#### 9 PCM WORKSHOP

#### 9.1 Schedule of the Workshops

The Study Team facilitated five Project Cycle Management (PCM) workshops following the schedule shown in Figure 9-1-1, applying the PCM method including its participatory approach for planning.

The workshops were held for the purpose of preparing a framework of the master plan of each pilot sub-basin. Furthermore, the technology transfer on the participatory planning from the JICA Study Team to the Iranian counterpart personnel was also intended. Some of the counterpart personnel of the Watershed Management Deputy were dispatched to participate in and also to facilitate the workshops (Figure 9-1-1). Most of them participated in the training workshop in Teheran before starting the actual workshop for understanding how to facilitate the discussion in the PCM workshop.

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MONTH		April				·	· _ ·	May				•							June					
DATE		28 29 30 Sat Bun Mor	1 2 1 Tue Wearn	3 🖉 S 1 🖉 Sal 1	5 7 8 5 an Mon Tue We	10 11 10	2 13 1 1 Bin 7 T	5 16 17 w Wed The	19 54	20 21 Sun Mor	23 24 · · ·	26 27 28 8# 840 1400	29 30 Tur Wet	31 2 Thu 5 54 5	3	7 9 Thu Au	11 1 Mor 7	2 13 14 we Wed Thu	16 17 24 3	18 19 2 Mar Tur W	021 M7111	23 24 25 Sel Sun Ma	26 27 2	8
WORKSI		Training in Tehran			Worksh at K4-1- (Vastiga sub-basi Chaharl hal. Prov	pp 9 n n, ma								Workshop at Semilon for K7-0- 19-1 (Sarbaz an Noorabad sub-basin, Esfahan Prov.)	đ		Wo at K (Ta sord basi	kshop 7-48 1g-c- h sub- n, giluych	Worl at Ize K8-2 (Zera basir	cshop th for 8 us sub- ty zestan		Worksh op at K5-19a (Bazoft, Chaharl mahal, Prov.)		
Modarato and trans	r, co-moderators							╉╋				┿┿								$\square$				
	uchi (ЛСА Study							┥┥				++-												
Mr. S. M	1. Safavi																							
Mr. A. 1	M. Bigdeli																							
Mr. H.R	. Soleimani		:																					
Mr. H.A	Mohammadi		-																					
Mr. M. 1	Behbahani																					_		
Mr. J. F	adaee		-																					
Mr. R. F	teaisi																							
Mr. F. R	ahnama		:																					

Figure 9-1-1 Schedule of the PCM Workshops

#### 9.2 Result of the Workshop: K4-1-9 Vastegan

The PCM workshop for the K4-1-9 (Vastegan) was held on May 7-10, 2001 in the office of the Agricultural Cooperative located in Konark village in the sub-basin. Among the workshop results, Problem Analysis and Project Design Matrix (PDM) are shown in the Figure 9-2-1, Table 9-2-1 respectively.

