

Directorate General of Small and Medium Industry  
Ministry of Industry  
Republic of Indonesia

THE COOPERATION FOR  
STRENGTHENING CLUSTERS  
(SENTRA) OF SMALL AND  
MEDIUM INDUSTRIES IN THE  
REPUBLIC OF INDONESIA

FINAL REPORT

February 2011

Japan International Cooperation Agency

UNICO International Corporation  
KRI International Corporation



## Abbreviations

Abbreviation	Bahasa Indonesia	English
AP3MA	Asosiasi Petani, Produsen, dan Pelaku Agribisnis Minyak Atsiri Jawa Barat	Association of Farmers, producers, and actors Agribisns West Java Essential Oil
APINDO	AsosiasiPengusaha Indonesia	Indonesia Employer Association
BALITRO	Balai Penelitian Tanaman Obat dan Aromatik	Research Institute for Medicinal and Aromatic Crops
BAPPEDA	BadanPerencanaan Pembangunan Daerah	Regional Development Planning Board
BAPPENAS	Badan Perencanaan dan Pembangunan Nasional	National Development Planning Agency
BARISTAND	BalaiRisetdanStandarisasi	Research and Standardization Institution
BBIA	BalaiBesarIndustri Agro	Agro Industry Research Institute
BDI	BalaiDiklatIndustri	Industrial Training Institute
BDS		Business Development Service
BI	Bank Indonesia	Bank Indonesia
BKPMDB	Badan Koordinasi Penanaman Modal Daerah	Regional Coordination Board for Investment
BKP4K	Badan Ketahanan Pangan Dan Penyuluhan Pertanian Perikanan Dan Kehutanan	Extension Office for Agriculture, Forestry and Fisheries
BMT	BaitulMaalwatTamwil	
BPPT	Balai Pengkajian dan Penerapan Teknologi	Agency for the Assessment and Application of Technology
BPT	BadanPelayananTeknis	Technology Service Institute
BPR	Bank Perkreditan Rakyat	Bank Perkreditan Rakyat
BPS	BadanPusatStatistik	Statistic Bureau
BRI	Bank Rakyat Indonesia	Bank Rakyat Indonesia
CSR		Corporate Social Responsibility
DAI	DewanAtsiriIndonesia	Indonesian Essential Oil Council
DAC		Development Assistance Committee
CD-SMEs		Center for Development of SMEs
DEKRANASDA	DewanKerajinanNasional Daerah	National Craft Regional Committee
DGDKM	Direktorat Jenderal Industri Kecil dan Menengah	Directorate General of Small and Medium Industries
Dinas	Dinas	Regional Government Office
DPE	DewanPengembanganEkonomi	Economic DevelopmentCommittee
DPDS	DewanPengembanganDayaSaing	Committee for Regional Competitiveness Development
EO		Extension Officer

Abbreviation	Bahasa Indonesia	English
FEDEP	Forum for Economic Development and Employment Promotion	Forum for Economic Development and Employment Promotion
FGD		Focus Group Discussion
FPESD	Forum Pengembangan Ekonomi dan Sumber Daya	Economic Development and Resource Forum
FRK	Forum RembugKlaster	Cluster Forum
GAP		Good Agricultural Practice
GDP		Gross Domestic Product
GMP		Good Manufacturing Practice
GTZ		German Technical Cooperation/Deutsch Gesellschaft für Technische Zusammenarbeit
ICT		Information and Communication Technology
IKM	Industri Kecil danMenengah	Small and Medium sized Industry
IKOPIN	InstitutManajemenKoperasiIndonesia	Indonesia Cooperative Management Institute
IMS-GT		Indonesia, Malaysia, and Singapore - Growth Triangle
IMT-GT		Indonesia, Malaysia, and Thailand - Growth Triangle
IPB	InstitutPertanianBogor	Bogor Agricultural University
ISEO		International Seminar for Essential Oil
ISO		International Organization for Standardization
ITB	InstitutTeknologiBandung	Bandung Institute of Technology
JETRO		Japan External Trade Organization
JICA		Japan International Cooperation Agency
KADIN	KamarDagangdanIndustri	Chamber of Commerce and Industry
KADINDA	Kamar Dagang dan Industri Daerah	Regional Chamber of Commerce and Industry
KPIN	Kebijakan Pembangunan IndustriNasional	National Industrial Development Policy
KUB	Kelompok Usaha Bersama	Joint Business Group
KUR	Kredit Usaha Rakyat	People's Business Credit
KUT	Kredit Usaha Tani	Agro Business Credit
LIPi	LembagaIlmuPengetahuanIndonesia	The Indonesian Institute of Sciences

Abbreviation	Bahasa Indonesia	English
LPG		Liquefied Petroleum Gas
MFI		Microfinance Institution
MIDC(BBLM)	Balai Besar Pengembangan Industri Logam dan Mesin	Metal Industries Development Center
MOI	Departemen Perindustrian	Ministry of Industry
MOIT	Departemen Perindustrian dan Perdagangan	Ministry of Industry and Trade
MoU		Memorandum of Understanding
NAFED(BPEN)	Badan Pengembangan Ekspor Nasional	National Agency for Export Development
NGO		Non Governmental Organization
OVOP		One Village One Product
P2WKSS	Peningkatan Peranan Wanita menuju Keluarga Sehat dan Sejahtera	Empowerment of Women for Healthy Good Welfare Households
P3UKM	Pusat Pengembangan Pendampingan Usaha Kecil dan Menengah	Centre for Development of BDS Providers for SME
PA		Pachouli Alcohol
PP		Pilot Project
PDCA		Plan Do Check Action
PDM		Project Design Matrix
PKDL	Persatuan Kepala Desa dan Lurah	District Head and Village Head
PIKM	Pemngembangan Industri Kecil dan Menengah	Small and Medium sized Industry Development
PUPUK	Perkumpulan Untuk Peningkatan Usaha Kecil	The Association for Advancement of Small Business
QCD		Quality, Cost, Delivery
RDC		Resource Development Center
RGDP		Regional Gross Domestic Product
RPJM	Rencana Pembangunan Jangka Menengah	National Medium-Term Development Plan
SC		Supply Chain
SETDA	Sekretariat Daerah	Regional Secretary
SME		Small and Medium sized Enterprises
SMIK	Sekolah Menengah Industri Kerajinan	High School for Handy Craft Industry
SMK	Sekolah Menengah Kejuruan	Vocational High School
SMOCSME	Kementerian Koperasi dan UKM	The Office of State Minister for Cooperative and SME
SOP		Standard Operating Procedures
SWOT		Strength, Weakness, Opportunity and Threat
TOT		Training of Trainers

Abbreviation	Bahasa Indonesia	English
TQM/TQC		Total Quality Management/Total Quality Control
UKM	Usaha Kecil dan Menengah	
UNDIP	Universitas Diponegoro	Diponegoro University
UNPAD	Universitas Padjadjaran	Padjadjaran University
UNWIM	Universitas Winaya Mukti	Winaya Mukti University
UPL	Unit Pendampingan Langsung	Direct Assistance Unit
UPTD/UPT	Unit Pelayanan Teknis Daerah	Regional Common Service Facilities
WG		Working Group
5S		SEIRI, SEITON, SEISO, SEIKETSU, SHITSUKE (Japanese)

# Contents

Executive Summary .....	S -1
Chapter 1 Objective, Background and Outline of the Cooperation.....	1 - 1
1.1 Background of the Cooperation.....	1 - 1
1.2 Objective of the Project and Expected Results .....	1 - 1
1.3 Scope of the Activity .....	1 - 3
1.4 Target Area .....	1 - 3
1.5 Study Team Members and Counterpart Organization .....	1 - 3
1.5.1 Team members .....	1 - 3
1.5.2 Counterpart Organization .....	1 - 4
1.6 General Outline of the Cooperation Flow.....	1 - 4
1.6.1 Stage 1 .....	1 - 5
1.6.1.1 Analysis of current state of the country's cluster development and related issues.....	1 - 5
1.6.1.2 Understanding of general conditions relating to the five candidate provinces for the pilot project.....	1 - 5
1.6.1.3 Selection of two provinces to conduct the pilot project .....	1 - 5
1.6.2 Stage 2 .....	1 - 6
1.6.2.1 Current state of promotion of the target clusters and related issues .....	1 - 6
1.6.2.2 Cluster diagnosis training .....	1 - 6
1.6.3 Stage 3 (Implementation of the Pilot Project) .....	1 - 6
1.6.3.1 Embroidery cluster in Bukittinggi, West Sumatra.....	1 - 6
1.6.3.2 Nilam oil (essence oil) cluster in Sumedan, West Java .....	1 - 6
1.6.4 Stage 4 .....	1 - 7
1.6.4.1 Preparation of the draft final report .....	1 - 7
1.6.4.2 Workshop .....	1 - 7
1.6.4.3 Preparation and submission of the final report.....	1 - 7
Chapter 2 Industrial Promotion Policy and Cluster Development in Indonesia.....	2 - 1
2.1 Industrial Promotion Policy .....	2 - 1
2.1.1 Industrial Promotion at the Central Government Level and Cluster Development Policy .....	2 - 1
2.1.1.1 National Industry Development Policy .....	2 - 1
2.1.1.2 Local Industry Core Competence Road Map .....	2 - 3
2.1.1.3 2008 Presidential Decision No.28 concerning National Industry Development Policy .....	2 - 4

2.1.2	Cluster Development Policy at Local Government Level .....	2 - 5
2.1.2.1	The Decentralization Process in Indonesia and Its Major Characteristics .....	2 - 5
2.1.2.2	Impacts of Decentralization on SME Promotion.....	2 - 6
2.1.2.3	Cluster Development in Central Java .....	2 - 6
2.2	Cluster Development and MOI's Role .....	2 - 8
2.2.1	MOI's Activities Relating to Cluster Development .....	2 - 8
2.2.1.1	MOI's Approach to Cluster Development.....	2 - 9
2.2.1.2	MOI's Training of Cluster Development Facilitators .....	2 - 9
2.2.2	Cluster Development Approach and One Village One Product (OVOP).....	2 - 10
2.3	Key Issues Relating to the Cluster Development Approach.....	2 - 11
Chapter 3	Review on the Implementation Status of Proposals in the Previous Cluster Study .....	3 - 1
3.1	Outline of the Previous Cluster Study .....	3 - 1
3.1.1	Objective and General Outline .....	3 - 1
3.1.1.1	Background and objective of the previous cluster study.....	3 - 1
3.1.1.2	Study framework and pilot project .....	3 - 1
3.1.1.3	Lessons learned from the pilot project .....	3 - 1
3.1.2	Action Programs Proposed .....	3 - 2
3.2	Outline and Results of Review Study on the Previous Cluster Study .....	3 - 3
3.2.1	Methodology for Review Study.....	3 - 3
3.2.2	Results of the Review Study.....	3 - 4
3.2.2.1	Implementation status of action programs by the central government.....	3 - 4
3.2.2.2	Implementation status of the action programs proposed under the previous cluster study (field survey of five provinces) .....	3 - 4
3.2.2.3	Ex-post evaluation in provinces where the pilot project was implemented .....	3 - 7
3.2.3	Issues Identified from the Review Process.....	3 - 9
Chapter 4	Results of Field Survey in Two Target Provinces .....	4 - 1
4.1	Selection of Provinces for Pilot Projects .....	4 - 1
4.1.1	Selection method and criteria .....	4 - 1
4.1.2	Overview of the five candidate clusters.....	4 - 3
4.1.2.1	Industry and clusters in West Sumatra .....	4 - 3
4.1.2.2	Industry and clusters in Central Java.....	4 - 5
4.1.2.3	Industry and clusters in East Java.....	4 - 6



4.1.2.4	Industry and clusters in South Kalimantan.....	4 - 7
4.1.2.5	Industry and clusters in West Java .....	4 - 8
4.1.2.6	SWOT analysis of the candidate provinces .....	4 - 9
4.1.3	Evaluation of cluster growth factors of the five provinces .....	4 - 14
4.1.3.1	Reasons for selecting provinces as pilot project sites.....	4 - 14
4.2	Current Status and Problems of the Clusters in the Selected Provinces .....	4 - 16
4.2.1	Current status of the embroidery cluster in Bukittinggi, West Sumatra.....	4 - 16
4.2.1.1	Structure of the embroidery industry.....	4 - 16
4.2.1.2	Cluster development framework .....	4 - 23
4.2.1.3	Business development service (BDS) providers .....	4 - 32
4.2.2	Current state of the nilam cluster in Sumedang, West Java.....	4 - 35
4.2.2.1	Structure of the nilam oil industry.....	4 - 35
4.2.2.2	Cluster Development Framework.....	4 - 41
4.3	Problems Revealed in the In-depth Survey at the Pilot Project Provinces .....	4 - 45
Chapter 5	Training in Cluster Analysis for Purposes of Pilot Project Formation .....	5 - 1
5.1	Cluster Analysis Training .....	5 - 1
5.1.1	Background and Main Features of the Training .....	5 - 1
5.1.2	Training Participants and the Curriculum.....	5 - 1
5.1.2.1	Training Participants .....	5 - 1
5.1.2.2	Training Schedule.....	5 - 1
5.1.2.3	Training Curriculum.....	5 - 2
5.1.3	Training Results in West Sumatra .....	5 - 5
5.1.3.1	Evaluation by Participants Regarding the Locational Environment of the Cluster .....	5 - 5
5.1.3.2	Results of SWOT Analysis.....	5 - 11
5.1.4	Training Results in West Java .....	5 - 14
5.1.4.1	Evaluation of Participants Regarding the Locational Environment of the Cluster .....	5 - 14
5.1.4.2	Results of SWOT Analysis.....	5 - 19
5.2	Pilot Project Formation.....	5 - 22
5.2.1	Pilot Project for Strengthening the Competitiveness of the Bukittinggi Embroidery Cluster.....	5 - 23
5.2.1.1	The Long List .....	5 - 23
5.2.1.2	Formation of the Pilot Project .....	5 - 24
5.2.2	Pilot Project for Strengthening the Competitiveness of the Sumedang Nilam Cluster.....	5 - 25
5.2.2.1	The Long List .....	5 - 25

5.2.2.2	Formation of the Pilot Project .....	5 - 26
Chapter 6	Outline and Results of Pilot Projects .....	6 - 1
6.1	Pilot Project for Development of Embroidery Cluster in Bukittinggi City, West Sumatra.....	6 - 1
6.1.1	Outline of the priority actions.....	6 - 2
6.1.1.1	Action 1: Establishment of the embroidery cluster forum and the local economic development forum .....	6 - 2
6.1.1.2	Action 2: Design training program for product development in consonance with market needs .....	6 - 5
6.1.1.3	Action 3: Training of trainers on 5S techniques.....	6 - 11
6.1.1.4	Creation of marketing-oriented company catalog .....	6 - 13
6.1.2	Evaluation on the pilot project.....	6 - 17
6.1.2.1	Action 1: Establishment of the embroidery cluster forum and the local economic development forum .....	6 - 17
6.1.2.2	Action 2: Design training program for product development in consonance with market needs .....	6 - 21
6.1.2.3	Action 3: Training of trainers on 5S techniques.....	6 - 26
6.1.2.4	Creation of the Marketing-oriented Company Catalog .....	6 - 29
6.1.3	Lessons learned from the pilot project.....	6 - 33
6.2	Pilot Project for Development of Nilam Cluster in Sumedang Regency, West Java .....	6 - 35
6.2.1	Results of action implementation .....	6 - 36
6.2.1.1	Action 1: Formation and strengthening of the nilam cluster committee .....	6 - 36
6.2.1.2	Action 2: Development of the SOP (Standard Operation Procedure) for nilam cultivation.....	6 - 41
6.2.1.3	Action 3: Training for distillation skill.....	6 - 42
6.2.2	Evaluation of the pilot project .....	6 - 44
6.2.2.1	Action 1: Formation and strengthening of the nilam cluster committee .....	6 - 44
6.2.2.2	Action 2: Development of the SOP (Standard Operation Procedure) for nilam cultivation.....	6 - 48
6.2.2.3	Action 3: Training for distillation skill.....	6 - 52
6.2.3	Lessons learned from the pilot project.....	6 - 55
6.2.3.1	Qualification of the cluster facilitator.....	6 - 55
6.2.3.2	Continuity of the cluster development organization.....	6 - 56
6.2.3.3	Key considerations relating to implementation of cluster development projects.....	6 - 57

