expertise (e.g. waste water design engineers, solid waste land fill engineers, hazardous waste expertise) and financial, funding expertise.
5. This first go-around to the municipalities involved should result in a careful analysis of the project involved, the recommendations and the needs for additional expertise or other applications for each municipality and the identification of immediate and longer range training needs with respect to the project.

12/3/92
RTI/LEM/ws

December 7, 1992

FAX: 919-541-6621

TO: Alexi Panehal, Deputy Chief, AID/EUR/ENR
Hal Minis, RTI/CID/ Research Triangle Pk, NC

FROM: Bill Sommers, RTI/LEM/LEX

Subject: Meeting in AID/W on LEM/Choice of Participating
Municipalities

1. The scheduled meeting with AID/EUR/ENR on choosing municipalities in Poland and Hungary to participate in LEM was held on Friday, December 4, 1992 at 1400 in the Office of Ms. Alexi Panehal, Deputy Chief of AID/EUR/ENR. Present besides Ms. Panehal were Andrzej Pecikiewicz, Project Specialist, Office of AIDREP/Warsaw, Robert MacLeod, Project Assistant, AID Office of Housing and Urban Development (ICMA), Lydia La Ferla, Project Officer, AID/EUR/ENR and William Sommers, Senior Research Analyst, RTI/LEM.

2. The recently completed trip to Hungary and Poland, November 3 - November 22, 1992, was reviewed and a capsule assessment of each of the municipalities visited was given. The group then reviewed Sommers' draft proposal on participating municipalities contained in his memo of December 3, 1992 which, faxed to Ms. Panehal, had been made available to all members of the group.

3. After lengthy discussion the following decisions on participating municipalities were agreed upon by the group:

a. POLAND:

1. Ziebic, 2. Swieta Katarzyna and 3. Miedzna. All are concerned with waste water problems and will be approached in the Project A, Project B strategy outlined in Sommers' December 3rd proposal.

A second tier of municipalities, consisting of 4. Nowa Sol and 5. Namyslow will be considered for inclusion after the first group have begun, providing that a. funds are available to give the necessary technical assistance and b. preliminary results in working with the first three municipalities indicate the potential for expansion of the LEM project in Poland.

b. HUNGARY:

1. Ozd, 2. Edeleny and 3. Sajoszentpeter. The first two will be centered on solid waste problems while the third will receive assistance in determining the extent and future problems/plans respecting the hazardous waste site indicated during our visit in November.

A fourth city, Gyor, with its solid waste problem, may also be included as soon as the nature and extent of its assistance now being received under USAID's Trade and Development Project. This is to be examined and a decision will be made shortly.

4. Following agreement on the choice of participating municipalities a number of follow on assignments were made:
- a. Andrzej Pecikiewicz will, upon his return to Poland, notify the cities of their inclusion in the project and will also notify their respective voivodship counterparts. Sommers will send a draft of these notifications to Andrzej P. by December 11. Sommers will also revise the December 3 proposal to reflect these decisions and provide members of the group with copies.
 - b. Sommers will notify Ferenc Melykuti, AIDREP/Budapest about the choices in Hungary with suggestions on a letter of notification to the cities and to appropriate regional/central government ministries.
 - c. Sommers, working with Lydia La Ferla, will contact USTDP to find out more about the Gyor project and recommend to Ms. Panehal the extent of LEM's participation in the Solid Waste project for Gyor.
 - d. Sommers should contact F. Lucenet, EBRD/London, to get feedback on EBRD's general position regarding potential funding of the type of projects which LEM has identified in the project's participating cities. The same kind of contact should be made with IBRD.
 - e. MacLeod will serve as contact person for LEM with the Office of Housing and Urban Development and Sommers is to keep him informed about developments on the LEM project as they might affect OHUD.
 - f. Sommers/RTI will develop a detailed project work plan which will include the following:
 1. Overview of LEM project
 2. Overall budget
 3. Separate but related work plans for Poland and Hungary
 4. A section of the work plan is to identify project coordination with EBRD, EPA, WASH, OHUD, contributing program elements within each of the USAID offices in Poland and Hungary, e.g. Rutgers/UCONN training components in Poland.
 5. Work plan must also include the defined use of current subcontractors as well as the use and role of local contractors, ngos in Poland and Hungary.

The workplan should be submitted to Ms. Panehal by December 24.

The meeting ended at 1600.

Dec7/WAS

PART II

Report on Field Trip to Hungary: 11/3 - 11/12/92

PROJECT FIELD TRIP TO HUNGARY AND POLAND:

November 3, 1992 - November 24, 1992

WEDNESDAY, NOVEMBER 4

We arrived in Budapest via Frankfurt at 1500. The team consisted of Mr. Bill Sommers, RTI/LEM, project manager; and Ms. Alexi Panehal, deputy chief, AID/EUR/DR/ENR. Through a call from Mr. Ferenc Melykuti of A.I.D., we learned that our meeting with Mr. Gyorgy Kertesz, Ministry of the Interior (MOI), was canceled because of sickness. We arranged to meet with Mr. Melykuti and Ms. Mary Likar, also of A.I.D., Thursday morning at 1000.

THURSDAY, NOVEMBER 5

Meeting with USAID/Budapest

The team met with Mr. Melykuti and Ms. Likar at the A.I.D. Office at the American Embassy. A representative of the U.S. Embassy economic office was also present. The purpose of the meeting was to explain the trip objective to Mr. Melykuti and Ms. Likar, namely, to select the Hungarian and Polish cities for the Local Environmental Management (LEM) project so that it could begin as soon as possible. The cities we planned to visit included Gyor, which was recommended by the Ministry of Environment and Regional Planning (MERP) based on the criteria we established in September; in Borsod County, we planned to visit Miskolc, Kazincbarcika, Sajoszentpeter, Edeleny and Ozd.

We also addressed concerns voiced by Mr. Melykuti and Ms. Panehal. First, Mr. Melykuti inquired about the basis of our trip to Gyor, which was not on any of the top-priority lists; we reiterated that it was a MERP suggestion. He also had serious doubts about the city of Miskolc because of continuing political problems with the mayor and suggested that we look at other cities. At our request, Mr. Melykuti agreed to join us the first day in Miskolc.

Ms. Panehal then requested an estimate of the amount of time that would be spent backstopping the environmental projects, particularly in terms of Mr. Melykuti's responsibilities. Ms. Likar replied that additional duties may reduce backstopping but that A.I.D. would soon clarify duties and responsibilities; when this was accomplished a more precise answer could be given. Ms. Panehal discussed other issues with A.I.D. staff that did not concern the LEM project. We made an appointment to meet with the A.I.D. Representative, David Cowles, on Thursday, November 12, prior to our departure for Poland.

Our next meeting was at the MERP with Ms. Eszter Szovenyi, Senior Officer, Department of International Relations, MERP. She also brought in Dr. Katalin Gara-Nagy, Head of Section, Department of Water Quality, MERP. Ms. Szovenyi outlined the trip planned for the next day to Gyor. The MERP would furnish a car, driver, and interpreter; we would leave from the MERP building at 0800, Friday, November 6.

We discussed with Dr. Gara-Nagy the complicated relationship between the water companies, the water authorities, the MERP, and the Ministry of Telecommunications, Transport, and Water. As reported in the September field trip report, this relationship is confused. For example, in Miskolc there is a city water company, a county-wide water company, and the North Hungarian Water Authority—with overlapping duties and responsibilities in the water and wastewater area—not to mention MERP's Regional Environmental Inspectorate. While much of what Dr. Gara-Nagy had to say was useful, some of her assertions contradicted other information received during the previous trip. We also learned that Dr. Gara-Nagy had but recently joined MERP. Mr. Sandy Hale (contract advisor for Hungary and the Czech and Slovak Republics) joined these discussions for about 30 minutes but left for another meeting.

We returned to the U.S. Embassy at 1445, where Ms. Panehal held additional discussions with A.I.D. officials on various problems affecting the overall environmental program in Hungary.

FRIDAY, NOVEMBER 6

Meeting with City Officials/Gyor

We drove to the city of Gyor, approximately two hours from Budapest, and met with the mayor, Erno Kolzsvary, deputy mayor, and five officials representing various city and regional offices. The Mayor welcomed us, noting the results of the U.S. election. He concluded that, because the new "presidential" team would be more interested in the environment, assistance to Central and Eastern Europe would increase. He then introduced us to his staff.

The Mayor acknowledged that Gyor had a number of serious environmental problems and expressed hope that, after these discussions, Gyor might receive assistance via the LEM project to begin solving them. After presenting a booklet written in French, German, and English extolling Gyor's countryside, he turned the meeting over to the Deputy Mayor, excusing himself because of other commitments.

After receiving a short summary of our project, the Deputy Mayor, in turn, briefed us on Gyor. The city, with a population of 130,000, lies halfway between Vienna and Budapest. The city has an elected mayor, two deputies, and a city council of 43 members scattered over seven parties, including three independents. One deputy mayor is in charge of administration and finance and the other deputy oversees environment, health, and welfare. Key environmental problems include: (a) being bisected by the highway to Vienna, which contributes greatly to air pollution; and (b) the pollution left behind by 6,000 Russian troops once stationed in the city as part of the Warsaw pact. Other environmental problems were then outlined by the technical staff.

The Director of the Regional Office of the Environmental Inspectorate discussed the Inspectorate's work in the Gyor area. In the two counties surrounding Gyor, 1,000 sites with serious environmental problems are monitored by the Inspectorate. The Inspectorate maintains close ties with Gyor, keeping responsible officials updated on progress and problems; it also provides data, periodic environmental assessments and recommendations for problem solving. Along with city and county governments, the Inspectorate also promotes environmental education in many ways: general information for the public, laboratory testing, vocational courses, water management and conservation proposals, training of educators, and "awareness training" at primary schools in the region.

The Director summarized the most important environmental problems as follows:

- pollution caused by the heavy highway traffic on the main Vienna-Budapest highway, which bisects the city;
- pollution in the Danube (a 146-km section of which runs through the Inspectorate's domain), a problem further complicated by the damming of tributaries by Slovakia;
- untreated or partially treated runoff/discharge of wastewater into the Danube;
- stockpiling of hazardous wastes in the area of the state's proposed hazardous waste incinerator, stockpiling of liquid hazardous waste, and the proposed solid waste incinerator; and
- Gyor's solid waste dump site, which is nearly filled, compelling a search for alternatives such as new sites, incineration, recycling, etc.

The Secretary of the Gyor's Environmental Committee then listed the environmental problems with which his committee has been struggling. He prefaced his briefing by emphasizing the fact that environmental problems have been recognized only in the past few years; the city is pressed to quickly solve problems that have arisen because of the past 40 years of neglect during which Eastern Europe was treated as an "open sewer." He listed the following problems:

- The city needs to complete a wastewater treatment plant that was begun in 1986 at a cost of Ft 3.5 billion. However, construction was stopped 3 years ago with a shortfall of some Ft 1.5 billion. More funds may be needed to construct a dehydration plant to take care of the mounting sludge problem. In addition, 82% of the city is sewered, and the city plans, once the plant is completed, to sewer the remainder, which amounts to nearly half of the physical area of the city.
- The city has a very serious solid waste problem involving the closure of the old landfill and relocation to a new one. The present landfill, which covers over 26 hectares, is nearly full. Covering and closure may cost over Ft one billion, and relocation is a great problem since the city is on a large aquifer that provides water for Gyor and for Budapest as well; siting a new landfill will not be easy. Moreover, the city does not have a recycling program.
- The city needs a set of enforceable rules and regulations governing the environment.
- For a variety of reasons, the groundwater table in Gyor is sinking and will eventually become a critical problem.
- The city needs to develop a public awareness program to make its citizens aware of these problems and alternate solutions being considered
- Highway traffic is causing a serious air pollution situation, which was previously described by the Deputy Mayor.

