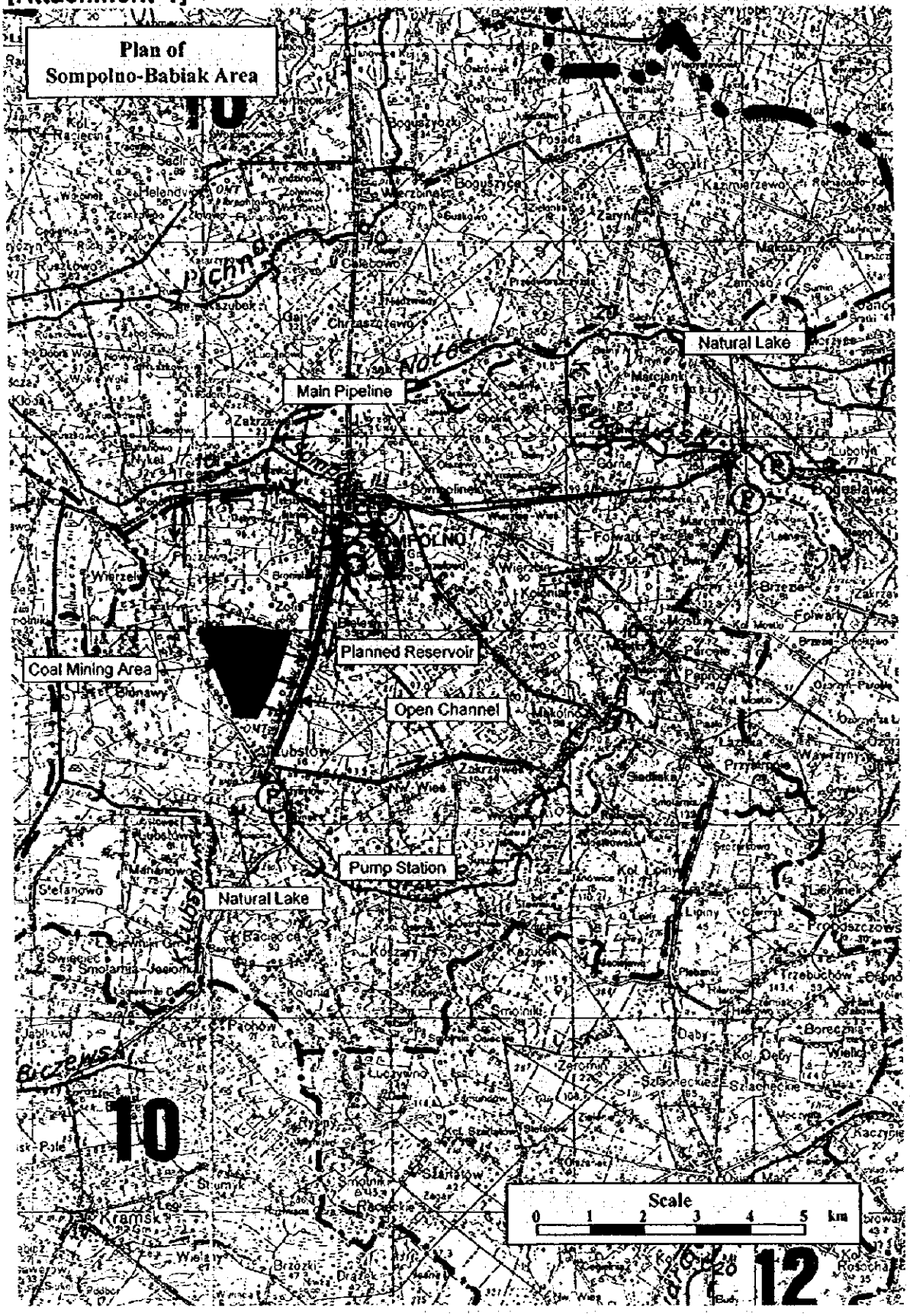
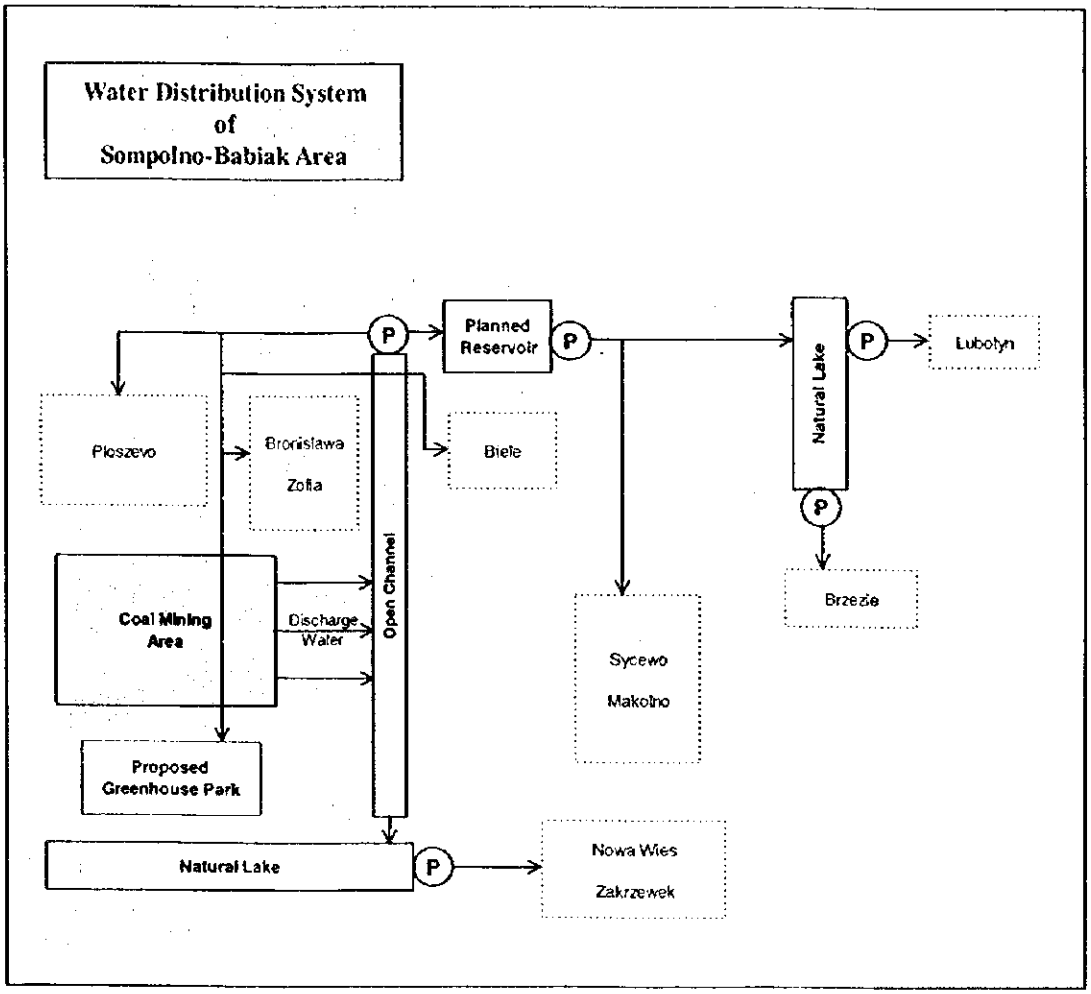
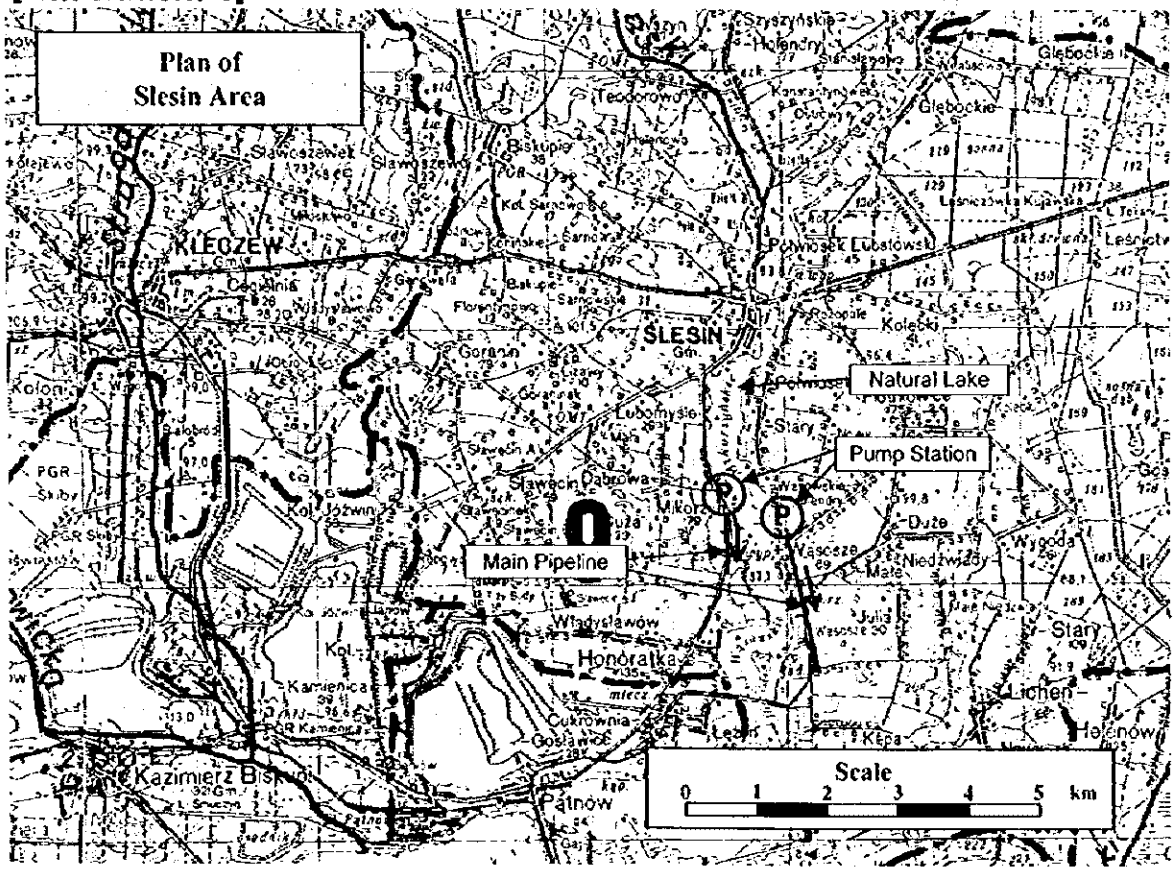
[Attachment-1]

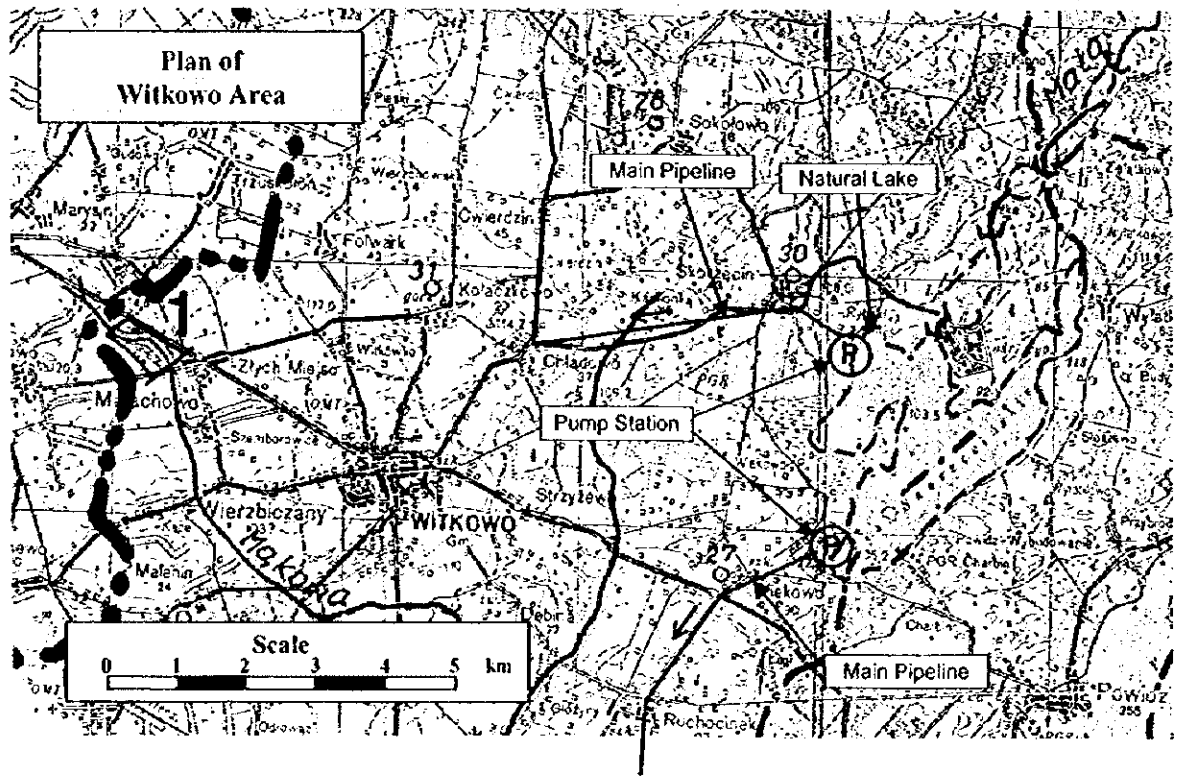


[Attachment-2]