Chapter 7	Cluster Development in Indonesia: Issues and Strategies .....	7 - 1
7.1	Objectives and Issues of Cluster development .....	7 - 1
7.1.1	Expectations for and Roles of Cluster development in Industrial Policy .....	7 - 1
7.1.2	Issues relating to Cluster Development .....	7 - 1
7.1.2.1	Issues Confronted by Central and Local Government Organizations.....	7 - 2
7.1.2.2	Issues Relating to Cluster-Supporting Organizations.....	7 - 2
7.1.2.3	Issues for Cluster Members and the Cluster Representative Organization .....	7 - 3
7.2	A Framework for Cluster Development Strategy .....	7 - 5
7.2.1	Organization of Cluster development Strategy and Action Program .....	7 - 5
7.2.2	Relationships between the Issues, Promotion Strategy and Action Programs.....	7 - 6
Chapter 8	Action Programs .....	8 - 1
8.1	Recommendations on Strategy for Cluster Development in Indonesia .....	8 - 1
8.2	Action Programs .....	8 - 1
8.2.1	Master Strategy 1: Building the Framework for Cluster Development, and Awareness-Raising Activity .....	8 - 1
8.2.1.1	AP 1-1: Campaign for nationwide dissemination of good practices.....	8 - 1
8.2.1.2	AP 1-2: Establishing cross-departmental and administrative boundaries cluster support organizations at local government level .....	8 - 3
8.2.2	Master Strategy 2: Support for and Strengthening of Cluster Activities.....	8 - 6
8.2.2.1	AP 2-1: Training and Assignment of Cluster development Facilitators.....	8 - 6
8.2.2.2	AP 2-2: Promotion of a shared vision and mission, and catalyzing joint activities .....	8 - 8
8.2.3	Master Strategy 3: Strengthening Capabilities of Cluster Enterprises.....	8 - 13
8.2.3.1	AP 3-1: Support for improvement of business and management techniques .....	8 - 13
8.2.3.2	AP 3-2 Improvement of enterprise counseling and guidance services .....	8 - 15
8.2.4	Summary of Action Programs .....	8 - 17
8.3	Draft Proposal for JICA Cluster Guidelines .....	8 - 19

8.3.1	Policy for Development of JICA Cluster Guidelines .....	8 - 19
8.3.2	Organization of the JICA Cluster Guidelines .....	8 - 20
ANNEX-1	Outline of Cluster in Indonesia (Based on Sentra database)	
ANNEX-2	Cluster Promotion in Central Java	
Appendix-1	Questionnaire for Review on the Previous Study, “The Study on Strengthening capacity of SME Clusters in Indonesia, 2001 to 2004	
Appendix-2	Kota Bukittinggi Region BDS List	
Appendix-3	Sumedan Bandung Region BDS List	
Appendix-4	Answers at Embroidery Cluster Forum	
Appendix-5	Answers from Design Trainees	
Appendix-6(1)	Answers from Model Firms	
Appendix-6(2)	Answers from 5S Trainees	

## List of Tables

Table 1.6-1	Candidate pilot project sites and Sentra visited .....	1 - 5
Table 2.1-1	Priority Industries under National Industry Development Policy .....	2 - 2
Table 2.1-2	Development Strategies for the Priority Subsectors .....	2 - 3
Table 2.2-1	Outline of OVOP approach.....	2 - 11
Table 3.1-1	Action programs for strengthening capacity of SME clusters .....	3 - 2
Table 3.2-1	Questionnaire survey in five provinces (summary of responses) .....	3 - 5
Table 3.2-2	Results of post survey for the pilot projects.....	3 - 9
Table 4.1-1	Cluster Evaluation Criteria .....	4 - 2
Table 4.1-2	Clusters in West Sumatra.....	4 - 4
Table 4.1-3	Clusters in Central Java .....	4 - 5
Table 4.1-4	Clusters in East Java .....	4 - 6
Table 4.1-5	Clusters in South Kalimantan .....	4 - 7
Table 4.1-6	Clusters in West Java .....	4 - 8
Table 4.1-7	Analysis results of the five candidate provinces.....	4 - 10
Table 4.2-1	Number of embroidery enterprises by the number of employees (as of 2008).....	4 - 17
Table 4.2-2	Production data of embroidery SMEs in Bukittinggi (2008).....	4 - 18
Table 4.2-3	Number of SMEs by annual sales (2008) .....	4 - 18
Table 4.2-4	Comparison with national value .....	4 - 18
Table 4.2-5	Result of questionnaire survey at FGD.....	4 - 21
Table 4.2-6	Roles and responsibilities of the WG and facilitators.....	4 - 26
Table 4.2-7	Action plan of the embroidery cluster in Bukittinggi and its interim evaluation (as of July 2008).....	4 - 28
Table 4.2-8	Changes in activities in action plan for 2009.....	4 - 31
Table 4.2-9	Activity plan for embroidery cluster development in Bukittinggi in 2009 (as of May 2009).....	4 - 32
Table 4.2-10	List of BDS providers .....	4 - 32
Table 4.2-11	Cultivation acreage and production volume of major essential oils in West Java (2007) .....	4 - 36
Table 4.2-12	Cultivation acreage and production volume of nilam in West Java (2007).....	4 - 36
Table 4.2-13	Area under nilam cultivation in Sumedang Regency (2009).....	4 - 37
Table 4.2-14	Producers (farmers) group of nilam in Sumedang (2009) .....	4 - 38
Table 4.2-15	Nilam oil distillers in Sumedang (2009)* .....	4 - 38
Table 4.2-16	Supporting institutions and BDS .....	4 - 42
Table 5.1-1	Training Schedule .....	5 - 2
Table 5.1-2	Training Curriculum .....	5 - 2
Table 5.1-3	Companies Visited During the Practice .....	5 - 4
Table 5.1-4	Result of Cluster Environment Assessment (1) .....	5 - 6
Table 5.1-5	Result of Cluster Environment Assessment (2) .....	5 - 8
Table 5.1-6	Result of Cluster Environment Assessment (3) .....	5 - 9

Table 5.1-7	Result of Cluster Environment Assessment (4) .....	5 - 10
Table 5.1-8	SWOT Analysis on the Embroidery Cluster in Bukittinggi in the Cluster Diagnosis Training Program .....	5 - 12
Table 5.1-9	Result of Cluster Environment Assessment (1) .....	5 - 14
Table 5.1-10	Result of Cluster Environment Assessment (2) .....	5 - 16
Table 5.1-11	Result of Cluster Environment Assessment (3) .....	5 - 17
Table 5.1-12	Result of Cluster Environment Assessment (4) .....	5 - 18
Table 5.1-13	SWOT Analysis on the Nilam Cluster in Sumedang in the Cluster Diagnosis Training Program .....	5 - 20
Table 5-2.1	Long List of Action Plans for Strengthening the Competitiveness of the Bukittinggi Embroidery Cluster .....	5 - 23
Table 5.2-2	Long List of Action Plans for Strengthening the Competitiveness of the Sumedang Nilam Cluster .....	5 - 26
Table 6.1-1	Summary of actions .....	6 - 2
Table 6.1-2	Implementation schedule (Action 1) .....	6 - 3
Table 6.1-3	Schedule of study tour (February 7 to 11, 2010) .....	6 - 5
Table 6.1-4	Implementation schedule (Action 2) .....	6 - 6
Table 6.1-5	Summary of curriculum for design training program .....	6 - 7
Table 6.1-6	Activity schedule of training of design trainer program (Actual: from November 30, 2009 to December 2, 2009) .....	6 - 8
Table 6.1-7	Schedule of lecture and practical training in the advanced training program (Actual) .....	6 - 10
Table 6.1-8	New design training curriculum .....	6 - 10
Table 6.1-9	Implementation schedule (Action 3) .....	6 - 11
Table 6.1-10	5S Technique OJT schedule (Actual) .....	6 - 13
Table 6.1-11	Implementation schedule (Action 4) .....	6 - 14
Table 6.1-12	Missing information items in the embroidery company catalog .....	6 - 15
Table 6.1-13	Evaluation questionnaire and evaluation results (Action 1) .....	6 - 17
Table 6.1-14	Evaluation questionnaire and evaluation results (Action 2) .....	6 - 22
Table 6.1-15	Evaluation questionnaire and evaluation results (Action 3) .....	6 - 26
Table 6.1-16	Evaluation questionnaire and evaluation results (Action 4) .....	6 - 30
Table 6.2-1	Summary of actions .....	6 - 36
Table 6.2-2	Implementation schedule for Action 1 .....	6 - 37
Table 6.2-3	Implementation schedule for Action 2 .....	6 - 41
Table 6.2-4	Implementation schedule for Action 3 .....	6 - 43
Table 6.2-5	Summary of evaluation items and results of action 1 .....	6 - 45
Table 6.2-6	Summary of evaluation items and results of action 2 .....	6 - 49
Table 6.2-7	Summary of evaluation items and results of action 3 .....	6 - 52
Table 7.2-1	Relationship Between Cluster Activity Issues and the Action Programs .....	7 - 8
Table 8.2-1	Action Programs .....	8 - 20

## List of Figures

Fig 1.3-1	Summary of Activities by Stage .....	1 - 3
Fig.1.5-1	Organization of Directorate General of Small and Medium Industry (DG-IKM).....	1 - 4
Fig.2.1-1	Local implementing agencies in relation to SME promotion before/after the 2001 decentralization .....	2 - 7
Fig.2.2-1	Organization Chart of MOI.....	2 - 8
Fig.4.1-1	Flow of selection of 2 provinces for pilot projects .....	4 - 3
Fig.4.1-2	Evaluation of the five candidate provinces .....	4 - 14
Fig.4.2-1	Relationship of the embroidery cluster in Bukittinggi.....	4 - 20
Fig.4.2-2	Cluster support framework of the embroidery industry in Bukittinggi.....	4 - 25
Fig.4.2-3	Supply chain of the nilam cluster in Sumedang.....	4 - 39
Fig.6.1-1	Sample template for development of new embroidery company catalog (English version).....	6 - 16
Fig. 8.2-1	Organizational Setup for the Good Practices Dissemination Campaign	8 - 3
Fig. 8.2-2	Administrative area and Cluster area.....	8 - 3
Fig. 8.2-3	Organizational Setup for Implementation of Cluster Development Support Programs that Goes over Administrative Boundaries .....	8 - 6
Fig. 8.2-4	Organizational Setup for Facilitator Training and Assignment .....	8 - 9
Fig. 8.2-5	Organizational Setup for Implementation of Collective Activities for Promotion of a Collective “Vision” and “Mission” .....	8 - 13
Fig. 8.2-6	Organizational Setup for the Support Program for Improvement of Business and Managerial Techniques (Soft Technology).....	8 - 16
Fig. 8.2-7	Activity Flow for Dispatch of SHINDANSHI, Extension Officers, and Specialists .....	8 - 18
Fig. 8.2-8	Organizational Setup for Implementation of the Counseling Service Desk Program .....	8 - 19









## Executive Summary

Generally, the majority of clusters in Indonesia are very small in terms of the number of companies as well as company size. According to the Ministry of Industry, there are about ten thousand small clusters all over the country and are playing an important role as the employment basis and a leading industry for local economy.

The Indonesian government has based its industrial policy for SME promotion and regional development on cluster promotion. In addition, as part of cluster promotion activities of the Ministry of Industry, BDI has trained local government staffs as cluster facilitators.

However, despite such efforts, concept of cluster approach has not been well understood by private companies. Moreover, the government, as the driving force for the cluster approach, has not established a truly effective cluster development method nor facilitator training system.

The JICA study team started their consulting service in January 2009, which was continued until the end of February 2010. The JICA study team learned various lessons on cluster development through the following activities and identified issues and challenges to be addressed.

- Preliminary survey of clusters in the selected five provinces (West Sumatra, Central Java, East Java, South Kalimantan, and West Java)
- Fact finding survey in Central Java, which is the pioneer in the cluster development in the country
- The review on the previous development study; “The Study on Strengthening Capacity of SME Clusters in Indonesia”
- Pilot projects in the selected two areas.

Then, the identified issues and challenges were classified according to priority for central and local public institutions, supporting institutions, and individual cluster companies and cluster representing organizations.

- (1) Issues and challenges for central and local governments
  - 1) Acceleration of development of a cluster development guideline and its dissemination
  - 2) Buildup of an efficient cluster development system that goes over administrative and departmental boundaries
- (2) Issues and challenges for cluster support organizations
  - 1) Dissemination of the cluster development concept and training of facilitators with practical skills
  - 2) Efficient networking of stakeholders in and outside the cluster and promotion of their collaboration
- (3) Issues and challenges for cluster companies and cluster representing organizations
  - 1) Fostering of motivation and ownership for cluster activities
  - 2) Improvement of business skills of small enterprises
  - 3) Improvement of marketing capability by taking advantage of concentration
  - 4) Training of human resources and representative organizations driving the cluster and its activities
  - 5) Effective implementation of cluster activities

To address these issues and challenges, the following strategies and action programs have been developed. The strategies are structurally designed to build up a general framework for cluster development by implementing the action programs in the first strategy, covering system development, while energizing cluster activities by means of the action programs contained in the second strategy. Finally, the action programs under the third strategy aim to reinforce individual companies in order to achieve development of the entire cluster from bottom up.

Strategy 1: Building the Framework for Cluster Promotion, and Awareness-Raising Activity

AP 1-1 Campaign for nationwide dissemination of good practices

AP 1-2 Establishing cross-departmental and administrative boundaries cluster support organization at local government level

Strategy 2: Support for and Strengthening of Cluster Activities

AP 2-1 Training and assignment of cluster development facilitators

AP 2-2 Promotion of a shared vision and mission, and catalyzing joint activities

Strategy 3: Strengthening Capabilities of Cluster Enterprises

AP 3-1 Support for improvement of business and management techniques

AP 3-2 Improvement of enterprise counseling and guidance services

At present, cluster activities are not seen or stagnated because cluster companies do not have know-how to leverage advantages relating to industrial concentration. Clearly, cluster development needs outside support and resource input. The ultimate responsibility for implementing the strategies, in a broad sense, lies with the central and regional governments. The implementing agency at the center of activities, however, varies from strategy to strategy. In the case of the first strategy, it is to be the work of the central and regional governments as direct implementing agencies through their exercise of their authority of institutional arrangements, while the key actor for the second strategy will be the support institutions and individual Indonesians who have as their primary concern providing strong support for cluster activities. It is expected that the third strategy will require that the central role be taken by broad-based support institutions, and related individuals, who are capable of providing support that will strengthen the enterprises and companies that make up the clusters.