Tour of Wastewater Plant and Landfill/Gyor

We then toured the wastewater plant. Gyor has an operating mechanical treatment plant by which the sludge is removed; the plant functions well and we saw no inherent difficulties. Substantial construction was in evidence at the site with the building of the new biological treatment plant. However, as noted above, construction on this plant stopped 3 years ago. The sludge that is removed has been taken by farmers, but this practice is being discontinued because farmers now fear the potential for soil contamination. The city will probably dump the sludge into the landfill until a solution is found. The city's sewer managers would like to add sludge dehydration technology to the ongoing construction of the biological treatment plant; this step would raise costs substantially.

A limited hazardous waste treatment plant is located near the sewage treatment plant. Its effluent is mixed with that of the treatment plant to dilute it and thereby render the contamination count acceptable. The combined, partially treated effluent is then dumped into the "small Danube," and makes its way into the "blue" Danube. To complete construction of the treatment plant—and add the proposed sludge dryer—Gyor needs more funds from the central government and must raise the remainder from its own sources. Even if Gyor can obtain the needed funds, LEM probably cannot assist with this project because all the technical details are in place, construction has started, and additional funds will have to be negotiated with all parties involved; it is unlikely this project could be presented for international funding.

We next visited the "landfill," situated on 26 hectares; it has been operating for 15 years. A school has been built nearby, and apartment houses are two or three blocks away. On one side, the landfill is bordered by a bypass that will eventually relieve traffic congestion in the city center. At certain points, the landfill rises 10 meters out of the ground; it takes everything, including tires. The landfill dump is covered periodically with purchased fill; it is a type similar to those prevalent in the United States 20 or 30 years ago.

Meeting with Regional Inspectorate/Gyor

After this inspection, we went to the Office of the Regional Inspectorate for further discussion. There we met the president of the local environmental association/nongovernmental organization (NGO). Our discussion focused on the solid waste problem as the probable LEM project. Gyor's Secretary of Environmental Protection reported that MERP commissioned a study of the landfill under the U.S. Trade and Development program; this was done by a U.S. firm—Post, Buckley, Schuh, & Jernigan—in cooperation with ESZT-AND of Budapest. The city has received a two-page Hungarian summary plus an English copy on the full report. City officials were not clear on the detailed recommendations of the report. (We learned later that the report was issued in October, and the Hungarian firm was translating the full report into Hungarian. MERP expected it to be completed in 3 weeks. We also received a copy of the English version from MERP.) The NGO representative explained that the clientele he represented recognized the problems of the landfill but were opposed to installation of an incinerator. The city representatives expressed an interest in recycling which, if successful, could prolong the expected life of the landfill by 5 to 10 years. The upshot of our conversations was to consider the city's landfill project for inclusion in the LEM project.

MONDAY, SEPTEMBER 9

Meeting with Environmental Engineer/Miskolc

We drove with Mr. Melykuti to the city of Miskolc. Our first meeting was at 1100 with Mr. Josef Lencses, an environmental engineer from the mayor's office. Mr. Lencses described in forthright language the difficult political crises through which the city is passing. The mayor has lost the support of all the political parties in the city, thus cutting him off from communication with the city council. The city charter/law does not make it possible for the mayor to be discharged; so far he has not resigned. It all makes for political tension in the city. Mr. Lencses felt that, should LEM decide to include Miskolc in its program, the Mayor's situation would not unduly affect the project because LEM would work directly with the city's appointed staff.

Mr. Lencses also made it clear that initiatives stemming from the project could not result in proposals for raising rates or fees, e.g., sewage and water rates. He noted that the city would like to privatize its solid waste responsibilities (i.e. operation of the landfill and solid waste collection). A tender offer has already been advertised asking for proposals from private firms; but the "parameters" of the bids were indistinct, nor was it certain the city could afford them once they were presented. This would, of course, be a decision of the city council. We received the impression that Mr. Lencses neither wanted nor needed assistance from LEM in solid waste management.

Mr. Lencses did, however, express a desire for help in improving overall city management which, in turn, could help improve environmental management. He was particularly interested in establishing performance measurements so one could see how the various city departments were working. It appears that, as far as environmental management is concerned, he is a "one-man show" with little or no interdepartmental cooperation.

Our impression of Miskolc did not encourage its inclusion as a LEM participant.

Meeting with Water Company/Miskolc

We met with representatives of the Miskolc City Water Company, Mr. Laszlo Vojtilla and Ms. Peterne Latzkovits, to discuss the stalled construction of the enlarged and modernized sewage treatment facility; the contractor and subcontractor were bankrupt but the city, by next year, should get funds from the liquidation, supplemented by funds from the central government, to complete the plant. They also hoped to add a digester to take care of the growing sludge problem now being dumped in the landfill. However, Mr. Vojtilla reiterated the city's position that local water/sewer rates would not be raised to fund these capital needs. The Water Company staff had read the report by Poland/Hungary Aid for Restructuring of Economies (EC/PHARE) on Miskolc and had incorporated much of its summary costs in their own planning. However, they did not believe that the reports' suggestions for management/operational improvement were of value nor that it was necessary for LEM to help them on this project.

Mr. Vojtilla and Ms. Latzkovits' one request was for assistance focused on the retraining of a group of planning engineers to equip them to assume operation responsibilities. As with the city it was clear the Water Company was not interested in participating in the LEM at the level and with the leadership which we had set forth in the criteria. This discussion contrasted sharply with our conversation with these same officials during the September trip. Perhaps the "fallout" of the city's

difficult political situation (vis-à-vis the mayor), as well as the too-critical recommendations of the EC/PHARE report, had changed their receptivity. The RTI/WASH team, incidentally, reported confusion over the EC/PHARE report because the City of Miskolc believed the report implied help in funding the new treatment plant.

TUESDAY, NOVEMBER 10

Meeting with the Mayor/Sajoszentpeter

Mr. Melykuti returned to Budapest; we picked up Demeter Zsekov, our translator, and rented a car to continue our trip. The first meeting was at 0900 at Sajoszentpeter, where we talked with Mayor Somlo Istvan and his administrative assistant, Istvan Rodoli. The city, which has a population of 14,000, is astride the main road between Miskolc and Kazincbarcika and is near the Sajó River. Most of the work force commutes out of the city to work in industries nearby, although there is a glass factory in the city. The unemployment rate was 10%; the Mayor felt much of this number included unsettled "gypsies." Under the new change in government in Hungary—and in Sajoszentpeter— environmental problems were receiving greater attention. Facts and information were well distributed; NGOs were encouraged to help alert the city to environmental problems.

The Mayor explained that 30% of the 5,400 households are connected to the city sewage system while 70% use individual systems. The city is served by the Water/Wastewater Company of the county; however, it is likely that this company will be broken up and that the individual cities will administer their own operations as part of a 5-year plan to improve wastewater collection and treatment. The mayor expected that Sajoszentpeter would take over the water/wastewater operation by the beginning of 1993. Getting rid of the sludge will pose a significant problem should the county stop accepting it. With a subsidy from the central government, Sajoszentpeter is financing the extension of the collections.

In solving another environmental problem Sajoszentpeter is changing over to gas heating to be completed by 1993. Seventy percent of the cost is borne by the municipal budget; the remaining 30% is contributed by individual property owners.

The major problem in Sajoszentpeter, however, is the disposition of a hazardous waste site in the city that is close to the water wells and may, in time, pose a threat due to infiltration of the hazardous waste into the wells. The dump covers 1.5 hectares and varies, by rough estimates, from 3 to 10 meters in depth. The mayor estimated the dump contains 100,000 tons of hazardous waste. The dump site was once an abandoned gravel pit into which a nearby chemical company and the local agricultural cooperative dumped their waste. When it was filled, the dump site was covered and appears as a rather small, harmless local dumping area nearing completion. Farmers have plowed portions of the site and planted sugar beets which, when analyzed, revealed metal traces 128 times the allowable limit; the planting was stopped or at least is now very limited. Health studies have been conducted around the site to determine the extent of contamination, but there is no evidence of infiltration into the water supply. The city has asked the "guilty parties" to participate in cleanup. However, both the chemical company and the agricultural cooperative complain they will go bankrupt if they have to pay for the cleanup.

The Mayor asked that the city be included in LEM; their immediate and principal need is a survey of the hazardous waste site to determine its actual size, contents, and volume. Estimates of the specific hazard posed to the water supply, and a financial plan for eliminating or controlling the site would be outcomes of the study.

Visit with the Assistant to the Mayor/Kazincbarcika

Our next stop was Kazincbarcika, the city next to Sajoszentpeter. We were late, and the only person available to talk to us was Mr. Ferenc Stefan, assistant to the mayor. In discussing environmental problems of the city, Mr. Stefan pointed out that the city has a new landfill which is working satisfactorily. The city is 90% sewerred with two treatment plants using both mechanical and biological treatment. Eventually the city will be 100% sewerred. There is no problem with its waste collection and treatment. The city's two major industries, Borsod Chemical (BKK) and the Energy Power Plant, treat their own sewage internally.

BKK does, however, pose two major threats to the environment. First, piles of hazardous waste in the yard have contaminated the soil and continue to do so even though no additional waste has been added. In addition, BKK has some 500 tons of mercury of which only 390 tons are accounted for; much of the mercury is water-soluble and threatens to contaminate the Sajo River. This situation has been the subject of a recent study that concluded that (a) the mercury would not leave the premises for at least 30 years, and (b) it would take over 100 years for the mercury to reach the river. The study suggested that monitoring wells be placed in the area to study the problem. The city then floated a tender to do a more extensive study of the mercury infiltration. While it received many proposals, none was acceptable. The decision on what to do next is on hold. The city by itself cannot do much to mitigate the problems; however, the NGOs in the area have been monitoring the mercury problem at seven stations. They would like to add an automated station that would measure some 20 polluting elements but do not have the funds to pay for the installation. The BKK also dumps vinyl chloride and hydrochloric acid from its treatment plant into retention tanks in back of the power plant, where the liquid evaporates, leaving a sludge residue.

The power plant exudes N_2O and SO_2 ; efforts have been made to cut down on the emissions by installing reducers and by reducing plant production. The power plant's sludge/ash has been piled over many hectares behind the plant; rain then carries some of this ash into the Sajo River, which flows behind the plant. Ash slurry with a high salt/metal content was also deposited near the river. This process was stopped in 1988.

Mr. Stefan noted that public health authorities have made a variety of studies and tests on the effect of the pollution, on the population, but concluded that Kazincbarcika's public health is at no greater risk than in the rest of the country. While there was public protest about the pollution at first, the recent economic downturn (accompanied by a decrease in pollution) has improved the situation. Workers in these two plants are tested quarterly but are not given blood tests. Significant problems have been reported as a result of these tests.

Mr. Stefan suggested that the power plant may be converted to a public company with participation of the municipality. In addition, French, German, and Japanese investors have expressed some interest in purchasing the BKK, but nothing has happened yet. He concluded by saying that the city's environmental operations did not need any technical assistance but that the LEM project might want to discuss problems with the BKK and see what assistance might be given to them.

As in Miskolc, it was clear that LEM would not find a workable arrangement with the city of Kazincbarcika.