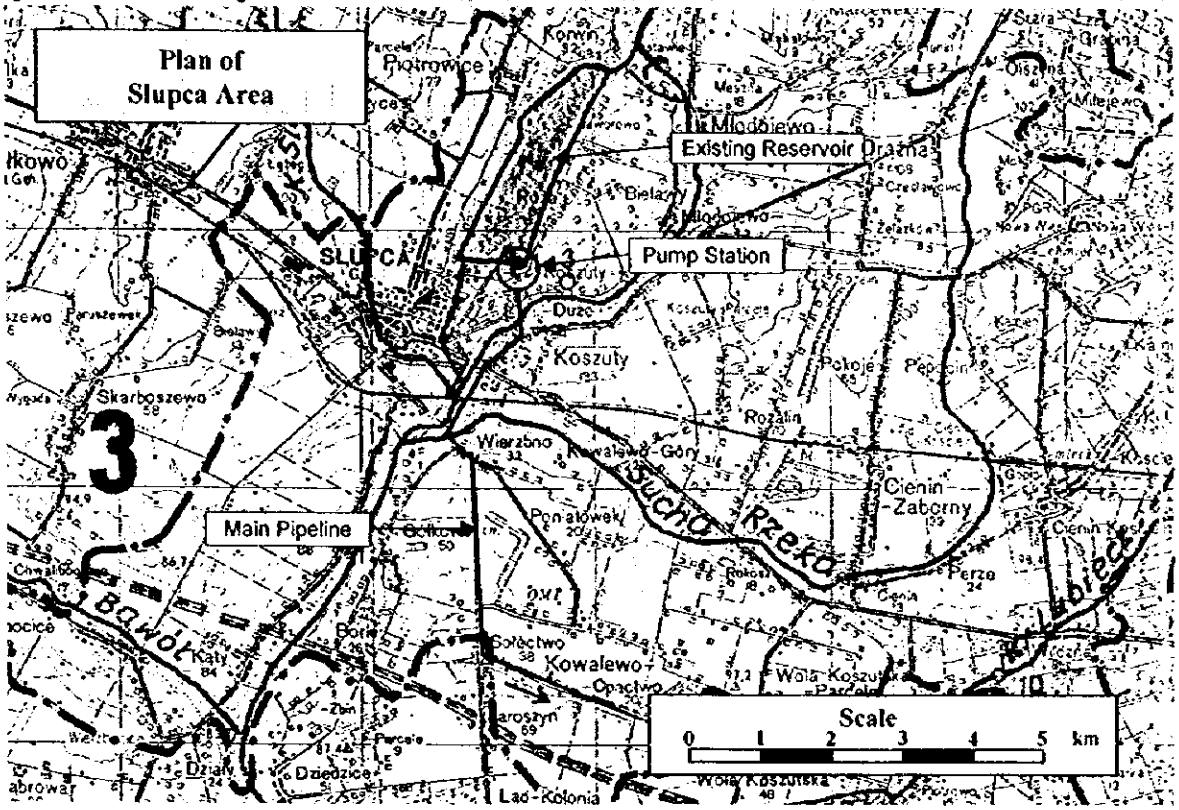


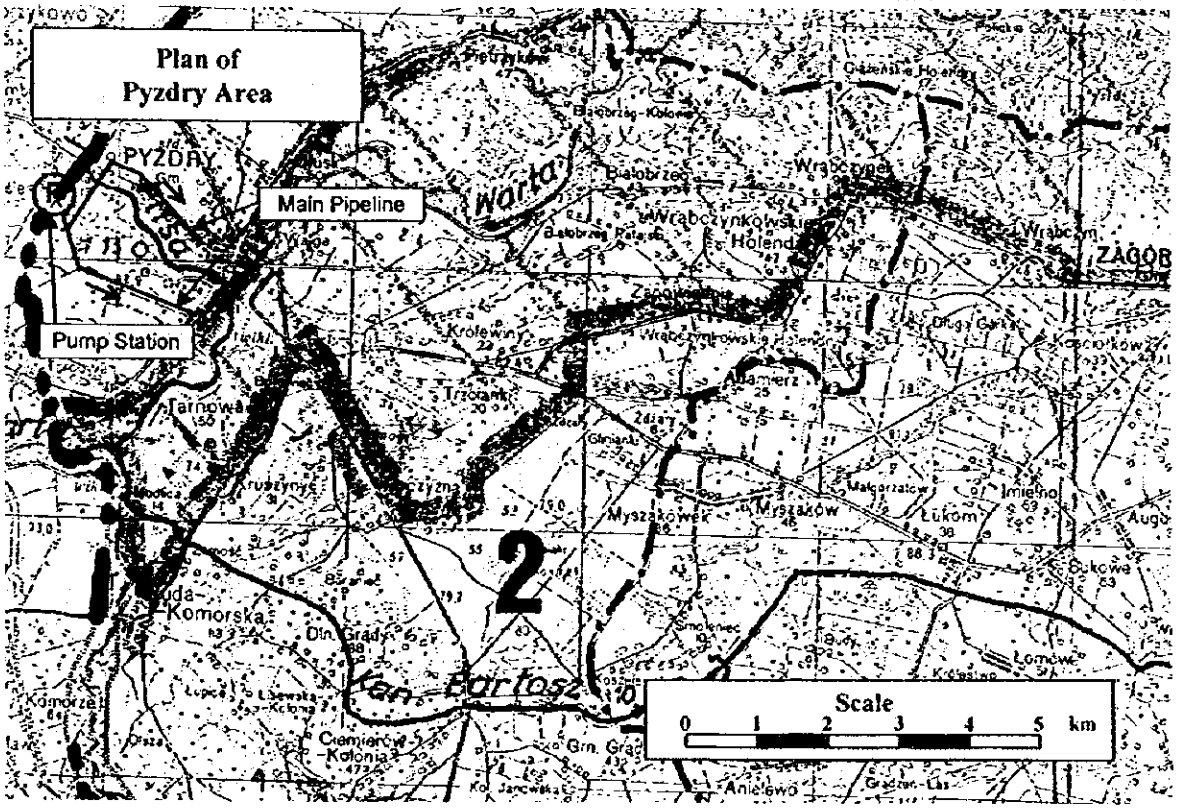
[Attachment-3]



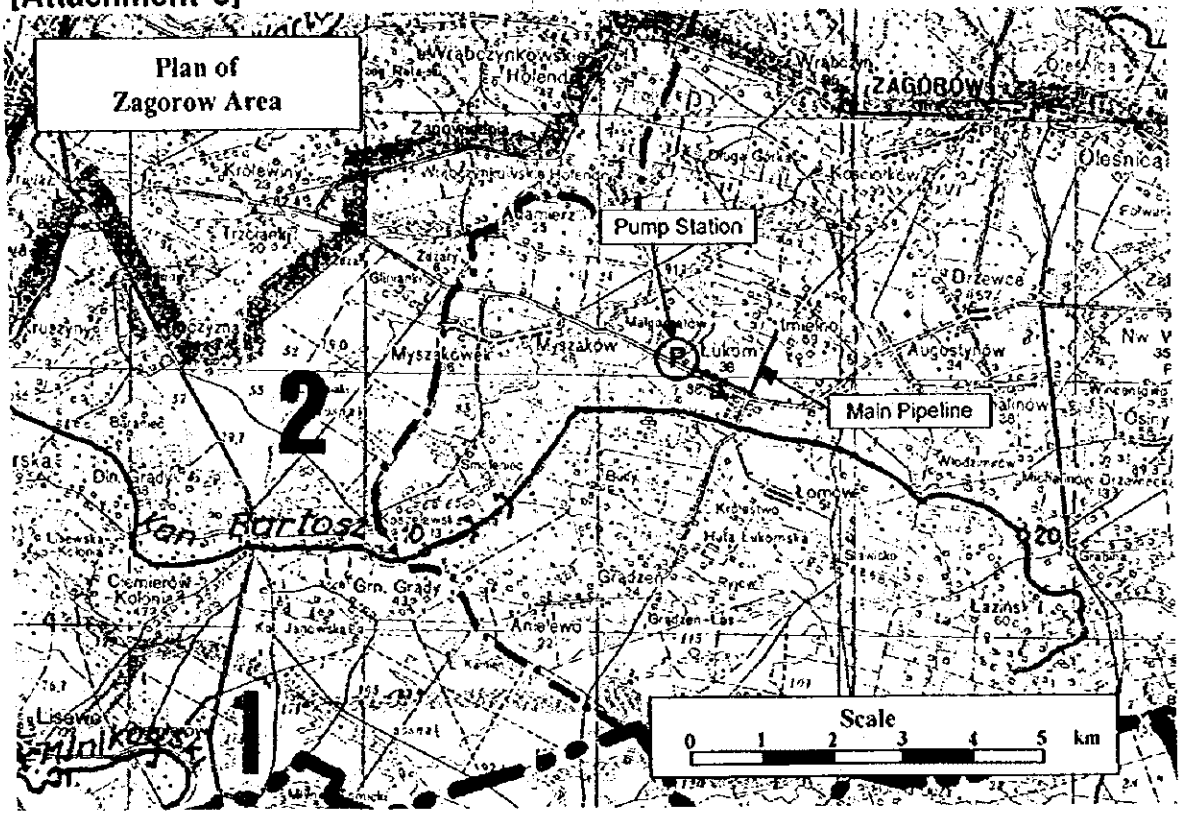


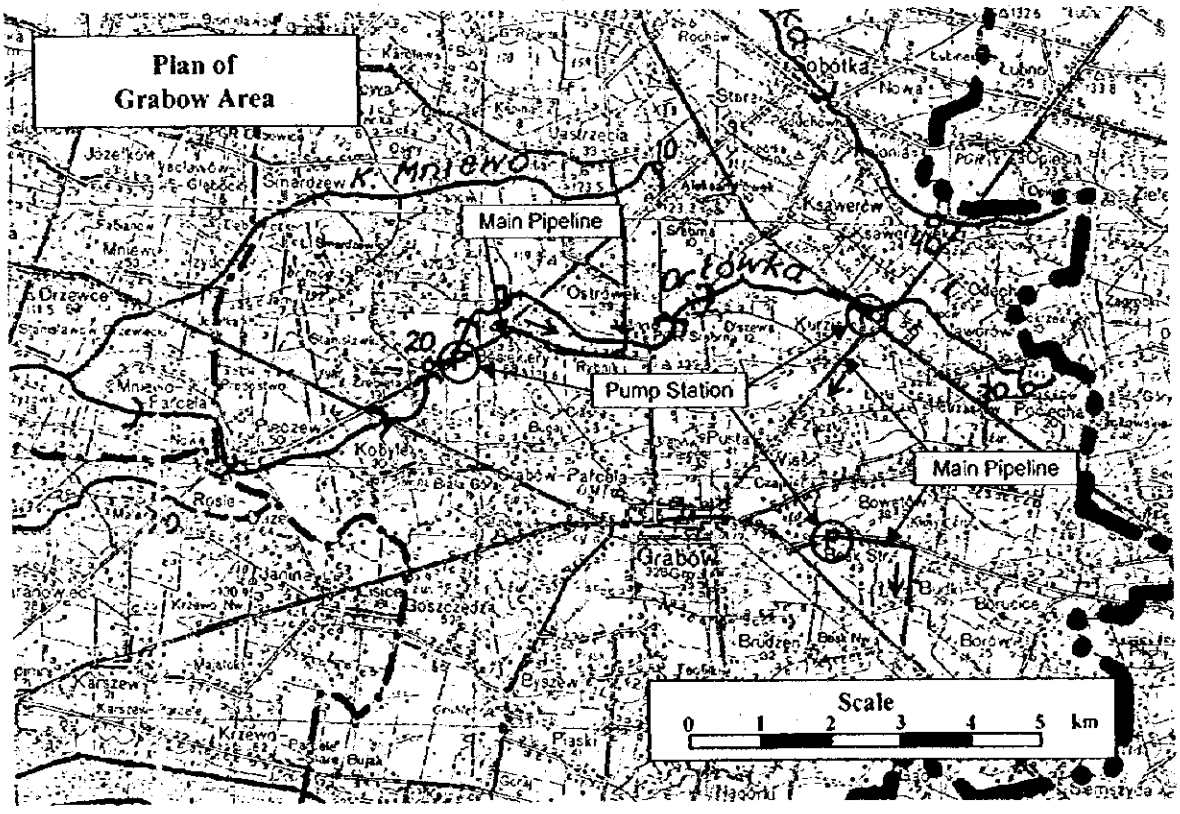
[Attachment-4]