Finally, action program AP2-1 proposes the development of the cluster guideline that will be incorporated into teaching materials for the facilitator training program. The JICA study team has developed a cluster development guideline (consisting of two parts) as a deliverable of the Study in order to help develop the formal guideline. The guideline intends to allow cluster companies in the initial stage, which constitute the majority of the country's clusters, to build inter-company networks and use them effectively to launch cluster activity smoothly.

# Chapter 1 Objective, Background and Outline of the Cooperation

## 1.1 Background of the Cooperation

The Indonesian government formulated “National Industry Development Policy” in 2005 for the purpose of promoting effective response to the rapidly developing globalism in order to ensure sustainable growth of the country’s industry. It aims, among other things, to establish and upgrade the value chain by means of a cluster-driven industrial development approach. (See Box 1 for the cluster’s definition.)

In particular, “National Industry Development Policy” designates 32 industries as priority industries, which are composed of 10 key development industries, 6 related industries supporting the key development industries, 6 SME-related industries, 2 future core industries, and 8 industries in other category.

With respect to the priority cluster promotion, the Indonesian government expects that the cluster approach will help achieve the following goals: (1) the strengthening and deepening of the industrial structure; (2) the building of the investment-inducing environment; (3) promotion of industrialization and structural reforms and strengthening; (4) encouragement of SMEs to fulfill its role (in the national economy); and (5) expansion of industrial development and improvement of industrial technology.

Furthermore, the Local Industry Core Competence Road Map, formulated by the MOI in 2007, set as a development target the efficient and optimum utilization of local resources available in a specific region or areato improve self-sufficiency of local economy. In 2008, the “2008 Presidential Decision No.28 concerning National Industry Development Policy.”was announced. It integrated National Industry Development Policy with the Local Industry Core Competence Road Map to clarify industrial development methodology and to improve the efficiency of development, thus newly formulating The decision envisions both a top-down approach to promote industries that have potential to become internationally competitive (under the MOI’s selection of prospective industries) and a bottom-up approach to promote use of local resources (under the leadership of local government).(The industry development policy is outlined in Chapter 2.)

However, although the Indonesian government has been implementing a variety of SME and local industry promotion programs based on the cluster development approach, efforts to improve competitiveness of SMEs have not produced significant results as hampered by the rapidly changing economic environment in and outside the country. Meanwhile, local governments still prefer the traditional sector development approach. It is therefore important to develop an implementation system and establish implementation methods in order to promote efficient and effective deployment of cluster development programs throughout the country, including the development of an implementation guideline. The government expects that Japan’s assistance, in the form of input of knowledge and experience, will provide a further impetus for cluster development in the country.

Against this background, the Indonesian government (MOI) has made a formal request to the Japanese government for providing technical assistance to promote SME cluster development in an efficient and effective manner.

## 1.2 Objective of the Project and Expected Results

The Project has the following objectives:

- (1) To make proposals and recommendations regarding desirable organizations and systems of the central and local governments to implement cluster development programs using local resources in an effective manner, as well as specific measures and actions to be taken by the government sector; and
- (2) To plan and implement a model project designed to promote clusters leveraging local potential and comparative advantage, and to develop a draft guideline for implementation of cluster development, on the basis of the “2008 Presidential Decision No.28 concerning National Industry Development Policy.”

The Project is expected to produce the following results:

- (1) The current state of ME/SME cluster development and related issues are clearly identified.
- (2) Capacity of the counterpart organization in relation to the analysis of issues and implementation and management of programs is improved through the implementation of various survey activities and pilot projects.
- (3) Based on pilot projects and their results, action plans covering cluster development activities using local resources by the central and local governments - including a proposed guideline for development and management of monitoring and implementation systems at the central and local government levels - are formulated.

#### Box 1 Relationship between Cluster and “Sentra” in the Project

In “National Industry Development Policy”, cluster industry is defined as to be mutually interrelated industries among key industries, supporting industries, and with these related industries. In addition, under the “2008 Presidential Decision No.28,” the industrial cluster is defined as a “core industry that is regionally or globally concentrated to increase efficiency, create collective resources, promote innovation, and achieve competitive advantage, having dynamic linkage or social interaction with related industries, supporting industries, support service, economic infrastructure, and/or related organizations.

On the other hand, small concentration of industries is widely referred to as “Sentra.” In practice, the term is frequently used to mean the cluster.

It is implied that geographical concentration is a requirement for the cluster in the initial stage.

The MOI and Dinas Disperindag call an industrial concentration equipped with a system to drive the reinforcement of a value chain under concerted efforts by organized networks of industry, government, and academia as a “cluster” or an “areas that has developed to a cluster.” On the other hand, small concentrations of industries – estimated to be around 10,000 throughout the country – are called as “Sentra.” The formal definition of “Sentra” is “a geographical concentration of more than 15 companies in similar industries within the 5km radius. However, this definition is not necessarily applied strictly, and a geographical concentration of less than 15 companies is called “Sentra,” so far as they are considered to be located in a limited area.

Thus, for the purpose of this study, Sentra is considered as a cluster in the initial stage. (See Annex 1 for a general outline of Sentra.)

Finally, in Indonesia, the word “cluster” is sometimes used to mean a sector. For instance, National Industry Development Policy used the phrase “ten priority clusters” that obviously refer to sectors. To avoid confusion, it is expressed as “ten priority industries” in this report.

### 1.3 Scope of the Activity

The scope of the activity is summarized according to the stage, as shown in Figure 1.3-1.

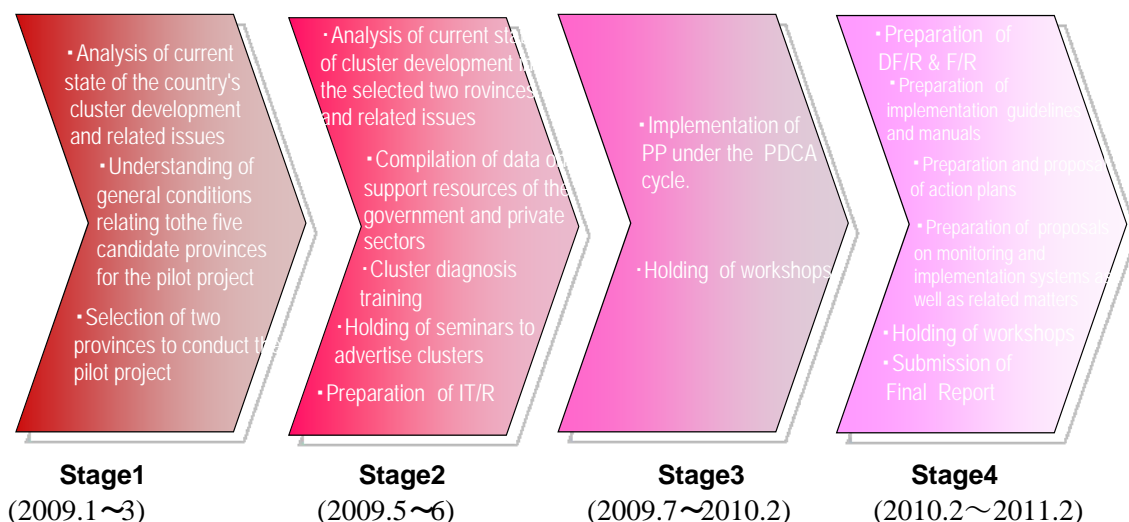


Fig 1.3-1 Summary of Activities by Stage

Note that the current state survey on the country's clusters, scheduled to be carried out in Stage 1, has been canceled and replaced with province-based cluster information that had been collected by DG-IKM since 2006.

### 1.4 Target Area

The area covered by the Project is, in the broad sense, Indonesia as a whole. More specifically, it should consist of Jakarta, as well as West Sumatra and West Java where the pilot project will be conducted.

While the pilot project is undertaken in the two provinces, efforts will be made to allow lessons learned from verification of the pilot project as well as cluster development techniques to be applied to the entire country.

### 1.5 Study Team Members and Counterpart Organization

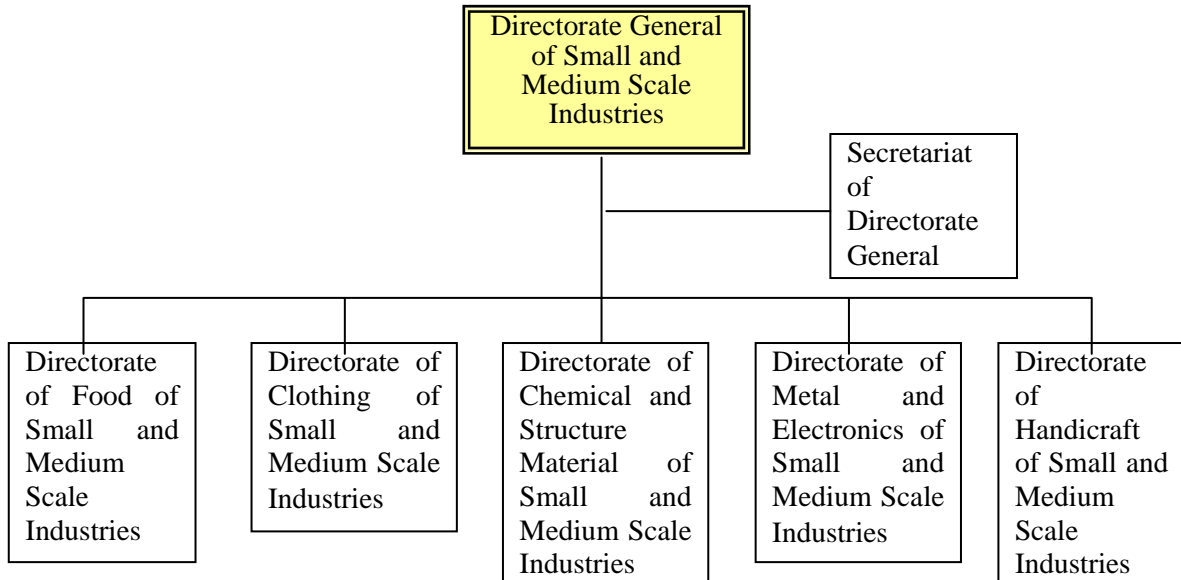
#### 1.5.1 Team members

The following table summarizes the team member and assignment.

Hirofumi YAMAUCHI	Team leader/ cluster development
Tatsumi ARAGAKI	Team leader/ cluster development (from Sep. 2010-)
Hikomichi HARA	Policy and system
Yoshinari YAMAMOTO	Strategic planning & analysis
Maiko OHTSURU	Network development & facilitation 1
Keisuke SUGIYAMA	Network development & facilitation 2
Takeshi IWASE	Network development & facilitation 2 (from Sep. 2010-)
Takaharu SEKI	Technology and SME diagnosis
Kenji HATA	Coordination

### 1.5.2 Counterpart Organization

Counterpart organizations representing the Indonesian government are Directorate General of Small and Medium Scale Industries (Fig.1.5-1) and Provincial Disperindag of the two provinces (West Java and West Sumatra).



Source: MOI

Fig.1.5-1 Organization of Directorate General of Small and Medium Industry (DG-IKM)

Finally, the steering committee consists of members representing the following organizations.

- (1) Ministry of Industry, Directorate General of SMEs
- (2) State Ministry of Cooperative and Small and Medium Enterprise (SMOCSME)
- (3) Ministry of Trade
- (4) Bank of Indonesia
- (5) National Development and Planning Agency (Bappenas)
- (6) Japanese Embassy in Indonesia
- (7) JICA Indonesia office
- (8) The JICA study team

### 1.6 General Outline of the Cooperation Flow

General outlines and results of the key activities in each stage, as shown in 1.3, are described below.



## 1.6.1 Stage 1

### 1.6.1.1 Analysis of current state of the country's cluster development and related issues

The current state of cluster development policy and cluster activity in Indonesia was studied, as outlined below.

#### (1) Cluster development policy

Major national policies relating to cluster development are National Industry Development Policy, Local Industry Core Competence Road Map, and the 2008 Presidential Decision No. 28 concerning National Industry Development Policy. Notably, the presidential decision sets forth a guideline for future direction of Indonesia's industrial sector in the context of globalization and the current state of world economy relevant to the country's industry. In particular, it touches on the current state of cluster development and related issues, including its desirable direction.

#### (2) Current state of clusters

As DG-IKM has already conducted an official survey of clusters by hiring private consultants, the survey report has been used for the purpose of the study. In addition, a general outline of small-scale clusters (Sentra) in the country, prepared on the basis of the cluster survey report, is presented in Annex-1.

### 1.6.1.2 Understanding of general conditions relating to the five candidate provinces for the pilot project

Field survey was conducted for the five candidate provinces for the pilot project, which had been selected by DG-IKM and related parties. Table 1.6-1 lists the provinces and areas visited by the JICA study team. A general outline of the provinces and areas is discussed in Chapter 4.

Table 1.6-1 Candidate pilot project sites and Sentra visited

Province	Provincial Capital	Sites visited (Major products)
West Sumatra	Padang	Bukittinggi City (Embroidery) Tanadatar City (Woven Fabric)
Central Java	Semarang	Magelang City (Tofu, Cassava Snacks)
East Java	Surabaya	Lumajang Prefecture (Silver Smith)
South Kalimantan	Banjarmasin	Banjar Prefecture (Diamond cutting and Accessories) Martapura City (Handicraft)
West Java	Bandung	Sumedang Prefecture (Essential Oil) Tasikmalaya Prefecture (Handicraft and Embroidery)

### 1.6.1.3 Selection of two provinces to conduct the pilot project

Based on the results of the field survey of the five provinces, the JICA study team conducted assessment of the cluster environment and SWOT analysis and prepared a short list consisting of two candidate provinces, West Sumatra and West Java. Then, discussion was held by the JICA study team, the MOI's staff members who were assigned to the field survey of the five provinces, and the steering committee, and West Java and West Sumatra were selected for implementation of the pilot project.

In Stage 1, the JICA study team reviewed the implementation status of proposals made in the development study "The Study on Strengthening Capacity of SME Clusters in

Indonesia” that was conducted by JICA between 2001 and 2004 (“the previous cluster study). In particular, the review covered: (1) the implementation status of action programs at related ministries and agencies and their use by cluster companies and related parties; (2) the current status of implementation and use of action programs by related private organizations and public support organizations; and (3) activities carried out in the previous pilot projects and their results.

The results of the previous cluster study and the lessons learned are incorporated into the guideline for the present study as reference. Also, details of action plans are incorporated into the guideline in order to allow them to be used as a model for other provincial governments and clusters in the action planning process.

## 1.6.2 Stage2

### 1.6.2.1 Current state of promotion of the target clusters and related issues

To understand the current state of promotion of the target clusters, the JICA study team conducted interview surveys of companies and related organizations, including key support organizations. Resource data relating to support by the government and private sectors are presented in Chapter 4.

### 1.6.2.2 Cluster diagnosis training

Cluster diagnosis training programs were conducted in West Sumatra and West Java. Their outline and results are presented in Chapter 5.

## 1.6.3 Stage 3 (Implementation of the Pilot Project)

The pilot project was conducted, by using the PDCA approach, in Bukittinggi city, West Sumatra, and in Sumedang Regency, West Java.