Meeting with the Mayor/Edeleny

The final meeting of the day was with Mr. Istvan Kiraly, Mayor of Edeleny. The city, which has a population of 14,000, is located on the river Bodva, a tributary of the Sajo; it is the first city of the Bukk Mountain area. The working population is employed in the Miskolc steel mills, the agricultural cooperative, and the BKK chemical plant in Kazincbarcika. The economic turndown has resulted in an unemployment rate of nearly 25%, which reduces citizens' ability to pay for local services. Only 30% of city residents have wastewater connections. The city plans to extend wastewater collection and treatment to nearly all of the city and has asked for design proposals to construct 32 km of lines and a treatment plant; the design bids were due by November 30. The project is estimated to cost FT 310 million, which will be undertaken by the city with contributions from the North Hungarian Water District. Householders will pay for their own connections. The city has recently installed a gas line to service the city's households and eliminate coal for heating and cooking. Even in these difficult economic times, most of the households have connected because of the advantages of gas over coal.

However, the main problem facing the city, and the one with which the Mayor felt LEM could be of assistance, is solid waste disposal. Currently, the city's solid waste is picked up by the same contract company that collects solid waste for Kazincbarcika. The waste is dumped into Kazincbarcika's landfill. However, Edeleny's pickup comes at the end of the day and collections are delayed or skipped. Because the system is not managed directly by the city, residents tend to dump their garbage into the empty lots, woodlots, and illegal dump sites surrounding the city. The city is on the Bodva River, and the residue of this illegal dumping has seeped—or will seep—into the river, thereby polluting an important potable water source for the region. The Mayor believed that, for this cleanup, the city needs its own system and its own landfill. He also believes that the system, if properly set up, could service a number of villages nearby. The city has a landfill site with an estimated life of 25 years; the Mayor is ready to move but needs technical help in (a) assessing the proposed landfill site, (b) designing a proper landfill, (c) establishing a collection system with a public education program, and (d) formulating a financial plan by which the landfill and the rest of the project could be financed.

Our impression was most favorable; the Mayor and his city council apparently were able to take risks in improving the environment and, as in the case of the gas switchover, residents, even though under economic duress, were willing to pay for services to the best of their ability. The landfill idea has considerable merit and could be an important demonstration project.

WEDNESDAY, NOVEMBER 11

City Officials/Ozd

We met with officials from the city of Ozd, including the mayor, deputy mayor, environmental specialist, and administrative assistant to the mayor. Ozd has a population of 47,000 with an estimated 100,000 in the "metro" area. The city is dominated by a huge steel plant that is now virtually closed, leaving the city and its area with an unemployment rate of 30% or more.

Steelmaking started here 150 years ago based on wood cut from the nearby forests as fuel. As coal became available, the plant expanded. After World War II, the USSR sent in low-grade ore, and finished steel was sent back to the USSR in return. In recent years, much of this steel was never paid for. When the USSR dissolved, the furnaces were shut down, and the plant is now under liquidation. There is still some minor steel processing activity at the plant. The negative environmental effects of the plant have been curtailed because it is no longer operating; however, the negative environmental legacy of the plant is unabated: huge slag dumps, soil contamination, contaminated forests and lakes, and threats to water supply.

During a wide-ranging discussion of the redevelopment of Ozd's economy, the officials pointed out that the steel mill had, at long last, built a recovery plant to gradually eliminate or ameliorate the environmental threat posed by the slag heaps. But with the plant virtually shut down, there are neither incentives nor funds to operate the recovery system. Much discussion has centered on the demolition of the plant, but no action has been taken because the plant itself has no money to pay for the demolition, and the central government has not yet provided either funds or direction on what to do. While some foreign investors have expressed interest, nothing positive has surfaced. The Deputy Mayor noted that in the past few years, a series of studies had been done on nearly all aspects of the economic and environmental issues surrounding Ozd—but these studies resulted in no plan, no real action, and no commitments to begin the process of revitalizing the Ozd economy. The officials were, in short, tired of the studies; they would like direct assistance and direct action.

The city has so many overwhelming environmental problems that evaluating priorities is almost impossible. The city gets its water from springs about 30 km outside of the city. The water is provided by the North Hungarian Water Company. As for wastewater, about 50% of the households are connected to the collection and treatment system; most of these connections are in the downtown area. The rest of the city and the suburbs have private, septic tank sewage systems. Much of the collected sludge from these private systems is dumped into the landfill. A considerable effort must be devoted to modernize and extend the sewerage system, but there is very little money to do it.

We focused on identifying one particular environmental problem with some hope of being solved which might be included as part of the LEM project. The Ozd officials suggested a solid waste project. Solid waste is now dumped at a site 2 km from City Hall and 200 m from the nearest house. Their description was not of a landfill but of an unregulated dump. It is nearly filled, and a new site will have to be put into operation within the next couple of years. The city has studied the problem, but with so many other problems competing for limited staff and finances, no acceptable solutions are on the table. Ozd needs technical assistance to assess problems, develop an overall plan, including financing, and prepare a detailed operational plan—and system—by which the problem can be solved. The Mayor expressed his belief that, if a good system were instituted, the residents would contribute to the overall cost by paying fees for the collection, etc. He emphasized that the city could not shoulder the whole cost in view of the economic difficulties, but it could contribute.

The team felt that Ozd would be a likely candidate for LEM; in the face of very difficult economic and environmental circumstances, the officials were willing to commit to finding a cooperative solution to a vexing problem. They showed purpose, leadership, and a desire to solve immediate problems.

We left Miskolc for Budapest on the 1600 train.

THURSDAY, NOVEMBER 12

Meeting with MERP Officials/Budapest

We met at MERP with Mr. Istvan Tokus, Director of International Relations and with Ms. Estzer Szovenyi, Mr. Emo Kiss, and Mr. Tamas Pinter. Sandy Hale also joined the meeting. We reported on our trip, suggesting that four of the cities that we had visited meet the criteria for the LEM project: Gyor, Sajoszentpeter, Edeleny, and Ozd. We outlined the basis for the decision and the projects identified in each community. Mr. Tokus agreed with our findings. The Director also commented that he was in favor A.I.D./MERP concentrating greater effort on regional and local efforts as exemplified by the LEM project orientation.

We also mentioned that Gyor officials asked about the status of the solid waste report; they had only received a two-page Hungarian summary. The *Report on Gyor Solid Waste Analysis* was undertaken by Post, Buckley, Schuh, & Jernigan International, under the United States Trade Development Program (USTDP). Mr. Kiss obtained a copy of the report, completed in October 1992. It was being translated by the Hungarian subcontractor ESZT-AND and was sent to Gyor within 2 weeks.

Ms. Panehal said that many Borsod County communities, though experiencing grave economic and social difficulties, have had no substantial governmental assistance or guidance on what to do. Ozd, for example, needed guidance/direction in recasting its economic base but there was little evidence of the central government action. Mr. Pinter replied that MERP, in its Regional Policy activity, is presently devising a regional plan for that area which would soon be available.

It was agreed that once the municipalities in Poland and Hungary are chosen, A.I.D./RTI will send notices to the municipalities and—in the case of Hungary—to MERP (Mr. Tokus). In January 1993 Mr. Sommers would come to the area, living either in Poland or Hungary, as the full-time project manager. The project would then move into implementation.

Additional discussions centered on the direction of the overall environmental assistance program to Hungary.

Meeting with A.I.D. Representative/Budapest

We met with the A.I.D. Representative, Mr. David Cowles, for an hour and a half. Most of the meeting centered on a detailed review of the environmental assistance program in Hungary managed by the AID/EUR/ENR and monitored by the Office of the A.I.D. Representative in Hungary. At the conclusion of the discussion Ms. Panehal and Mr. Sommers gave Mr. Cowles a comprehensive briefing on the trip, resulting in the identification of four municipalities with four environmental projects for inclusion in LEM. We outlined the problem areas in each of the municipalities and the technical assistance and training LEM will provide. We noted our upcoming trip to Poland for the same purpose; we expect to choose the LEM municipalities in Hungary and Poland by December. Mr. Sommers would move to the area, living in either Poland or Hungary, in January and the project could then begin implementation. Mr. Cowles seemed both interested in our approach and pleased at the progress. Ferenc Melykuti was also present; he was also pleased that we had found potential projects/municipalities other than the city of Miskolc. We also agreed that once the municipalities were chosen and the project started, we would send a memorandum explaining the

results to Mr. Gyorgy Ferentes, MOI, to request his cooperation. Ferenc agreed to prepare and send the memo.

Meeting with Peace Corps Official/Budapest

In the evening we had a dinner meeting with Laszlo Karas, Peace Corps Assistant Director for Environment who was accompanied by a former Peace Corps volunteer now working in the MERP economic analysis section. The discussion ranged over the A.I.D. environmental program, the organization of environmental agencies at the center and in the field, and the Regional Environmental Center; our main concern, however, was to report on our trip and to solicit Mr. Karas' response on the assignment of a Peace Corps volunteer to the LEM project. We suggested having a Peace Corps volunteer in Gyor. However, Mr. Karas noted his policy of sending the environmental Peace Corps members to eastern Hungary. He was, however, interested in the Miskolc area or, as in our present consideration, Ozd. A request for an environmental manager has already been submitted; Mr. Karas anticipated a new group of volunteers, including the environmental manager, would arrive in Hungary in February 1993. Following a 3-month orientation, the group could be assigned by June or July. He reacted positively to our needs; he asked that we keep him informed. He also asked for more detail on the work of a volunteer in Ozd. Incidentally, he noted that Gyor was the home city of the Minister of Environment.

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MISKOLC
NOVEMBER 9-11, 1992

MONDAY, NOVEMBER 9, 1992

8:00 AM Depart Budapest

Melykuti, Ferenc-AID
Panehal, Alexi-AID
Sommers, William-RTI

11:00 AM Meeting - Miskolc Local Mayor's Office

Varoshaz ter 6 sz.
tel: 327-211
fax: 347-831

Participants:

Lencses, Jozsef-Env. Engineer, Mayor's office
Melykuti, Ferenc-AID
Panehal, Alexi-AID
Sommers, William-RTI

1:30 PM Meet Demeter at Hotel

2:00 PM Meeting: Miskolc Water Board

Jozsef Attila u. 78
tel: 344-011
fax: 347-831

Participants:

Latzkovits, Peterne - Chemical Engineer
Vojtilla, Laszlo-Miskolc Water Board
Melykuti, Ferenc-AID
Panehal, Alexi-AID
Sommers, William-RTI

Lodging: Hotel Pannonia
Kossuth u.
tel: 329-811
fax: c/o Debi Richards 36-46-355-484

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Rooms for: Melykuti, Panehal, Richards, Sommers
Price: about 3,750 HUF

TUESDAY, NOVEMBER 10, 1992

8:00 AM Meet Translator - Zsekov Demeter
Pick up Car

Poptourist
Szechenyi u
-across from hotel
-reserved for Tuesday and Wednesday
-type:

8:30 AM Meeting:

Sajoszentpeter
Beke ter 4
tel: 48-45-611
fax: 48-45-117

Participants:

Somlo, Istvan - Local Mayor
- also handles environmental issues
Bodoli, Istvan - administration
Panehal, Alexi - AID
Richards, Debi - RTI
Sommers, William - RTI
Zsekov, Demeter - translator

10:00 AM Meeting:

Kazincbarcika
F8 ter 4
tel: 48-11-503
48-11-711
fax: 48-11-175

Participants:

Vilusz, Albertne - Administration
Panehal, Alexi - AID
Richards, Debi - RTI
Sommers, William - RTI
Zsekov, Demeter - Translator

Meeting: (time to be confirmed Monday)

Edeleny
Istvan Kiraly ut 52
tel: 48-41-130
48-41-211
fax: 48-41-514

Participants:

Fazekas, Janosne - Administration
Panehal, Alexi - AID
Richards, Debi - RTI
Sommers, William - RTI
Zsekov, Demeter - translator

Lodging: Hotel Pannonia
Rooms for: Panehal, Richards, Sommers

WEDNESDAY, NOVEMBER 11, 1992

9:00 AM Meeting:

Ozd
Vasvar u. 50
tel: 47-71-217
47-71-322
fax: 47-71-844

Participants:

Strohmayer, Laszlo - Local Mayor
Feigl, Kos Ildiko - Environmental Issues
Sebeok, Ottona - Administration
Panehal, Alexi - AID
Sommers, William - RTI
Zeekov, Demeter - Translator

4:00 PM Meeting:

County Government
Miskolc
Varoshaz ter 1, Building D
tel: 346-846
322-011
fax: 320-601
346-846

Participants:

Varga, Frank - Counsellor
Panehal, Alexi - AID
Sommers, William - RTI

7:00 PM Return to Budapest

PART III

Report on Field Trip to Poland: 11/13 - 11/22/92

FRIDAY, NOVEMBER 13

In the morning we left Budapest at 0855 and arrived at Warsaw at 1000. We were booked at the Forum Hotel.