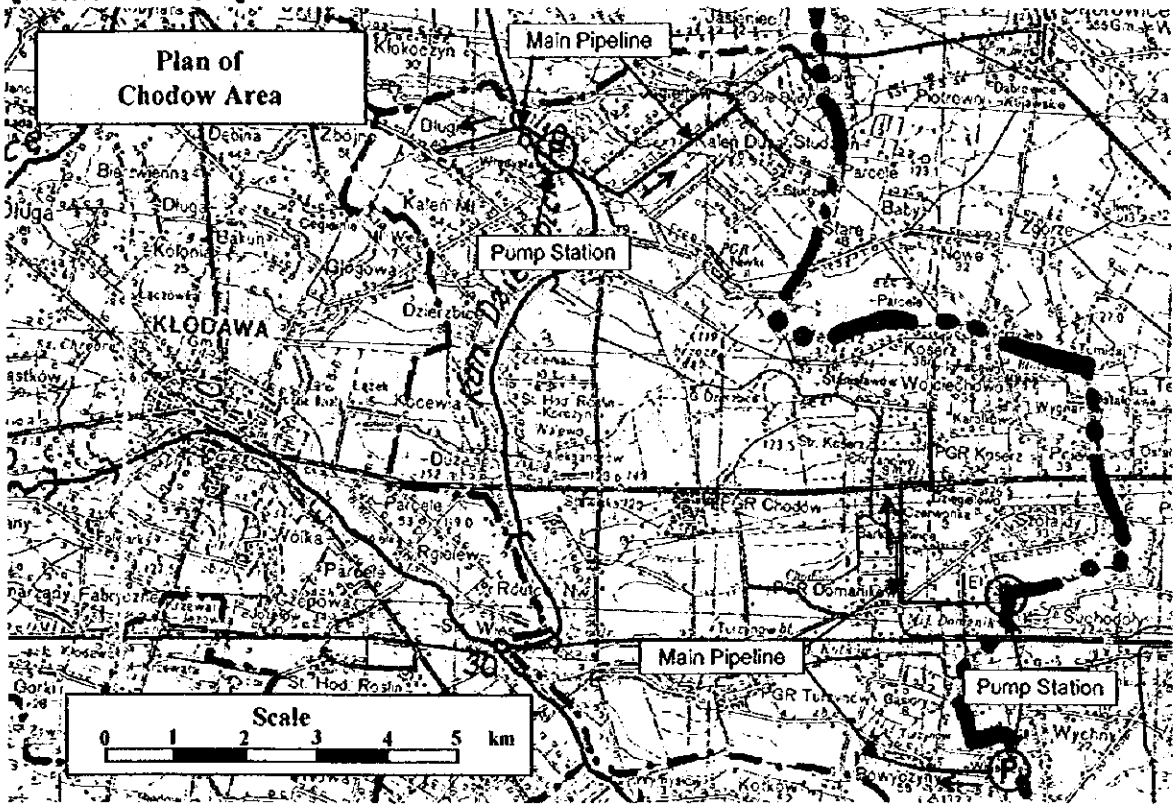


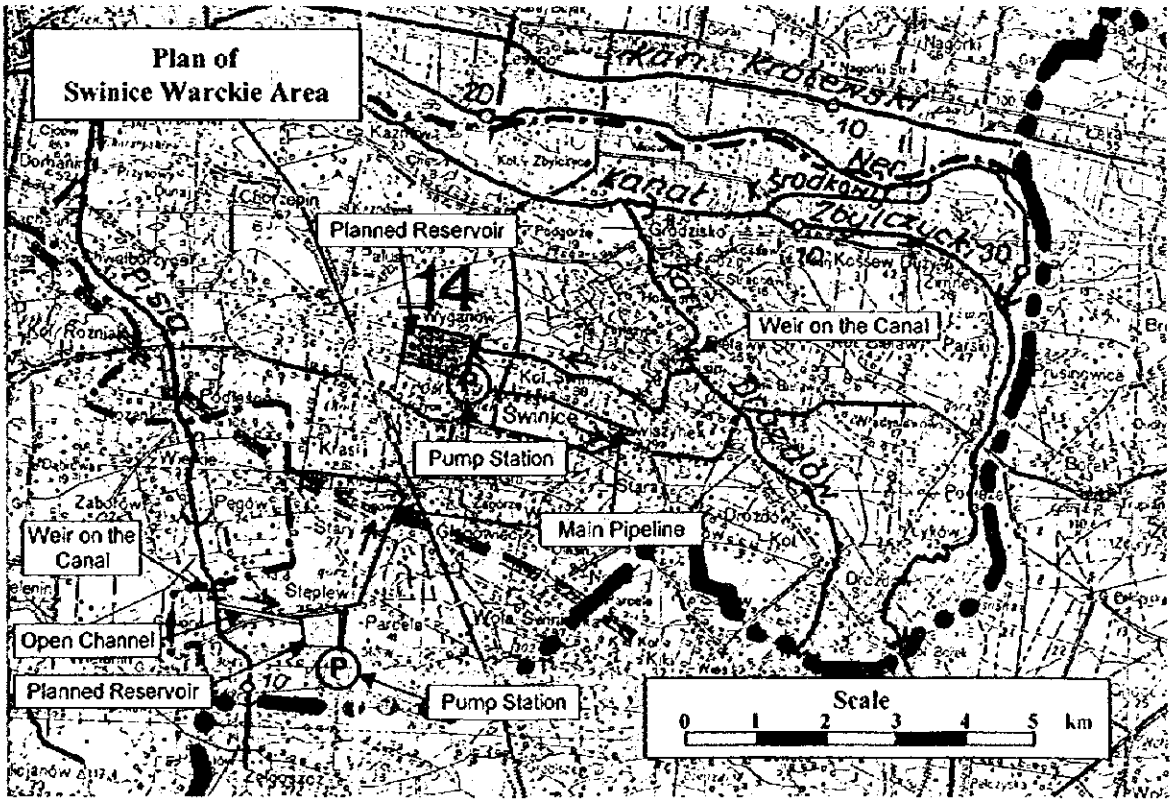
[Attachment-5]



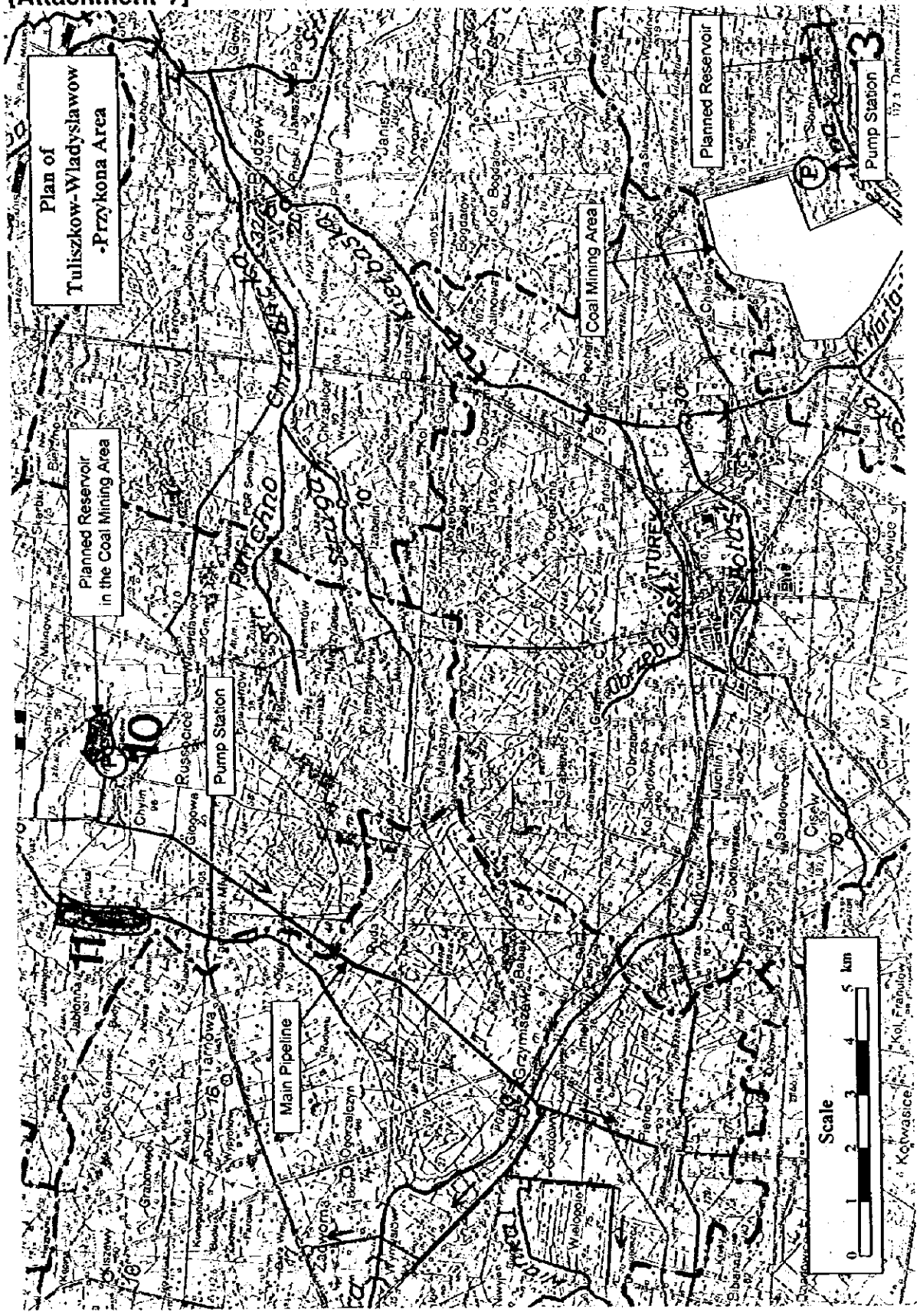


[Attachment-6]





[Attachment-7]



Project Design Matrix(PDM) for PAG-2 ESTABLISHMENT OF COMPREHENSIVE IRRIGATION MANAGEMENT SYSTEM

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumption
Overall Goal Profitability of farms' income is improved in Konin Province	Productivity of farms' income	Accounting book of farms Farm survey	
Project Purpose Quality and productivity are improved.	Farmgate prices of agriculture produce Productivity of agriculture produce	ODR's report, statistical book, farm surveys	Farms can keep record of dairy transaction
Output 1 An effective system for irrigation management is established on both administration side and farms' side. 2 Basic concepts of the irrigation development are clarified. 3 Main irrigation facilities are installed in the pilot areas. 4 Farms can operate and maintain the installed main facilities by themselves. 5 A support system is established for individual farms to install on-farm facilities. 6 A support system is established for further irrigation development.	1 1) Actual performance of the organizations, 2) Farms' evaluation 2 1) Actual performance of the facilities, 2) Farms' evaluation 3 1) Actual performance of the facilities, 2) Farms' evaluation 4 1) Actual results of operation and maintenance, 2) Farms' evaluation 5 1) Results of consultation meetings, 2) Irrigated area, 3) Farms' evaluation 6 1) Details of original programs and projects, 2) Farms' evaluation	1 1) Documents on operation and maintenance, 2) Questionnaires to farms 2 1) Documents on operation and maintenance, 2) Questionnaires to farms 3 1) Documents on operation and maintenance, 2) Questionnaires to farms 4 1) Documents on operation and maintenance, 2) Questionnaires to farms 5 1) Documents on operation and maintenance, 2) Questionnaires to farms 6 1) Materials of the programs and projects, 2) Questionnaires to farms	
Activities 1-1 Establish a comprehensive support system from planning to maintenance. 1-2 Organize the water users' associations in the pilot areas. 2-1 Study in detail the water requirement and water availability for irrigation. 2-2 Formulate a plan of typical main facilities and on-farm facilities. 3-1 Design the main facilities in detail. 3-2 Construct the main facilities. 4-1 Establish a fair payment system for management cost of the associations. 4-2 Prepare a guideline for the operation and maintenance of main facilities. 5-1 Establish a consultation body for farms. 6-1 Establish an information network among the associations and other farms. 6-2 Start some original new programs or projects toward the future development.	**Input** Manpower : 1) Personnel for the project : Staffs from the office of the Konin governor and local self-government, Representatives of farms 2) Consultants/Experts : 6 persons × 5 months = 30 man/months Finance : 1) Project cost : US$ 45,900,000 possible to introduce foreign funds		

PAG-3 Promotion of Group Sales Activities(AG-5)

1 Rationale of the proposed project

1.1 Background of the Project

One of the most serious problems in improving the farming operation is marketing, in the sense that terms of trade between agriculture input and output has deteriorated, working against producers. Unlike the previous regime, when all produce was purchased by the state, producers basically have to find clients by themselves. However, it is still not easy for many producers to adjust to the new systems, and they are now struggling. Table PAG-3-1 shows data collected by the farm questionnaire on the sales channels for vegetables and fruit. According to the result, about thirty percent of total produce was either not sold or consumed by producers themselves.

Table PAG-3-1 SALES CHANNELS FOR VEGETABLE AND FRUIT PRODUCERS

(Unit:%)

	Not Sell	State Units	Collect-ive Units	Markets	Retailers	Neighb-ors	Agents	Traveling Traders	Exporte-rs	Other Buyers	Self Consu-mption	Produc-tion Purpose
1-5 ha(38)	5.2	1.7	6.9	12.1	3.4	5.2	13.8	1.7	1.7	6.9	22.4	19.0
5 ha-(93)	12.1	3.0	12.1	3.8	4.5	6.1	10.6	2.3	3.0	9.8	20.5	12.1
Total(131)	10.0	2.6	10.5	6.3	4.2	5.8	11.6	2.1	2.6	8.9	21.1	14.2

Note: Figures in parenthesis are numbers of sample farms.

Source: The Farm Survey

Regarding the present sales pattern, three observations could be made. First, the dependence on markets is about three times higher in smaller-scale producers (less than five ha) than large-scale ones (more than five ha), which confirms farm interviews. Second, the share of fixed buyers, such as state units and cooperatives, is higher in large-scale producers (15.1 %) than smaller ones (8.6 %). Third, small-scale producers' reliance on agents is relatively high, compared with other channels. This is considered to be a result of the following factors: 1) lack of time allocated for finding sales channels(vegetable and fruit

production is labour-intensive[1] compared with other types of farming) and 2) producers have inadequate storage facilities and means of transportation.

Table PAG-3-2 shows farm-gate prices and retail prices of major vegetables and fruit in Konin in 1997. According to these examples, producers received less than thirty percent of retail prices in general. However, although these are commonly observed, there are some producers who sell at favourable conditions, as the second column indicates.

Table PAG-3-2 FARM-GATE, WHOLESALE AND RETAIL PRICES DURING HARVESTING

(Unit:zl/kg)

	Konin			Poznan	Germany
	Farm-gate Prices (1997/9)	Farm-gate Prices(Foreign Buyers)*	Retail prices	Poznan WSM (1997/9)	Germany (1997/9)
Apples (Fresh)	0.8	1.1	2.0-2.4	0.8-1.0	
Apples (Industrial)	0.18-0.19				
Strawberries	n.a.	1.7		5.0-8.0	
Peaches	1.5-2.0	4.0	8.0	2.0-3.0	
Onions	0.17-0.2		0.25-0.32	0.6-0.7	2.09-2.85
Potatoes	0.2-0.4			0.23-0.27	
Potatoes (young)	0.4				
Cauliflowers	1.0-2.0	1.0		1.5-1.8	2.85-3.8
Leeks	n.a.	0.5			
Broccoli	n.a.	1.0			
Cucumbers	0.8-1.0			1.6-2.5	1.9-2.75
Tomatoes (ground)	1.5-1.8			2.3-3.3	3.47-4.42
Tomatoes (greenhouse)	3.0-4.0				
Carrots	0.8			0.4-0.5	0.85-1.33
Cabbages	0.2-0.25			0.7-0.8	0.47-0.95

*Farm-gate prices procured by foreign buyers were obtained by farm interviews.

Source: ODR, Poznan Wholesale Market, farm interviews.

Producers who sold at higher prices, as shown in column 2, made the following efforts to find buyers.

1) To research buyers' exact demands and to increase volumes of produce

[1] Average annual working hours per farm: 556.09 man/days for vegetable and fruit production, 308.23 man/days for mixed farming(livestock and cereals), 281.77 man/days for cereals and 333.53 man/days for livestock, according to the farm survey.

accordingly with satisfactory quality. Producers traveled even to another province to find buyers offering higher prices as much as possible.

2) By supplying the required quantity and quality of produce constantly, producers are trusted by buyers and develop stable business relations, sometimes resulting in contract production.

From the demand point of view, there is a tendency for buyers to select producers who can assure a stable supply of high, homogeneous quality and quantity. For example, a sugar manufacturing company is intending to purchase sugarbeet mainly from producers with more than four ha of land in order to secure the required volumes of homogeneous raw materials. Likewise, foreign trading companies purchase vegetables and fruit from large-scale specialized producers for the same reasons. Even apples, where Poland has traditionally had advantages over European countries, some foreign buyers, such as from Holland, want to buy only new varieties which require high initial investment (costs of orchard seedlings). Although demand for quality and variety is high, Polish vegetables and fruit could compete better on price in foreign markets if quality were to meet demand, as the price gaps between Poland and Germany indicate.

1.2 Rationale of the Project

Taking this background into consideration, it is a prerequiste for producers to supply the required amount of variety, high and homogeneous quality of produce in order to find stable buyers. To achieve this, appropriate technology and financial resources are needed. However, most individual producers do not have adequate production technology and/or financial resources for new investment. In addition, they cannot allocate so much time for sales activities, as vegetables and fruit require longer working hours. As a tool for solving these problems, this project proposes to sell produce in a group. By forming a group, producers are expected to receive the following benefits: 1) reduction of the production costs associated with sales (transportation and time allocated for finding buyers), 2) to improve quality of produce and diversify variety to meet market demand, and 3) an increase in sales values by increasing volumes and/or farm-gate prices.

2 Project Purpose

As one of the tools for developing effective marketing systems, group sales

activities are conducted by a pilot group sales company owned by producers.

3 Output of the project

(1) Producers start to receive orders which exceed their production capacity.

(2) These producers establish a sales group company for the purposes of selling produce together in order to meet buyers' orders.

(3) A collection-point for vegetables and fruit is prepared to hold produce from different producers.

(4) The group sales company starts to sell produce from members at the collection point.