### 1.6.3.1 Embroidery cluster in Bukittinggi, West Sumatra

The pilot project to promote the embroidery cluster in Bukittinggi was initiated under the overall goal that “embroidery products made in Bukittinggi become reliable and competitive in the world market. In particular, the project was created and implemented by focusing on specific actions in the following four areas, including the reinforcement of the embroidery cluster organization.

- 1) Establishment of the embroidery cluster forum and the municipal/local economic development forum
- 2) Design training for product development meeting the market needs
- 3) 5S guidance training
- 4) Preparation of pamphlets for marketing-oriented embroidery companies

The JICA team consulted with cluster stakeholders and Dinas Cosperindag about effective approach at every pilot project stage. Also, the team hold an evaluation seminar to wrap-up the pilot project at the end of the 5<sup>th</sup> field survey. Evaluation on the pilot project’s output and the future activities were presented during the seminar.

### 1.6.3.2 Nilam oil (essence oil) cluster in Sumedan, West Java

Under the pilot project, to achieve the overall goal “related operators in the nilam cluster in Sumedan can make competitive products,” actions were undertaken to cover the cluster’s networking and the preparation of standard operating procedures (cultivation) for quality and price stabilization, and the training for refining techniques.

To monitor the progress of the pilot project, the JICA study team discussed with cluster-related organizations and individuals and the counterpart organization (Dinas Disperindag) about an effective method in each activity stage. Then, in the last phase of the fifth field survey, an evaluation seminar was held to sum up the pilot project and its outcome. Here, the results were assessed, major issues were identified, and future activity policy was agreed.

Details of the pilot projects undertaken in Sumedan and Bukitingi, together with the results of the evaluation seminar, are presented in Chapter 6.

#### 1.6.4 Stage 4

##### 1.6.4.1 Preparation of the draft final report

The results of the activities conducted in Stages 1 through 3, including issues relating to cluster development and lesson learned, were compiled as the draft final report, which was then submitted with guidelines and manuals.

##### 1.6.4.2 Workshop

In November 2010, a workshop was held in Jakarta to present the draft final report and the guideline, especially proposals and recommendations to the counterpart.

##### 1.6.4.3 Preparation and submission of the final report

Based on comments from the counterpart at the workshop, the draft final report was refined and submitted upon JICA's approval.



## Chapter 2 Industrial Promotion Policy and Cluster Development in Indonesia

### 2.1 Industrial Promotion Policy

#### 2.1.1 Industrial Promotion at the Central Government Level and Cluster Development Policy

Major policies and laws associated with cluster development at the central government level are National Industry Development Policy formulated by the MOI in 2005, the 2007 Local Industry Core Competence Road Map, and the 2008 Presidential Decision No.28 concerning National Industry Development Policy.

In the following sections, these policies are analyzed, primarily in the context of the relationship with cluster development.

##### 2.1.1.1 National Industry Development Policy

National Industry Development Policy has been set forth according to the policy direction shown in “Chapter 18 Improvement of Competitiveness of the Manufacturing Industry” of National Mid-term Development Plan 2004 – 2009 (2005 Presidential Decision No.7). The policy sets forth intensive development of priority industries selected for future promotion in order to realize the country’s national industry development vision “to aim to develop the country to a newly industrialized nation in 2020.” The priority industries are selected in consideration of international competitiveness and growth potentiality and consist of the following sectors: (1) agro industry; (2) transportation equipment industry; (3) information technology, telecommunications equipment, ICT industries; (4) basic manufacturing industry; and (5) selected SMEs. In particular, industries in (1) through (3) are designated as highest priority industries to be promoted toward 2025.

Table 2.1-1 shows priority industries under National Industry Development Policy, which designates the following industries to become core industries in 2005 – 2009: the food and beverage industry including the processing of six types of food; the marine product processing industry; the textile and garment industry; the footwear industry; the palm oil industry; the wood product industry; the rubber and rubber product industry; the pulp and paper making industry; the petrochemical industry; and the electrical equipment industry. Then, the policy lists six subsectors (iron and steel, machinery, farming machinery, cement, household appliance, and ceramics) as supporting industries for the core industries.

While the above industries vary in size from large to small, the SME sector is also selected as a priority industry. In particular, three subsectors which SMEs account for significant fractions (handicraft and artistic products, jewelry and ornaments, and jewelry pots and ceramics) and three subsectors which hire many workers and manufacture products in large volumes (confectionary, natural salt, and essential oil) have been designated as the specific SME group and added to priority industries.

Furthermore, four industries relating to transportation (automobiles, shipbuilding, aircraft, and railway) and the ICT industry are designated as future priority industries. In total there are 32 priority industries.

The Indonesian government often applies the cluster approach to selected priority industries which the country plans to develop strategically. Primary examples are projects making prototypes of pump motor propellers and plastic cases in Juana and Kuraten regencies in Central Java, which were launched in 2007.

Note that, as discussed in Box 1 (Chapter 1), the cluster and the sector are often used interchangeably in Indonesia, and the word “cluster” in National Industry Development Policy is replaced with the word “industry” or “subsector” in this report.

Table 2.1-1 Priority Industries under National Industry Development Policy

		No.	Industrial Scale		Future Potential Industries	
			Small, Medium and Large Size	Small and medium industries	Future industries	
Priority Industries (2004-2025)	I. Core Industries	1	Food & beverage		A. Agro-industry ✓	
			<ul style="list-style-type: none"> <li>• Cacao &amp; chocolate processing</li> <li>• Fruit processing</li> <li>• Palm processing</li> </ul>	<ul style="list-style-type: none"> <li>• Tobacco processing</li> <li>• Coffee</li> <li>• Sugar processing</li> </ul>		<ul style="list-style-type: none"> <li>• Snacks</li> <li>• Salt</li> </ul>
		2	Marine products		✓	
		3	Textiles/garments			
		4	Footwear			
		5	Palm oil processing		✓	
		6	Wood products (including bamboo)		✓	
		7	Rubber processing		✓	
		8	Pulp & paper-making			
		9	Petrochemical			
	10	Electronics/Electric appliances				
	II. Supporting and Related Industries	11	Steel-milling	17	Perfumed oil	B. Transportation equipment <ul style="list-style-type: none"> <li>• Automobile</li> <li>• Ship-building</li> <li>• Aircraft</li> <li>• Railways</li> </ul>
		12	Machinery and equipment (plant, construction & mining)	18	Handicraft products and works of art	
		13	Agricultural equipment	19	Jewelry and decorations	
		14	Cement	20	Decorative pots and pottery	
		15	Electric appliances			
16		Ceramics			C. ICT	

Note: ✓ means that the sector is part of agro-industry.

Source: MOI, The 2005 National Industrial Development Policy.

Designation of priority industries under “National Industry Development Policy” is important, as the MOI gives priority to these priority industries in budget allocation using the top down approach.

Promotion strategies for development of the priority industries under “National Industry Development Policy” are summarized as follows.

#### Basic strategies

- 1) Strengthening of linkage with all tiers in the value chain within each industrial cluster
- 2) Improvement of value added in the value chain
- 3) Enhancement of resources used by the industry
- 4) Development of SMEs

#### Operational strategies

- 1) Fostering and development of a favorable and healthy business environment
- 2) Setting of industry priority and selection of priority areas
- 3) Implementation of industrial development using the cluster approach
- 4) Building of innovation ability

Finally, National Industry Development Policy sets forth medium-term and long-term goals, strategies, and action plans for each subsector, an outline of support programs, and areas targeted for promotion (see Table 2.1-2).

Table 2.1-2 Development Strategies for the Priority Subsectors<sup>1</sup>

	Handicraft Products and Works of Art	Essential Oils
Medium-Term Goals (2004-2009)	<ul style="list-style-type: none"> <li>- Product quality, design capacity, and protection of intellectual property rights (IPR)</li> <li>- To develop marketing capacity</li> <li>- To foster supporting industry</li> <li>- To increase export-oriented products</li> <li>- To use environment-friendly products</li> </ul>	<ul style="list-style-type: none"> <li>- To enhance product quality and productivity</li> <li>- To strengthen small and medium essential oil producers</li> <li>- To promote export SMEs' essential oil products</li> <li>- To introduce refinery technology to SMEs</li> <li>- To increase production up to Rp. 900 billion</li> <li>- To increase export amount up to Rp. 850 billion</li> <li>- To generate employment (4,000 workers)</li> <li>- Increase business units up to 800</li> </ul>
Long-Term Goals (2010-2025)	<ul style="list-style-type: none"> <li>- To increase product share in international market</li> <li>- To increase prominence of domestic brand names in the domestic market</li> <li>- To increase SMEs' demand for IPR to protect products</li> </ul>	<ul style="list-style-type: none"> <li>- To produce perfumed oil which is exportable</li> <li>- To increase SMEs' capacity to export</li> </ul>
Strategy	Sector: To improve product design and quality; to establish trading houses for international/ domestic marketing, and to cooperate with tourism sector Technology: To improve product design and quality; to modernize productive equipment, and to diversify domestic source of procurement	Sector: To deepen process chain, streamline marketing chain, develop export capacity, and increase/ stabilize oil price Technology: To develop optimal technology and introduce license in cooperation with multinational corporations (MNCs)
Mid-Term Action Plan	<ul style="list-style-type: none"> <li>- To improve partnership with raw material industry and large firms,</li> <li>- To improve product quality and design,</li> <li>- To cooperate with related organizations in order to grow necessary raw materials,</li> <li>- To raise awareness of protection of IPR</li> <li>- To facilitate FDIs in supporting industries</li> <li>- To strengthen local potentials</li> <li>- To facilitate the use of raw materials grown in an environment-friendly manner</li> </ul>	<ul style="list-style-type: none"> <li>- To increase firm-level productivity and product quality</li> <li>- To improve process management and enhance efficiency through technology development</li> <li>- To formulate pilot projects to introduce modern refinery into as many areas as possible</li> <li>- To promote Indonesia's national industrial standard</li> </ul>
Long-Term Action Plan	<ul style="list-style-type: none"> <li>- To promotion export through trading houses and use domestic brand names</li> <li>- To heighten SMEs' awareness of IPR to protect product</li> </ul>	<ul style="list-style-type: none"> <li>- To formulate pilot projects for clusters in many areas on small and medium sized refinery</li> <li>- To develop perfumed oil sub-sector and promote export</li> </ul>
Outline of the support	<ul style="list-style-type: none"> <li>- To strengthen design capability, products' quality and development of machining</li> <li>- To establish trading house</li> <li>- To provide foreign market information</li> </ul>	<ul style="list-style-type: none"> <li>- To promote optimal technology, standard and products' diversity</li> <li>- To develop sales network</li> <li>- To promote exportation</li> <li>- To provide market price information</li> </ul>
Areas for target cluster	- Tasikmalaya, Tapin, Magelang, Bandung, Kudus, Bukittinggi, Bali, etc.	- Aceh, Kuningan, Bukittinggi, Sukabumi, Garut, etc.

Source: MOI, The 2005 National Industrial Development Policy.

### 2.1.1.2 Local Industry Core Competence Road Map

The Local Industry Core Competence Road Map has been developed from the standpoint of reinforcing the country's local industry development system. As a result of implementation of decentralization policies pursuant to the Local Administration Law of 2004, local governments are authorized to develop their regions on the basis of their potential or comparative advantage of local industries. It is recognized, however, that ample results have not been produced due to the lack of resources to execute development programs. Thus, in order to implement industrial development in an efficient and effective manner, the central government and local governments (province, regency and city) need to align their directions of industrial promotion.

<sup>1</sup> Among the priority subsectors, those closely associated with the pilot project have been selected

The road map shares many aspects of industrial promotion strategies set forth in National Industry Development Policy, including: (a) improvement of value added in the value chain for excellent products; (b) networking of all stakeholders for improvement of efficiency and productivity; and (c) reinforcement and promotion of the SME sector. Although the road map does not use the word “cluster,” it adopts a methodology relating to local industry development which is not significantly different from that adopted in National Industry Development Policy. It differs from National Industry Development Policy in that it mentions support for the road map by related organizations, that it emphasizes cooperation among provinces and regencies/cities, and that it envisages the maximization of the effectiveness of SME promotion by using the one village one product (OVOP) approach.

Finally, the major feature of the Local Industry Core Competence Road Map is found in that it allows local governments (in particular, regencies/cities) to select priority products, rather than the central government<sup>2</sup>. The approach is taken to encourage provinces and regencies/cities to aim to accomplish economic sufficiency by developing local resources, including intangible assets such as traditional techniques and skills, with view to improving local competitiveness.

Conditions for implementing development measures under the Local Industry Core Competence Road Map are as follows:

- An industry that is and can become a leading sector in a specific area
- Presence of strong inter-company and inter-industry relationships (vertical or horizontal)
- A product that has characteristics unique to the area
- Availability of sufficient workforce having necessary skills

The field survey reveals that priority local processing industries have been already selected at the provincial level under the Local Industry Core Competence Road Map, as well as for some regencies/cities. For instance, Bukitingi, West Sumatra (where the pilot project has been implemented) has selected hand-sewn embroideries as priority product, and Sumedan, West Java, wood products. Development of the local processing industries is undertaken by applying the “bottom-up approach” with local initiative led by the provincial government.

#### 2.1.1.3 2008 Presidential Decision No.28 concerning National Industry Development Policy

The presidential decision has been issued as a guideline for national industry promotion and as the authority to implement policy support.

---

<sup>2</sup> In practice, not all products selected by regencies/cities can receive support by the central government. To become eligible for support, a product must be evaluated according to a set of criteria and is confirmed to have significant growth potentiality. A product that is not approved by the central government as a priority product can receive public support from a local government, including training for human resource development. However, the budget and resources for such support at the regency/city level are limited, so that local governments cannot always provide sufficient support.



It covers more or less the same items as those relating to the development of priority industries indicated in National Industry Development Policy of 2005 and those set forth in the Local Industry Core Competence Road Map. It differs from the other two policies in that it has added “specific creative industries and its supporting industry” to the five priority industries, totaling six categories (the basic manufacturing sector<sup>3</sup>, the agro industry, the transportation equipment industry, the electronics and ITC industries, the specific creative industry, and the specific SME sector). In addition, 32 priority industries have been selected from a total of 365 industries belonging to the above 6 priority categories according to 15 supply conditions and 8 demand conditions. They are same as those selected in National Industry Development Policy as priority industries.

The presidential decision states that these priority industries account for a combined total of 78% of national production and 83% of total exports, thus constitute a principal component of the country’s manufacturing sector. Also, it sets forth medium- and long-term actions to be taken for each of the priority industries. The 32 priority industries are promoted under the MOI-led top down approach

The presidential decision defines the industrial cluster as “a regionally or globally concentrated core industry with a dynamic linkage and organizational interaction with related industries, supporting industries, support service, economic infrastructure, and related organizations, all characteristics of which enable it to enhance efficiency, create collective knowledge base, promote innovation, and gain comparative advantage.

Two important features are pointed out in the 2008 Presidential Decision No.28 concerning National Industry. First of all, the central government can provide benefits for national priority industries as well as priority industries pursuant to the Local Industry Core Competence Road Map. Secondly, a technical team can be organized by representatives of relevant government agencies and other organizations for the purpose of verifying, developing and evaluating development roadmaps for priority industries to be promoted under the bottom up approach. Furthermore, the system to require the technical team to consult with all stakeholders is similar to the cluster development forum, which will be discussed later. Benefits to be provided are indicated by industry and in the medium and long terms. Note that the presidential decision follows the same direction set in National Industry Development Policy but covers more specific details. For instance, equivalent part of “the improvement of companies’ productivity and quality” stated as a medium-term action for the essence oil industry in National Industry Development Policy is “the improvement of productivity, efficiency, and quality by applying Good Manufacturing Practice (GMP)” in the presidential decision.