Meeting with USAID Officials/Warsaw

At 1300 we met at the U.S. Embassy with Ms. Melanie Chan, the program director in whose portfolio this project had been placed, and with Mr. Andrzej Pecikiewicz, the program assistant who had been working with us. Mr. Pecikiewicz reported that he had received more inquiries from the Wroclaw area than from the Katowice region. The field trip will begin on Sunday, ending on the following Saturday. However, Ms. Alexi Panehal will return to Warsaw from the field on the 18th. We discussed project issues: (a) How the project would proceed once the municipalities were chosen, (b) how other municipalities would participate in the project, (c) whether the central ministries—i.e. Environmental Protection—would be informed and participate, (d) whether the results would be generally distributed, and (e) how the A.I.D. Representative's office would be kept informed. In addition, Ms. Chan wanted to know where the project manager (Mr. Sommers) would live. This had not been settled since it would depend on the cities chosen and their location: if most were in the Katowice area, then he might live in Krakow. If, on the other hand, more or all were in the Wroclaw area, then he might live in Warsaw.

Ms. Sonia Hammam, RUHDSO/Field Director, joined the meeting and asked about funding of landfill projects in Hungary by the European Bank for Reconstruction and Development (EBRD). This topic was to be discussed with the EBRD in London. It was noted also that Ms. Panehal would not go to London but would return to Washington on Saturday. She was scheduled to brief the Representative on the LEM field trip before leaving. Mr. Sommers was to return to Warsaw on Saturday and leave Sunday for London. The USAID briefing on the remainder of the trip would be done by Mr. Pecikiewicz upon his return.

The remainder of the meeting was spent discussing issues regarding Poland's environmental portfolio.

SUNDAY, NOVEMBER 15

Leaving Warsaw at 0930, the team (Ms. Panehal, Mr. Sommers, and Mr. Pecikiewicz) drove to Katowice in an A.I.D. car driven by Mr. Pecikiewicz.

MONDAY, NOVEMBER 16

Meeting with Gmina Officials/Wodzislaw Slaski

At 0915 we met with the mayor and deputy mayor of Wodzislaw Slaski. The Mayor made the introductions, and then went to another meeting.

The gmina has 115,000 people with unemployment ranging from 8 to 10%. However, official population figures have been reduced because of the creation of new gminas. Three large mines and one coking plant are located within the gmina boundary. The Deputy Mayor, in describing the gmina and its environmental problems, noted that being close to the border has made it necessary

to cooperate with nearby Slovak cities. The local "municipal league," Union of Silesian Cities, is beginning a cooperative arrangement with the Union of Slovak Cities. Their first joint meeting was held in September 1992, from which they expect more specific kinds of cooperation especially on environment concerns.

The deputy mayor listed three environmental problems of particular importance: wastewater, solid waste/landfill, and communal heating. The gmina is finalizing its biological waste treatment; it already has mechanical treatment. The biological treatment plant is under construction, to be finished next year (1993). The treatment goal is 60,000 cm³/day; the first phase will accommodate 15,000 cm³. However, the gmina does not have a good lateral collection system. About 15,000 households are serviced; the cooperative housing units have their own system. Unconnected households have septic systems. The effluent from these is collected and dumped into the existing sewer system.

The company contracted to do the work is state-owned and has agreed to build the biological treatment facility and arrange financing. But, the company has not come up with the necessary financing and thus completion is delayed until this problem can be resolved.

Fees are collected at the rate of 3,000/zł/cm³ for water usage. The same fee is also charged for wastewater (i.e., the sewer rate is 100% of the prevailing water rate). Fees were recently raised from Zł 2,000 to Zł 3,000/cm³. At the present exchange rate, this would amount to a charge of US \$0.20/cm³ for each, or a combined rate of \$0.40/cm³ for water and sewer.

The water system, though available to nearly the whole gmina, is subject to leaking because of the unstable soil base (subsidence) caused by extensive underground mining. Thus, water lines are subject to shifts in the subsoil, causing breaks in the lines that affect water pressure, and potability, and increase water loss.

Another spectre on the horizon is the break up of the state companies. The expectation is that gminas will take over such public functions as bus transportation, water supply, and wastewater treatment. This change could occur next year (1993).

Other pressing problems are solid and industrial waste management. A French company has proposed the construction of a solid waste incinerator to serve Wodzislaw Slaski, Zory, and five other gminas totaling about 300,000 people. The French company would advance credit for the construction with a payback of 15 years based on a fee-for-services to inhabitants. Zł 60 billion would be advanced with a 3-year grace period and a 15 year payback. The Deputy Mayor said the proposed payback schedule would involve a monthly charge of Zł 15,000/per person. The Wodzislaw Slaski city council approved the charge. No contract had been signed since the French company has not come up with a financing plan; rumor has it that the French are looking for U.S. dollar credits. Moreover, in order to be successful, a solid waste management authority involving the other gminas would have to be created; this has not been done. Location of the proposed incinerator is also a very serious but unresolved problem. The Deputy Mayor believed LEM could help the gmina solve this dilemma through technical assistance.

At this point we were joined by Mr Korimner Cichy, the gmina's environmental officer.

The third problem is a communal heating system. Wodzislaw Slaski, uniting with 10 surrounding gminas, would like to create a "heating authority" to modernize the heating system,

making it more efficient and environmentally sound. The area depends on a cluster of small heating plants that, if modernized and consolidated, would have a considerable impact on the environment through lower emissions and more efficient use of energy. However, they have no experience or precedent in setting up an authority and, of course, there is the usual serious problem of financing. The Deputy Mayor suggested this as another area where LEM might give assistance, particularly in setting up the authority.

The team's reaction was that (a) the gmina had entered into a number of areas with very little foresight and had gotten itself involved in ventures that it could not manage (e.g., the French company and incineration), (b) there seemed to be very little public input into gmina decisions, and (c) they were not well informed on the project and thus were not prepared for our visit. Wodzislaw Slaski did not appear to be a good candidate for inclusion in LEM.

Meeting with Gmina Officials/Czechowice-Dziedzice

At 1215 we arrived at Czechowice-Dziedzice and met with the mayor and staff members. Czechowice-Dziedzice has 43,000 people within an area of about 66 km². It has 21 large factories that are involved in processing coal, manufacturing electronics, and producing matches. After 1988, production fell in most plants, and the unemployment rate rose from 5 to 8%. Air pollution—which the gmina can do very little about—is the main environmental problem, followed by wastewater and solid waste.

About 25% of the gmina is hooked to the wastewater collection system. The sewage of the other 75% is either picked up by septic tank trucks or goes directly into the river. The gmina plans to enlarge the treatment plant and extend the collection system. But officials are not sure residents will pay the price for this capital investment. Funds will have to come from other local sources and from the central government. In fact, construction on the treatment plant was begun but stopped because of lack of funds; the treatment plant will cost an estimated Zt 120 billion, of which Zt 80 billion is needed to complete construction. Local funds covered the design cost, etc. Local funds already are overcommitted and the gmina cannot rely solely on local funds to finance the completion of the treatment plant construction and pay for the expansion of the collection system.

The Gmina wants to complete the treatment plant. Funds may be available from "The Eco Fund" and from the Finnish Government Aid Program, which has expressed an interest. The gmina may have to get needed funds via a commercial bank loan. But can the gmina raise sufficient funds to pay back the loan? Officials are not sure the community will take kindly to a rate increase. It is clear that the gmina does not have a working financial plan nor do the officials have a reliable study to show how much rates would have to be increased to carry the loan.

Health surveys on quality of drinking water have not been finished. Heavy metals abound in the soil, but the effects of this condition have not been thoroughly studied. It seems that heavy metals in the soil do not exceed the allowable limit, but that limits for SO₂ contamination have been exceeded; the health authorities are studying the effect of heavy metals in the soil on food production.

The gmina is trying to organize a solid waste management system in conjunction with other gminas, but progress is slow. Czechowice-Dziedzice has begun a recycling program to reduce the waste stream by extracting paper, glass, etc. The existing landfill will reach capacity by 1997; if

recycling is successful, the landfill may last another 5 years. The gmina has established a rate system for solid waste. If the gmina collects it, the rates are Zt 26,500/month. If the producer takes the solid waste directly to the landfill, tipping fees are Zt 17,500/cm³.

The gmina officials felt the LEM project could help them organize the solid waste effort, particularly to get a group of gminas together and work out a cooperative, coordinated venture.

Czechowice-Dziedzice did not appear to have effective leadership, either politically or administratively; the officials we met seemed confused about what to do next. Moreover, the gmina did not appear to have the will to contribute substantial amounts of money to solve its environmental problems. It is not a likely candidate for inclusion in LEM.

Meeting with City Officials/Rydultowy

After lunch we drove to Rydultowy and met four officials of the city. The Vice Mayor, Mr. Leon Tatuno, presided over the meeting. Rydultowy has 24,000 people within an area of over 1,500 hectares; it is an industrial city with two coal mines, a wood-processing plant, a factory that makes construction material, and an "agri-business" company. Unemployment is about 5 to 6%. Rydultowy had been independent, was united with Wodzislaw Slaski gmina in 1975, and then broke away from its "mother city" again in 1992. The people believed they were not being treated fairly by Wodzislaw Slaski and were not receiving services in proportion to the taxes they paid. The people took action under a new law permitting separation and independence.

Their environmental problems are similar to those of the other two gminas. Air pollution and soil contamination rank high. Most of the residences are one-family, coal-heated units. The local heating plant is small, serves multifamily units, and cannot be expanded. Parts of the gmina have gas heat, but it is very expensive and only 40% of the population is hooked up. Most complain of the high costs while the miners, who receive their heating coal at a discount from the mines, obviously prefer coal. The second environmental problem is wastewater collection, treatment, and regulation. The current treatment plant is small, with only one collector line servicing 7,000 people. The rest are on septic systems. With no local regulations on wastewater disposal, most people do as they please. Waste that leaks from the system, caused by broken pipes, eventually finds its way into the Oder River.

Data on health problems and linkages between environmental conditions and community health are almost nonexistent because the city is new. It's historical record is stored separately in the files of Czechowice-Dziedzice.