4 Project description

A group sales system is an effective tool for small-scale producers, and is strongly needed by many producers in Konin Province to solve their present adverse sales problem. However, it will be difficult to start such activities on a particular scale straight from nothing. There are two important factors in setting up such a venture: 1) strong leadership of the initiator(s) who acts on behalf of member producers and, hence, is trusted by them; and 2) member-producers trust each other and cooperate in the venture. However, it is impossible to ensure these conditions from the beginning, not only in Poland but in any country in the world, and it will need some acclimatisation before group sales activities really start to function.

Therefore, this project is to be implemented in two phases. During the first phase, small numbers of producers, who want to sell particular produce, learn how to sell it with help from a marketing expert. A precondition during this process is that these producers act fairly and do not deprive others - otherwise, the project will fail at the initial stage. Once the producers start to sell their produce in a group successfully, other neighboring producers, who will have been watching the venture, will join in. By increasing sales channels in this way, these producers may increase their overall volume of sales and be able to diversify their products to meet buyers' demands.

Then these producers start to establish a company for sales purposes, as in Phase

2, in order to cope with increasing orders more efficiently and to take active marketing initiatives. Within this phase, the company owned by member producers starts to operate a collecting point for the purposes of 1) to attract more buyers by supplying certain volumes at one place; and 2) to provide more producers with opportunities to sell produce near their farms, encouraging buyers to come to the production sites, saving producers from travelling to the separate buyers and incurring the transaction costs associated with selling.

Phase 1: Incubation period

Within this period, a marketing expert is dispatched to small groups of producers to help them find sales routes for their main produce. The expert visits each producer's farm and checks types and quality of produce from the buyers' viewpoint and clarifies problems of present marketing methodology, giving technical advice on selling, including how to avoid fraud involving buyers. The expert will also take producers to potential buyers, helping the producers' negotiating techniques in practice. With advice from the expert, producers gradually increase their sales volumes and also receive orders for new varieties of produce. Thus, they will build long-term business relationships with customers.

Phase 2: Starting group sales activities

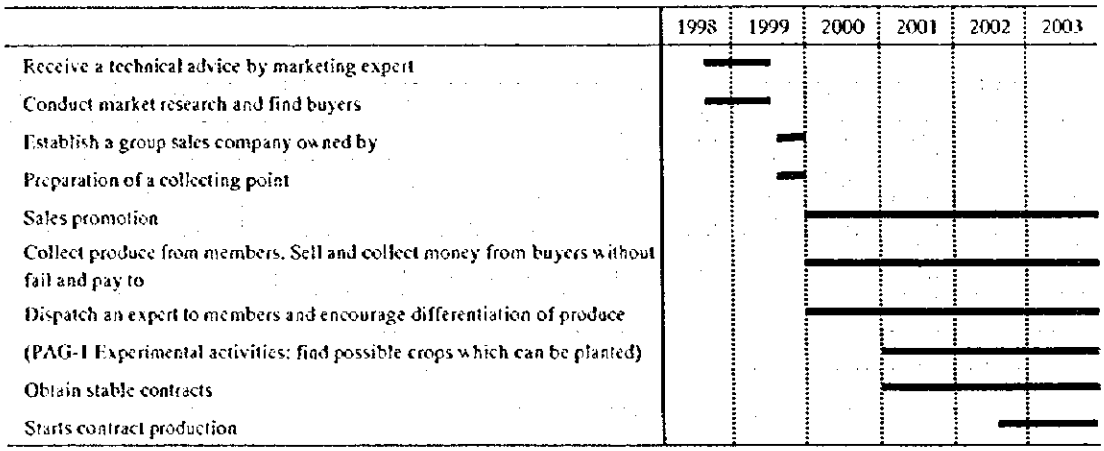
Once orders start to increase and producers cannot cope with requests in terms of volumes and types, they will establish a company to deal with different buyers systematically to avoid losing custom through any one producer's limited production capacity. Shareholders of the company will be producers and possibly private firms, such as trading companies wishing to forge business relationships with the producers. A collection point is to be developed to deal with the produce from different producers. This facility will be provided by public sector funding as part of its requirement to provide for the public good.

The company acts on behalf of member producers. Basic roles of the company are 1) to keep transaction records, 2) to collect sales money without fail on behalf of producers and pay to each producer, 3) to organize producers meeting according to different types of produce traded at the collecting point, and 4) to promote sales activities of member producers.

As a promotion agency, the company will increase the number of customers for the collected produce in the long run. In order to differentiate produce and obtain

stable contracts, the company will put strong emphasis on quality improvement. The expert on vegetables and fruit will be hired on a regular basis and promote standardization of produce by providing technical assistance. Types of produce to be disseminated by member producers will be determined according to market demand. Results of Project AG-1 "Strengthening of Experimental Activities on Agricultural Technologies" will be utilized for selecting appropriate varieties for the region. As a result, the company will increase the number of stable buyers, which will, in turn, enable member producers to cultivate according to predetermined production quotas.

Table PAG-3-3 INPLEMENTATION SCHEDULE



(1) Required Investment Costs

1) Receiving technical advice by marketing experts: Target producers = 10

1 expert x 3 months(total man/days) = US$ 30,000

2) Collecting Point

The existing vegetable and fruit processing facilities located at Klodawa are planned to be transformed into a collecting point. Planned traded volume in 2003 is as follows:

apples 426 tons/year (7 tons/day)
onions 301 tons/year (5 tons/day)
potatoes 508 tons/year (1.4 tons/day)

The facilities are described below.

(1) Collecting Point

Total Area	2.5 ha
Existing office space:	100 m2
Weighing Facility	1 tons
Storage Facility	9,000 m3(storage capacity of 500 tons)
(Available facility)	1,300 m2
Cold Storage Facility	1,800 m3
Office Equipment	
Total Estimated Purchase Costs	US$ 40,000

(2) Required Employees (Annual)

1 Manager	US$ 3,600/year
2 Sales persons(initially 1 person, 2 from 3rd year)	US$ 7,200/year
1 Production technology expert	US$ 3,600/year
Annual Operating Costs	US$ 14,400/year

5 Implementation body and financing source

5.1 Implementation body

Newly established sales group company
ODR

5.2 Financing sources

(1) Dispatching of a marketing expert will be financed by foreign assistance
(2) Gmina office will provide the existing land and processing facilities
(3) Operating costs are to be financed by member fees and trading fees.
Member fees per annum:
Trading fees:

6 Activities

6.1 Some producers start to receive orders which exceed their production capacity

1.1 ODR selects ten producers to initiate the group sales activities

1.2 A marketing expert is dispatched to these ten producers
1.3 Expert checks each producer's problems associated with marketing and gives advice, including how to avoid the risk of non-payment
1.4 Producers start marketing based on the advice
1.5 Producers find buyers for their produce

6.2 These producers establish a sales group company for the purposes of selling produce together in order to meet buyers' orders.

2.1 To have meetings of producers who are interested in group sales activities, ODR, gmina office and other parties who show an interest.
2.2 To fix initial member producers and agree the articles of association unanimously. Members are requested to agree not to deprive other members.
2.3 To hire a manager and a sales promotion person with adequate knowledge and experience of marketing vegetables and fruit. Concensus of member producers is needed to appoint the manager and the sales person.
2.4 To register the company whose shareholders are producers.

6.3 A collecting point of vegetables and fruit is prepared in order to hold produce from different producers.

3.1 The existing vegetable and fruit facilities are transformed into a collecting point
3.2 Necessary renovation is carried out.
3.3 The collecting point begins to be operated by the company.

6.4 The group sales company starts to sell members' produce at the collecting point.

4.1 Each member producer is registered at the company and given a registration number and copies of attachment cards. The cards are used for distinguishing each producers' yield from others by putting on each collected box or bag. The card includes registration number, date, types and variety of produce, size, and weight (all printed in advance).

Producers are requested to attach the card every time he or she brings produce to the collecting point.

4.2 The company checks weight, size and color, marking details on attached card in front of producers and gives copy of card to producer. Produce bearing the producers' name is stored in different storage rooms, according to type and variety, until the buyers arrive.

4.3 When buyers purchase stored produce, they evaluate it, check the attached cards and make payment to the company. The company keeps a record of the sale price for each member producer and keeps the attached cards.

4.4 The company should sell collected produce according to a "cash on delivery" system. In order to collect money quickly, the company can discount the selling prices after consultation with producers.

4.5 The company pays to member producers after deducting trading fees, which are a certain percentage of sales values. After the company enters sales record, the attached card is given to producers as certificate of sales.

4.6 The manager and a sales person promote sales activities, trying in particular to find major buyers.

4.7 An expert visits producers' farms regularly to demonstrate ways of improving quality and to standardize produce and production technology. He/she also provides them with consultation opportunities and controls and manages the farming operation.

4.8 The manager and the expert visit each member producer to collect information about types and produce, volumes, harvesting time and problems.

4.9 Based on inquiries and collected information, the company starts active sales promotion activities. The company arranges a shipment of ordered lots by transferring orders to member farms. Orders include types and variety, quantity, size, weight, color and so on.

4.10 All member producers are required to produce ordered quality by following technical advice given by the expert. However, produce which cannot meet required demand will be returned to member farms at the gate.

4.11 To organize regular meetings among member producers to exchange opinions and solve common problems. When the volume of produce traded at the collecting point increases, the company organizes separate

meetings for separate produce. Each member can belong to any of such groups if they grow the produce. The above-mentioned trained producers are required to initiate new groups and pass on member producers' opinions to the manager, sales persons and the expert.

7 Expected Benefit of the Project

7.1 Direct benefit

(1) Job creation

4 to 5 persons at the collecting point

(2) Increased Sales volumes

Assumption

a) average member farm size: 4.37ha[2]

1.6 ha : apples (annual production : 48 tons)

1.7 ha : onions (34 tons)

1.7 ha : potatoes (50 tons)

b) initial number of member farms : 30. Annual increase in number is 4 farms

c) With this project, present self-consumption rates are planned to decrease by 50 %.

d) Farm-gate prices

Apples: 0.8 zl/kg

Onions: 0.2 zl/kg

Potatoes: 0.2 zl/kg

e) Production costs are to be decreased by 50%[3] by group sales activities. Average production costs are assumed to be 24,308 zl/year[4].

Based on these assumptions, annual costs and benefits of a member producer are estimated to be US $633 and US $5,056 as shown in the Table PAG-3-4.

[2] Quoted from the farm survey

[3] According to a vegetable and fruit producer who operates on 3 ha of land

[4] According to the farm survey

Table PAG-3-4 ESTIMATED BENEFITS AND COSTS OF A MEMBER PRODUCER

	(Unit:US$)
Benefits	
Increased Sales Values	
Apples	2,117
Onions	375
Potatoes	474
Reduced Production Costs	2,090
Total Benefits	5,056
Costs	
Member fees	125
Trading fees	268
Boxes	240
Total Costs	633

7.2 Indirect benefit

(1) Each individual producer has a chance to find out what the market demand is, changing their production profile accordingly.
(2) Production will be encouraged when selling is assured
(3) Producers can diversify their production profile from traditional products to new varieties.
(4) Producers might receive direct orders from consumers who find producers' name on boxes.
(5) After building a reputation for quality produce, the company will win advanced orders, allowing each member farm to plant the required amount.

7.3 Estimated Revenues and Expenditures of the Group Sales Company

An estimation of the company's revenues and expenditures is made assuming it starts with thirty producer-members.

Table PAG-3-5 ESTIMATED REVENUES AND EXPENDITURES OF THE COMPANY

	1	2	3	4	5
Total No.of Member Producers	30	34	38	42	46
Revenues					
Gmina office(pay in kind)	40,000	0	0	0	0
Trading fees					
Apples	7,941	8,999	10,058	11,117	12,176
Onions	64	73	81	90	98
Potatoes	66	75	84	93	102
Member fees	3,746	4,245	4,745	5,244	5,743
Total Revenues	51,817	13,392	14,968	16,543	18,119
Expenditures					
Initial Investment in Facilities	40,000	0	0	0	0
Operating costs					
1 Manager	3,600	3,600	3,600	3,600	3,600
Sales persons (98/99-1, 2000-2)	3,600	3,600	7,200	7,200	7,200
1 expert of vegetables and fruit	3,600	3,600	3,600	3,600	3,600
Sales costs (telephone and fax)	1,200	1,200	2,400	2,400	3,600
Total Expenditure	52,000	12,000	16,800	16,800	18,000
Earning transferred from previous year	0	(183)	1,209	585	328
Profit and Loss Account	(183)	1,209	(624)	328	447

8 Weakness of the project

Even after registration, the sales group company itself cannot easily borrow money from banks without personal guarantees or collaterals provided by member farms. This inhibits the future investment of the company.

Project Design Matrix (PDM) for PAG-3 PROMOTION OF GROUP SALES ACTIVITIES

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumption
Overall Goal Profitability of farms is improved in Konin Province	Profitability of farms' income	Accounting book Farm survey	
Project Purpose Effective marketing systems are developed in Konin Province	Sales volume and varieties Decrease in self consumption rates	The company's accounting book Farm survey and interviews	Producers can keep record of dairy transaction
Output 1. Producers receive orders which exceed their production capacity 2. A sales group company owned by producers is established 3. A collecting point of vegetables and fruit is prepared and operated by the company 4. The group sales company starts to sell collected produce from member producers at the collecting point	1 Sales orders 2. The certificate of registration 3. Number of orders, volumes, and values received by the company 4. Farmgate prices, variety, types of produce	1 Accounting book of producers 2 Registration office 3 Facilities of a collecting point 4 Company's accounting book, Receipts issued by buyers.	1. Producers can produce required quality of produce followed by technical advice given by an expert 2. Buyers recognize value of produce collected at the point
Activities 1.1 Conduct market research and find selling places with support from a marketing expert. 2.1 Set up the articles of the company and register the company owned by producers 2.2 Hire a manager, a sales person and an expert of vegetables and fruit production 3.1 Gmina office provides a collecting point 4.1 Build a collecting mechanism 4.2 Pay to members according to separate receipts 4.3 Dispatch the production expert to teach member producers how to produce high and standardized produce. 4.4 Design shipment plans according to obtained orders and allocate production quotas to each member	**Input** 1) Dispatching an marketing expert(3 months) US$ 30,000 2) Collecting Point Manpower(Annual Operational Costs) US$ 14,400 1 Manager (US$300 x 12 months) US$ 3,600 1 Expert (US$ 300 x 12 months) US$ 3,600 1 Sales person (from 3rd year:2 people) US$ 3,600(from 3rd year, 2times) Facilities Storage Facilities and equipment US$ 40,000 Finance Dispatching of a marketing expert will be financed by foreign assistance Total investment costs: US$ 40,000 will be financed by gmina office Operational costs will be financed by annual member fees and trading fees		1. Initial producers can find markets for their produce and receive excess orders 2. Number of member producers increase every year Preconditions 1. There are producers who will be initiators of group sales activities. 2. Existing facilities for a collecting point are found and producers can utilize the facilities.