## 2.1.2 Cluster Development Policy at Local Government Level

### 2.1.2.1 The Decentralization Process in Indonesia and Its Major Characteristics

The ongoing decentralization process in the country started in 1999. In January 2001, two basic local autonomy laws were enacted, i.e., the 1999 Law No.22 on local administration and the 1999 Law No.25 on central and local finance allocation, to establish a framework for the decentralized local administration system. In practice, however, the local administration law was unclear about detailed enactment rules concerning the boundary of power and authority between the central government, provinces, regencies and cities, causing various conflicts. To correct the situation, the local administration law and the central and local balanced budget law were enacted in 2004.

---

<sup>3</sup> The iron and steel industry, the cement industry, the petrochemical industry, the ceramics industry, the electrical equipment industry, the industrial machinery industry, the textile and garment industry, and the footwear industry

The 1999 Law No.22 on local administration and the 1999 Law No.25 on central and local finance allocation declare the principle of “maximum broad autonomy.” In the 2004 laws, the principle of “realistic and responsible autonomy” was added. Also, development planning and management were assigned to local governments as “obligatory tasks.”

### 2.1.2.2 Impacts of Decentralization on SME Promotion

To examine the changes in local administration in the field of SME promotion, the administration systems relating to SME promotion before and after the start of the decentralization process in 2001 are compared in Fig.2.1-1.

As seen in the figure, two local organizations of the MOI (previously the Ministry of Trade and Industry)– Kanwil Perindag and Kandep Perindag – were disbanded after the start of decentralization. They were respectively integrated into provincial Dinas Disperindag (under the provincial government) and regency/city Dinas (under the regency/city government), with their staff members being transferred to the respective organizations. Accordingly, their payrolls were transferred from the central to the local governments.

In addition, the MOI was previously authorized to give direction to provincial Dinas Disperindag, but after the start of the decentralization process, the direction is relayed through the provisional governor and the provincial government, as shown in Fig.2.1-1.

To drive both the top down and bottom up approaches, directorate generals of the MOI make significant budget allocation to local governments. For instance, DG-IKM allocated approximately 20.1% of its total budget to provincial Dinas Disperindag in 2008 and 23.8% in 2009. Likewise, it earmarked 21.4% and 20.4% to regency/city Dinas Disperindag respectively<sup>4</sup>.

Basically, SME promotion programs undertaken by local Dinas Disperindag are left to discretion of each Dinas, and authority of DG-IKM is fairly limited. As for the relationship between the MOI and provincial Dinas Disperindag in the field of SME promotion after the start of the decentralization process, the central government (MOI) is responsible for formulating basic policy, and based on which, each provincial Industry and Trade Dinas makes specific action plans in consideration of its own potential<sup>5</sup>

### 2.1.2.3 Cluster Development in Central Java

Central Java is the province that has early started cluster development in the country and has more than ten years of history. In fact, it is the only province that carries out organizational cluster development activities by involving provinces and regencies. The JICA study team examined the province’s cluster development system/mechanism and examples. (See Annex 2 for detail.)

The provincial government establishes the following local economic development strategies: to focus on cluster development; to assess the results of government programs; to improve initiatives of SMEs; and to guide clusters for self-driven development. Its activities are supported by the Economic Development Resource Forum (FPESD) at the provincial level and the Economic Development Employment Forum (FEDEP) at the regency level. According to FPESD, clusters that have won confidence of related industries have emerged due to the following key success factors:

---

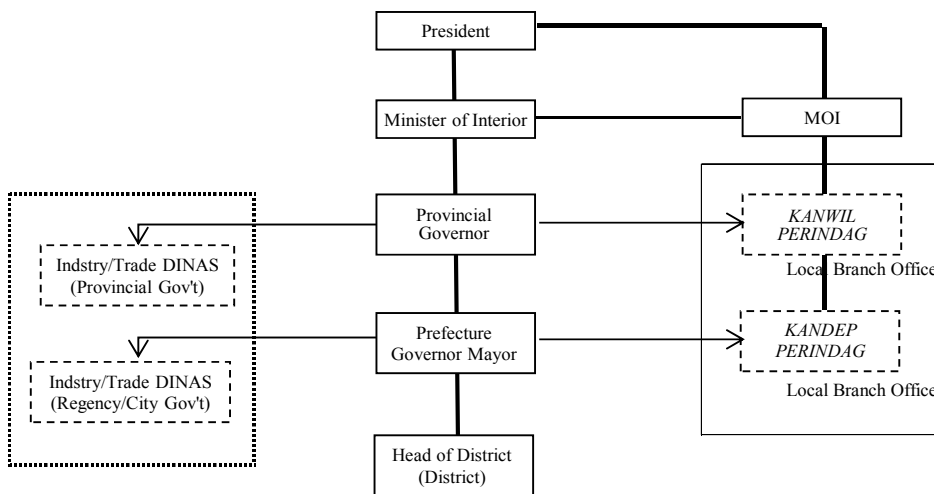
<sup>4</sup> Each year, over 20% of its operating budget of DG-IKM are distributed to local governments as subsidy to support implementation of the top down and bottom up approaches. In reality, however, it is mostly appropriated to payrolls of Dinas Disperindag staff, resulting in insufficient amount of funds available to implementation of cluster development programs.

<sup>5</sup> Local resources (including human resources and money) with comparative advantage to improve competitiveness

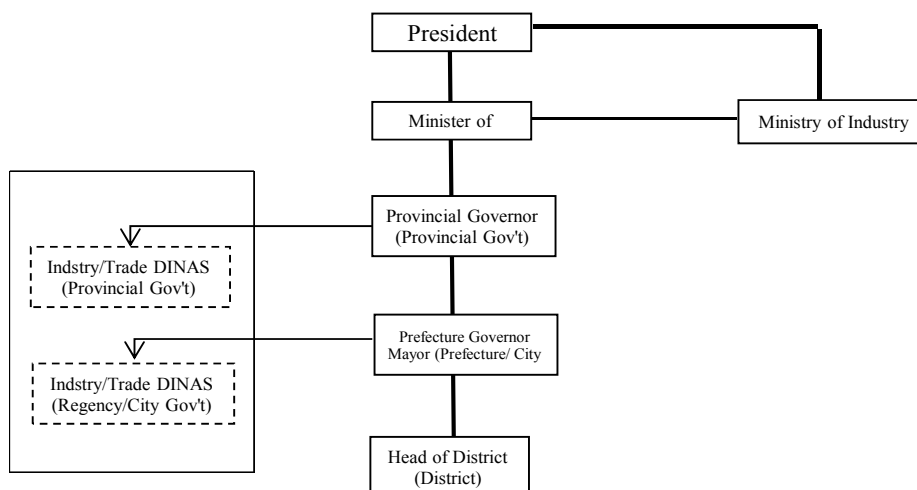
- The formation of the forums has helped promote the building of social capital (resources and relationship)
- The improvement of technology and management expertise of cluster-related persons
- The strengthening of the cluster organizations, and the emergence of the participatory, bottom-up planning process.

The forums should be formed by following formal steps, starting with the identification of stakeholders, selection of the chairperson and committee members, delineation of the forum's functions, organizational form, and rules, actual organization, and determination of actual programs and projects. Also, stakeholders are expected to play an active role in the cluster development process., Local governments in Central Java have been actively involved in forum activities for cluster development. Fig.2.1-1 shows local implementing agencies in relation to SME promotion before and after the 2001 decentralization.

(Old) Before 2001



(New) After 2001



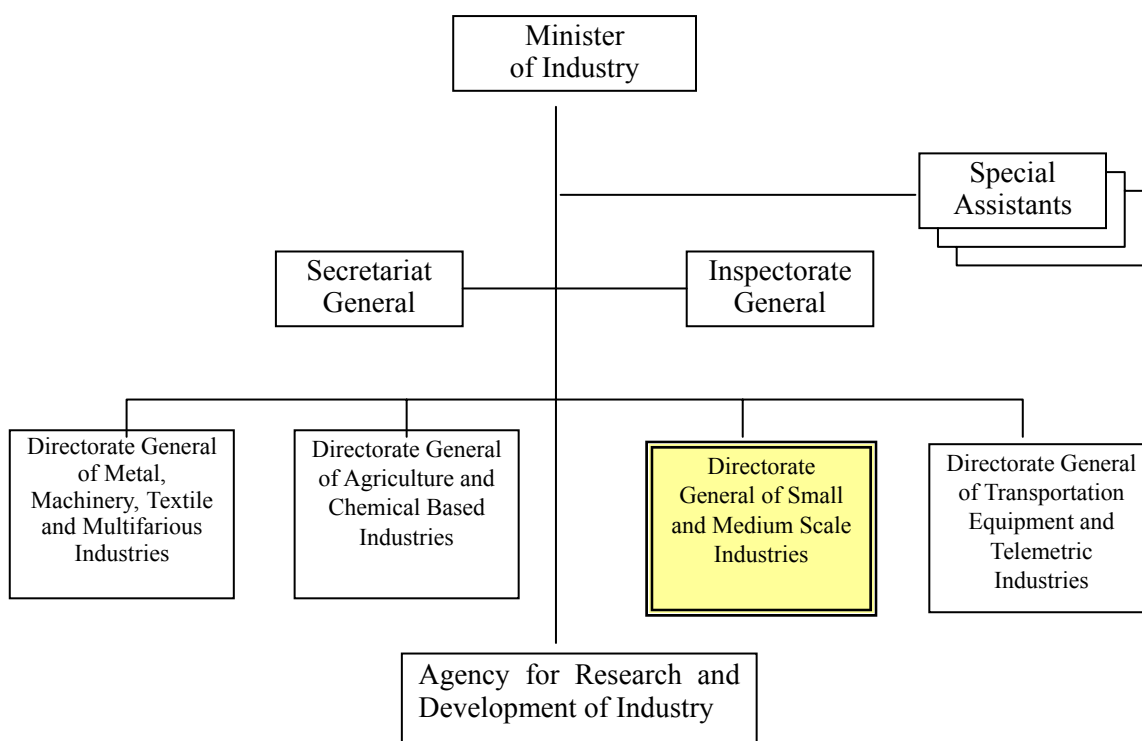
Source: JICA study team

Fig.2.1-1 Local implementing agencies in relation to SME promotion before/after the 2001 decentralization

## 2.2 Cluster Development and MOI's Role

### 2.2.1 MOI's Activities Relating to Cluster Development

The MOI is primarily responsible for cluster development in Indonesia.<sup>6</sup> As shown in Fig.2.2-1, the ministry is led by Minister, Secretariat General, and Inspector General, under which there are four directorates general, i.e., Directorate General of Metal, Machinery, Textile, and Multifarious Industries, Directorate General of Agriculture and Chemical Based Industries, Directorate General of Small and Medium Scale Industries, and Directorate General of Transportation Equipment and Telemetric Industries except Special Assistants and Agency for Research and Development of Industry. Among them, Directorate General of Small and Medium Scale Industries assumes a central role in cluster development (marked by a double line box in Fig.2.2-1).



Source: MOI

Fig.2.2-1 Organization Chart of MOI

Notably, each directorate is generally mandated to work with cluster development by formulating, implementing and/or operating basic strategies set forth in National Industry Development Policy, and it does not have its own strategic guideline. Furthermore, there is no uniform cluster development approach that is mandated for all sectors and industries, because development strategy for each sector has its unique history and should be different according to the sector's

<sup>6</sup> The then Ministry of Cooperative and SMEs (currently the State Ministry for Cooperatives and Small Medium Enterprises) used to be responsible for cluster development until 2005 too. The ministry continues to implement measures contributing to cluster development, such as promotion of cooperative formation, management assistance, preparation and distribution of brochures for SMEs, and support for trademark designing and registration. However, it does them by themselves, without cooperation with the MOI.

development stage. For instance, the textile industry is well structured by vertical specialization led by large enterprises as well as horizontal division of labor, which form an integral part of the value chain both in and outside the country. At the same time, the industry has passed its peak and is considered to be in a declining trend. In comparison to the cluster led by the maturing industry, the cluster which needs to be structured in the future should deserve a different promotional approach.

### 2.2.1.1 MOI's Approach to Cluster Development

As a primary example of the MOI's cluster development program using the top down approach, the general outline of the "Project on Supporting Industry Development of Electric Appliances in Central Java" which has been directly led by Directorate General of Metal, Machinery, Textile, and Multifarious Industries is shown below.

- Project goal: To promote capacity development of supporting industries in an industrial concentration whose core company is an electrical appliance manufacturer having international brands by building a network with the core manufacturer, thereby to develop a cluster.
- Project period: 5 years
- Overall schedule: Cluster diagnosis under the MOI's budget → the establishment of the working group and project planning → project implementation → manufacture of prototypes and delivery to the core manufacturer → the establishment of self-sufficiency and independence from the working group's support (5<sup>th</sup> year)
- Support methodology: Integration of the top down, sector approach and the bottom up approach
- Workgroup's organization (Juana): MOI, provincial/regency Dinas Disperindag, manufacturers (SME with 10 to 15 employees), banks, and UPT
- Workgroup's organization (Klaten): MOI, provincial/regency Dinas Disperindag, manufacturers, banks, and a technical college
- Drafting of action plans: Working groups
- Preparation for budgeting of action plans: Decision after assessment by the MOI

Judging from the above, the working groups are expected to be dissolved after the completion of the project and will not be operated on a permanent basis. Also, the building of a cluster network (consisting of member companies) is not expected.

### 2.2.1.2 MOI's Training of Cluster Development Facilitators

Cluster facilitator training by the MOI is conducted since 2007, under the course name "Training of Trainer for Industrial Cluster." Its primary purpose is to train cluster facilitators and provide knowledge on cluster diagnosis, especially "knowledge to evaluate possibility to develop a specific industrial concentration into a cluster" and cluster theory by Michael E. Porter. The training program primarily targets Dinas Disperindag staff, because the MOI intends to train facilitators from Dinas staff members. The training curriculum consists of lecture, field survey (visit of companies), and case study, but a detailed time table is not known due to the lack of BDI's information. Lecture covers the following 13 subjects, which are considered to make up a standard set of training courses relating to cluster development.

- (1) National Industry Development Plan in 2005
- (2) Key points of the Local Industry Core Competence Road Map

- (3) Concept of cluster
- (4) Cluster from SME perspectives
- (5) Cluster's structure and organization
- (6) Cluster diagnosis
- (7) Partnership formation process
- (8) Development of an action plan
- (9) Balance score card
- (10) Communication process
- (11) Participatory techniques
- (12) Curriculum development
- (13) Implementation of Focus Group Discussion (FGD).

According to BDI's information, topics in the lecture course "Introduction to Industrial Cluster" conducted in the first half of 2008 included cluster diagnosis, but it was theory-oriented, suggesting the MOI's intent to train personnel capable of policy implementation, rather than field facilitation.

On the other hand, the training course "Industrial Cluster Facilitator" conducted in the second half of 2008 aimed to train facilitators capable of providing advice in a specific business area, while emphasizing theoretical aspects.