The unstable subsoil, due largely to the mines that surround the city, results in subsidence, causing water and sewer lines to break. The city water system is thus in very bad shape. In fact, the whole system should be rebuilt, but the city does not have the funds to do so. Officials asked the team to provide them with information on new technologies in pipe-laying where the subsoil is unstable.

The problem with water has more to do with amount than with quality. Because of its deteriorating delivery system, the city needs other sources; one alternative is to tap into a large reservoir nearby. However, to extend the system to the new reservoir would cost Zt 1 billion, which

the city must pay for itself; Rydułtowy is thus hard pressed to rehabilitate the whole system. Moreover, being a new city it does not yet have its administrative/financial house in order.

Rydułtowy is concerned about its solid waste/landfill problem. The city is part of the solid waste collection/landfill system of Wodzisław Śląski but objects to an incinerator. The city officials want to establish a temporary landfill within Rydułtowy, while seeking a regional solution in cooperation with other gminas. At the same time the officials do not want a permanent landfill operating within the city limits.

Although this city needs a lot of assistance, it does not seem to have the leadership or the management capacity to chart directions for itself. The city's problems loom so large, given its evidently disorganized operations, that it would not be a very good candidate for the LEM project.

Meeting with City Council and Administration/Miedzna

The last meeting of the day, begun at 1730, was with eight members of the Miedzna city council and administration of Miedzna. The latter is an agricultural/industrial area with six villages and 14,000 people. The gmina officials with whom we met had a very good idea about its problems, had set priorities and prepared a general plan to deal with their most pressing problem which is wastewater collection and treatment. The potable water operation is good, and the gmina has recently completed a project to connect the residences to a gas heating system, eliminating coal and its harmful environmental effects.

However, the gmina does not have a complete, integrated wastewater system. Its six villages depend upon latrines and "evacuation" trucks. For the most part, the sewage outflow goes into a small river nearby and then into the Vistula River. The gmina wants to build a sewage treatment plant plus collection system in five of the six villages (two will be combined for purposes of the wastewater system). Our team was shown a generalized proposal on how this plan might be accomplished. The system proposed is gravity-based; two villages are in the watershed of one river and three are in the watershed of another small river. The estimated cost of the whole scheme is Zł 120 million, which would be financed through (a) local contributions, (b) voivodship (county) funds and (c) funds from the central government or from international lending institutions. If the plan is found to be technically feasible, the gmina will fund one village wastewater system from its own funds as a demonstration and then attempt to get outside funds for the remainder. It is also prepared to implement the whole system over a planned period and not necessarily do it all at once.

The gmina officials indicated that residents are willing to share some of the expense through higher user fees. The residents have already showed their willingness to pay for improvements by their cooperation in paying higher rates for the new gas lines and funding the service connections. The gmina intends to operate the new wastewater system itself and anticipates little or no problem in getting all households to connect. Gas meters have already been installed, and the gmina will soon install water meters and eliminate the flat rate system.

The gmina officials closed the meeting by requesting inclusion in LEM so that they could receive technical assistance in reviewing the proposed plan. They would like to incorporate the best and most efficient methods for wastewater treatment in each village, develop a financial/funding plan, and prepare a management operations plan for the full system.

This gmina met all the criteria to participate in LEM.

TUESDAY, NOVEMBER 17

Meeting with Mayor and Deputy Mayor/Ogrodzieniec

At 1000 we met with the mayor and deputy mayor of Ogrodzieniec, which has 10,000 people on 10,000 hectares spread over 11 villages. The mayor showed a videotape on the gmina, its economy, and its historical significance. The gmina is trying to clean up its environment, protect its historical monuments, and develop tourism; it already has enacted regulations on air pollution. Industries consist of one sand and gravel mine, one cement plant, two brick factories, and a factory that makes corrugated asbestos roof sheeting. Most (85%) of their cement is sold in Western Europe. About 700 people work in the cement factory and another 1,500 in various industries. Unemployment (about 600 people) generally has been a result of workers who were employed outside the gmina being laid off.

The city's immediate problem, for which they have a fully developed plan, is solid waste/landfill. Each village now has its own landfill, i.e., garbage dump. These are not well administered. The gmina wants to have a central landfill built and operated with modern technology. A new site has been chosen and will be purchased by the gmina; it is 2 hectares in area, only ½ mile from the central city, and accessible by a good road. Ogrodzieniec plans to set up a recycling program and collect only nonrecyclables for the landfill. The site will be lined with plastic and covered every day. A private contractor will construct the landfill; the gmina will operate it.

The landfill will cost Zt 600 million to build. The price tag rises by another Zt 1.5 to 2 billion if the plastic liner, drainage, etc., are included. The gmina will finance the Zt 600 million, but they look for additional funds from the voivodship environmental fund and/or other central government monies. They hope the Local Association of Gminas will put sufficient pressure on the central government to help fund this and other local projects. Gmina officials recognize that in solid waste operations, including recycling, they also must emphasize public education on "using the system."

Ogrodzieniec has also set in motion a plan to convert residential heating from coal to gas over 3 years, by which time 100% of the residences will be heated with gas. This plan has been financed through local sources, including payments by the residents.

Whereas the gmina has no problem with its drinking water, wastewater is a problem. The gmina does not have a sewer system, neither collection nor treatment, but operates with individual septic tanks; much of the effluent goes directly into the three rivers that flow through the gmina. The gmina's current idea is to construct a system of lagoons for biological diffusion and move toward collection and treatment systems in each village. In some cases, they might include two or three villages in one system if proximity and topography were to make this clustering possible. They have also discussed having one large treatment plant with mechanical and biological capacity to collect the effluent piped from smaller treatment plants in the villages. The city's rough cost estimate for a complete system is about Zt 200 billion, but the yearly income of the city is only Zt 12 billion. Many consultants have approached the gmina to design a system but their proposals are too expensive.

The gmina would like to participate in LEM by getting technical assistance on project and financial planning for their sewer system. This gmina apparently has done much to make improvements and has produced detailed technical plans to solve its solid waste/landfill problem. However, only the most rudimentary planning has been done on the wastewater problem. They might be considered for inclusion in LEM either as a direct participant or as part of a peripheral "area of influence." Using this approach, the work being done directly with participating gminas could be passed on to Ogrodzieniec through workshops, specific wastewater system development training sessions, and limited technical assistance.

Meeting with Officials/Katowice Voivodship

Our next meeting was at Katowice Voivodship with the Voivod, Mr. Wojciech Czech; three members of his staff, including Dr. Beblo, Director, Environmental Protection Board; and a representative of the Voivodship Local Self-Governing Council. After hearing our explanation of the purpose of our visit and our description of LEM, the Voivod welcomed us. He emphasized that the encouragement of local self-government was a prime objective of the Voivodship and that the Voivod welcomed any project that would contribute to this goal. He cautioned, however, that funds were in short supply and that projects must have good justification, clear statement of needs, and a strong potential for successful completion. He designated Dr. Beblo as our project contact in the voivodship.

We then met briefly with Dr. Beblo, well known throughout the donor community as an important, influential, and active leader in environmental affairs. He discussed various ongoing projects including "Eco-Village," a training program for young people to heighten their understanding of environmental problems and encourage activities in their home communities. The voivodship conducts 36 sessions a year with from 50 to 100 participants in each 2-week session. He also briefed us on a soil-sampling study being conducted to analyze the extent and location of soil contamination in Katowice. About two-thirds of the Woj has been surveyed and EC-PHARE will assist the Woj in completing the study.

He also discussed the computerized data collection system operating in Katowice, noting that in the area of air pollution, the Woj already has established 700 measuring points; nearly 300 testing wells have been installed to sample water quality. We learned that the voivodship does provide funding to the gminas for environmental projects at a limit of 50% of the capital cost. The Woj also provides research grants that are helpful in accumulating data preparatory to more comprehensive project planning. Dr. Beblo concluded by designating Ms. Malgorzata Wysocka, the director of the Regional Project Implementation Unit of the Ministry of Environment, as our "point person" for LEM.

WEDNESDAY, NOVEMBER 18

Meeting with Mayor and Staff/Namyslow

At 0830 we met with the mayor of Namyslow and five of his staff. The gmina has a population of 28,000 with 17,000 located in the central city and the remaining 11,000 distributed among 32 villages. The gmina covers 295 km². The two most pressing environmental problems are

(a) modernizing the sewage treatment plant in the central city, including extending the sewerage collection and treatment system to the 32 villages, and (b) treating the effluent from the potato processing plant in the central city.

The gmina is planning to modernize its mechanical treatment plant to include biological treatment as well. This sewage system serves residential areas and a number of small industrial plants. The potato processor's treatment plant, while independent of the gmina's wastewater system, is not a good one. The villages, however, do not have a central system and rely on septic tanks with periodic cleaning via "evacuation trucks." The gmina plans to install collection systems and treatment plants in the villages, combining the smaller villages into one system where feasible. But officials want to be sure they are using up-to-date and appropriate technology for these village systems. It has been approached by LEMMA, which has a well-developed approach to small, rural sewerage needs. The gmina can probably build three plants for the outlying villages under its own resources but will need help for the remainder. At the same time, the Mayor recognizes that not all the villages can be added to the system at once. He wants to develop a longer-term plan so that eventually all the village systems will be completed. Land is already available—or will be made available—within the villages for siting the treatment plants.

The gmina has a mixture of small industries and agriculture. Individual resources are limited. Nevertheless, residents have paid for an expanded telephone system and paid the cost of the hookups for participation in the potable water system. There is thus a resolve to shoulder some of the cost of environmental projects, including the proposed sewer system.

The potato processing plant is the biggest industrial employer in the central city, but it poses a serious environmental problem because of large water consumption and the inability to get rid of its effluent. Its products are potato flour, dried potatoes, and alcohol residue used for vodka. Efforts have been made to reduce water use and to reuse water within the plant; however, the amount of effluent is still greater than the plant's existing treatment facility can handle. Although the effluent is spread onto fields for fertilizer, it is not clean enough. The result is damage to the soil and, eventually, polluted streams and water supply. The gmina officials hope they can find and learn from companies that have dealt successfully with similar problems. Shutting down the plant would solve the environmental problems but would also cause widespread unemployment. Because the plant is a quasi-public enterprise, there is very little money for modernization.

The Mayor ended the meeting with a summary of what has been done in the past 3 years to rectify a growing environmental disaster in Namyslow. Some of these activities include:

- modernizing the sewerage plant in the central city;
- digging deep wells in the north for a water treatment plant;
- constructing a dam in the nearby river to assist in agricultural growth and development;
- constructing a modern landfill;
- expanding the potable water supply system to five villages, and constructing a purification plant to service eight more (three more villages will soon have potable water from this same plant);
- using German investments to develop a modern ice cream plant, thereby increasing employment and diversifying the gmina's employment base.

We were impressed by the leadership, technical understanding, and effective management of this gmina as well as the apparent cooperation of gmina residents in shouldering some of the cost for these environmental improvements. Namyslow is a good candidate for inclusion in LEM.

After this meeting, the team drove to Wroclaw, where Ms. Panehal took the train to Warsaw for meetings with USAID. Mr. Pecikiewicz and Mr. Sommers then drove to the next meeting at Ziebice, arriving at about 1400.

Meeting with Deputy Mayor and Environmental Experts/Ziebice

We met with the deputy mayor, and his assistant for environmental problems, and with Mr. Zdzistan Cichocki, Institute of Environmental Protection, Wroclaw. Ziebice is actually in Woj Walbryz, but it is only 50 km from Wroclaw. In many respects, therefore, it is treated as a part of Woj Wroclaw, particularly because it is on the Olava River and is a prime contributor to the river's pollution. The pollution in turn has a direct and negative effect Wroclaw's water supply.