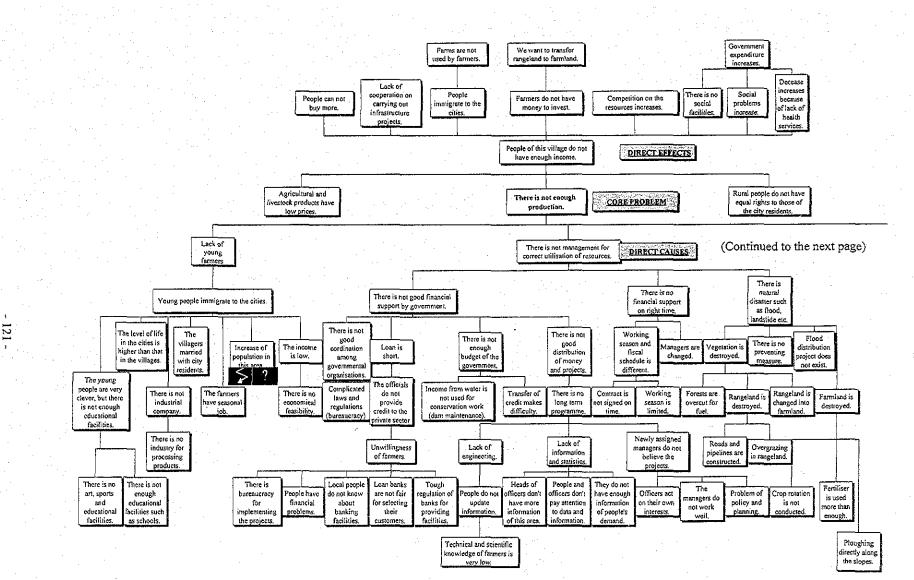


Figure 9-2-1(1) Problem Analysis for K4-1-9

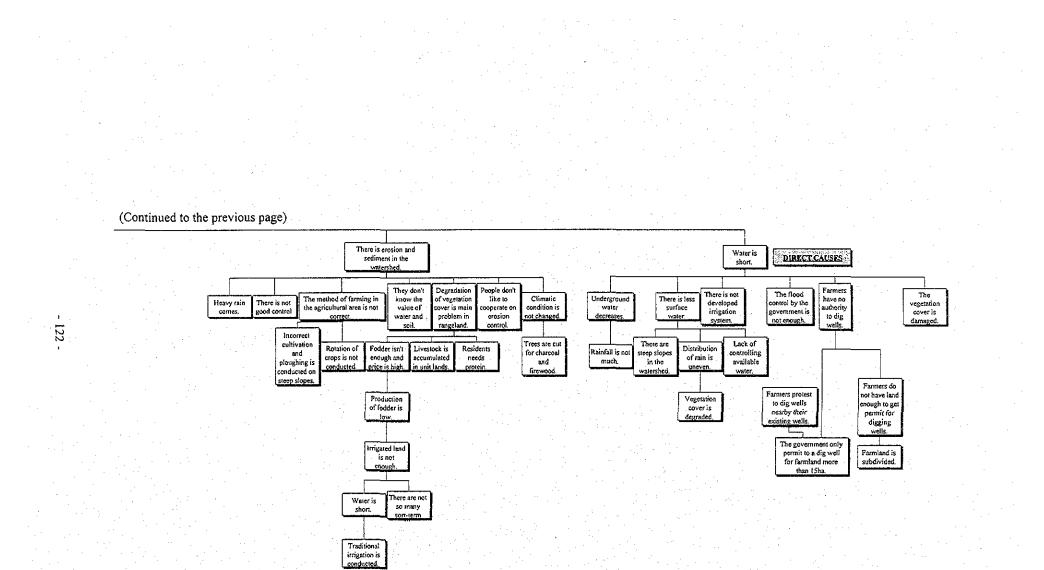


Figure 9-2-1(2) Problem Analysis for K4-1-9

	ect Name: Comprehensive Manage		Table 9-2-1 Project Design of Watershed in Sebzeh K	<u>oh</u> <u>D</u> i	uration: -20		<u>Date: 2001/5/10</u>
Pro	ject Area: Vastegan sub-basin (K4-		Summary	Target Group: Re	Verifiable	ne sub-bas Means of	in (permanent/ Temporary) Important Assumptions
	na an a	rrative	Summary	a da serie de la composición de la comp			Important Assumptions
Ove	erall Goal						
	There is social facility. 2 There is econd	omical	facility				
Pro	ject Purpose						
The	people have enough income.			a de la companya de l			- The good culture is kept up.
	puts	· · · · · ·		····		··· · · · · · · · · · · · · · · · · ·	
1	There is appropriate management system for	the ma	ster plan.			· .	- People in the rural areas have
2	Water is enough for farming.						equal rights as city residents.
3	There isn't soil erosion and sediment in the v	watersh	zd.				<u> </u>
4	Young people remain in the villages.						
5	Agricultural and livestock produces have app	propriat	e prices.		s as ta bera	• · · · · ·	
Act	ivities	3-8	Stabilise the steep slope by gabion	s.	Ing	outs	
1-1	Collect data and information.	3-9	Conserve the dikes of the riverban	k at the alluvial fan.		· · · · · · · · · · · · · · · · · · ·	- Economic condition of the young
1-2	Correct regulations and manuals for the	3-10	Construct dry rock dams at the upp				people does not get worse
	management.	3-11		oper stream.			(Assumption for the Output4).
1-3	Enforce the regulations and manuals.		Construct check dams at the upper				- Good managers are selected at the
1-4	Train the experts.		Construct diversion channels at the				related governmental offices
1-5	Train the farmers.		Unite the farmlands subdivided to			tet al a la	(Assumption for the Output1).
1-6	Provide the loan for implementing the	3-15	Decrease the number of irrigation	channels in the			- The managers of the related
	master plan.	· · ·	farmland.	- · · · · · · · · · · · · · · · · · · ·	-		governmental offices understand w
2-1	Construct earth dams in small tributary.	3-16	Construct of road between farmlan	d with minimising		· · ·	they must do (Assumption for the
2-2	Construct reservoirs at the upstream.		erosion.	·			Output1).
2-3		3-17	Construct sediment trap ponds at the	he upper stream.			<ul> <li>Necessary letters on agreements are</li> </ul>
2-4	Construct new irrigation channels.		Construct gates on irrigation chann	iels at the alluvial fan.	}		submitted on time (Assumption for
2-5	Isolate the channels	3-19	Construct new irrigation channels				the Output1).
2-6	Provide pumping irrigation system.	3-20	Implement other river engineering Construct facilities for education a		· ·		- There is no political interference
2-7 2-8	Dredge the channels. Issue permission for digging wells.	4-1	Establish higher educational facilit				<ul> <li>(Assumption for the Output1).</li> <li>Climate condition does not drastical</li> </ul>
2-8	Construct ponds beside the wells.	4-2 4-3	Produce raw material for processir		ł		
2-9		4-5 4-4	Establish an industrial processing f				<ul> <li>change.</li> <li>Supporting budget is enough.</li> </ul>
3-1	Fence the protected areas.	5-1	Establish producing-distributing co	autory.	}		<ul> <li>Supporting oudget is enough.</li> <li>Mining activities are not started in t</li> </ul>
3-2	Change sheep into cows.	5-2	Improve constitution of cooperativ	As			sub-basin.
3-3	Buy extra sheep from the livestock keepers.		Construct a storage and refrigeration	a system	-		- Inflation does not happen.
3-4	Introduce industrialised livestock keeping	5-4	Guarantee buying prices of farm as	ad livestock produces	ļ		Preconditions
3-5	Terrace the rangeland to prevent erosion.	5-5	Establish a good packaging factory				<ul> <li>Neighbouring villages are</li> </ul>
3-6	Plant trees in the rangeland.	5-6	Provide farmers information of pri	ces of farm produces.	l		agreeing on implementing the
3-7	Seed the rangeland.	5-7	Improve production insurance by t				master plan.

### 9.3 Result of the Workshop: K5-19a Bazoft

The PCM workshop for the K5-19a (Chaman Goli, Bazoft) was held on June 23-25, 2001 at the secondary school in Telurd village beside of the sub-basin. Among the workshop results, Problem Analysis and Project Design Matrix (PDM) are shown in the Figure 9-3-1 and Table 9-3-1 respectively.

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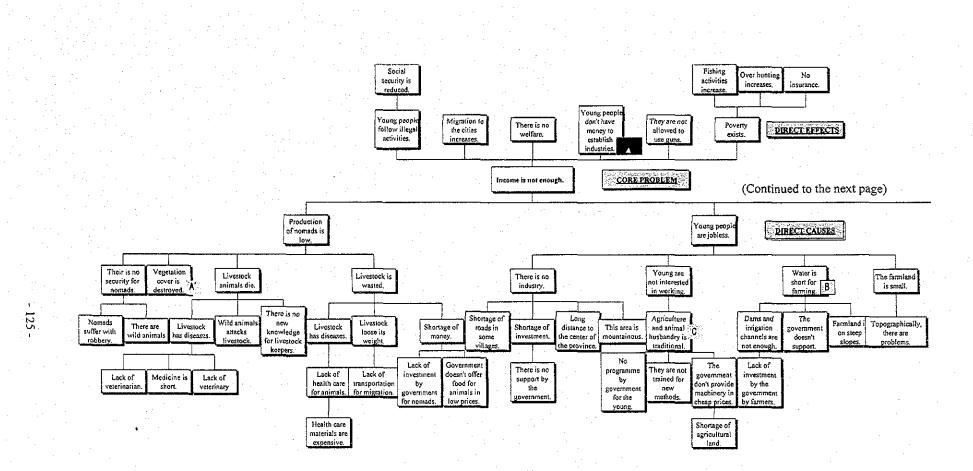