Based on the above, the MOI's concept of facilitation seems to emphasize support activities in line with policies set forth in National Industry Development Policy (2005), particularly the kind of SME support activities such as management advice for cluster companies, rather than coordination of related parties and their activities or motivation of companies to participate in cluster activities. As a result, the training course's chief aim is placed on the understanding of methodology relating to the establishment of a cluster support organization and related policies.

From the standpoint of cluster initiative, BDI's training should focus more on methods to promote participation of companies in cluster activities and to ensure the continuity under private initiative.

## 2.2.2 Cluster Development Approach and One Village One Product (OVOP)

While the presidential decision on national industry development policy lists OVOP<sup>7</sup> as one of the basic bottom up approaches, there is no unified opinion on its method. Table 2.2-1 shows the OVOP approach outline.

In fact, actual methods adopted for sector development vary with regions<sup>8</sup>. However, there is no specific rule established, as to which local conditions should be suitable for the cluster development approach or OVOP. Generally speaking, it can be said that the cluster development approach is applicable to priority industries designated in National Industry Development Policy and OVOP to the conditions set forth in the Minister of Industry Decision No.78. The decision lists the following conditions for OVOP:

- Local priority products or products leveraging local core competence

<sup>7</sup> According to the Minister of Industry Decision No.78 (2007), OVOP aims to develop the potentiality of a specific area thereby to make a world class product that represents local characteristics by using local resources.

<sup>8</sup> Essentially, targets for cluster development are selected by the MOI and OVOP products by regencies or cities. However, a product selected by a regency or city does not necessarily become eligible for the MOI's support.

- Products that have cultural uniqueness and local characteristics
- Products having good quality and appearance
- Products with marketability in domestic and export markets
- Products that are made in a continuous and consistent manner.

In fact, however, these conditions are practically identical to those which products made by priority industries have to meet to get eligible for the cluster development approach. It is therefore concluded that the cluster development approach, which is designed to deal with industrial concentration, can be applied to the development of OVOP products, rather than development of individual products. Table 2.2-1 shows the outline of OVOP approach.

Table 2.2-1 Outline of OVOP approach

	OVOP
Description	<ul style="list-style-type: none"> <li>• The approach to develop the potential of regions to produce world class products with regional uniqueness</li> </ul>
Aim	<ul style="list-style-type: none"> <li>• To increase the number of SMEs having global competitiveness and earning high value added</li> </ul>
Goal	<ul style="list-style-type: none"> <li>• To promote and develop innovative and creative products with regional uniqueness for improving the competitiveness.</li> </ul>
Strategy for SME development	<ul style="list-style-type: none"> <li>• Cooperation among the central and local governments, private sector and local communities.</li> </ul>
	<ul style="list-style-type: none"> <li>• Utilization of local resources such as knowledge, workforce and others.</li> </ul>
	<ul style="list-style-type: none"> <li>• Improvement of quality and appearance.</li> </ul>
	<ul style="list-style-type: none"> <li>• National or global level promotion and marketing.</li> </ul>
Criteria for target of promotion	<ul style="list-style-type: none"> <li>• Local priority products or core competency products</li> </ul>
	<ul style="list-style-type: none"> <li>• Cultural uniqueness and local endemism.</li> </ul>
	<ul style="list-style-type: none"> <li>• High quality and good appearance.</li> </ul>
	<ul style="list-style-type: none"> <li>• Domestic and overseas market potential.</li> </ul>
	<ul style="list-style-type: none"> <li>• Sustainable and uniform production.</li> </ul>
Responsible DG	DG-IKM

Source: MOI Order No 78, 2007 regarding OVOP.

### 2.3 Key Issues Relating to the Cluster Development Approach

Key issues relating to the cluster development approach, as from Indonesia's industrial policy, are summarized as follows.

#### (1) Lack of MOI's official cluster development guideline

Although the MOI is responsible for cluster development in the country, it has not established its official cluster development policy and guideline, including the fostering of facilitators. Also, there is no unified cluster development methodology shareable among different organizations within the ministry. As shown in Fig.2.2-1, the MOI's three directorates general other than DG IKM divide their responsibilities according to sectors, they presumably

implement cluster development programs on an extension of the traditional sector development approach.

On the other hand, local governments that are responsible for implementation of actual cluster development programs are applying their own methods, resulting in the lack of collaboration between the central and local governments in the cluster development process and its public support, which is considered to be a major issue.

(2) Need for modification of facilitator training policy and curriculum

As part of cluster development policy, the MOI supports facilitator training undertaken by BDI. BDI's facilitator training curriculum places a primary emphasis on lectures covering theories, cluster development laws and public support systems. However, it does not teach specific techniques required for day-to-day cluster development activities, such as raising motivation of cluster companies, which constitutes the starting point for cluster development. It is important to refine the government's (MOI) facilitator training policy, followed by the development of the training curriculum that incorporates more practical aspects.

(3) Lack of collaboration among related ministries and agencies

While the MOI's overall policy recognizes importance of cluster development, the current cluster development system is restrained by organizational boundaries in relation to its implementation, lacking cooperation and coordination in multifold ways; among ministries, among governments (both central-local and local-local), and among sections. Bureaucracy causes the lack of efficiency in the overall cluster development process.

(4) Need for sufficient budget allocation to cluster development

Again, although cluster development is recognized as national policy priority, budget allocation from the central government to local governments follows the traditional practice based on sector development, as seen in the policy implementation system. As the program implementation budget earmarked for DG IKM is fairly limited and is by no means sufficient for the accomplishment of its policy objectives, it cannot meet the needs of many clusters that should be promoted by the top down approach.



## Chapter 3 Review on the Implementation Status of Proposals in the Previous Cluster Study

Between 2001 and 2004, JICA carried out the “The Study on Strengthening Capacity of SME Clusters in Indonesia” (“the previous cluster study”). It primarily focused on dissemination of the industrial promotion model using the cluster approach and overall facilitation for implementation of the cluster development process. In this chapter, the current status of proposals made under the previous cluster study in 2004 is reviewed, in terms of their implementation status, while taking into account the complementary relationship between the previous and present studies, and lessons learned from the implementation process are presented.

### 3.1 Outline of the Previous Cluster Study

#### 3.1.1 Objective and General Outline

##### 3.1.1.1 Background and objective of the previous cluster study

At the time of the study, the Indonesian government implemented a variety of programs to support cluster development since the early 1970s, including the promotion of cooperatives, the provision of joint use facilities, related training, public service, and financial support, but most clusters remained to be a concentration of small enterprises that operated separately without any organizational efforts. In this recognition, the previous cluster study was carried out for the primary purpose of implementing the pilot project to strengthen the capacity of target clusters and of making policy recommendations for creation of thriving clusters in the country, including a master plan and action programs.

##### 3.1.1.2 Study framework and pilot project

The previous cluster study covered SME clusters throughout the country, which were classified into the following three groups. It started with baseline surveys of ten sample clusters and one cluster was selected from each of the three cluster groups. Then the pilot project was conducted in the selected three clusters for one year.

- Metalworking/machine parts cluster: Metalworking and machine parts (Sidoarjo)
- Export-oriented cluster: Wooden furniture (Serenan-Klaten)
- Local industry type cluster: Roof tiles (Kebumen)

The pilot project was designed to test various techniques useful for improvement of cluster capacities and to make policy recommendations on the basis of lessons learned from the project.

##### 3.1.1.3 Lessons learned from the pilot project

From the pilot project conducted as part of the previous cluster study, the following three lessons were obtained.

###### (1) Importance of entrepreneurship

Here, entrepreneurship is defined as the enthusiasm of a person to develop and grow his business. At the inception of the pilot project, efforts were made to have many cluster companies involved in the project. It was discovered, however, that only companies that had the desire to improve participated in the project and were thus able to effectively use opportunity provided by the project. From this experience, it is learned that the enthusiasm to develop business seeds is a major factor for leveraging opportunity.

(2) Importance of social capital

Social capital is defined as mutual confidence that is developed among cluster members. It has been discovered that its strength is a key factor for reinforcing the four elements of the diamond model<sup>1</sup>. In other words, it has been conformed that creation of social capital among cluster shareholders leads to effective implementation of cluster activity.

(3) Importance of the cluster facilitator

The cluster facilitator needs to motivate, empower and lead companies in the cluster to cooperate each other and discover areas to be strengthened. It has been found that the cluster facilitator plays an important role in ensuring the effective and efficient functioning of the working group organized by representatives of cluster stakeholders.

### 3.1.2 Action Programs Proposed

Based on lessons learned from the one-year pilot project conducted in the three clusters and the results of surveys relating to cluster development policy during the previous cluster survey period, 12 action programs were proposed (see Table 3.1-1). These programs are classified into two types, i.e., programs intended to help strengthen cluster capabilities, and those designed for the strengthening of the SME sector as a whole. The latter type was conceived in recognition that the improvement of individual companies is indispensable in the strengthening of the cluster function.

Table 3.1-1 Action programs for strengthening capacity of SME clusters

<i>CLUSTER STRENGTHENING</i>	WHY	WHO*	WHAT
1 PROVINCIAL CLUSTER FORUM FORMATION	Needs an institutional arrangement to facilitate the linkages in region	BAPENAS, <b>BAPPEDA</b> , Provincial Dinas, Regency Dinas Disperindag and Dinkop, SMEs, NGOs, Universities	1) Formation of provincial forum 2) Identification of potential cluster
2 LOCAL CLUSTER FORUM FORMATION	Needs an institutional arrangement to facilitate the linkages in clusters	Provincial Forum (BAPPEDA), Regency Gov., <b>Regency Dinas Disperindag and Dinkop</b> , SMEs, NGO, Universities, Cluster facilitator, CD-SMEs	1) Formation of local forum (at Kabupaten and cluster) 2) Capacity building of local forum
3 CAPACITY BUILDING OF CLUSTER FACILITATOR	To manage cluster promotion programs and to facilitate clustering process	<b>MOCSME</b> , Provincial and Regency Dinas Disperindag and Dinkop, BDS, Extension workers, LPM	1) Development of model training curriculum 2) Training of the candidate for cluster facilitator
4 ENHANCING SOCIAL CAPITAL IN CLUSTER	To enhance trust relationship among SME clusters	<b>Provincial and Local Forums</b> , MOCSME, cluster facilitators and SMEs	1) Information seminar 2) Regular meeting 3) Joint actions
5 ENHANCING ENTREPRENEURSHIP IN CLUSTER	To increase SME's motivation	<b>Provincial and Local Forums</b> , MOCSME	1) Study tour to more advanced cluster 2) Exhibition holding 3) Matching with buyers

<sup>1</sup> The diamond model is based on the concept that four sources of competitive advantage – corporate strategy and competitive environment, demand conditions, factor (input resource) conditions, and related industries and support industries – form the foundation of the cluster. M.E. Porter, “On Competition” [1998] Harvard Business School

<b>CLUSTER AND SME STRENGTHENING</b>	<b>WHY</b>	<b>WHO*</b>	<b>WHAT</b>
6 MANUFACTURERS' DIRECTORY	Required for baseline study for implementing any programs	Provincial and regency BOS, <b><u>Regency Dinas Disperindag and Dinkop</u></b>	Processing Economic Censusdata (year 2006) in detail to make manufacturers' directory at Regency level
7 OPEN INFORMATION SYSTEM	To provide an equal opportunity for SMEs to join in a program	<b><u>Regency Dinas Disperindag and Dinkop</u></b>	1) Regular promotion of information in TV, newspaper, notice board 2) Information seminar 3) CD-SMEs
8 CAPACITY BUILDING OF CENTRE FOR DEVELOPMENT OF SMES	To complement lack of information for SMEs and Clusters	<b><u>MOCSME, CD-SMEs</u></b> , KADIN, BRI, PT. Telekom	1) Training the staff in Management coordination and dissemination) 2) SME advisory service 3) KKMB service 4) Establishing revenue model
9 BDS AS FINANCIAL INTERMEDIARY	To increase the accessibility to the finance	BI, <b><u>BRI</u></b> , IBI (Institute of Banking Indonesia), BDS	1) Review of current KKMB program 2) Training BDS 3) Establish certification
10 MACHINERY RENOVATION PROGRAM	To provide alternative opportunity of machinery upgrading or replacement	MOIT (IDKM), Ministry of Finance, <b><u>Venture Capital</u></b>	1) Selecting the models 2) Order in response to the purchasing request 3) Profit sharing
11 TECHNICAL DRAWING LESSON IN SMU	To increase basic skill for technology	Ministry of National Education, <b><u>Regency Dinas Disperindag, SMU</u></b>	Adding technical drawing lesson optional to 2004 curriculum
12 SHORT TERM TRAINING COURSES	To open up training opportunities for SMEs	<b><u>MOIT (IDKM)</u></b> , LPM (University), R&D institutes, BPT, Extension workers	1) Transfer resource saving technology and cleaner production for SMEs 2) Establish model courses

Note: Organizations underlined/bold lettered) are expected to play the central role in respective programs.

Source: Final Report on "The Study on Strengthening Capacity of SME Clusters in Indonesia" (2004)

### 3.2 Outline and Results of Review Study on the Previous Cluster Study

#### 3.2.1 Methodology for Review Study

The review study was started with interview surveys of DGSME of the Ministry of Industry that was the counterpart organization under the previous cluster study (previously the Ministry of Trade and Industry: MOIT) as well as the State Ministry of Cooperative and Small and Medium Enterprise (SMOCSME), in order to assess the central government's activities and results.

Then, questionnaire survey was conducted for West Sumatra, Central Java, West Java, East Java, and South Kalimantan where sample clusters were selected under the previous cluster study () in order to confirm the implementation status of action programs proposed as a result of the previous cluster study (see Appendix 1 for the questionnaire used for the survey). The questionnaire consisted of the following questions for each of the 12 action programs

- Whether or not the organization has been implementing the program
- Why it did not implement the program
- Whether and to what extent activity results have led to cluster development

These questions were designed to ascertain major obstacles for local governments when they fulfill the leadership role in the cluster development process, as well as key factors for impeding their cluster development activities from producing results.

Finally an additional questionnaire survey was conducted for companies and facilitators who participated in the pilot project conducted in Central Java (Klaten and Kebumen Regencies) in order to obtain detailed information on specific cases. The questions were asked to collect information relating to the cluster's activities and results by focusing on the following items. The survey was primarily designed to understand each cluster's activities and results.

- The status of visions and strategies formulated for the pilot project
- The status of the cluster working group system formed under the pilot project
- The results obtained at the end of the pilot project
- The progress of cluster activities from the end of the pilot project to the present

### 3.2.2 Results of the Review Study

#### 3.2.2.1 Implementation status of action programs by the central government

During the previous cluster study period, the SMOCSME implemented short-term programs such as training. During the interview survey for the SMOCSME, it stated that it would make efforts to deploy more intensive support for clusters with development potentiality and to create best practices, suggesting enthusiasm about cluster development. In reality, however, it did not play an active role in implementing any of the action programs proposed under the previous cluster study. In particular, the SMOCSME was expected to take leadership in the action program for capacity building of cluster facilitators, but an official facilitator training program was held only once in 2005 by using a local training scheme and under JICA's support. Similarly, another program for which the SMOCSME serves as the leading agency – capacity building of SME promotion centers – is not implemented.