Ziebice had already provided the team, in advance, with a brochure in English on the nature of its environmental problems and reasons to support its inclusion in LEM. It has a population of 20,400 with 28 villages covering 222 km². The central city has about 10,000 people while the village of Henrykow has 1,400; the remaining villages average about 500. More detail on the gmina and its problems are included in the brochure.

The most important environmental problem is wastewater treatment. The central city has a collection system and a treatment plant, both of which are inadequate. The system was built in the 1920s and was modernized to some degree in the 1970s. However, the current system is inadequate and untreated sewage is being dumped into the Olava River from the central city and from the largest village, Henrykow. This, of course, increases river pollution and affects the cities downstream, especially Wroclaw. It is estimated that the expansion/modernization of the central city system alone will cost Zt 24 billion. The local government can contribute 20% of its annual budget of Zt 3.5 billion to resolve the problem. Unemployment here is in the 25-30% range but the deputy mayor felt residents would pay as much as they could to relieve the sewage problem.

With the help of the Olava Ecological Foundation and local resources, the gmina has written a specification which is now out for bidding. The specification calls for the submission of proposals by experienced, reputable engineering firms to design plans for the modernization/expansion of the system. This is the project which the Ziebice officials want included in LEM. They will need technical assistance to review the bids, to guide the design team and, eventually, to devise a development and construction plan. They also recognize the importance of having a funding/financial plan so that the wastewater modernization project can be offered to national/international lenders for financing.

This proposal should be seriously considered for inclusion in LEM. The municipality recognizes its responsibility to stop polluting the Olava and is planning corrective action. It has shown initiative in trying to solve the problem and recognizes that local input, especially in the financing, will be important. At the same time, this project has a regional character, in which the recently created Water Management Authority for this area has expressed considerable interest. Thus, LEM may be able to leverage a local program that will have regional impact—i.e., an influence on Wroclaw's water supply. If the project were packaged with those of other municipalities along the

Olava/Oder that are operating under similar environmental pressures, it could add both a national and an international appeal.

THURSDAY, NOVEMBER 19

Meeting with the Mayor/Krosnice

At 0930 we met with the mayor of Krosnice, Mr. Jan Koleowski. This is a small gmina, with 8,000 people in 21 villages on 18,000 hectares. The main occupation is agriculture, even though the soil is classified in the lower 5 and 6 category which denotes low productivity potential. One-third of the land is forest, and there are about 1,000 hectares of lakes. Cooperatives hold 60% of the farmland, and 40% is in privately owned farms. Because the land is not fertile, the gmina wants to encourage tourism through its old ruins, lakes, and forests—stressing fishing and hunting. The gmina does not want to attract either industry or commercial ventures but aims to promote a "natural retreat."

The gmina has developed three nonorganic landfills to service the villages. Seven villages have communal water service through deep wells, and the remainder of the villages rely on individual wells. Neither solid wastes nor drinking water pose a large problem to the gmina, according to the Mayor. Many of the lakes show signs of pollution from agricultural fertilizer, but this is decreasing as farmers have cut back on their production or used more natural fertilizer. There is no evidence in the lakes of contamination due to wastewater dumping or infiltration.

However, the wastewater problem is most pressing, particularly given the gmina's desire to reorient its economy toward tourism, recreation, and a natural, pastoral environment. The gmina does not have a wastewater collection and treatment system; this could eventually pose a problem, especially to nearby lakes and streams. The Mayor's plan is to install a sewer system in one-fourth of the gminas, concentrating on those close enough together to make the system financially and technically feasible. There is local support for the program. The project is estimated to cost Zt 20 billion. Thought has been given to organizing contributed labor from the residents for ditch digging, excavation work, etc. The Mayor is seeking assistance on the wastewater program, for which he would like LEM's assistance.

This is a small rural community not currently endangered by critical environmental problems. The main impetus for the proposed sewer plan is based on both health and economic development. While gmina officials seem to have sketched out a good approach to the problem, its needs are not critical enough to be included in LEM. However, if gminas with similar problems were included, e.g. Miedzna or Namyslow, then Krosnice might be able to participate in peripheral training and workshops sharing insights on how LEM participants have approached similar problems.

Visit with Officials/Dlugoleka

We then met with two officials from the municipality of Dlugoleka, Mr. Piotr Machiejewski and Mr. Ryszard Czerwinski. This gmina straddles the main highway east out of Wroclaw and has a population of 17,000 living in 41 villages. It is largely agricultural with some commercial enterprises close to the highway; it is developing as a "bedroom" community since more and more people work

in Wroclaw but live in Dlugoleka. The city has issued a summary gmina development plan. The three areas of environmental concern are those we encountered most often during this trip, namely, wastewater, solid waste, and potable water. A fourth is the changeover of home heating fuel from coal to gas.

A main policy thrust of the gmina is to protect and develop "the center" as an environmentally "clean" development, zoned so that only large-scale residential use can obtain development permits. Environmental projects involving solid waste, wastewater, and water are to be implemented there to exemplify the "best" in environmental protection.

The gmina has immediate plans to sewer four areas and has already begun construction of the first treatment plant near the gmina center at an estimated cost of Zt 10 billion. The total for all four areas is projected at Zt 40 billion. The plans call for the project to be completed in 3 years. Financing will come from local resources, voivodship funds, and direct contributions from individual inhabitants. It was not clear whether these contributions were to be "in-kind" cash donations or income from higher rates. The gmina has also proposed that a number of the surrounding municipalities get together and arrange a loan package with a commercial bank so that all can solve their wastewater problems together as one large project. The officials also would like to interest international lending institutions. Whether or not the local rates could be raised sufficiently to support repayment of international loans is, of course, conjectural. In the wastewater project now under construction, the gmina contracted with a design firm to plan the system and prepare bids. The contract was then awarded to a local (Wroclaw) construction firm. Because the gmina has a very small staff, it intends to contract for the operation of the wastewater system.

The gmina has also constructed a new, high-tech landfill slated to open on December 1, 1992. However, much has to be done to improve the gmina's management capacity before it will be able to run the total operation: collections, landfill procedures, and the levy of fees. We were given a copy of the gmina's solid waste collection regulations, but questions remain about whether the gmina is in a position to enforce its own rules.

The gmina lacks a fully extended potable water system. About 15% of the residents have piped water, while the remainder get their water from wells and from small, temporary purification plants. Lines are being extended as quickly as possible; however, decisions on extensions are made by the Voivodship Water Company and not by the gmina as such. The gmina is also introducing gas to the residents as a change over from coal. Gmina officials expressed an interest in using liquid, butane gas for heating and cooking but were unsure about the technical pros and cons.

An important element in the wastewater sector, and apparently in others that are part of the Wroclaw Metropolitan Area, is the role of the Voivodship Water/Wastewater Company. The company apparently runs the two systems, sets the rates, and performs maintenance. Capital extensions seem to be the responsibility of the local units which, when completed, are then incorporated into the company's system, leaving the local units to pay the capital costs while the company takes care of daily operations and maintenance. In some cases, however, the company may contribute to the capital costs through the voivodship budget. The arrangement is unclear and should be examined further so that a clearer picture emerges, especially if LEM is to assist gminas in this voivodship.

Długoleka is trying to do everything at once, but appears to have no clear plan or priority by which fiscal, managerial, and operational needs and resources are identified and addressed consistently in an ordered, priority-conscious manner. This gmina should not be included as a LEM participant but should, rather, be given access through training and workshops to the operational results of LEM. Długoleka needs a lot of input on practical applications of management, planning, and operational procedures.

Visit with Mayor and Deputy Mayor/Katy Wroclawski

We then visited Katy Wroclawski, a small suburban town situated about 25 km west of Wroclaw, just off the main highway. We met with the mayor, deputy mayor, and an interpreter at 1430. The gmina has a population of 16,500 scattered in 41 villages; 50% of the population lives in the gmina center. The officials appeared quite clear on their environmental problems, which they listed as (a) drinking water, (b) wastewater and sewage, (c) industrial pollution, (d) landfill/solid waste, (e) river pollution, (f) negative effects of Wroclaw's new international airport expansion (which affects a part of the gmina), and (g) the east-west highway, which splits the gmina and which also has an alternate truck route through the downtown.

The drinking water source is a deep well (208 m) that serves about one-fourth of the gmina center. The remaining villages have individual wells or use surface water collection systems. Water in the gmina generally contains a large quantity of iron and manganese. A further problem centers on Wroclaw's intention to tap part of a large aquifer near the Katy Wroclawski/Wroclaw border to supplement Wroclaw's water needs; this construction could have a significant effect on future water sources/reserves for the gmina. Wroclaw's move is still under discussion, and no resolution has thus far been found. Gmina officials are fearful that a unilateral decision may be made because Wroclaw's needs are great. The voivodship may side with the city and permit it to proceed.

The gmina center, including four nearby villages, is partially served by a very old wastewater collection system with a small mechanical treatment plant. The remaining villages have only septic systems, many of which are quite rudimentary. The gmina is working on plans to construct an expanded, remodeled treatment plant with both biological and mechanical treatment capacity, and to redo the collection system. The financing package has yet to be worked out. We were shown a "sketch plan" of the gmina identifying priority improvements, especially in wastewater and potable water. We also saw more detailed sketches of the proposed sewer/treatment plant for the gmina center. Although the financial plan is not complete, the Mayor indicated that they would dedicate a portion of local revenues to these improvements, apply to the voivodship for other funds, and raise existing water/sewer rates to increase the local share. The two officials were firm in their belief that if a good program were proposed, the citizenry would agree to share some of the burden through increased rates.

Other problems concerning industrial pollution center largely on a large food processing plant, which includes a potato processing facility similar to that in Namyslow, with the attendant effluent disposal problem and excessive use of water for processing. The two rivers that run through the gmina are polluted with this and similar effluent discharges, not a little of which is communal wastewater discharged from the gmina center and the villages that border the two rivers. Added to these problems are air and noise pollution related to the expansion of the Wroclaw airport into an international facility, which has affected a large part of the gmina adjacent to the airport. Similarly, a

trucking bypass road leads from the main highway through the gmina center to other connections and is a constant source of noise, air pollution, and traffic menace.

In sorting out these various problems, the Mayor and Deputy Mayor want to choose the best approach to improve both the wastewater and the potable water systems, while causing the least possible inconvenience to the community as the improvements take place. They are considering a joint installation: (i.e., putting in the sewer and water lines together) particularly in the gmina center. The central city has paved and cobbled pavements which, if dug up twice to accommodate uncoordinated placement of the water/wastewater might permanently damage the road base and disturb old buildings. If Katy Wroclawski were included in the LEM project, the development of a joint approach to the utility installations would be a primary object for technical assistance.

Katy Wroclawski is doing its best to take a planned and prioritized approach to its environmental problems. Because the gmina's problems are linked to those of metropolitan Wroclaw, and given the leadership of the mayor and his staff, as well as the apparent willingness on the part of the city council—and the residents—to shoulder some of the cost of these improvements, the gmina could be included as a participant.

FRIDAY, NOVEMBER 20

Visit with Mayor and Environmental Council/Borow

At 0830 we met with the mayor of Borow and seven members of the environmental council. Borow has a population of nearly 6,000 scattered in 25 villages over 8,000 hectares. 5,000 hectares are in private farms while about 2,000 hectares are in state-owned farms. The area is predominantly agricultural, but there is one large soap (detergent) factory that employs over 300 people. A number of smaller agri-business concerns are scattered throughout the gmina.