Figure 9-3-1(1) Problem Analysis for K5-19a

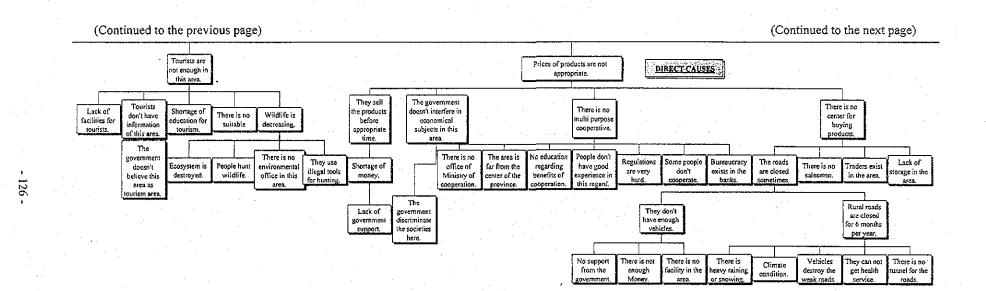
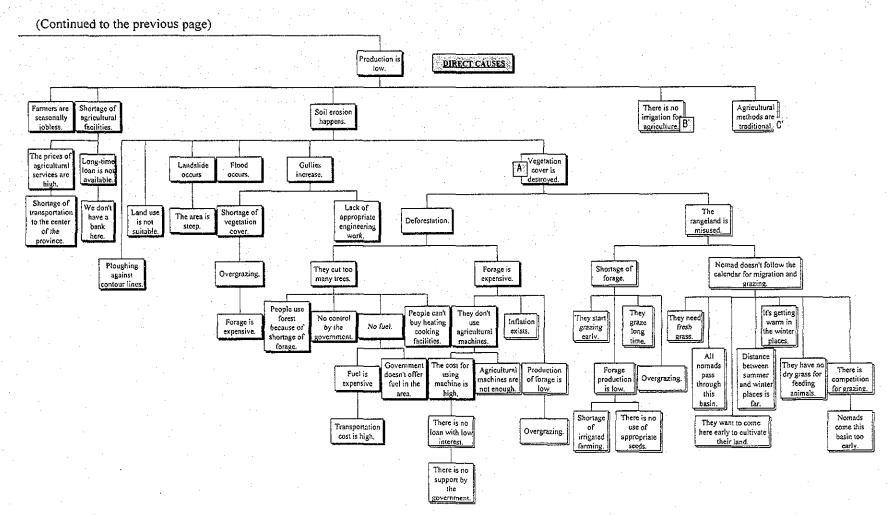
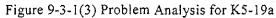


Figure 9-3-1(2) Problem Analysis for K5-19a





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#### 9.4 Results of the Workshop: K7-0-19-1 Sarbaz and Noorabad

The PCM workshop for the K7-0-19-1 (Sarbaz and Noorabad) was held on May 31-June 3, 2001 at the dormitory of the Ministry of Jihad and Agriculture in Semirom. Among the workshop results, Problem Analysis and Project Design Matrix (PDM) are shown in the Figure 9-4-1 and Table 9-4-1respectively.

# Table 9-3-1 Project Design Matrix (PDM) for K5-19a Duration: 20 years (2002-2021) Date: 2001/6/25 Target Group: Residents of sub-basin including nomads Date: 2001/6/25

Project Name: Master plan of Bazoft Project Area: Bazoft sub-basin (K5-19a)

		Narrative Summary				Means of Verification	Important Assumption
Verall Goal: - Social equality Depe	endence	to government reduced Welfare is provided.	- Soci	al security improves Employment increases.			
Project Purpose							- Inflation is normal.
ncome is enough.							
Outputs	4	Agricultural facilities are appropriate.	8	Nomads' products increase.	1		-Governmental policy doesn
Water for agriculture is provided.	5	Fish farms are established.	9	Tourists visit the sub-basin.		1	change.
Vegetation cover is conserved.	6	All people have jobs.			Í		
Erosion is controlled.	7	Prices of products are appropriate.				[	
Activities	4-1	Coordinate with the bank of agriculture for	8-1	Train nomads.	In	puts	- Telecommunication facilit
-1 Training is provided.		establishing a barance and providing loan.	8-2	Coordinate with Ministry of Higher Education to		•	are constructed.
<ul> <li>Government supports.</li> </ul>	4-2	Train the people for usage of agricultural		provide scholarship for children of normads.			- Tourism places are
<ul> <li>-3 Cement dams are constructed.</li> </ul>		facilities.	8-3	Ask government to invest the nomads.			reconstructed.
<ul> <li>-4 Diversion dams are constructed.</li> </ul>	4-3	Provide agricultural machinery.	8-4	Train native veterinarian.			- The Environmental Office
-5 Pumping station is established.	5-1	Coordinate with a bank for providing loans.	8-5	Provide health care facilities in low prices.	ł		fences the area.
-6 Channels are sealed.	5-2	Train the people.	8-6	Provide veterinarian in the area.			- The government provide
-7 New irrigation methods are	5-3	Control construction of the fish farms.	8-7	Provide drugs for animals.			essential investment in the
provided.	5-4	Provide the young of fish.	8-8	Insure the animals.			area.
-8 Reservoirs are available.	5-5	Establish industry for feeding fish.	8-9	Improve the vegetation cover.	1.		- People are trained on natu
1 Fuel is provided.	5-6	Provide drugs for fish.	8-10	Coordinate with the Ministry of Cooperation.			resources.
2 Loans are available.	5-7	Establish packaging industries.	8-11	Coordinate with a bank to establish branch for	· · ·		- Security is maintained.
3 Government supports.	6-1	Design the programme for providing jobs.		nomad			- Government propagate the
-4 Zero-grazing is conducted.	6-2	Provide financial resources regarding water.	8-12	Coordinate with a bank to provide low interest loans			area.
-5 Price of forage is low.	6-3	Coordinate with a bank for providing loans.		for the nomads.			- Private sector is ready to
-6 Tree plantation is completed.	6-4	Provide agricultural facilities.	8-13	Establish collecting centre of milk.			invest in the area.
-7 Seeding is done.	6-5	Improve farmland.	8-14	Provide transportation vehicles.	1 .		- Income from the tourism i
-8 Government guarantees to	6-6	Improve farmland by terracing.	8-15	Provide moving itinerant traders for buying animals.			invested in the area.
purchase extra animals.	6-7	Level the farmland.	8-16	Coordinate with army to provide certificate for their			- The government has enou
-9 Fence the rangeland.	6-8	Improve land use.		guns.			information on the attracti
-1 Train the people.	6-9	Provide new irrigation methods.	8-17	Coordinate with the police to provide security for	ł		places in the area.
2 Rehabilitate vegetation cover.	6-10	Establish agricultural high school.	• • •	nomads.	ļ		- Nomads are armed.
3 Produce forage.	6-11	Improve available roads.	8-18	Establish markets for their products.			- Low interest loans are
4 Establish orchards.	6-12	Establish access roads to fish ponds.	8-19	Provide marketing.	ł		provided.
-5 Plant walnuts trees.	7-1	Train the people	9-1	Ask the government to invest for construction of	{		- Cooperatives are establish
-6 Plant Almond trees.	7-2	Establish access roads.		roads.			- Robbery is prevented.
7 Control run-off.	7-3	Coordinate with the Ministry of Cooperation	9-2	Coordinate with the Ministry of Guidance to invest		• •	- Nomads' children get
8 Seed the rangeland.	, .	for establish multi-purpose cooperatives and		in the area and provide facilities to the private sector	1		scholarships.
9 Construct flood prevention dams.		establishing their office.		to invest.	· ·		- There is no social unrest in
10 Construct bunckets.	7-4	Instruct rural people to manage the cooperative	. 9-3	Coordinate with telecommunication office.	[ ·		the area.
11 Terrace the slopes.	7-5	Ask elders to solve problems of the	9-4	Provide essential food.	ł		- Finance is provided on tim
-12 Construct stone dams.		cooperatives.	9-5	Make people to cooperate with the government.			Preconditions
13 Construct gabion dams.	7-6	Provide commodities on time.	9-6	Ask parliament members to support the people.	ł .		- Related governmental sect
-14 Do furrowing.	77	Coordinate with a bank for providing loans.	9-7	Coordinate with the Environmental Office to train	1		are cooperative.
-15 Construct soil dams.	7-8	Coordinate with parliament member to improve		the people and to fence the area.	1	10	ine cooperative.
16 Construct appropriate roads.		existing rules.	9-8	Coordinate with army to provide security for tourists.			-