PAG-4 Promotion of Agrotourism (AG-9)

1. Rationale

1.1 Background

(1) Agrotourism in Poland

Agrotourism has been promoted in EU countries as a tool for development of less advanced rural areas within a framework of a "Leader project"[1]. The basic concept of agrotourism is to "reactivate rural areas by tourism development which focuses on utilizing existing resources in the region".

In Poland, agrotourism is becoming popular as a way of increasing farms' additional income sources. Agrotourism basically means "tourism in rural areas". Like in EU countries, people use existing resources such as own houses to attract tourists who would like to spend free time in rural areas. Since most people who live in rural areas are farmers, they become the main focus for agrotourism development in Poland. Each individual farm is conducting the following activities.

1) rent rooms out which have been constructed inside their own house or in renovated facilities such as former warehouses.
2) as agrotourism farms are normally located in places distant from center areas, meals are either provided by host farms using locally produced food or prepared by tourists themselves on a self-catering basis.
3) provide customers with various attractions which are based on rural life. These differ according to the farm themselves and the natural resources they have available and will include, learning about, and being involved in, farming operations (cultivation and harvesting activities, milking, driving tractors, and so on), swimming, fishing, horse riding, cycling, learning local handy craft, cooking, and discos.

To what extent these activities from 1) to 3) are implemented depends on each farms' situation. In this project, agrotourism implies farms who more or less conduct all these activities.

[1] "Links between Actions for the Development of the Rural Economy"

The Polish government has promoted agrotourism as a tool for rural development. At present, agrotourism farms who rent rooms out to up to 20 persons per night are exempt from income taxes as well as ZUS(insurance) premiums payments. According to an estimation by the Krakow Academy of Economics, the total number of accommodation establishments located in rural areas was about 7,300 to 7,500 with 60,000 beds in 1996, out of which 25,000 to 26,000 beds were provided by agrotourism farms[2]. There is no official data regarding numbers of tourists at present. Average number of beds per farm is 7.49 in the case of the 1,050 agrotourism farms who are members of the 28 agrotourism associations. Major agrotourism sites are Northeastern lake areas such as Suwalsk, Warminsko-Mazurskie, and seaside resorts such as Gdansk, Slupsk, Koszalin, and Szczecin.

(2) Demand for Agrotourism

Although no official data on agrotourism tourists exist, an opinion survey[3] which considered tourists preferences to agrotourism has been conducted. The results are shown in Table PAG4-1.

1) People between the ages of 26 and 50 want to stay at agrotourism farms more than any other age range considered.
2) Demand for staying at agrotourism farms is the highest in the age group of 26 to 50.
3) Elderly people prefer to visit short distance places.
4) Demand for staying at resort areas is highest among the younger generation.
5) When selecting a place to stay cost is the most important factor, regardless of age.
6) The older the tourists, the greater their demand for agrotourism.
7) The older people become the higher their expectations with regard to the standard and quality of food.
8) Activities undertaken during the farm stay differ among the generations.

[2] Estimated by Krakow Academy of Economics

[3] The survey was conducted by Krakow Academy of Economics in 1997. 240 agrotourism farms in Rzeszow cooperated with the survey.

Table PAG-4-1 OPINION SURVEY TO AGROTOURISM TOURISTS

	Age			
	15-25	26-50	50-	Total
1. What do you spend your free time?				
Go to short distance places	29.8%	26.9%	35.3%	29.2%
Go to resort areas(mountains and seaside)	19.1%	17.2%	5.9%	17.5%
Go to valuable cities	6.9%	5.4%	5.9%	6.3%
2. What are determinants of selecting place?				
Standard of accommodation	6.1%	5.4%	5.9%	5.8%
Staying costs	29.8%	28.0%	23.5%	28.8%
Extra services(breakfast, dinner, commuting)	0.8%	5.4%	5.9%	2.9%
Hobby	3.1%	2.2%	5.9%	2.9%
Healthy life	2.3%	9.7%	11.8%	5.8%
Place where relatives live	0.8%	1.1%	0.0%	0.8%
3. Want to stay at agrotourism farms	14.5%	35.5%	17.6%	22.9%
4. Determinants of selecting agrotourism farms				
Price	31.3%	22.6%	41.2%	28.8%
Location	26.0%	25.8%	9.0%	23.3%
Quietness/safety	19.8%	63.4%	47.1%	38.8%
Variety of services	11.5%	47.3%	0.0%	10.8%
Place where relatives live	10.7%	11.8%	11.8%	11.3%
5. Expectation about agrotourism farms				
Good food	22.4%	47.3%	52.9%	35.4%
Horse riding	20.6%	11.8%	5.9%	16.3%
Swimming	42.0%	25.8%	5.9%	33.3%
Fishing	5.3%	9.7%	29.4%	8.1%
Tennis	9.9%	7.5%	17.6%	9.2%

Source: Krakow Academy of Economics, opinion survey, 1997

(3) Agrotourism Marketing

At present, agrotourism marketing is conducted mainly by each individual farm. In addition, the 28 existing agrotourism associations are conducting many activities as organizational support to member farms. These are training, inspection of agrotourism facilities, defining standards of accommodation, printing catalogues, information services by TV, radio and newspapers, invitation of journalists to fairs, participation in agrotourism fairs and forums, networking with tourist companies and sales promotion.

Looking at the above mentioned opinion survey, the most frequently used way of finding agrotourism farm sites is to ask relatives. In addition, the older generation utilize more public information services such as

newspapers, radio and television than the younger generation. The younger generation tend to utilize specialist information tools instead such as tourist companies and guidebooks.

On the other hand, agrotourism tourists feel that present promotion activities are not enough. This is confirmed by the fact that about eighty percent of tourists are rather dissatisfied with present promotion activities.

Table PAG-4-2 QUALITY OF AGROTOURISM PROMOTION

	Age 15-25	26-50	50-	Total
1. Source of information about agrotourism site				
Newspaper	6.9%	6.5%	29.4%	8.8%
Tourist companies	10.7%	10.7%	0.0%	15.0%
Relatives	78.6%	78.6%	52.9%	66.3%
Companies	3.1%	3.1%	23.5%	7.9%
Radio and television	4.6%	4.6%	11.8%	7.5%
Guidebook	7.6%	7.6%	5.9%	8.3%
2. What do you think about agrotourism promotion?				
Good	4.6%	4.6%	0.0%	2.9%
Relatively good	19.8%	19.8%	17.6%	21.7%
Bad	39.7%	39.7%	35.3%	36.3%
Relatively bad	35.9%	35.9%	47.1%	39.1%

Source: Same as Table AG-1

1.2 Agrotourism in Konin Province

(1) Current Situation

Agrotourism is in its early stage of development in Konin Province. Presently, there are 12 agrotourism farms in Konin, out of which 7 make profits. Some of them rely on agrotourism for about 50 % or more of their total incomes. There is no agrotourism association in Konin Province. Total numbers of tourists who stayed at agrotourism farms in 1997 were around 400 to 500 and length of stay was between 2 days(weekend stay) and 2 to 3 weeks(summer holiday)[1]. Average accommodation fee per night without meals was 15 zl in 1997, which is about one third the rate of other famous agrotourim sites. Compared with a three star normal hotel in Konin

[1] ODR's estimation. There is no official record about tourists numbers.

city(70 zl per night without meals), the fee is about one fifth.

The northwestern lake area, located in Powitz and Witkovo gminas, is the most popular tourist spot in Konin Province. The maximum tourists per day during the summer season were 18,000 in 1997[5]. Present accommodation facilities can cover only up to sixty percent of demand during the busy season. Therefore, some of tourists stayed at farms who rent out one or two rooms without registration as agrotourism farms. There are about sixty such farms who could potentially be "agrotourism farms" in the Powitz area. Powitz Gmina office intends to promote tourism as a leading industry in the region and has some specific tourism promotion plans. They are : reduction of state tax for agrotourism farms, bicycle road development in collaboration with neighboring gminas, indoor swimming pool, sports halls including tennis courts, bowling, indoor skating facility, harbor, indoor skiing, and development of walking paths.

(2) Agrotourism Promotion Activities

Konin's agrotourism promotion is mainly conducted by ODR and each individual farm. ODR started promotion activities in 1992 and promote Konin's agrotourism by utilizing its national network. Each ODR has prepared a pamphlet containing information about province's agrotourism farms which includes photographs. Such materials are exchanged with people from other areas during agrotourism fairs. ODR is, therefore, playing the role of an agrotourism information center. Presently, inquiries are mainly made by Konin's people who look for agrotourism sites in other provinces, rather than those who ask about Konin's own agrotourism sites. Although ODR is the main promoter of agrotourism in Konin Province, it has no basic data about visiting tourists such as orientation, ages, family structure, length of stay which could be utilized for making promotion strategies.

Advertisement activities conducted by each agrotourism farm are summarized below.

a) Newspaper advertisements in a big industrial city where a family

[5] According to Powitz gmina.

member is living

b) An advertising billboard along the A2

c) Personal communications

d) Show an advertisement on windows.

(3) Development Potential and Advantages of Konin's Agrotourism

From the point of view of Konin's natural resources, it is hard to compete with other famous agrotourism sites. However, there is some potential which may attract tourists in the future.

1) Relatively cheap accommodation costs, which is an important factor considered by tourists when selecting places to stay.

2) Easy access from industrial cities through the road network systems.

3) Areas are relatively safe and quiet. For instance, some western businessmen stay at Konin's agrotourism farms several times as their cars can be parked safely.

4) There are some tourist sites such as Licheni and the largest lake in Wilkopolska region which is also famous for its clean water. The opening of Liheni basilica (now under construction) is expected to increase the number of tourists to Konin Province, which will result in an increased demand for accommodation.

5) Future enlargement possibility of Konin Province, which will bring new business opportunities to agrotourism farms.

1.3 Rationale of the Project

Being in its early stage of development, agrotourism started to be recognized as an important income source for farms in Konin. There are several advantages to promoting agrotourism in Konin: competitive prices of accommodation; easy access from industrial areas; quiet and safe areas; clean lakes and famous tourist sites such as Liheni. The number of tourists who stayed at agrotourism farms was between 400 and 500, and average length of stay was 2 weeks during the summer season in 1997. There are some tourists who stayed at weekends regardless of the time of year. Presently, there are twelve agrotourism farms in Konin Province, out of which fifty percent make profits. Some farms already earn about fifty percent or more of their total incomes from agrotourism and many other farms are now starting to have an interest in agrotourism operations.

Powitz gmina, which is in the northwestern part of Konin, is the most famous agrotourism site in Konin Province. There is a lake called "Powitz Lake" which is the biggest in the Great Poland areas(Wilkopolska) whose area is 1,200 ha. During the summer season from the end of June to August, there are about 10,000 to 12,000 tourists per day who stay in the Powitz area during weekdays and 18,000 tourists at weekends. These tourists are now staying at hotels(54 beds), school hotels(20 beds), camping sites (120 places) and some private houses. However, present accommodation capacities can cover only about sixty percent of real demand. There are three agrotourism farms in Powitz and two of them earn more than fifty percent of their income from agrotourism now. Tourists come from countries such as Germany and Holland, as well as major industrial areas within Poland such as Slonsk region. Occupancy rates during the summer season are high and additional investment for increasing accommodation is being considered by two of the farms. Apart from these, there are about sixty farms who rent one or two rooms out without registering as "agrotourism farms" in Powitz. Some other farms are now interested in exploring agrotourism after looking at the successful cases.

As shown above, there is potential for promoting agotourism in the region. However, there are no organizational promotion activities conducted in Konin Province now. For instance, present agrotourism training courses are only provided to a very small number of farms due to limited human and financial resources of ODR. Regarding promotion activities, ODR conducts overall marketing activities of the whole province by a staff member who has other responsibilities as well as being in charge of agrotourism development. "Referral" advertisement by family members living in industrial areas are commonly utilized by individual farms. Taking into account future development potential, it is time to start organizational public support for promotion of agrotourism in Konin Province. Promotion activities are conducted by 1) education of farms and 2) implementation of marketing strategies based on tourist information which is also developed by this project.

2. Project Purpose

Farms have additional income sources apart from farming operations to enable an improvement in profitability.

3. Output

(1) Number of farms who start agrotourism operations increases(20 farms in five years)

(2) Systematic agrotourism promotion activities are conducted.

4. Project Description

The project consists of two components. One is providing farms with training opportunities, and the other is conducting systematic promotion activities based on analyses of Konin's present situation and the trends in other more advanced agrotourism areas. By implementing these two components simultaneously, supply meets demand. The project is scheduled to be implemented over the timescale shown in Table PAG-4-3.

Table PAG-4-3 PLANNED IMPLEMENTATION SCHEDULE

	1998	1999	2000	2001	2002
Sending farm to seminars	■	■	■	■	■
Organizing visiting tours in Poland		▮	▮	▮	▮
Invitation of agrotourism experts		▮		▮	
Establishment of database		━	━	━	━
Dispatching marketing information to agrotourism farms		━	━	━	━
Promotion activities of Konin' agrotourism		━	━	━	━

Taking into account potential farms(60 farms) and tourists(an estimated 7,800 people failed to find accommodation in the lake areas in 1997), the project aims at increasing agrotourism farms mainly in the lake areas (Powitz and Witkovo). Therefore, a series of training courses are carried out mainly for farms in the areas.

Training courses are conducted as follows.

1) Provide farms with a basic agrotourism course
2) Take farms who participated in the training courses as well as existing agrotourism farms to advanced agrotourism areas in other provinces.
3) Invite experts from EU countries to provide lectures, in order to highlight new ideas associated with advanced agrotourism development, problems and solutions.

Promotion activities aimed at increasing agrotourism farms in the Powitz areas

will be implemented as follows.

1) Establish Konin's own database at ODR including information about other regional associations.
2) ODR analyze the collected data and develop a promotion strategy including targetted promotion areas, which will be transferred to agrotourism farms.
3) ODR makes 100 copies of a pamphlet about Konin's agrotourism farms and distributes them to people who live in the targeted promotion areas in order to show at working places.

5. Implementation Body and Financial Source

5.1 Implementation Body

ODR

5.2 Financial Source

Estimated costs of this project	**US$ 40,000**
1) Training activities	US$ 5,100
Participation fees of training courses	
(12 farms/year x 5 times)	US$ 3,000
Organizing tours in Poland(20 farms x 2 days x 5 times)	US$ 1,100
Invitation of agrotourism experts(2 times)	US$ 1,000
2) Promotion activities	
Establishment of database	US$ 1,470
i) distribute / collect tourist basic information sheets	
ii) make database	
Establishment of linkage with other regional agrotourism associations	US$ 4,500
i) Internet using fees(100zl x 12 months x 5 years)	
ii) Visiting existing associations in Gdansk and Poznan	
iii) Connecting ODR's computer system with other regional associations	
Promotion activities of Konin's agrotourism	US$ 1,500
i) Transfer collected information to agrotourism farms	
ii) Printing costs of the pamphlet	
iii) Distributing costs of the pamphlet	

iv) Preparation for participating in the National Agrotourism Fair

3) Required human resources at ODR(additional employees for this project)
Establishment of database(one person x 6 months) US$ 1,715
Training and promoting activities(1.5 people x 5 years) US$ 25,715

The following is a list of institutions which could provide financial or technical assistance to agrotourism development.