Borow's main concerns are extension and improvement of both the potable water and wastewater systems. Of the 25 villages, 16 have "delivered water" at the tap; the gmina has finished a pipe system for two more villages. Plans are in the works to bring water to the remaining villages at a cost of Zt 20 billion, which the gmina plans to fund by setting aside Zt 2 billion per year from its annual income of Zt 5 billion per year. The water system improvement for the other villages, now completed, was financed through a 7.5% loan from a commercial bank and from voivodship grants through the Environmental Protection Fund. In-kind contributions were—and will be—made by farmers who buy and lay pipes to service their farms and homes.

The gmina is also planning a large, consolidated landfill to eliminate smaller dumps, both authorized and unauthorized; however, the plans for this landfill were less specific. The mayor and council did not appear to feel that solid waste was as pressing a problem as water/wastewater. The solid waste problem is only now being considered because the gmina's focus has been primarily on providing potable water. Both Borow center (800 population) and Borek Strzelinski (1,000 people) need to have wastewater systems for collection and treatment. The gmina has finalized a plan for a treatment plant in Borow.

However, Wroclaw Voivodship authorities are pressuring the local governments, including Borow, to coordinate their water and wastewater efforts so that the disruption in pipe laying is reduced and, presumably, costs are reduced by doing both projects together. Borow officials expressed their opinion that, while this is good in theory, it is difficult to sustain in practice because of the high capital cost of doing both at once, Borow's policy is likely to be to continue with potable water and then, over time, to concentrate on the wastewater problems—at least in the areas outside of Borow and Borek Strzelinski. Residents are convinced of the need for a potable water system and are willing to contribute labor and pay higher rates. They are not convinced of the value of a parallel wastewater system, nor can many of them afford increased rates/fees to pay for such a system. Thus, Borow officials believe that the most they can do now is to institute a public information program to show residents the direct relationships among (a) heightened use of water from public systems, (b) wastewater collection and treatment, and (c) public health. These relationships have been demonstrated by studies showing heavy metals and the disturbing pH of the wastewater. A small stream that runs through Borow center is very polluted. Although it is not part of a major river system, it nevertheless is a local problem and one that officials hope will be solved when Borow gets its collection and treatment system.

Borow is an agricultural community that is very interested in solving environmental problems. The Mayor appears to be influential and interested, and local officials and citizenry also participate. The provision of potable water is their main focus; wastewater is, at least for now, secondary. They would like to have help from LEM to devise a public information program, and then to develop a wastewater plan for the whole gmina. The gmina does not have the environmental threats that face other communities we visited; thus, it should not be considered for inclusion in LEM as a major participant. However, it could profit from being included in training and workshop exercises as an "area-of-influence" participant, to gain problem-solving insights from the experiences of LEM's participating municipalities.

Meeting with Mayor and City Officials/Swieta Katarzyna

Our next meeting was with the mayor, deputy mayor, representatives of the city council, and technical staff at Swieta Katarzyna. Like Ziebice, this municipality prepared an excellent briefing paper in English on the area and on its environmental problems. The population is 12,000 with 14 villages spread over nearly 10,000 hectares. A more detailed description is contained in the briefing paper. Its economic base is divided between agriculture and industry. The gmina is also the site of the Siechnices Ironworks, which produces iron and chromium. This plant was closed in 1990 because of the extremely bad environmental effects of its operation. The gmina's main environmental problems are sewage/wastewater, solid waste, soil contamination and reclamation, and air pollution. The wastewater problems are the most critical, not only because they affect Swieta Katarzyna, but also because the flow of untreated sewage into the Olava/Oder system strongly affects the water supply of Wroclaw as well. Highlighting the regional interest in these problems was Mr. Andrzej Nalberczynski, Director of the Regional Water Development Authority of Wroclaw. He has pledged the backing of the Authority in working with LEM to help solve some of these problems. The remainder of the meeting focused on a discussion of wastewater conditions and proposed solutions.

The Mayor and his staff presented a detailed analysis and proposed solution to their wastewater problems. The first phase is to remodel, upgrade, and expand the existing treatment plant in Siechnices. The expanded works will be built near an existing small, mechanical treatment plant. In addition, the new plant design includes a proposed expansion of the collection system. The gmina

is ready for bids. However, it wants a more thorough technical review of the design to be sure that the technology being proposed is both appropriate and effective. The proposed expansion is to be financed from local sources, from voivodship grants, and from national participation. The gmina may also be able to interest international lending institutions. The Mayor assured us that the local residents will bear a fair share of the costs. The cost of this improvement is estimated at Zt 20 billion. The second phase of the wastewater plan centers on Zerniki Wroclawskie, where both treatment and collection is important. A preliminary study has been made and investigation of proposed solutions has been initiated. We were given summary proposals, in Polish, on both these projects along with a one-page description in English.

This gmina should be included in LEM; its leadership is first-rate, its technical competence is good, and it is committed to solving environmental problems. It seeks LEM's assistance in areas for which LEM has been devised and promoted. The wastewater project(s), moreover, has wider area and regional applications. This project will assist Wroclaw in protecting its own water supply; at the same time, local efforts to clean up the Olava/Oder river complex will serve regional and national interests.

Meeting with Voivod/Wroclaw Voivodship

Our last meeting of the day was at Wroclaw Voivodship to call upon the Voivod, Dr. Jarmsz Zaleski, Professor of Mathematics, Wroclaw Technical University, and brief him on our visit. We were accompanied by the director of the Environmental Protection Board, the chair of the Woj/City Environmental Protection Committee, Ms. Ewa Rzewuska; and Dr. Jerzy Malewski, a member of the Woj Environmental Committee. We briefed the Voivod on our visits throughout the area, noting that we found that many of the municipalities were well prepared, understood the project, and showed the kind of interest in the LEM project that would make for success. He, in turn, welcomed us to Wroclaw, understood the general concept of the project, and pledged the backing of the voivodship to the extent possible. He appointed Dr. Malewski as our contact person and hoped that the project would begin as soon as practical. He also asked that he be kept informed of our choices of gminas and of the progress of the project.

We left to drive to our last stop, Nowa Sol in Woj Zielina Gora.

SATURDAY, NOVEMBER 21

Meeting with Mayor and Officials/Nowa Sol

We met with a group of 10 people, including the Nowa Sol mayor, deputy mayor, heads of technical departments, and a representative from an environmental NGO, at 0800 in the City Hall. Although this city is out of our original area of concentration (it is in Zielina Gora Voivodship), it was highly recommended by Ms. Krystyna Wolniakowski, Director of the German Marshall Fund "Environmental Partnership" in Wroclaw.

The city has a population of 43,000 spread over some 5,000 hectares. Its economic base is industry, mainly metals, textiles, and construction companies. However, substantial cutbacks in the metal and textile industries have raised the unemployment rate to 17%. The textile industry is heavily

indebted and is not able to refinance its debt because of the high interest rate being charged by commercial banks. If a solution is not found, the unemployment rate may increase.

Although Nowa Sol has a number of environmental problems related to heavy industry (air and water pollution) and to the main highway that runs through the city (air and noise pollution), the number one problem is the wastewater system. The system is in such poor condition that it threatens the city's deep wells. Twenty percent of the city is sewered; sewage collected is treated at an old German-built plant that has been remodeled but has limited capacity and is not working well. Treatment is limited to mechanical. Once the sludge is removed, the effluent is dumped into the Oder River, which runs past the edge of the city. The sludge is deposited in the city landfill. Because there are still heavy metals in it, this sludge should not be used for agricultural purposes. However, many farmers and residents with garden plots remove the sludge clandestinely and use it on their fields and gardens.

Many of the industries, though not all, are connected directly to the sewer system. Moreover, a substantial proportion of the connected industries do not treat their effluent but send it directly to the city system. Other industries dump directly into the Oder, with or without primary treatment. The city has developed plans to (a) rebuild and remodel the treatment plant, and (b) install a new collection system to serve nearly the whole of the city. A rough estimate on the total cost for (a) and (b) is about Zt 120 billion. The city can fund up to Zt 10 billion a year. The city officials are hopeful that the voivodship will contribute. Because the city is willing to shoulder some of the long-term capital costs through direct appropriations from the budget, including income from increases in current rates, the city is also hopeful that the central government and/or international lending agencies will be convinced of the need and make assistance (loans or grants) available to fund the full project.

The Mayor reported that the World Bank has been working with industries in the city to encourage the use of gas for heat and power in place of coal. German firms are also active in the city and surrounding area, but the German government has shown no interest in assisting the city with projects that would help clean up the Oder. Some members of the council thought the Germans were fully occupied trying to clean up the environmental problems in former East Germany which, in many respects, is worse than in Poland.

The Mayor and Deputy Mayor requested that Nowa Sol be included in LEM so that the city could receive technical assistance in (a) review of its design work; (b) wastewater management; and (c) development of a realistic, acceptable funding package that might then be considered by the central government and international funding agencies. Members of the group also stressed the need for a public information program to encourage understanding, and backing, of the sewage treatment and extension program.

The Nowa Sol officials were well prepared, showed a genuine grasp of their problems, and had a clear set of realistic priorities. We were impressed by the considerable technical and managerial understanding that they exhibited. The Mayor and Deputy Mayor also appeared to maintain a firm, low-key leadership. They emphasized that the city was willing to pick up a fair share of the cost of the wastewater program.

We recommend the inclusion of this city into LEM. The "packaging" of the three cities on the Olava/Oder river system—Ziembic, St. Katarina, and Nowa Sol—would engage local, regional,

and national interests. Such a demonstration of Polish efforts to attack the pollution of the Olava/Oder might then become more attractive for national and international funding.

We left Nowa Sol for Warsaw.

SUNDAY, NOVEMBER 22

Mr. Sommers left Warsaw for Boston on LOT Flight 281 at 0800.

PROJECT 0039

LOCAL ENVIRONMENTAL MANAGEMENT
(LEM)

FIELD TRIP TO POLAND, NOVEMBER 15-21, 1992

Purpose: to identify locations in Upper and Lower Silesia to implement assistance activities.

Participants:

- Ms. Alexandria Panehal, AID/Washington, Deputy Chief, Environment and Natural Resources Division
- Mr. William Somers, Research Triangle Institute (RTI), Center for International Development

FRI., NOV. 13

- morning arrival from Budapest, check in at the Forum Hotel in Warsaw (**hotel has been booked already**);
- 1:00 PM - briefing with Melanie Chen, Project Officer
- 2:00 PM - meeting with Andrezej Pecikiewicz to discuss details of the trip (contents of pre-proposals, schedule, possible enhancing of the trip, etc.)