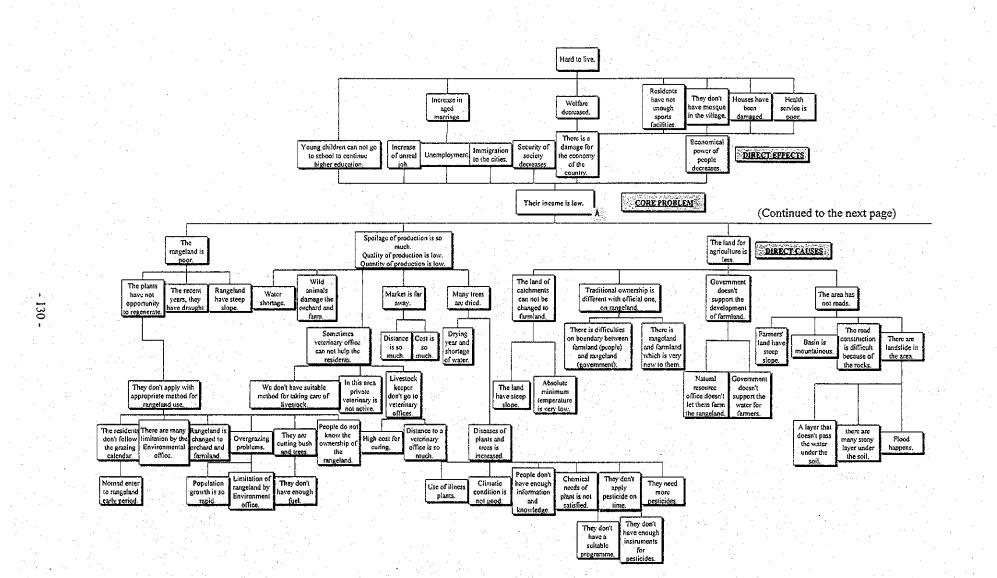


Figure 9-4-1(1) Problem Analysis for K7-0-19-1

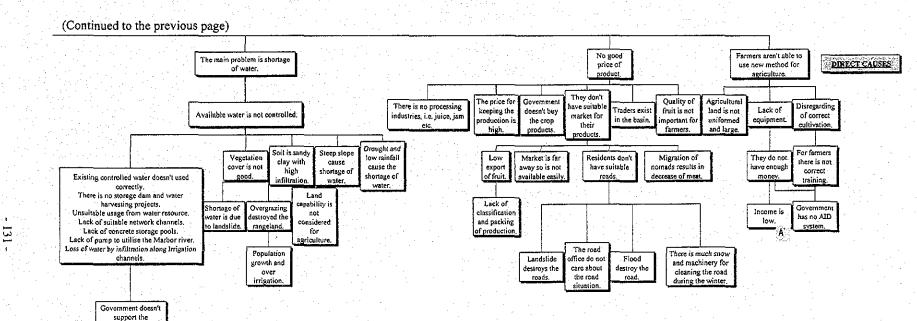


Figure 9-4-1(2) Problem Analysis for K7-0-19-1

agriculture sector.