(1) Domestic

1) The Agency for Restricting and Modernization of Agriculture
2) The Agricultural Foundation
3) The Water Supply Help Foundation(training courses for 4 days: 10% self payment)
4) Polish Tourism Development Agency
5) State Labour Fund
6) Cooperation Fund
7) Small Entrepreneurship Assistance Foundation
8) Unemployed Activation Fund for Agricultural Ownership
9) Social and Economic Investment Society
10) The Agrotourism Foundation
11) Private cooperative banks

(2) Foreign Assistance

1) Multilateral

European Fund for Polish Rural Areas Development
The Foundation of Assistance Programs for Agriculture(FAPA)

2) Bilateral

There are some bilateral donors such as Germany, the United Kingdom and Denmark which have provided financial and technical assistance in the field of agrotourism development in other provinces of Poland so far. There will, therefore, be possibilities of applying for such funds.

6. Activities

6.1 Number of farms who learn about agrotourism increases.

1.1 To send 12 farmers to basic agrotourism training courses held by various institutions such as the Water Supply Help Foundation.

1.2 To organize visiting tours for 20 farmers including those who attended basic training courses to advanced agrotourism areas in Poland

1.3 Invite agrotourism experts from EU countries and organize seminars. Experts could include project implementing people of the EU's "LEADER project" such as SPARK(South Pembrokeshire Partnership for Action with Rural Communities) in the UK, which has implemented agrotourism rural development from grass roots level.

6.2 Systematic agrotourism promotion activities are conducted.

2.1 To make agrotourism farms understand the merits of keeping the database at one place(ODR) in order to find customers constantly from a wide area.

2.2 Prepare a data sheet of tourist information and distribute it to each agrotourism farm.

2.3 Collect written data sheets.

2.4 Database containing tourists information is developed at ODR

2.5 Establish connecting systems with other regions' agrotourism information networks including the pilot project of Network of Tourists Information Centers in Szczecin, Koszahn, Slupsk and Gdansk provinces funded by EU-FAPA.

2.6 Analyze the collected data and information and decide main target promotion areas of Konin's agrotourism

2.7 Transfer the analyses and target areas to agrotourism farms.

2.8 Distribute the agrotourism pamphlet prepared by ODR to people working in the target areas in order to show it at different working places.

2.9 When ODR receives inquiries from people living in other provinces regarding agrotourism farms in Konin Province, it will introduce several farms.

7. Expected Benefit of the Project

7.1 Direct benefit

(1) Number of agrotourism farms will increase by 4 farms a year to make a total of 20 in five years time.

(2) These new agrotourism farms will increase their revenues by 12,144 zl per year on average.

May-June : 32 people x (15zl/accommodation per night + 18 zl/3 meals) = 1,056 zl

July-August : 24 people 14days x (15zl + 18zl) = 11,088 zl.

Assumptions:

1) Initially, a farm rents out two rooms with 6 beds

2) Accommodation cost per night :15 zl.

Breakfast 4 zl., lunch 10 zl., supper 4 zl.

3) 1 family stay at a farm at weekends from May to June

4) From July to August, occupancy rate is 100 percent based on the fact that forty percent of 18,000 persons (7,200 persons) cannot find accommodation during the busiest season(July to August). Average length of stay is 14 days.

(3) Direct job creation:

1 person (cook) x 20 farms = 20 people

ODR : 1.5 people (5 years) + 1 person(6 months)

7.2 Indirect Benefit

(1) Local agricultural produce will be sold to tourists
(2) Producers will be able to sell their agricultural produce directly on the farms.
(3) People will start to initiate rural development by themselves, after prospering with tourism.

8. Weakness of the project

Even though farms may want to start agrotourism operations after learning about it and its potential, it may be difficult for them to obtain the money for initial investment purposes.

Project Design Matrix(PDM) for PAG-4 PROMOTION OF AGROTOURISM

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumption
Overall Goal Profitability of farms' income is improved in Konin Province	Profitability of farms' income	Accounting book of farms' Farm survey	
Project Purpose Agriculture in Konin Province is diversified	Income from agrotourism activities in total agriculture income in Konin Province	Statistical yearbook of Konin Province	
Output 1 Number of farms who start agrotourism increases 2 Systematic agrotourism promotion activities are conducted	1 No. of registered agrotourism farms 2 No. of inquiry from customers	1Registered certificate of a company 2 Facilities of a collecting point 3 Company's accounting book 4 Receipts issued by buyers, orders from buyers	1) No. of tourists staying at agrotourism farms increase 2) Agrotourism farms provide services including meals
Activities 1.1 Send farms to basic agrotourism training courses 1.2 Organize visiting tours for existing agrotourism farms and those who participated in the training courses 1.3 Invite agrotourism experts from EU countries and organize seminars. 2.1 Establish database of agrotourism customers stayed in Konin 2.2 Establish connecting systems with other regions' agrotourism information networks 2.3 Distribute analyzed information including target promotion areas to agrotourism farms 2.4 Distribute the agrotourism pamphlet prepared by ODR to people working in target promotion areas.	**Input** 1. Manpower 1) 1.5 people x 5 years US$ 25,700 2) 1person x 6 months US$ 1,700 2. Training activities US$ 5,100 1)Training courses(12 farms x 5times) 2)Tour Organization (20 farms x 2 days x 5 times) 3)Invitation of agrotourism experts (2 times) 3. Promotion activities US$ 7,500 1)Establishment of database 2)Establishment of linkages with other regional information centers 3)Promotion activities 4. Finance Total costs : US$ 40,000 will be financed by domestic and foreign agrotourism promotion funds		Farms can find financial resources to start agrotourism activities Preconditions 1) There are some experts of agrotourism seconded to Poland by EU countries 2) There is an expert in database construction at ODR 3) Agrotourism farms cooperate with ODR 4) Farms can keep records

PKI-1 Development of Aluminum Downstream Industries (KI-11, KI-12, KI-13, KI-14, KI-15)

1 Rationale of the Proposed Project

1.1 Status of Downstream Industries and Necessity in Konin Province

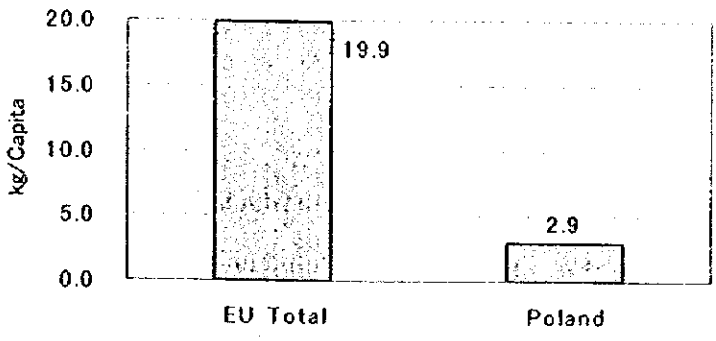
The aluminum industry started from the construction of the aluminum smelting works in 1966. In 1972, a rolling section was added and the works have played an important roll in the Polish aluminum industries. However, the downstream industry for aluminum products has not been developed due to government policy for the planned economy. Although economic liberalization began in 1989 and a considerable number of technologies for processing aluminum products were introduced from Germany, France etc. in other parts of Poland, the development has been hampered in Konin Province due, mainly, to lack of finance. Now major companies in Konin, including Huta Aluminum Konin are proceeding with restructuring and will be able to supply capable engineers and workers for such downstream industries in the future.

1.2 Demands and Supply Situations in Poland

1.2.1 Aluminum Demands in Poland

Aluminum processing industries in Poland are increasing rapidly. Figure PKI-1-1 shows Aluminum consumption per capita. Consumption in Poland is still low, compared with EU countries, but is expected to develop in the future.

Figure PKI-1-1 ALUMINUM CONSUMPTION PER CAPITA, 1995



(source: estimation from Metal Statistics and Huta Al. Konin)

Huta Aluminum Konin is the only producer of primary aluminum and rolled products in Poland. More aluminum products are imported than are produced in domestic market. Imported aluminum products, by type and amount in 1995 and 1996, together with their origin are shown in Table PKI-1-1.

Table PKI-1-1 IMPORTED ALUMINUM PRODUCTS IN POLAND

	year	1995	1996	Imported from
1	Aluminum powder & flakes	960	1,004	Russia, Slovakia, Brasil
2	Bars, sections	5,631	9,519	Belgium, Germany, Denmark, Slovakia, Italy
3	Aluminum wire	8,361	12,596	Norway, Switzerland, Hungary
4	Shutter strips	9,860	6,320	Holland, Germany, USA
	lacquered	2,060	1,612	Italy
	covered with plastics	7,800	4,708	Germany, France, England
5	Foil	26,724	35,500	
	printed and reinforced	13,311	18,296	Austria, Holland
	printed and without base foundation	468	273	Germany, Switzerland
	ready to be printed without base foundation	5,317	6,601	Sweden, Italy
	on card board	7,628	10,330	Czech
6	Pipes & tubings	572	559	Germany
	flexo	456	462	
	connectors and elbows	116	97	
7	Aluminum constructions	5,924	7,189	
	construction holes & the parts	5,924	7,189	Germany, Italy, Sweden
8	Doors & windows	1,259	1,405	Germany, Denmark, Sweden
9	Total	102,371	123,660	

(Source: Huta Aluminum Konin)

1.2.2 Comparison of Polish Demand Structure with the Other Countries

The major industry consumers of aluminum in the EU, USA and Japan are transportation, the majority of which is for automobile, construction which comprises civil and architectural, and packaging and containers, especially for food.

In Poland, the major consumers are construction and food packaging and containers. Rolled plates and sheets and extruded shapes are the primary raw materials for such fields. Huta Aluminum's sales structure is shown in comparison with the EU in Table PKI-1-2.

Table PKI-1-2 SALES STRUCTURE OF ROLLED PRODUCTS OF HUTA ALUMINUM

Items	Huta Aluminum Konin(%)				EU(%)
	1994	1995	1996	1997	
Electrical fields	5.2	5.7	6.0	5.8	5.0
Household	18.6	13.1	11.0	7.1	5.0
Construction	11.0	11.1	14.8	11.5	12.0
Packages	28.0	32.4	25.5	29.8	45.0
Transportation & motorization	4.5	5.5	7.2	5.6	11.0
Machinery fabrication	3.0	4.6	5.2	4.0	7.0
Wholesale	29.7	27.6	30.3	36.2	15.0
Total	100	100	100	100	100

(Source: Huta Aluminum Konin)

1.2.3 Strips, sheets and foils

Concerning aluminum strips and sheets, the consumption in European countries, USA and Japan are compared in Table PKI-1-3.

Table PKI-1-3 DEMAND STRUCTURE OF ALUMINUM SHEETS & STRIPS

Items	Eupore in '94			USA in '95			Japan in '96		
Aluminum Extrusion	Demand	per capita	Ratio	Demand	per capita	Ratio	Demand	per capita	Ratio
Unit	kton	kg/ capita	%	kton	kg/ capita	%	kton	kg/ capita	%
Transportation	137	0.37	6.3	621	2.41	16.4	107	0.89	10.2
Machinery	121	0.33	5.5	203	0.79	5.4	16	0.13	1.5
Electrical		0.00	0.0	134	0.52	3.5	101	0.84	9.6
Construction	290	0.78	13.2	567	2.20	15.0	83	0.69	7.8
Printing board	110	0.30	5.0		0.00	0.0		0.00	0.0
Domestic appliances	155	0.42	7.0	220	0.85	5.8	14	0.11	1.3
Cans	385	1.04	17.6		0.00	0.0		0.00	0.0
Packaging	712	1.92	32.5	1,982	7.68	52.5	581	4.84	55.0
Wholesale	282	0.76	12.9		0.00	0.0		0.00	0.0
Other		0.00	0.0	47	0.18	1.2	155	1.29	14.7
Total	2,192	5.9	100.0	3,772	14.6	100.0	1,055	8.8	100.0

(Source: calcurated from the data in EAA, Aluminum Association, JAA)

In Poland consumption of strips and sheets of ordinary and thin dimensions is rising. Huta Aluminum Konin is supplying aluminum to the aluminum foil producer in Poland, Zaklad Metali Lekkich (ZML "Kety") in Kety which is producing foil in the range of 0.2 to 0.006. However, since aluminum foil is defined as having a thickness not exceeding 0.2mm, Huta Aluminum Konin itself is producing foil products in the range of 0.2 to 0.07 mm. The rest of demand is supplemented by importation as follows:

- 1995--- 26,724 (including 6,874 tons of metal foil)
- 1996--- 35,500 (including 6,874 tons of metal foil)

Although the quantities include products which can be supplied from domestic producers, such importation was made due to the market competitiveness and processors' relations and financial connections with foreign producers. Therefore, the "pure" import of metal foil can be estimated at 1,000 tons annually. This shortage can be limited in the near future through modernization of a roll mill in Konin which will allow an expansion of Huta's product range to 0.2 to 0.04. This will allow production of thick foil for pot lids (market demand 1,000 tons) which will release production capacities in ZML Kety.

1.2.4 Extruded Shapes

Concerning the use of the aluminum shapes, consumption by construction industry accounts for 56% of the total in Europe. Comparison with the other countries is shown in Table PKI-4. In Poland demands for construction use have not been developed yet, although several producers exist; these are as follows:

- ZML Kety; material imported and recycled
- Sapa Trzcianka; cooperation with a Swedish company
- Hydroaluminum Chrzanow; cooperation with a Norwegian company

However, it is anticipated that the demands will grow rapidly.