SAT., NOV. 14

- day of leisure, review of pre-proposals

SUN., NOV. 15

- in the morning (about 9:30 - 10:00 AM) leave from Forum Hotel to Katowice
- overnight in Hotel Silesia (3 single rooms have been booked)

MON., NOV 16

Transfer to Wodzislaw Slaski, 1 hr drive, take route to Zory)

9:00 - 10:30 AM - meeting with Wodzislaw Sl. authorities
Henryk Lewandowski, Mayor
Tadeusz Chroszcz, Vice-Mayor
+ Environmental Board
Urząd Miejski, Wodzislaw, ul. Boguminska 4
(836) 55 13 17, fax (936) 55 32 37

transfer to Czechowice-Dziedzice (1 hr drive)

11:30 - 13:00 PM - meeting Czechowice-Dziedzice authorities
Jan Berger, Mayor
Czechowice-Dziedzice, Plac 1-Maja 1
tel. (830) 522 10, 524 13

transfer to Rydułtowy (1 hour drive)

4/1

14:00 - 15:00 PM meeting with Rydułtowy authorities
Urząd Gminy, ul. Ofiar Terroru 36
Zbigniew Zeman, Mayor
Tadeusz Dragan, Environment Specialist
tel. (836) 577 266 x. 122

transfer to Miedzna (take main route to Oswiecim)

15:30 - 16:30 PM meeting with Miedzna authorities
Urząd Gminy, ul. Wiejska 45
Andrzej Granaty, (wojt)
Pawel Libera, Environment Specialist
tel. (Pszczyna) 61 77, 40 89

transfer to Katowice (1 hr drive)

overnight in hotel Silesia
(3 single rooms have been booked)

TUE, NOV 17

transfer to Ogrodzieniec (90 min drive, take route to
Czestochowa & Zawiercie)

9:00 - 10:30 AM meeting with Ogrodzieniec authorities
Jaroslaw Ciszewski, Mayor
Environmental Protection Board
Urząd Miejski, Ogrodzieniec, Pl. Wolności 25
tel. & fax 230 55

transfer to Katowice

12:00 noon meeting with Katowice authorities
Wojciech Czech, Voivod
W. Beblo, Director Environmental Protection Board
President and Henryk Krauze of Local Self Government
ul. Jagiellonska 25 (Director Beblo office)

transfer to Namyslow (3 hrs drive)

Overnight at Hotel Daria, Namyslow, ul. Kolejowa 1,
tel. 102

WED, NOV 18

8:30 - 10:00 am - meeting with Namyslow authorities
Adam Maciag, Mayor
Ryszard Wilczynski, Secretary of Gmina

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transfer to Ziebice (1.5 hr drive)

11:30 - 13:00 PM meeting with Ziebice authorities
Ryszard Nowak, Mayor

transfer to Wroclaw

Overnight at Hotel Panorama

Alexi Panehal departure to Warsaw, by express train from
Katowice (leaving about 6:20 PM), arrival in Warsaw about
9:00 PM, overnight hotel Forum. (Hotel Marriott for Alexi,
Nov 18-22, 1992 has been booked)

THR, NOV 19

transfert to Krosnice (90 min drive)

9:30 - 11:00 AM - meeting with Krosnice authorities
(**-address, tel, names **) This visit will be arranged
by Mr. Zieba, Voivodship Environmental Protection Board.

transfer to Dlugoleka (60 min)

12:00 - 1:30 PM - meeting with Dlugoleka authorities
Zjzislaw Pisarek,
Environment Specialist
Dlugoleka, ul. Worclawska 18
tel. (0-71) 15 21 86

Lunch at Inn in Mirkow, 2 km out of Dlugoleka

transfer to Katy Wroclawskie (60 min.)

2:30 - 4:00 PM - meeting with Katy Wroclawskie
authorities
Ferdynand Wojcieszonek,
Environment Specialist
Katy Wroclawskie, Rynek - Cith hall, tel. (0-71) 16 60 11

transfer to Wroclaw

overnight in hotel PANORAMA, WROCLAW
(2 single rooms have been booked)

FRI, NOV 20

7:30 AM - depart hotel

U/k

transfer to BOROW (45 minutes drive)
(route Strzelin, Ziemlice, before Borek Strzelinski turn
right and after 6 km you reach Borow)

8:30 AM - 11:00 AM meeting with Borow authorities
Put Edmund (wojt)
Henryk Kaczmarczyk, Jolanta Maczuga (environment specialists)
Borow, ul. XXXV-lecia PRL-22, tel. Borow 221

transfer to Sw. Katarzyna

12:00 - 1:30 PM meeting with Sw. Katarzyna authorities
Urząd Gminy, ul. Główna 82 (opposite the church)
Jerzy Komorowski (wojt)

transfer to Wrocław (1 hr, lunch)

3:30 PM - courtesy meeting with Wrocław authorities Voivod,
Zieba, Director Environmental Protection Board,
President of local Self Government Parliament
Urząd Wojewodzki, Pl. Powstancow Warszawy 1, Mr Zieba's
office or voivod's office (300 m from the hotel)

depending on possibility of meeting with NOWA SOL authorities
on Saturday:

1. departure to Nowa Sol, overnight there at the local hotel (2xsglb)
- or
2. overnight in Wrocław, Hote Panorama (please book 2 single rooms)

SAT, NOV 21

Two options:

1. 8:00 AM - 10:30 AM - meetin gwith Nowa Sol authorities,

- 11:00 AM departure for Warsaw via Poznan, or

2. in the norming departure from Wrocław to Warsaw via
Piotrkow Trybunalski.

After noon/early eveing - return to Warsaw, Hotel Hotel Forum
for Bill Somers, November 21-22, 1992 has been booked

PART IV

Local Contacts: Hungary and Poland

HUNGARY - CONTACTS

MERP

Ministry for Environment and Regional Policy
Section of Waste Management



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Ernő KISS
head of section

Address:
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Fax: (36-1) 201-24-91

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Ministry for Environment and Regional Policy
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Katalin GARA-NAGY, Ph.D.
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GYŐR

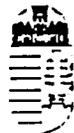


GYŐR

ERNŐ KOLOZSVÁRY
MAYOR

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2

← INTERPRETER

György BEREND
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1045 Budapest IV.,
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Dr. Botos László
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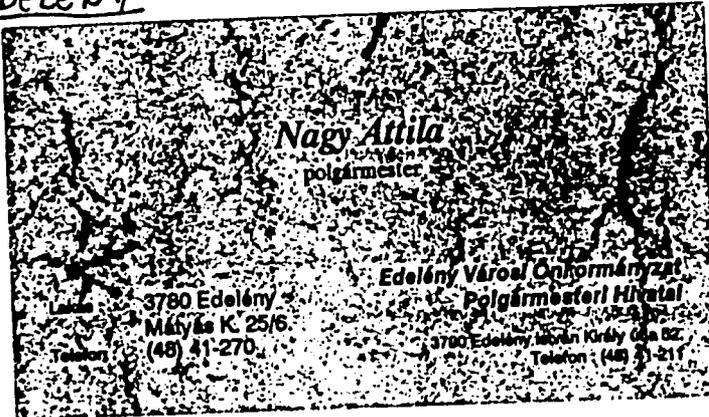
Lakás:
3531 Miskolc
Bárony János u. 15. II/1.
Telefon: 355-358

Lakás:
3600 Ózd, Zalai út 16. sz.

Zuhász László
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Városi Önkormányzat 3600 Ózd, Vasvár út 50. sz.
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Andrzej Granaty

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teleks 0312823
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mgr Jerzy Komorowski

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inż. Kazimierz Piskorski

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Krzysztof Gonet

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Telex 0432411

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Józef Suszyński

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Telex 0432411

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3

MIEDZNA

Miedzna Meeting

primo	Dojdan	Tawnowski	-	ph. 20 61	w 212.
nr	Alojzy	Nojciech	-	ph 61-91.	
mgr	Bernard	Szweda	-	61-60	f. ps. 17 ⁰⁰
	Gwoździ	Anna	-	pk. 20-61	w. 250
up. iz.	Ranci	Libor	-	ph skarb. 61 77/6033	
	Renata	Domizot	-	63-76	v 40-89 w. 11 44
	Andrzej	Graciatyr	-	40-89 skarb.	61-68 prywatny
pr. in.	Zbigniew	Zabawa	-	ph. 20-61	Pszyna w. 421

NAMYŚLÓW

URZĄD MIEJSKI W NAMYSŁOWIE.

- 1 BURMISTRZ MIASTA NAMYSŁÓW - ADAM MACIĄG
- 2 Z-C.A. BURMISTRZA - STANISŁAW SMREČAK
- 3 SEKRETARZ GMINY - RYSZARD WILCZYŃSKI
- 4 KIER. WYDZIAŁU GOSPODARSTWA
KOMUNALNEJ I Kształtowania
ŚRODOWISKA - TADEUSZ BAGIŃSKI
- 5 INSPEKTOR D/S OCHR. ŚROD. I WYDZ. / w. - ZBIGNIEW JERZYŃSKI
- 6 DYREKTOR ZAKŁADÓW
PRZEMYSŁU ZIEMNIACZANEGO
W NAMYSŁOWIE - STANISŁAW WAKILKOWSKI

POLAND CONTACTS

4

Ryduktowy

Leon Tatuna - Naczelnik Miasta
Kustya, Franciszek - Sekretarz Miasta
Janusz Salwicki - Naczelnik Wydziału Komunalnego
Anna Urbisz - Naczelnik Wydziału Rozwoju Miasta

PART V

List of Publications Received

LIST OF PUBLICATIONS RECEIVED

HUNGARY:

1. Gyor
 - a. Descriptive book (English, German, Hungarian)
 - b. "Solid Waste Management Plan for Gyor," Post, Buckley International, October 1992 (English)
2. Sajoszentpeter
 - a. Descriptive brochure (Hungarian)
 - b. Analysis of hazardous waste (Hungarian)
3. Kazincbarcika Descriptive brochure (Hungarian)
4. Edeleny Descriptive brochure (Hungarian)
5. USAID/Hungary Report on U.S. assistance to Hungary, fall 1992

POLAND

1. Wodzislaw Slaski Information booklet, 1992 (Polish)
2. Miedzna City newsletter, 1992 (Polish)
3. Ogrodzienic
 - a. Descriptive brochure, Ogrod/Region, 1992 (Polish)
 - b. Descriptive brochure, Ogrod Castle, 1992 (Polish)
4. Woj Katowice Environmental Profile, Katowice, 1991 (English)
5. Woj Wroclaw
 - a. Descriptive brochure (Polish)
 - b. Environmental Problems, Woj Wroclaw, 1992 (English)
6. Dlugleka
 - a. Planning/information booklet, 1992 (Polish)
 - b. Solid Waste Regulations, 1992 (Polish)
7. Ziebice
 - a. Brochure, Ziebice and Henrykow (German, Polish)
 - b. Summary of wastewater project, 1992 (Polish)
 - c. Report on environmental problems, 1992 (English)
8. Swieta Katarzyna
 - a. Book, 28 color photos, 1992
 - b. Report on environmental problems, 1992 (English)
 - c. One-page summary of document "b" (English)
 - d. Summary, sewer plans for Swieta Katarzyna and Siechnices, 1992 (Polish)
 - e. Gmina environmental newsletter, 1992 (Polish)
 - f. Brochure, WPRI-Eko Sewer Treatment Methods (Polish)
9. Nowa Sol Descriptive brochure, 1992 (German)

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PART VI
Distribution List

DISTRIBUTION LIST

- A. Alexandria Panehal
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Bureau for Europe
US Agency for International Development
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- B. Bob McLeod
Office of Housing and Urban Development
US Agency for International Development
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- C. David Cowles, USAID Representative
USAID/Hungary
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- D. Ferenc Melykuti
Agency for International Development
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- F. William Joslin, USAID Representative
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- G. Andrzej Pecikiewicz, Project Specialist
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- O. James Perry
Environmental Training Project
University of Minnesota
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- P. Teri Kelly, Project Coordinator
Center for Clean Air Policy
Washington, DC 20001
- Q. Ed Sanders
Sanders International
Washington, DC 20036
- R. Center for Development Information and Evaluation
Agency for International Development
Washington, DC 20523-1802