Projec	a sold the second s		Narrative Summary		Target Group: Residents	Verifiable	Means of	Important
			isminutero vanantary			Indicators	Verification	Assumptions
	li Goal				· · · · · · · · · · · · · · · · · · ·			
I. Eco	momical power of people increases. 2	. Increa	ase of employment. 3. Decrease of immigra	tion. 4	Improve the economic, cultural and social conditions.			
	t Purpose							
People	have enough income by local products							
Outpu	ts							- GAT convention
l Ap	plying a new agricultural methods.	3 R	esidents have enough water.	5 P	roducts have suitable price.			doesn't interfere
2 Fa	rmland is enough.	4 R	angeland is rich.	6 P	roducts are not wasted.			the market.
	·							<ul> <li>Inflation is normal</li> </ul>
Activi		3-1	Construct storage dams.	5-1	Balance between needs and consumption.	l inț	outs	
	Enforce the law for uniforming land.	3-2	Construct concrete channels.	5-2	Conduct internet trading.			- Law for
	Dry farming land is changed to the	3-3	Maintain irrigation system.	5-3	Establish local market.			uniforming land
	irrigated land.	3-4	Sprinkler irrigation system.	5-4	Establish cooperation company.			prepared_
-3 J	Land levelling.	3-5	Dripping irrigation system.	5-5	Support the cooperatives by government.		· ·	- Environmental
	Government provides agricultural	3-6	Construct furrows.	5-6	Establish packaging company.	ł		office provides
	equipment to the residents.	3-7	Construct bancket system.	5-7	Prepare vehicle for transportation.		-	land on necessity
	Government must train the residents.	3-8	Execute terrace.	5-8	Provide long-term loan with low interest.			<ul> <li>Natural disaster</li> </ul>
	Establish participation group.	3-9	Construct pump station.	5-9	Prepare the farmland for nomads.			like a big
-7 ]	Establish provincial information bank	3-10	Decrease loan interests.	5-10	Establish the building for nomads.			earthquake does
8	system.	3-11	Improve the soil for infiltration.	5-11	Improve animals ethnology.		ļ	happen.
-8 1	Use equipment for prevent freezing	4-1	Government buy extra livestock.	5-12	Provide appropriate devices for livestock to nomads.			<ul> <li>Township officer</li> </ul>
	products.	4-2	Prepare and design rangeland	5-13	Construct the reservoir and reconstruct springs for			have good
	Ferrace the land.		management.		drinking water.			cooperation.
	Construct drainage for the farmers.	4-3	Train the people for controlling	5-14	Make slaughterhouse.	· .	l l	Preconditions
	Construct check dams.		population growth.	5-15	Construct processing factories.			<ul> <li>Conflicts must b</li> </ul>
	Construct protection facilities for	4-4	Train for suitable usage.	5-16	Prepare handicraft markets.			solved between
	andslides.	4-5	Grazing management.	5-17	Prepare handicraft instruments with low costs.			families, villager
	Istablish warning system for	4-6	Make nomads live in constant places.	6-1	Train the residents in the class.			and nomads.
	andslides.	4-7	Government controls the time of nomads	6-2	Establish processing factory.			<ul> <li>Organisations an</li> </ul>
	Construct embankment.		migration from summer camp and their	6-4	Insure the products and livestock			officers have goo
	Construct flood preventing system.		entering the rangeland in winter.	6-4	Establish veterinary centre.			cooperation.
	lant trees along rivers.	4-8	Prepare the water and forage for nomads'		Government pays subsidy for livestock medicine.	-		<ul> <li>Government has</li> </ul>
	Stabilise the slope by supporting walls.	· .	waiting places.	6-6	Government implements prevention programme for			good budget for
	Solve conflict on traditional	4-9	Protect the nomads of rangeland when		livestock decease.	1	- · · [	supporting.
· 1	oundaries by the team of experts.		they migrate.	6-7	Provide scholarship for residents.			<ul> <li>The condition like</li> </ul>
	Audit the land.	4-10	Construct the troughs for nomads.	6-8	Construct reserving place and refrigerator.		.	war isn't realised
	Provide rangeland and farmland to the		Prepare fuel for nomads.	6-9	Provide pesticide on time.			
	esidents.	4-12		6-10	Provide tools and pesticide by low price.			
-13 I	Istablish managing organisation for	4-13	Seeding with ploughing in rangeland.	6-11	Apply the safe seedlings.		. [	
	wnership.	4-14	Plant trees	6-12	Apply the improved seedlings.		1	
	Construct standard bridges for the	4-15	Use the new source of energy.	6-13	Apply the suitable and improved seeds.	·		
	oads.	4-16	Cooperate with provincial research centre	6-14	Fence the farmland.			
-15 N	Aaintain the roads.		for establishing herbarium for the bank.	6-15	Improve the roads between the farmland.			

# Table 9-4-1 Project Design Matrix (PDM) for K7-0-19-1 Project Name: Watershed Management Master Plan of Sarbaz and Noorabad Duration: -2020

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#### 9.5 Results of the Workshop: K7-48 Tang-e-sork

The PCM workshop for the K7-48 (Tang-e-sork) was held on June 11-14, 2001 at the secondary school in Tang-e-sork village in the basin. Among the workshop results, Problem Analysis and Project Design Matrix (PDM) are shown in the Figure 9-5-1 and Table 9-5-1 respectively.

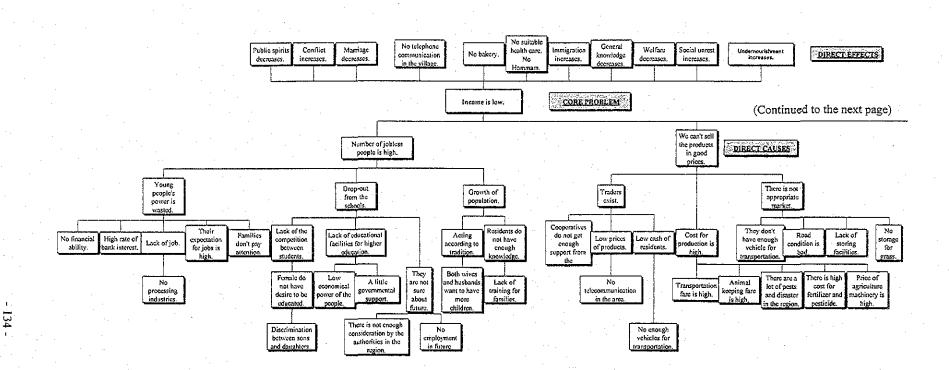
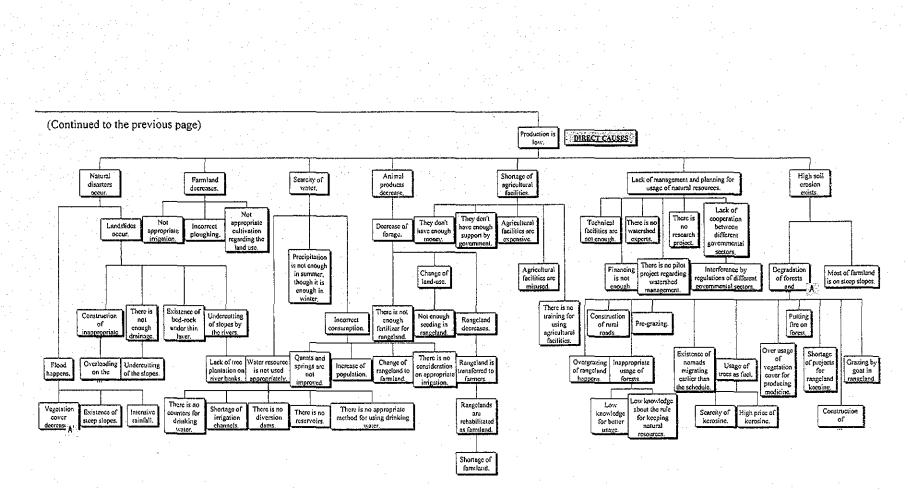