On the other hand, the MOI has been making efforts to apply the cluster approach to priority industries, pursuant to National Industry Development Policy in 2005 and the 2008 Presidential Decision No.28. In other words, cluster development is positioned as a major pillar of the MOI's industrial policy and the ministry continues to provide a variety of support activities. In relation to the action programs proposed under the previous cluster study, BDI conducts the cluster facilitator's training. However, the previous cluster study's report is not widely shared within DGSME, so that BDI's training does not seem to sufficiently reflect the proposals made under the previous cluster study. As a result, the training program's curriculum appears to have been developed independently. Meanwhile, some programs, which have been carried out before the beginning of the previous cluster study – such as short-term training course – are continuously implemented to meet the needs.

#### 3.2.2.2 Implementation status of the action programs proposed under the previous cluster study (field survey of five provinces)

For the purpose of the review study, questionnaire survey was conducted for a total of 13 Dinas establishments in the five provinces, including Dinas Disperindag and Dinas Koperindag. 11 responses were received but none from South Kalimantan. Geographical distribution and number of questionnaires collected are as follows.

- West Sumatra (2) : West Sumatra province and Bukittinggi city
- Central Java (5) : Central Java province, Magelang city, Magelang, Kebumen, and Klaten Regencies
- West Java (2) : West Java province and Sumedang Regency
- East Java (2) : East Java province and Sidoarjo Regency

Table 3.2-1 summarizes responses in the eleven questionnaires.(4 provinces and 7 regencies)  
Note that they are classified between provinces and regions/cities.

Table 3.2-1 Questionnaire survey in five provinces (summary of responses)

Action Programs	Implement	Failed to get the outputs, despite of efforts	Not implement	Reasons for not implement (multiple responses, number of response in ( )
<b>CLUSTER STRENGTHENING</b>				
1. Provincial Cluster Forum Formation	P4 R6	P2 R1	P0 R1	R: Difficulty in budget allocation (1)
2. Local Cluster Forum Formation	P3 R6	P1 R3	P1 R1	P: Difficulty in budget allocation (1)
3. Capacity Building of Cluster Facilitator	P3 R6	P1 R4	P1 R1	P: Difficulty in budget allocation (1) R: Difficulty in budget allocation (1)
4. Enhancing Social Capital in Cluster	P3 R6	P1 R4	P1 R2	P: Difficulty in budget allocation (1) R: Difficulty in budget allocation (2) Cannot find good leader(1) Cannot find actor to cooperate(1)
5. Enhancing Entrepreneurship in Clusters	P3 R5	P1 R3	P1 R2	P: Difficulty in budget allocation (1) R: Difficulty in budget allocation (2) Too time consuming (1) Cannot find the facilitator (1)
<b>CLUSTER AND SME STRENGTHENING</b>				
6. Manufacturers' Directory	P3 R4	P0 R2	P1 R2	P: Difficulty in budget allocation (1) R: Difficulty in budget allocation (2)
7. Open Information System	P3 R4	P0 R3	P1 R3	P: Difficulty in budget allocation (1) R: Difficulty in budget allocation (2) No cooperation from stakeholders(2) No info about these programs (1)
8. Capacity Building of Center for Development of SMEs	P3 R3	P0 R2	P1 R4	P: Do not know these programs (1) R: Difficulty in budget allocation(3) Too time consuming(1)
9. BDS as Financial Intermediary	P3 R3	P0 R3	P1 R4	P: Do not know these programs (1) R: Difficulty in budget allocation (4) Banks did not agree(3) Too much time consuming(2)
10. Machinery Renovation Program	P4 R4	P0 R1	P0 R3	R: Difficulty in budget allocation (2) It is not target for the program(1)
11. Technical Drawing Lesson in SMU	P1 R1	P0 R0	P2 R6	P: Difficulty in budget allocation (1) No cooperation from stakeholders (1) R: Difficulty in budget allocation (4) Too time consuming(2) No cooperation from stakeholders (1)
12. Short Term Training Courses	P4 R6	P0 R2	P0 R1	R: Difficulty in budget allocation (1)
Summary	Enforced		No change	
Outputs of practicing the action plan	P3 R5		P1	

Note: P = Province, R=Regency.

Source: JICA study team.

Note: The action program is called "Feasibility Study on the Renewal Scheme using Second-hand Machinery and Equipment" in Table 3.1-1. The questionnaire asked about the possibility to implement the program to renew second-hand equipment and materials, in consideration of the fact that such feasibility study does not seem likely to be conducted at a city/regency level.

Responses to the questionnaire survey as part of the review study are analyzed as follows.

(1) Implementation status of the action program to strengthen the cluster's capacities

The forum is often formed at the provincial or regency/city level. In fact, all the four provinces responded that they were engaged in the formation of the forum, but two of them responded that it did not lead to the results relating to cluster development. Similarly, the majority of provinces that worked to form the forum at the provincial/regency level responded that it did not contribute to cluster development. Other action programs are also carried out by many provinces and/or regencies/cities, but the majority of them responded that these programs did not lead to cluster development.

The most notable feature of the survey results is that 5 out of 11 responses came from Central Java which gave priority to industrial cluster development. This suggests that the province is highly committed to the strengthening of the cluster capacity.

(2) Implementation status of action programs for reinforcement of SMEs and clusters

As for implementation of action programs for reinforcement of SMEs and clusters, the majority of provinces and regencies/cities implemented them, other than drawing and design education at high schools, although the number of actual cases are smaller than action programs to strengthen the cluster's capacity. Among the programs, many responses cited the program to renew equipment and materials by using second-hand machinery and equipment and short-term training courses as high contribution to cluster development. As for other action programs, many regencies/cities thought that they did not lead to cluster development. In particular, the building of information systems and capacity building for financial mediation support consultants are considered to have little or no contribution to cluster development by most regencies/cities that implemented them (3 out of 4 and 3 out of 3, respectively).

It should be noted that these action programs were not necessarily undertaken for cluster development as the primary purpose. Clearly, they were proposed in the previous cluster study as key instruments to promote cluster development, but in reality, regencies and cities have positioned them as public support measures that would contribute to the development of local industries. Furthermore, because responses were made by commerce and industry (or commerce, industry and cooperative) Dinas, which is not directly responsible for financial intermediation/support or high school education, many of them indicated that action programs relating to these areas did not lead to the reinforcement of clusters.

(3) Reason for not implementing action programs

Many respondents felt difficulty in securing the budget for every item. It is especially true for action programs relating to SMEs and cluster development. In particular, majority of regencies/cities cited the budget issue as a main reason for not implementing action programs. This indicates that the regency/city budget alone cannot support cluster development programs in many cases. Also, many respondents complained about difficulty in obtaining approval (or consent) of related organizations, such as financial institutions, or an unduly long period of time to produce results.

(4) Difference between responses to the questionnaire survey and the results of the interview survey

The JICA study team visited most of the eleven local governments and found that there were differences between responses to the questionnaire survey and the results of the interview survey. The interview survey covering cluster companies, as well as Dinas Disperindag offices in provinces and regencies/cities, reveals that action programs proposed in the previous cluster study have rarely been implemented in all the provinces but Central Java. For instance, while Central Java has cluster forums at both the provincial and regency levels, a similar

organization is not seen in other provinces. Reasons for such difference between the results of the two surveys are summarized as follows.

- 1) When a program implemented for other traditional industrial development is converted to a cluster development program

As cluster development constitutes a major element of the country's industrial development policy, a significant amount of government budget is allocated to Dinas Disperindag offices at the provincial and regency levels. However, development of an industrial concentration as a cluster is a recent move, whereas development of Sentra has much an older history and has been carried out in the past three decades. For local government personnel in charge of a development program implemented under the MOI's budget, it may be difficult to distinguish the Sentra development program (using the sector approach) from the cluster development program that covers not only a core business within a specific area but its related industries (including those in vicinity of the core area) as well. As a result, there seem to be cases where a Sentra development program continues to be implemented for the Cluster development.

- 2) When a program which purpose is not cluster development is mistaken as an action program

For example, a forum that serves as an external support framework for a cluster may be considered as a local budget meeting participated by related organizations. Or the MOI implements a program to provide equipment to strengthen the operational base of microenterprises, which appears to be mistaken by some local governments as a part of cluster action program.

- 3) When an action program has small impacts and does not contribute to cluster development

Local governments implement action programs, many of which are intended for Sentra development. However, there are cases where the program is carried out without follow-up after implementation or does not meet the actual needs in terms of content, scale or target. As a result, the program allows the cluster to perform its coordinating or self-control ability, thereby failing to achieve the purpose of cluster development. Regardless of actual responses to the questionnaire survey by local government personnel, therefore, many programs have not been implemented effectively or did not produce sufficient results.

### 3.2.2.3 Ex-post evaluation in provinces where the pilot project was implemented

In the two provinces where the pilot project was undertaken, the JICA study team obtained 12 organizations, consisting of the following:

- Private enterprises, facilitators and regional Dinas Disperindag in Serenan, Klaten Regency (9 in total)
- Private enterprises and regional Dinas Disperindag in Kebumen Regency (3 in total)

Although the sample size is relatively small, the survey results suggest that clusters in Serenan, Klaten grow significantly, whereas those in Kebumen Regency do not. In particular, responses from the organizations in Klaten suggest that progress is still made toward a specific vision or goal in the form of joint efforts. On the other hand, responses obtained from Kebumen are characterized by negative tone. The responses obtained from the two regencies are summarized and analyzed below to determine the difference between clusters making progress and those that are stagnating (see Table 3.2-2).

### (1) Klaten Regency

The JICA study team examined the development status of the Serenan furniture cluster in Klaten as to how far its development vision has been accomplished, as well as implementation of development strategies. It is concluded that the cluster is making steady progress toward the accomplishment of the stated vision, although it takes some more time and effort. At present, various activities are undertaken to accomplish the vision. The responses from the related organizations indicate that they admitted that the cluster did not implement all the strategies and attributed it to the lack of motivation for cluster members, coordination, and communication skill. This means that the cluster's shareholders understand their weaknesses to some extent, rather than blaming external factors.

In the cluster, the working group also continues its activities via cooperatives, including loan service, joint procurement of raw materials, and participation in trade shows. The respondents cited the presence of strong motivation, teamwork, good communication, and periodical reporting as reasons for continuation of activities. These factors are also cited as reasons for not implementing some strategies, suggesting that they recognize that these are key success factors. Similarly, they agreed on the primary purpose of the working group: "to formulate a collaborative program to promote development of cluster companies as a whole."

As for key cluster activities after the end of the pilot project under the previous cluster study, efforts have been made to recruit new members. In fact, the working group has increased its members. The respondents also listed the formulation of a new collaborative program, preparation of rules, and quality standardization of export products.

Finally, the respondents cited specific issues and problems facing the cluster, such as difficulty in market development and quality improvement, and problems relating to product price/production cost/delivery. Thus, they seem to be recognized as major challenges for the cluster or the working group.

### (2) Kebumen Regency

The ex-post evaluation on the roof tile cluster in Kebumen is based on three responses. Although the sample size is small, they agreed on many elements. Basically, the cluster has not made significant efforts to accomplish the vision or implement the strategies developed under the previous cluster study. The respondents attributed it to external factors, i.e., problems relating to the facilitator, financial service, and BDS provider, while not mentioning internal factors as seen in the Klaten Regency, such as the lack of motivation or communication.

The working group is not maintained on a sustainable basis. Major reasons cited by the respondents include "the lack of understanding about significance of collaboration within the cluster," "the absence of sharing of the mission within the cluster," and "the lack of support from local government."

As for cluster activities carried out after the end of the pilot project, one of three respondents has implemented some. But as no change has been seen since then, it appears that implementation was not possible or was fairly limited.

The respondents cited the insufficient amount of local government's R&D budget allocation, the lack of JICA's support and the poor relationship with external organizations as major issues and problems facing the cluster, and they attributed them to external factors. Table 3.2-2 shows the results of post survey for the pilot projects.



**Table 3.2-2 Results of post survey for the pilot projects**

(1) Vision and Strategies		Klaten Responses: 9	Kebumen Responses: 3
(1)-1	Accomplish the vision made during the previous cluster study?	Accomplish/Almost accomplish (3) Not yet accomplish(5)	Not yet accomplished (3)
(1)-2	Made any efforts on strategies?	Yes (4) No	No(2)
(1)-3	What has been done?	Support from BDS, forming and maintaining of the organization (3), continuation of the project, construct the partnership.	Training
(1)-4	Reason for nothing done	Lack of motivation, lack of coordination(2), lack of human resources, lack of finance, lack of communication	Low interest, abstention of facilitator, weak financial access, abstinence of BDS provider
(2) Working Group formed during the previous cluster study			
(2)-1	Did it continue working after the pilot project?	Continue. (8) Did not continue.	Did not continue(2)
(2)-2	What kind of activity has been done if it continued?	Various training activities, cooperatives(2), purchasing raw materials (2), Finding buyers, participating in fairs, making proposals.	None
(2)-3	Reason for continuation	High motivation (2), teamwork of WG (2), unity, existence of the cooperative, communication in the cluster, periodical report	None
(2)-4	The most important purpose of the WG	Making a cooperation program(7)	None
(2)-5	Reason for discontinuing	Non	Lack of support from local governments Lack of sharing the mission
(3)After the completion of the pilot project until now			
(3)-1	Activity operated	Solicit others to join the cluster activities (7), Make regulation of the WG (3), Make cooperation program (4), Make quality standard for export (2)	Solicit others to join cluster activities, Make regulations of the WG Make cooperation program
(3)-2	Any change after the previous cluster study	- Number of WG member increase (5) -Increase number of cluster activity participants - Increase sub-sector to participate in cluster activity - BDS providers - Form the cooperative - Increase the product quality - Share the cluster project profit	Getting worse
(4)	Issues and problems of the cluster	- Human resource development of WG - Improve market survey and access (4) - Improve product quality (3) - Problem in price and cost (3) - Problem in delivery time (2)	-Lack of R&D budget from local government - Facility donation from JICA - Weak relationship with external institutions - Lack of raw materials - Work force problem

Note: Number in ( ) is number of the same response  
Source: JICA study team.

### 3.2.3 Issues Identified from the Review Process

From the reviewing of the implementation status of the proposals made in the previous cluster study, the following issues are identified.

#### (1) Difficulty in securing the cluster development budget at local government

While cluster development plans are established, a sufficient program budget is not secured at the regency/city level. Also, it should be pointed out that budget application and related

efforts take considerable time. Although the charging for BDS is considered, it is difficult to put it into practice.

(2) Difficulty in distinguishing Sentra development from cluster development at the field personnel level

Generally speaking, local government personnel appear to carry out cluster (company support) activities without fully understanding the advantage of the industrial cluster. This seemingly come, in part, from the fact that many activities to support the producing area have been conducted with the absence of understanding about the difference between the traditional Sentra development approach (adopted since 30 years ago) and the relatively recent cluster development approach. Thus, it is important to disseminate knowledge on the cluster approach to shareholders at the initial development stage.

(3) Absence of leaders capable of promoting collaboration among cluster shareholders

From comparison of ex-post evaluation results on Klaten and Kebumen, it is confirmed that the activity level of the working group affects the cluster's activity significantly. In particular, it became apparent that key success factors for cluster activities are the strengthening of motivation, sustainable growth of teamwork and the enhancement of an internal communication system in the working group, together with presence of leaders who drive such activities. Apparently, the cluster in Klaten is in a positive spiral process in which leaders are able to identify and share issues with shareholders and then conceive and make efforts to address them properly.