Table PKI-1-4 DEMAND STRUCTURE OF EXTRUDED ALUMINUM

Items	Eupore in '94			USA in '95			Japan in '95		
Aluminum Extrusion	Demand	per capita	Ratio	Demand	per capita	Ratio	Demand	per capita	Ratio
Unit	kton	kg/ capita	%	kton	kg/ capita	%	kton	kg/ capita	%
Transportation	138	0.37	10.3	364	1.41	30.3	115	0.96	9.8
Machinery	135	0.36	10.0	80	0.31	6.7	64	0.53	5.5
Electric	49	0.13	3.6	73	0.28	6.0	39	0.32	3.3
Constuction	754	2.04	56.0	549	2.13	45.7	844	7.03	72.3
Domestic appliances	77	0.21	5.7	110	0.43	9.1	45	0.38	3.9
Others	193	0.52	14.3	26	0.10	2.2	61	0.51	5.2
Total	1,346	3.64	100.0	1,202	4.66	100.0	1,167	9.72	100.0

(Source: calculated from the data of EAA, AA, JAA)

1.3 Direction of Downstream Industries from the View Point of Production Set-up in Huta Aluminum Konin

Huta Aluminum Konin has an aggressive development plan. The rolling section will be doubled by 2000 and the smelting section will be newly added by 2003 to 2005. The company's major target is to expand rolled products, such as plates, sheets, strips and bands. The present production pattern of rolled products is as follows:

Table PKI-1-5 HUTA ALUMINUM ROLLED PRODUCTS

Thickness in mm	Production percentage	Major applications
5-100	10	construction materials of aerospace, shipbuilding, chemical, automobile industries, etc.
0.5-5	60	0.5-2: construction materials, electrical appliances 0.5: delivered to Kety and rolled into 6-8 μ foil
0.05-0.5	30	0.25: beer cans 0.18: window blinds 0.07-0.09: food containers, disposable trays

(Source: Huta Aluminum Konin)

By considering the production set-up in Huta Aluminum Konin, processing of aluminum strips and sheets will be the most effective down stream industries in Konin.

1.4 Potential Aluminum Processing Industries in Konin

The above mentioned investigations lead to several possibilities of aluminum processing industries. The implementation of the projects will be more effective if they are cascaded according to the urgency of demands. These are identified as follows:

1.4.1 The First Phase

(1) A coating Factory for Aluminum Strips and Sheets

There are urgent requirements for strips and sheets for construction, transportation and packaging uses as follows:

- high durability
- enrichment of surface

For the requirements, coating technology as well as anodization is playing an important role in aluminum surface treatment. Such surface treatments as anodized layer formation and electrolysis coloring have not really been required yet, but coating and lacquering are needed. Requirements for high anti-corrosive and rich color is rising and coating is being adopted to meet these requirements. Coating can obtain high productivity by applying a continuous coating line and superior post-processability to anodization. So far, there have not been any possibilities of lacquering aluminum in Poland. As a substitute, tinned steel strips and sheets have been used (production capacity in

Poland: 70 thousand tons per year). There is huge demand for the products. Demand for coated strips and sheets is not restricted just to Poland, but is also in evidence in the CIS countries. The following highlights the recent consumption in Poland:

- Imports in 1995 2,292 tons
- Imports in 1996 5,635 tons
- Huta's supply (lacquered in cooperation) 800 tons

Demand structure in 1997 is as follows:

- Packaging industries (drink-cans; cap) 6,500 tons
- Construction and others 6,435 tons
- Total 12,935 tons

Main uses of colored materials are as follows:

Table PKI-1-6 MAIN USES OF COLORED ALUMINUM SHEETS

Thickness of strips and sheets in mm	Main applications
2-0.5	Construction materials (roof covers, wall facade, underslung ceiling, insulation-sandwiched plates, garage doors, road signs, etc.), Transportation (bodies of cars and buses, bodies of caravans), Electrical (boxes for electrical devices, air conditioners)
0.5-0.05	Packaging and containers (meat cans, bottle caps, trays for food (0.07mm)): presently used in raw aluminum

(Source: Huta Aluminum Konin)

Presently Huta Aluminum Konin delivers strips and sheets to Kety and sells coated products, which is expensive and inefficient.

(2) A Factory for Aluminum Sheet Work

The aluminum consumption for machinery and equipment fabrication in Poland is relatively lower than the one in the EU (Refer to Table PKI-1-2). There will be increasing demands for aluminum products using strips, sheets and plates, such as evaporators for household refrigerators, large tanks and silos

for industrial products and agricultural storage, aluminum boats, rail car bodies, leisure facilities, etc. These can be fabricated in steel sheet work factories adding some special tools and equipment for aluminum welding and cutting, etc. Fugo S.A. has a long history in steel sheet work and is not against entering into aluminum sheet work business, if it could find a major partner for market development, technology and finance. It may offer land, building and engineers and workers.

(3) A Factory of Aluminum Radiators for Space Heating

Mainly steel radiators have been used for space heating in Polish houses and buildings. However, recent demand for steel ones has fallen to 10% and the demand for aluminum radiators is increasing, mainly because aluminum radiators have higher heat transfer efficiency than steel ones. Presently aluminum radiators are imported from Italy and other western countries and locally produced in Kety by the extrusion method. Due to high import duty the use of imported radiators is saturated and radiators produced by extrusion methods have drawbacks due to the need for post assembly.

Frontal in Konin has a plan, if they find a proper partner, to produce competitive radiators by die casting methods using recycled aluminum. Total demand for radiators for space heating in Poland is estimated to be 20 to 25 million pieces per year, of which aluminum radiators comprise about 50%, 10 million pieces per year. The estimated demand is justified by the following calculation. In 1995, the total housing stocks in Poland included 11.3 million dwellings (Population and Dwelling Census, from May 17, 1995) and 61 thousand (0.54%) new dwellings were completed. Supposing that 3% of the total housing stocks are equipped with new radiators and a dwelling has 3 rooms, each of which has a radiator with 20 elements, then the required number is 20.3 million pieces per year. The company plans to produce 5 million pieces per year in Konin by the above mentioned methods. Export to surrounding countries can be expected. The company is able to supply engineers and workers, factory buildings and land for the new venture.

1.4.2 The Second Phase

(1) A Factory for Aluminum Extrusion for Construction Materials

Aluminum materials for civil and architectural uses are mainly sheet and extruded profiles. In the first phase, a manufacturing set up for the sheet will be established. As for the second phase, construction of a factory for aluminum extrusion for construction materials is proposed. In the EU, USA and Japan, sashes and curtain walls for building construction and sashes for detached housing are largely used in order to achieve a better appearance, to minimize site works and to shorten the construction period. However, in Poland demands for large panels of curtain walling for modern buildings have not developed so far in order to improve appearance. Rather demands for aluminum sashes for apartments and detached houses to be built or as the substitutes for existing wooden windows are more likely to increase in order to obtain more air-tightness.

(2) An Aluminum Foil (thin strip) Work Factory

Semi rigid aluminum containers are becoming objects of great interest among producers. The most important manufacturer is SPPR Warsaw, while other producers are very small companies scattered all over the country. The consumption of thin strip in 1996 equaled 479 tons and 560 tons in 1997. Their product quality is poor and of little variety compared with foreign products. Semi rigid packages are becoming more and more appreciated in the world due to their simple construction, universal use for various packaging of products and especially due to ease of recycling.

(3) A Factory for Aluminum Foil Lamination

Demands for high quality surface treatment of aluminum strips, sheets and foils are described in the description of a coating factory in the first phase. In the second phase, an aluminum foils lamination factory is to be proposed. Aluminum foils laminated with plastic films such as polyethylene terephthalate (PET), polypropylene and nylon, etc. have excellent characteristics for light-insulation, heat-resistance, toughness and high oxygen and moisture barrier and are used for high quality food packaging in the EU, USA and Japan.

2 Project Purpose

Development of aluminum downstream industries of Huta Aluminum Konin

3 Output of the Project

3.1 The First Phase

(1) A coating factory of aluminum strips and sheets for construction materials and packaging materials is constructed.

(2) A factory of aluminum sheet work for industrial equipment, shipbuilding, transportation and leisure is constructed.

(3) A factory of aluminum radiators for space heating is constructed.

3.2 The Second Phase

(1) A factory of aluminum extrusion profiles for construction materials is built.

(2) An aluminum foil work is constructed.

(3) A factory of aluminum foil lamination is constructed.

4 Project Description

4.1 Design Basis and Flow Scheme of the Project

4.1.1 A Coating Factory for Aluminum Strips and Sheets

(1) Design Basis

1) Annual production capacity: 20,000 tons

2) Product coverage:

Strip thickness (mm)	production percentage (%)
0.21-0.30	30
0.31-0.60	50
0.61-1.4	20

3) Product application

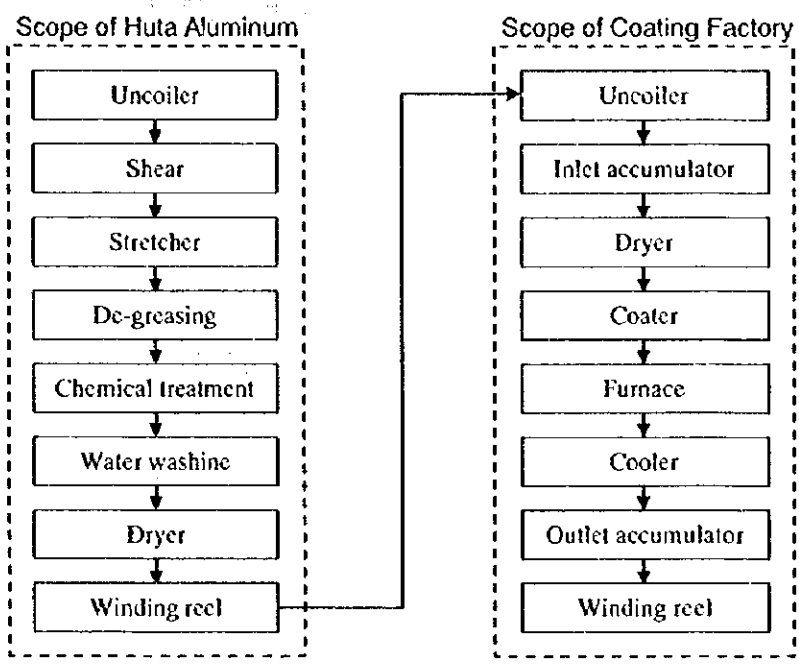
- packaging
- construction

- transportation

(2) Flow Scheme

A flow scheme for a color aluminum production line is shown below:

Figure PKI-1-2 FLOW SCHEME FOR A COATING FACTORY



4.1.2 A Factory for Aluminum Sheet Work

(1) Design Basis

1) Annual production capacity: 1,000 tons

2) Product coverage: sheet thickness ; 5 to 100 mm

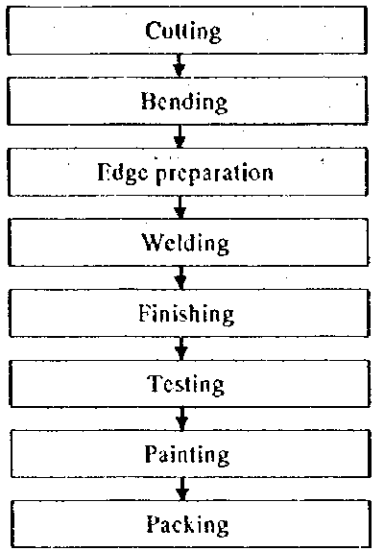
3) Product application

- silos for petrochemical, chemical and agricultural products
- equipment for pneumatic conveying system
- leisure boats, rail car bodies

(2) Flow Scheme

A flow scheme for the aluminum sheet work is shown below:

FigurePKI-1-3 FLOW SCHEME FOR ALUMINUM SHEET WORK



4.1.3 A Factory for Aluminum Radiators for Space Heating

(1) Design Basis

1) Annual production capacity: 10,000 tons (radiator ; 5 million pieces)

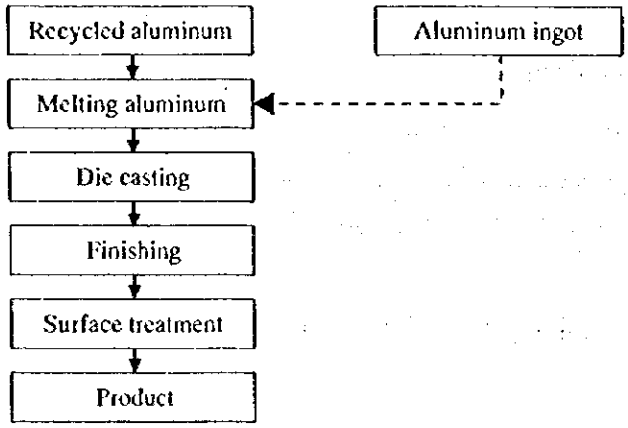
2) Raw material: mainly recovered aluminum

3) Product application: Radiator heat element

(2) Flow Scheme

A flow scheme for aluminum radiator manufacturing is shown below:

Figure PKI-1-4 FLOW SCHEME FOR ALUMINUM RADIATOR MANUFACTURING



4.1.4 A Factory for Aluminum Extrusion for Materials for Construction

(1) Design Basis

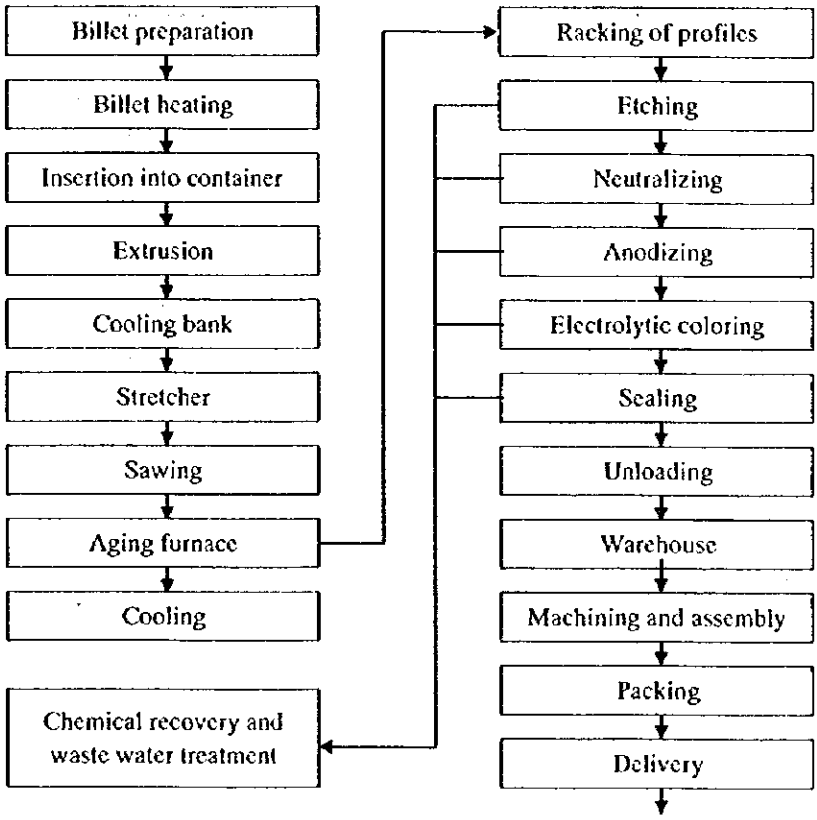
1) Annual production capacity: 3,000 tons

2) Product application: aluminum sashes

(2) Flow Scheme

A flow scheme for aluminum extrusion for sashes is shown below:

Figure PKI-1-5 FLOW SCHEME FOR ALUMINUM EXTRUSION



4.1.5 An Aluminum Foil Work Factory

(1) Design Basis

1) Annual production capacity: 1,000 tons

2) Product coverage: sheet thickness ; 0.01 to 0.07 mm

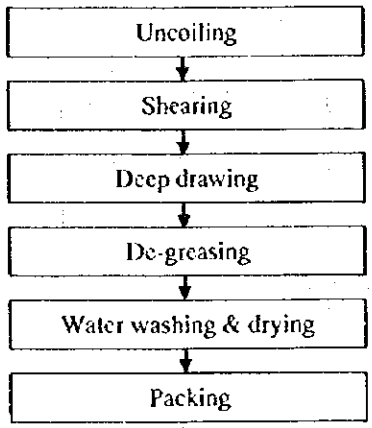
3) Product application

- disposable packaging for pizza, bread, meat, etc.
- aircraft passenger service trays

(2) Flow Scheme

A flow scheme for aluminum foil work is shown below:

Figure PKI-1-6 FLOW SCHEME FOR ALUMINUM FOIL WORK



4.1.6 A Factory for Aluminum Foil Lamination

(1) Design Dasis

1) Annual production capacity: line speed ; 150 m/min

2) Product coverage: sheet width ; 1,200 mm

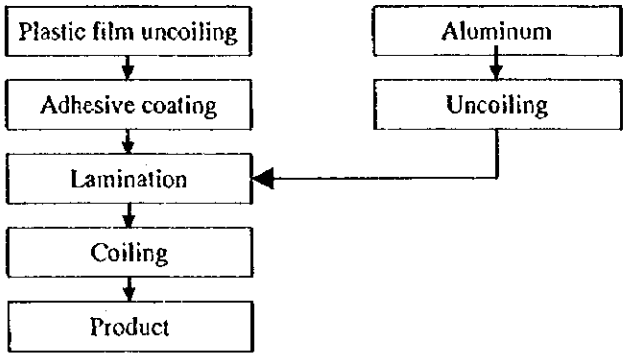
3) Product application

- packaging for high performance
- retort pouch

(2) Flow Scheme

A flow scheme for aluminum foil lamination is shown below:

Figure PKI-1-7 FLOW SCHEME FOR ALUMINUM FOIL LAMINATION



4.2 Project Location and Layout

4.2.1 Plant Site

Adjacent to Huta Aluminum Konin or a site accessible transportation.
The proposed site is shown in Figure PKI-1-8.

4.2.2 Area Required

Approximate areas and buildings for the projects are estimated in Table PKI-1-7.

Table PKI-1-7 REQUIRED AREAS FOR THE PROJECTS

Phase	The first phase			The second phase		
Project No.	KI-15-1	KI-14	KI-11	KI-15-2	KI-13	KI-12
Project	Coating	Sheet work	Radiator	Extrusion	Foil work	Lamination
Unit	m2	m2	m2	m2	m2	m2
Total req. area	100x200	100x100	100x100	300x200	50x100	50x100
Main building	30x50	30x50	30x50	50x200	30x30	15x20
Warehouse	25x25	15x20	25x25	50x100	25x25	15x20
Office	20x40	20x20	40x40	20x40	20x40	10x10
Waste treatment	15x20	-	15x20	30x50	-	-

Figure PKI-1-8 LOCATION OF ALUMINUM DOWN STREAM INDUSTRIES

4.3 Organization and Required Manpower

Employees required for the normal operation of the projects are estimated as shown in Table PKI-1-8.

Table PKI-1-8 REQUIRED MANPOWER FOR THE PROJECTS

Phase		The first phase			The second phase			Total
Project No.		KI-15-1	KI-14	KI-11	KI-15-2	KI-13	KI-12	
Project		Coating	Sheet work	Radiator	Extrusion	Foil	Lamination	
A	Direct workers	50	60	150	160	60	30	510
B	Indirect workers	10	12	30	32	12	6	102
C	Total	60	72	180	192	72	36	612

4.4 Project Cost

Individual total project costs for are estimated in Table PKI-1-9.

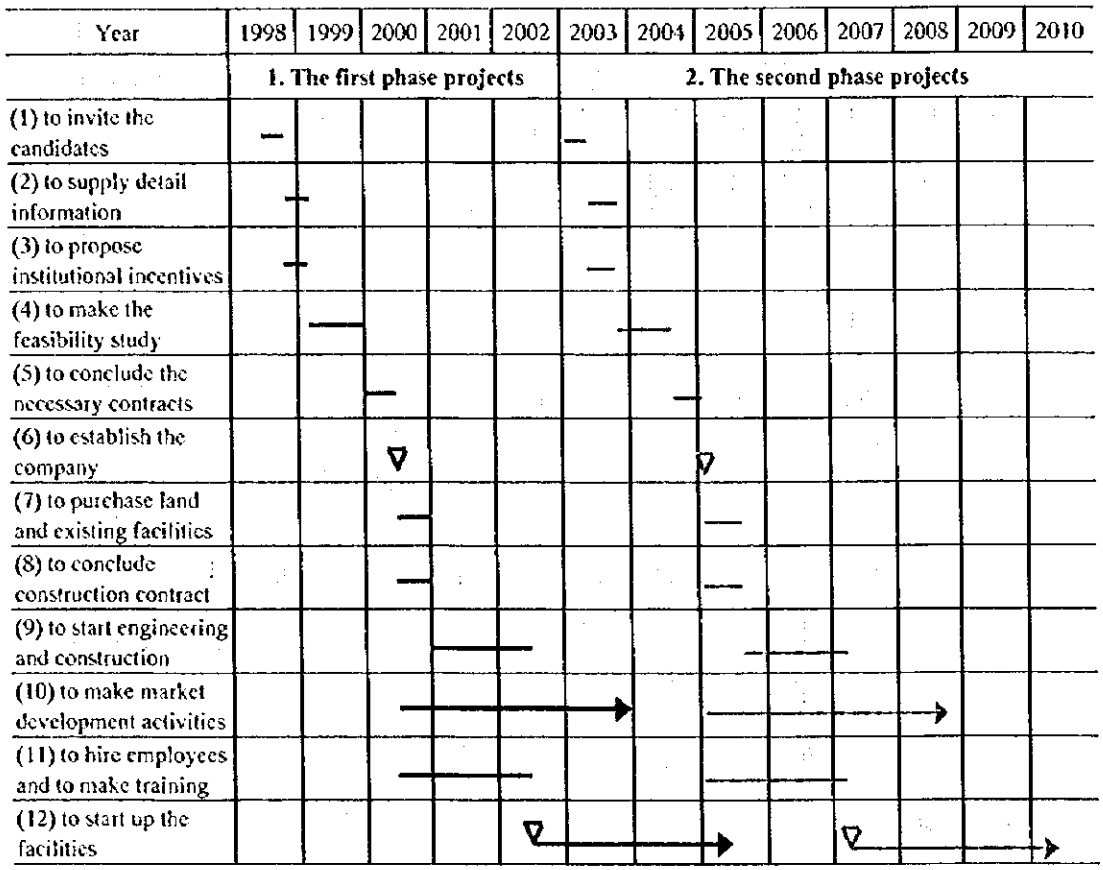
Table PKI-1-9 PROJECT COST SUMMARY (on 1998 basis)

Phase		The first phase			The second phase			Total
Project No.		KI-15-1	KI-14	KI-11	KI-15-2	KI-13	KI-12	
Project		Coating	Sheet work	Radiator	Extrusion	Foil	Lamination	
Unit		thousand USD	thousand USD	thousand USD	thousand USD	thousand USD	thousand USD	thousand USD
A	Land cost	86	43	43	257	43	43	514
B	Building	1,382	943	1,114	7,414	996	300	12,150
C	Plant cost	20,000	1,714	2,286	10,000	2,286	1,714	38,000
D	Auxiliary facilities	3,000	257	343	1,500	343	257	5,700
E	Pre-operation expenses	367	44	57	288	55	35	845
F	Base project cost	24,835	3,002	3,843	19,459	3,723	2,349	57,210
G	Contingency	2,483	300	384	1,946	372	235	5,721
H	Initial working capital	497	60	77	389	74	47	1,144
I	Total project cost	27,815	3,362	4,304	21,794	4,170	2,631	64,075

4.5 Schedules

The schedules for the first and second phase projects are estimated in Figure PKI-1-9.

Figure PKI-1-9 SCHEDULE FOR THE PROJECTS



5 Implementation Body and Financing Source

5.1 Implementation Body

A local private investor, a foreign investor and, expectedly, Huta Aluminum Konin will form a joint venture for the respective project. The local government will undertake promotion activities to invite local and foreign investors, rendering institutional incentives and supplying infrastructural services. The roll of each partner will be as follows:

- The local investor : mainly responsible for supply of land, building, engineers and workers, utility supply and operation after start-up
- The foreign investor : mainly responsible for supply of technology, marketing and finance
- Huta Aluminum Konin : mainly responsible for supply of technology and raw materials and marketing

5.1 The Source of Funds

The capital stock is 30 % of total investment cost. Each partner shares the subscription in kind and/or funds. The rest will be financed by credits and loans.

6 Activities

The six projects require a similar implementation program. The required activities are enumerated as follows:

(1) to invite the candidates wishing to deliver the various schemes
(2) to supply detailed information on the proposed land, infrastructure, raw materials, utilities , market situation and labor conditions, etc.
(3) to propose institutional incentives
(4) to make the feasibility study and to decide the concrete details of the company
(5) to conclude the necessary contracts such as the joint venture agreement, deed of association, finance agreement, technology license agreement, raw material and utility supply agreement, etc.
(6) to establish the company
(7) to purchase land and existing facilities if required
(8) to conclude construction contract with the successful contractor
(9) to start engineering and construction of the facilities
(10) to carry out market development activities
(11) to hire employees and begin training
(12) to start up the facilities and to start the company operation

7 Expected Benefit

7.1 Direct Benefit

(1) Increase in the Gross Domestic Production in Konin Province

Total production of the proposed aluminum downstream industries is estimated as shown in Table PKI-1-10. GDP of Konin Province was 3,124 million PLN in 1995. Inflation from 1995 to 1998 is estimated to be 46.3% and net GDP growth rate is considered to be 6 %/year. GDP of Konin in 1998 is estimated to be 5,441 million PLN. Therefore, an approximate 11 percent increase of GDP in Konin on the 1998 basis, will be expected by the project.

Table PKI-1-10 ESTIMATED REVENUES AND VALUE-ADDED ON THE 1998 Basis

Phase			The first phase			The second phase			Total
Project No.		unit	KI-15-1	KI-14	KI-11	KI-15-2	KI-13	KI-12	
Project			Coating	Sheet work	Radiator	Extrusion	Foil	Laminatio n	
A	Average raw al. market cost	PLN/ kg	9.2	9.0	5.0	6.0	11.2	20.0	
B	Average product market price	PLN/ kg	13.0	25.0	15.0	30.0	20.0	30.0	
C	Production capacity	t/y	20,000	1,000	10,000	3,000	1,000	1,000	36,000
D	Total raw material cost	thous. PLN	184,000	9,000	50,000	18,000	11,160	20,000	292,160
E	Total sales	thous. PLN	260,000	25,000	150,000	90,000	20,000	30,000	575,000
F	Total value added	thous. PLN	76,000	16,000	100,000	72,000	8,840	10,000	282,840
G	Total sales	thous. USD	74,286	7,143	42,857	25,714	5,714	8,571	164,286
H	Total value added	thous. USD	21,714	4,571	28,571	20,571	2,526	2,857	80,811

(2) Increased Employment

In total 612 employees will directly work for the aluminum downstream industries as shown in Table PKI-1-8. Both fresh graduates and the capable engineers and workers, surplus from rationalization of the three key industries will be able to find jobs in the new companies.

(3) Acceleration of Rationalization and Business Development in Huta Aluminum

Huta Aluminum Konin will be able to secure captive users of his products and will be able to proceed with an integrated rationalization from the smelting to the final products together with the downstream industries.

(4) Development of Clean Industries

The aluminum down stream industries will bring environmentally-clean developments to Konin Province.

7.2 Indirect Benefit

(1) Development of Supporting Industries

Supporting industries related to the aluminum downstream industries such as maintenance, physical distribution and further-downstream industries will be developed in the district.

(2) Improvement of Konin's Image

Colorful architectural products or food packaging will improve Konin's image in Poland and attract more investors and tourists.

8 Weakness of the Project

(1) High Investment Cost

It will be difficult to find domestic investors. It necessary to find foreign investors for finance and technology.

(2) High Quality Management and Control of Production

High quality management and control of production will be required for the aluminum downstream industries. Improvement on the present situations will be essential.

Project Design Matrix (PDM) for PKI-1 DEVELOPMENT OF ALUMINUM DOWNSTREAM INDUSTRIES

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumption
Overall Goal New businesses are developed with maximum utilization of the existing resources that the three key industries own.	Number and sales volume of new business enterprises related to the three key industries	Data at the registration office Data at the statistical office	
Project Purpose Aluminum downstream industries are developed in the Konin Province.	Number and sales volume of aluminum downstream industries in Konin Province	Data at the registration office Data at the statistical office	
Output The first phase 1. A coating factory is constructed. 2. An aluminum sheet work factory is constructed. 3. A factory for aluminum radiators is constructed. The second phase 1. A factory for aluminum extrusion profiles is constructed. 2. An aluminum foil work factory is constructed. 3. A factory for aluminum foil lamination is constructed.	Number of aluminum downstream companies registered. Capacity and production of each company	Data at the registration office Data at the statistical office Annual reports of the companies	Huta Aluminum Konin operates on a copper-bottomed basis and can supply products at competitive prices to the downstream industries.
Activities 1. Invite the candidates delivering the schemes of the projects 2. Supply detailed information on the proposed land, infrastructure, raw material and utilities supply conditions, etc. 3. Propose institutional incentives 4. Do the feasibility study and decide the concrete details of the company 5. Conclude necessary contracts for company establishment. 6. Establish the company 7. Purchase land and existing facilities if required 8. Conclude contract with the successful contractor 9. Start engineering and construction of the facilities 10. Do market development activities 11. Hire employees and carry out training 12. Start up the facilities and start the company operation	**Input** Manpower Phase I For each project: 1) Feasibility study, company establishment 5 people x 24 months 2) Engineering, construction; 10 people x24 months 3) Operation; for all projects a total of 312 employees Phase II For each project: 1) Feasibility study, company establishment 5 people x 24 months 2) Engineering, construction; 10 people x24 months 3) Operation; for all projects a total of 300 employees Fund Phase I : US$ 35,500,000 Phase II : US$ 28,600,000 Facilities 6 plants		Huta Aluminum Konin and other companies of three key industries provide competent personnel to the downstream industries.
			Power stations firing brown coal do not restrict their operations even under further stringent regulations for environmental protection such as CO2 emission. Foreign investors with funds and technologies participate.