Figure 9-5-1(1) Problem Analysis for K7-48

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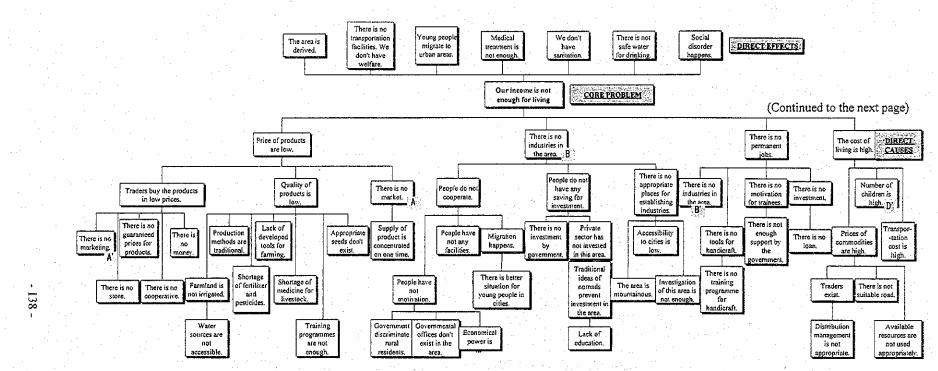
Figure 9-5-1(2) Problem Analysis for K7-48

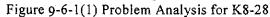
		N	arrative Summary		· · ·	Verifiable Indicators		Important Assumption
	rall Goal							
	ive welfare increases among people							- Immigration to t
	ne increases by selling all kinds of products.					{		cities is reduced
lincon	ne mereases by senting an arres of products.							<ul> <li>Government has</li> </ul>
								continuous guid
								on economical
i i								development of
			· · ·		· .			area.
Outp	outs	3	Farmland is not degraded.				1	<ul> <li>Inflation is</li> </ul>
1	Management and programming are appropriate.	4	Water is appropriate.	6	Livestock products are appropriate.			balanced.
2	Flooding, landslides and soil erosion are decreased.	5	Agricultural facilities exist.	7	They sell the products in good prices.			
Activ	/ities	3-1	Train the farmers.	6-1	Equalise no. of livestock and capacity of	ín	puts	
1-1	Coordinate governmental sectors.	3-2	Consider the land use.		rangeland.		ļ	<ul> <li>Interest rate</li> </ul>
1-2	Coordinate different regulations.	3-3	Plough along the contour.	6-2	Protect the rangeland by fencing.			loan is low.
1-3	Establish pilot project in the area.	3-4	Execute new irrigation system.	6-3	Consider appropriate time for grazing.		-	Related
1-4	Establish research project.	4-1	Prevent the conversion of	6-5	Seed the rangeland.			organisatio
1-5	Evaluate the project.		rangeland to farmland.	6-5	Fertilise rangeland.			support the
1-6	Provide technical consulting.	4-2	Improve ganats and springs.	6-6	Execute systematic grazing.			project.
	Prepare technical facilities.	4-3	Establish reservoir dams.	6-7	Construct watering place.	1		<ul> <li>The govern</li> </ul>
1-8	Establish educational facilities.	4-4	Establish diversion dams.	6-8	Prevent entrance of heavy vehicles on		· · ·	policy does
2-1	Residents participate to watershed management activities.		Establish irrigation channels.		rangeland.		Ļ	change.
2-2	Recognise traditional boundaries.	4-6	Establish pumping stations.	6-9	Prevent issuing incorrect grazing certificate.			Precondition
2-3	Construct flood control dams.	4-7	Establish drinking water tanks.	6-10	Develop grass production.		[·	People part
2-4 2-5	Construct check dams.	4-8 4-9	Install counter gauge. Prevent over growth of	6-11	Develop agricultural facilities for grass			to impleme
	Construct dikes on river banks.	4-9		7-1	production. Stabilise prices of products.		1	project.
2-6 2-7	Construct preventing wall on riversides.		population.	7-1 7-2	Construct roads.			
2-8	Construct buncket on slopes. Plant trees on the slopes.	5-1	Develop cooperatives.	7-2 7-3	Establish packaging industries.		· Į	
2-0	Construct protecting walls on slopes.	5-2	Establish buying and selling	7-3 7-4	Establish store in the region.			
2-10	Establish appropriate overload on a slope.	2-2		7-5	Provide training for controlling pests and			
2-10	Construct appropriate drainage channels.		centre for agricultural	/-5	diseases.		· •	
2-12			facilities.	7-6	Provide vehicles for transportation.			
	pipelines etc.	5-3		7-7	Guarantee purchase of the products by		l l	
2-13	Establish warning system for natural disasters.		with appropriate prices.		government.			
2-14	Establish appropriate roads.	5-4	Provide agricultural facilities	7-8	Support the cooperatives by government.			
2-15	Provide grass and water for nomads in winter.		with good quality.	7-9	Support export of products by government.			· · ·
2-16	Establish educational centre for livestock keepers.	5-5	Provide training for better	7-10	Establish telecommunication network.			
2-17			usage of agricultural devices.	7-11	Control diseases by government.	1		
2-18	Control goat grazing on rangeland.			7-12	Provide training for export.	1		
2-19	Provide fuel.			7-13	Provide training for increasing quality of			
	Provide educational facilities for fire.				products.			

## Table 9-5 1 Project Design Matrix (PDM) for K7-48

#### 9.6 Results of the Workshop: K8-28 Zeras

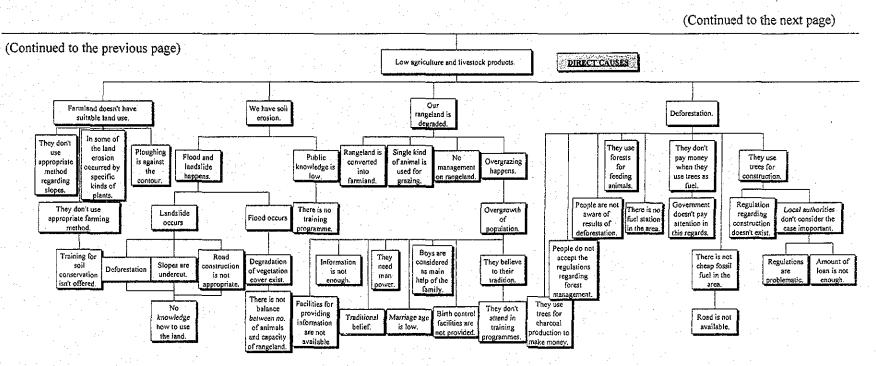
The PCM workshop for the K8-28 (Zeras) was held on June 16-19, 2001 at the technical high school in Izeh town. Among the workshop results, Problem Analysis and Project Design Matrix (PDM) are shown in the Figure 9-6-1 and Table 9-6-1 respectively.

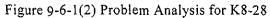




-o-I(I) Problem Analysis for K8-2

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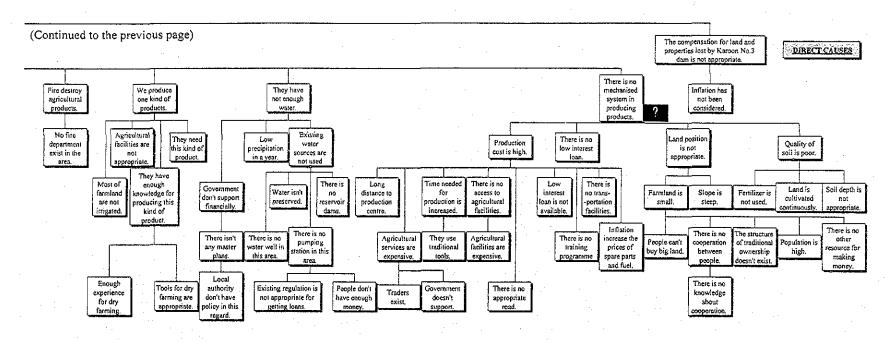


Figure 9-6-1(3) Problem Analysis for K8-28

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 Table 9-6-1 Project Design Matrix (PDM) for K8-28

 Project Name: Watershed masterplan of Zeras basin prepared by participation of residents

 Duration: 20 years (2002-2021)

 Project Area: Zeras sub-basin (K8-28)

 Target Group: Farmers and nomads living in the sub-basin

Date: 2001/6/19

$= \left( \frac{1}{2} \left( \frac{1}{2} \right) + \frac{1}{2} \left( \frac{1}{2} \right) +$		Narrative Summary			Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal		· · · · · · · · · · · · · · · · · · ·					•
Economical, social, cultural conditions of the r	esident	s are improved.					
Project Purpose							
The residents of Zeras basin have enough incor	he for ]	iving.			- · · ·		
Outputs		arming is mechanised.	8 0	rops are not destroyed by fire.	]		-A loss of land an
1 Soil erosion is controlled.		elling price of products is appropriate		lesidents have jobs.	N		properties by the
2 Water is enough in the region.		roducts are various.		lost of living is appropriate.			Karoon No.3 dar
3 Land use is appropriate.	7 In	idustries exist.		in the G IP-IP			compensated.
							-Inflation is norm
Activities	2-10	Implement biological works.	5-9	Provide appropriate seeds.	Ing	outs	- Appropriate
1-1 Coordinate with the Ministry of Interior		Prevent overgrazing		Provide enough fertiliser and pesticide.		÷ .	regulation
to secure the area.	3-1	Train for soil stabilisation.	5-11	Provide medicine for animals.			regarding house
1-2 Coordinate with the Ministry of Health	3-2	Implement measures for soil stablisation.	5-12	Make people provide livestock			construction is
regarding population growth.	3-3	Avoid planting specific crops promoting		products whole year.			enforced.
1-3 Coordinate with the Housing foundation		soil erosion.	5-13	Provide training for marketing.			- Population grov
regarding loans for construction of	3-4	Use appropriate agricultural machines.	5-14	Provide market in the area.			is controlled.
houses.	3-5	Develop orchads.	6-1	Convert dry farming field into irrigated	· ·		- Social security
1-4 Provide training for the people.	3-6	Provide agricultural subjects in training		field.	}		maintained by t
1-5 Use machinery instead of manual labour	•	books for students.	6-2	Provide enough water.			government.
1-6 Construct roads.		Provide compensation for the people	6-3	Consider special kinds of products.			- New water well
1-7 Provide fossil fuel replacing fuel wood.		losing lands by this management.	6-4	Construct facilities for zero-grazing.			are made.
1-8 Replace food for animals from trees.		Improve land ownership.	6-6	Construct poultry farm.7-1	1 · · ·		-Telecommunicat
1-9 Provide different resources for making	4-2	Make people participate to discuss on		Eliminate discrimination against			facilities are
money to prevent making money by		combination of small land.		rural resident by government.	į		established.
producing charcoal.		Combine the small land.	7-2	Provide appropriate investigation.			- Bank regulation
1-10 Enforce the laws for forest management	4-4	Level farmland.	7-3	Make related governmental agencies to			regarding loans
1-11 Manage over grazing.	4-5	Consider soil depth.		support private sector.			improved.
1-12 Appropriately manage the rangeland.	4-6	Consider a fallow period for farmland.	7-4	Provide welfare for residents.			- Loans are
1-13 Implement engineering work for	4-7	Provide tools in lower prices.	8-1	Establish facilities for prevent fire.	[		provided.
watershed management.	4-8	Provide vehicles.	9-1				- Manual labour i
2-1 Coordinate with the Ministry of Power	4-9	Provide spare parts in low prices.	9-2	Establish founding cooperatives to			provided by the
for issuing using the water sources.	4-10	Provide jobs.		support small industries.			residents.
2-2 Construct the earth dams.	5-1	Construct appropriate roads.		Provide loans for handicrafts.			Preconditions
2-3 Split the flood water.	5-2	Coordinate with telecommunication office.			1		<ul> <li>Loans for</li> </ul>
2-4 Simplify the procedures for getting	5-3	Coordinate with banks.		Eliminate black market.	1		housing are
loans.	5-4	Provide water.	10-3	Establish distributing cooperatives in	i		provided.
2-5 Construct pumping stations.	5-5	Provide water supply system.		the area.	}		- Existing wate
2-6 Preserve water.	5-6	Provide agricultural tools.	10-4	Establish workshop for repairing			situation does
2-7 Implement engineering works.	5-7	Provide markets for products.		agricultural machinery.			not worsen.
2-8 Construct gabion dams.	5-8	Provide training for changing way of	10-5	Provide job opportunity for jobless			
2-9 Construct stone dams.		farming.		people	l		

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#### 9.7 Evaluation of the PCM Workshops

After completion of the entire PCM workshops, an evaluation meeting for the workshops was held, for identifying strengths and weaknesses of the PCM, and for making suggestions for the better application of the PCM method in future. The meeting was held at the Research and Evaluation Department of WMD on June 30, 2001, where four JICA experts including the expert for Participatory Planning and 6 officers of WMD who had acted as co-moderators/ translators for the PCM workshops participated.

Based on the results of the meeting, applicability of the PCM methods to the operation of WMD and other related organizations are evaluated as follows.

#### 9.7.1 Strengths

#### (1) Participatory Approach

While the evaluation meeting, everybody admitted that one of the strongest points of the PCM workshop is its participatory approach. In the PCM workshops, representatives of various concerning organizations/ groups of people participated in and made frameworks of the master plans.

At first, the participatory workshop helped the local residents to identify the problems by themselves and discuss how to solve the problems. If the residents can consider the master plan as their own master plan, it would be easy to get their cooperation to the implementation of the master plan.

Secondly, the participatory PCM workshop was a good opportunity for governmental officials to identify local resident' ideas, and also to propagate ideas to the residents. All participants share information necessary for planning, and they could discuss each other directly. There were less redundancy and inefficiency on their communication.

Furthermore, if the participants are careful enough, the PCM workshop would also be a good opportunity to recognize opinions of minorities in the society.

#### (2) Technology Transfer

Another fruit of the PCM workshop was transfer of technology from the JICA expert for Participatory Planning to the officers especially those who acted as co-moderators. In the first workshops, the JICA expert was moderating the workshops, while the co-moderators just translated what he said in the workshop. Fortunately, the skill of the co-moderators in facilitating the workshop was improved so rapidly that in the latter workshops, the co-moderators could moderate the workshops by themselves with occasional advice by the JICA expert. In particular, Mr. Seyyed Mohammad Safavi, the only co-moderator who fully participated in the entire activities concerning the PCM workshops (from the training workshop up to the evaluation meeting), has acquired skill in acting as a main moderator with appropriate supervision.

#### (2) Others

In the evaluation meeting, they also identified some good points concerning the "logicality" of the PCM method. In the PCM workshop, the participants analyzed problems before discussing objectives (solutions). In the problem analysis the participants identified "cause-effect" relationships among the problems. These "cause-effect" relationships were then converted into "means-end" relationships that imply means to solve the problem. Such a logical way of planning is easy to understand even for the people who don't have much expertise on the watershed management.

#### 9.7.2 Weaknesses

As it was the first experience for WMD to apply the PCM method to actual planning on watershed management, we also identified weakness and problems on its application as follows.

#### (1) Insufficient Participation of Local Residents

As stated above, the participatory workshop generally helped the local residents actively participate in the planning process. However, sometimes people's active participation was interfered by the governmental officers' attitude. Even though the officers of all levels of administration (local, provincial and central) are essential components of the workshop participants, some officers were too active (aggressive) to insist their ideas. They acted as if they knew all the problems of the residents and they could make most appropriate decisions on the master plan even without listening to the local residents. Such attitude completely opposes to the participatory approach.

In the first workshops, number of the governmental officers was more than that of the residents. To make the residents more active, moderators and co-moderators made the numbers almost equal in the latter workshops, following the original idea on composition of participants. Then residents' participation seemed more active to some extent.

#### (2) Moderation of the Workshop

Because of too many participants, it was sometime difficult for the moderators and co-moderators to effectively facilitate the discussion. For example, the participants were more than 40 participants in some workshops and sometimes it was difficult to unify discussions happening here and there. Generally, an appropriate number of participants 1 fully trained moderator can manage is 20-30.

There is still room for improvement in the time management. For some workshops we spent much time in the first stages of planning, then faced shortage of time in the latter stages.

(3) Selection of Participants

It is preferable to nominate and invite representatives of groups of people who are deeply related to the watershed management of the target area as workshop participants. However, it was sometime difficult. For example, we should invite representatives of nomads to the workshop for K8-28 (Zeras), as majority of the population in the area is the nomads, but actually we had only one representative of the nomads in the workshop for K8-28. Because they had already moved to their summer camps a few months before the workshop and it was almost impossible to contact and invite them to the workshop.

(4) Difference in Levels of Understanding

It took longer time for some participants to understand purposes and methodology of the PCM method. Because some of them are illiterate and some had to leave the workshop for a while as they have inevitable activities, i.e. farming activities on the time.

(5) Inefficiency

The expense we spent for the PCM workshop was too much for WMD to afford workshops for other watershed management plans. One of its reasons is that some workshops were unnecessarily held in towns far from the pilot sub-basin, then cost for services (food, transport, etc.) was also unnecessarily increased.

Another inefficiency can be observed in decision making by WMD on timing of commencing the workshop. After holding the Workshop in K4-1-9 (Vastegan), the decision to continue the workshops was reserved by WMD for 3 weeks. It was quite inefficient, as the JICA expert for Participatory Planning wasted 3 weeks of his assignment, then he and the co-moderators faced quite hard schedule to complete the rest of workshop in the short time.

#### 9.7.3 Suggestions

Based on the evaluation of the PCM workshops sated above, the following suggestions should be considered by WMD for better application of the PCM method.

(1) Suggestions for More Active Participation in the workshop

- Moderators must be careful with governmental officers' attitude interfering residents' active participation.

- Active participants can be nominated as a co-moderator who must be in a neutral position.

(2) Suggestions for Better Moderation

- Time and expense for the workshop must be controlled and saved.

- MOJA should train their officers as PCM moderators.

- Number of participants must be appropriate for the number of moderators.

(3) Other Suggestions.

- Workshop should be conducted in the seasons when residents can easily participate in it.

- PCM workshops should be held at the earlier stage of planning.

- Decision-makers should understand the importance and difficulties in holding the workshops.

- Before starting the workshop, necessary information should be communicated to participants in advance.