As for the cluster in Kebumen, in contrast, it can be said that it does not understand the concept of the cluster approach and fails to share its mission, suggesting that its members are not able to overcome obstacles in the cluster embryo stage.

## Chapter 4 Results of Field Survey in Two Target Provinces

### 4.1 Selection of Provinces for Pilot Projects

#### 4.1.1 Selection method and criteria

The JICA study team carried out pilot projects in two selected provinces to obtain information on implementation and operation of cluster development programs and to analyze related issues of cluster development in Indonesia. Prior to the start of field survey, the MOI has proposed the following five provinces together with specific clusters for candidate project sites.

##### West Sumatra:

Candidate Cluster: Embroidery cluster in Bukittinggi City

##### Central Java:

Candidate Cluster: Tofu and cassava snack clusters in Magelang City and Regency

##### East Java:

Candidate Cluster: Silver accessory cluster in Lumajang Regency

##### South Kalimantan:

Candidate Cluster: Handicraft cluster in Taping Regency

##### West Java:

Candidate Cluster: Essential oil cluster in Sumedang Regency

The selection process is summarized below, with the actual process flow for selection of the two provinces being shown in Fig. 4.1-1. The JICA study team visited the five candidate provinces to survey their conditions. A general outline of the surveys of the cluster-related environment in the five provinces is discussed in 4.1.2 and 4.1.3.

After selecting the two candidate sites, the JICA study team explained the basis for selection to the MOI. Upon approval by all the committee members, West Sumatra and West Java were finally selected as formal project sites.

In selecting the candidate provinces, the JICA study team attached more importance to whether a relevant cluster possessed factors necessary for cluster growth, namely whether stakeholders and related parties (individuals) are keen on cluster development activities, as well as availability of raw materials peculiar to the respective area. During the field survey, candidate provinces were asked to name 1-2 clusters which they had strong interest in developing, and data items obtained from the provinces were compared. (See Table 4.1-1 for the evaluation criteria.) Note that items to evaluate growth potential are the ones that are included in the list proposed by Michael E. Porter in his cluster theory but that are obtainable within a limited period of time. Finally, the JICA study team added to the criteria the availability of BDS providers, which is a key factor for pilot projects, motivation of stakeholders, and the level of leadership of the local government staff.

Table 4.1-1 Cluster Evaluation Criteria

<b>Growth Potential</b>	Availability of input sources (1 pt./ea)	A1	Comparatively advantageous local raw materials are available.
		A2	Skilled labor is easily hired.
		A3	Necessary raw materials are always purchasable.
		A4	Financial service is available.
	Fringe industry and supporting industry (1pt./ea)	B1	Forward and backward linkage is available within one hour range(trip).
		B2	Transportation system is well developed.
		B3	Buyer's agent is available within the sentra.
	Demand factor (1pt.)	C1	Market demand is increasing.
		C2	Core product has a high recognition within the country.
		C3	The Sentra is connected with stable market.
	Corporate strategy, competitive setting (1pt./ea)	D1	There are over 50 producers.
		D2	Investment from outside sentra has tendency to increase.
		D3	There is competition within the core industry.
		D4	The Sentra has experience to participate in exhibition.
D5		Information on advanced technology/market/new products is easily obtained.	
D6		Subcontracting business is commonly implemented / there are many specialized producer or processor. (single business strategy)	
<b>Accessibility of BDS Provider</b>	Supporting agents (3pt/ each)	E1	Cooperative / Chamber of Commerce / Trade Union / Trade Exchange Center / any other SME promotion organization is accessible.
		E2	Technical support organizations such as Engineering college, Polytechnic, Balai Besar/Bristand or any other engineering institutes is accessible.
		E3	Management training, technician training, engineer training/consulting, entrepreneur support and consultation is accessible.
		E4	Public financial agent for institutional finance is accessible.
		E5	Consulting services such field as information obtaining, accounting, logistics, industrial designing and marketing, etc. is accessible.
<b>Willingness of Stakeholders</b>	Cluster initiative (2pt./ea)	F1	There is aggressive leader within core industry and he/she is willing to commit oneself to the project.
		F2	Core industry members are willing to participate in the project.
		F3	Kota/Kabupaten(Local government)can provide exclusively assigned staff to take part in the sentra project.
		F4	Local government commits to provide budgetary support to the sentra project
		F5	There are network association between core industry and surrounding industries
		F6	There are a collaboration project among core industry, university and local government.
		F7	The network of Industry-government-academia is available.
<b>Leadership by the local government</b>	Willingness of the local government (1 pt.)	G1	The candidate local government can establish a "project supporting team" in own responsibility.
		G2	The government is willing to assign fulltime working team for the project.
		G3	The government confirms budget allocation to implement the project.
		G4	The government can nominate BDS facilitators other than the government staff.
		G5	The SME management consultants (SHINDANSHI) will be assigned as a core member of the project.
		G6	The presentation was well prepared.

Source: JICA Study Team

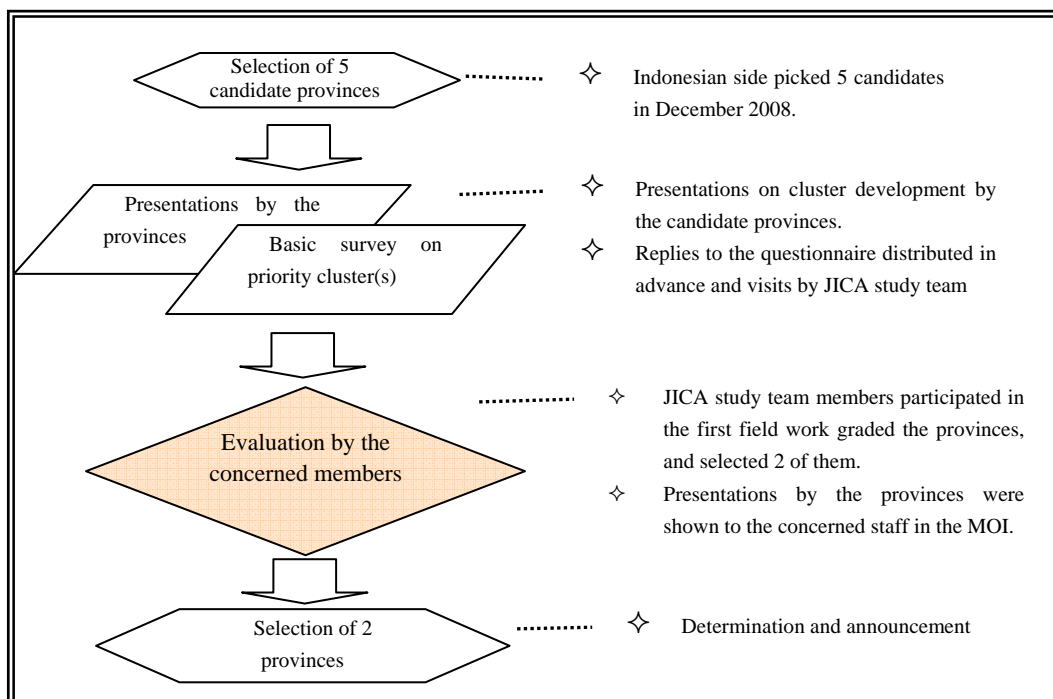


Fig. 4.1-1 Flow of selection of 2 provinces for pilot projects

#### 4.1.2 Overview of the five candidate clusters

This section describes the overview of the 5 candidate clusters. Item (2) of 4.1.2, “Current State of Candidate Clusters” discusses clusters that have been recommended by the MOI as candidate sites for the pilot project. The JICA study team has selected two provinces and sites from the list and has carried out the pilot project in them.

##### 4.1.2.1 Industry and clusters in West Sumatra

###### (1) Clusters in West Sumatra

The study “SMESentra Location Mapping” (hereafter described as “the MOI cluster study”), which was conducted by a local consultant (SUCOFINDO) under the commissioning by the MOI in 2007, lists 39 clusters located in West Sumatra.<sup>1</sup> It confirms the existence of 1,111 enterprises, which means that an average of 28 enterprises is in a cluster (Table 4.1-2). According to the MOI cluster study, many of them belong to the food sector. As these enterprises hire 2.3 employees on average with yearly production value of Rp. 33 million, they are dominated by microenterprises. Compared to those in the other candidate provinces, the number of employees and the production value per cluster are relatively small.

<sup>1</sup> The MOI cluster study does not cover all the clusters in West Sumatra, although it provides useful data relating to general size distribution of clusters and industry types representing major Sentras. Unfortunately, it has been found that the embroidery cluster in Bukittinggi is not covered by the study, from the analysis of relevant statistical data on the number of enterprises and workforce. Also, according to the study, there are only 39 clusters in West Sumatra, which accounts for around 1.7% of the country’s GDP and is said to have 120 – 180 clusters (estimated 7,000 – 10,000 clusters in the entire country).

Table 4.1-2 Clusters in West Sumatra

Sector	Number of clusters	Number of enterprises (unit)	Number of employees (person)	Investment (Rp.000)	Production value (Rp.000)
Food (tofu, sugar, coffee, crackers, etc.)	28	818	1,837	5,703,771	25,705,248
Metal processing (steel processing)	1	6	21	25,500	108,000
Handicraft (embroidery, fabrics, rattan, leather, etc.)	10	287	730	6,921,074	10,871,117
Total	39	1,111	2,588	12,650,345	36,684,365

Source: MOI Cluster Study

According to the Presidential Regulation No. 28 2008, West Sumatra has 75 of local industry core competence products, which include cacao products, peppers, snacks, textiles and garments, gambil, essential oil, Jatropha oil, cement, and farm machines. West Sumatra has focused on cacao products, and embroidery is not among their top priority. On the other hand, the MOI has selected the embroidery industry in Bukittinggi as a priority sector for the OVOP project.

#### (2) Condition of the candidate cluster

The Embroidery cluster, selected by the MOI, is seen in and around the city of Bukittinggi. In the city, about 250 enterprises are doing embroidery related business and hire more than 1,500 workers in total. The embroidery in the region, which is distinguished from those produced in the other areas in Indonesia, is known as Kerancang.<sup>2</sup> It is produced only in and around Bukittinggi. It is primarily used in women's religious clothes, and the designs are traditional.

The embroidery is made manually by using a foot-operated or electric sewing machine. Workers generally start working in a young age, live in a factory building, and become skillful through training for around two years. Many female workers, who leave when they get married, continue to do contract work from their former employers by using a supplied sewing machine and materials.

Raw materials for embroidery making, such as yarn and fabric, as well as sewing machines, needles, and soldering irons, are readily available in the area. Also, instructors to teach embroidery techniques can be hired easily.

The market for Kerancang embroidery is extensive, going beyond the country to Malaysia and Middle East. The Atas market in Bukittinggi serves as the logistic hub.

In Bukittinggi, cluster activities have already started according to an action plan formulated by the working group led by Industry, Trade and Cooperatives Dinas (hereafter referred to as "Dinas Koperindag").

#### 4.1.2.2 Industry and clusters in Central Java

##### (1) Clusters in Central Java

The MOI cluster study lists 142 clusters located in Central Java. Table 4.1-3 shows the overview. About 40% of the 5,989 enterprises identified are engaged in food-related business. An average cluster is composed of 42 enterprises, each hiring 4.9 employees on average with

<sup>2</sup> Kerancang, made using sewing machines together with scissors or soldering irons, looks like lace motifs. Clothes with Kerancang are local specialty products.

an annual production value of Rp. 270 million. It should be noted that an average annual production value of handicraft enterprises is larger, around Rp. 900 million.

According to the Presidential Regulation No.28 2008, Central Java has 57 local industry core competence products, including snacks, textiles and garments, furniture and wood products. In particular, the decision emphasizes on textile and garments, and furniture and wood products, targeting higher-value-added products. For the purpose, the decision identifies the need for exploration of the international market for textile and garments, and design improvement and stabilization of wood supply for furniture. On the other hand, the MOI designates textiles in Pekalongan Regency and mushrooms in Wonosobo Regency as OVOPs. Table 4.1-3 shows the current status of clusters in Central Java

Table 4.1-3 Clusters in Central Java

Sector	Number of clusters	Number of enterprises (unit)	Number of employees (person)	Investment (Rp.000)	Production value (Rp.000)
Food (tofu, tempeh, dried fish, crackers, etc.)	77	2,319	10,787	21,777,439	282,740,430
Apparel (sewn products, batik, shoes, etc.)	8	487	3,681	4,920,500	44,108,975
Construction materials (bricks, roof tiles, etc.)	8	682	2,585	12,911,950	39,434,650
Metal Processing (furniture, parts, precious metals, etc.)	38	1,551	9,357	38,424,977	370,381,406
Handicraft (fabrics, rattan and bamboo products, shadow puppets, etc.)	11	950	2,797	2,182,860	851,732,430
Total	142	5,989	29,207	80,217,726	1,588,398,004

Source: MOI Cluster Study

## (2) Conditions of candidate clusters

The MOI proposed two candidate clusters, the cassava snack cluster and the tofu cluster. Cassava snacks produced in the former are called either slondok or puyur depending on production methods.

In the cassava snack cluster, around 200 enterprises produce slondok and puyur, which are sold in supermarkets in neighborhood as well as large cities in Java. Some are sold as souvenirs at railroad stations and stores.

Except cutting and milling, most of the production process is manually done. Labor supply is abundant because the simple production methods do not require skilled labor. Most workers have limited knowledge of sanitary management which is necessary for food processing. On the other hand, most enterprises lack knowledge on hygienic management, which is indispensable in the food processing industry, which proposes a serious problem.

Although cassava is extensively produced in an area in and near the cluster, the production volume is not large enough to meet demand so that some producers purchase tapioca (processed cassava) from other areas. Hired by the local government, Magelang Tidar University has served as facilitators of the cluster.

37 enterprises belong to the tofu cluster. They sell to the neighboring cities such as Magelang, Yogyakarta and Semarang. 5 companies produce tofu chips. Their main problem is soy bean price fluctuation due to unstable international market conditions

#### 4.1.2.3 Industry and clusters in East Java

##### (1) Clusters in East Java

The MOI cluster study lists 184 clusters. which are composed of 7,266 enterprises.. Table 4.1-4 shows the overview. 106 of them are related to the foodindustry, accounting for around 60% of the total. An average cluster is composed of 39 business units, each hiring5workerson average with production value ofRp. 260 million. On average, enterprises in metal processing ranks first in the production value as well as the number of employees, over Rp. 1 billion and12.7employees respectively.Table 4.1-4 shows the current status of clusters in East Java.

Table 4.1-4Clusters in East Java

Sector	Number of clusters	Number of enterprises (unit)	Number of employees(person)	Investment (Rp.000)	Production value (Rp.000)
Food (tofu, tempeh, dry fish, etc.)	106	4,518	17,447	5,853,832	490,966,312
Garment (garments, batik, shoes, embroidery, etc.)	18	501	2,597	2,430,730	122,595,163
Construction materials(bricks, roof tiles, etc.)	5	944	6,652	7,122,000	101,642,870
Metal processing (iron work, silver, etc.)	6	89	1,130	2,830,815	91,838,400
Handicraft (fabrics, rattan, precious stones, etc.)	49	1,174	8,439	3,812,941	1,074,712,830
Total	184	7,226	36,238	22,050,318	1,881,755,575

Source: MOI Cluster Study

According to the Presidential RegulationNo.28 2008, the province has 8 local industry core competence products, ranging from sugar and sugar cane(3 items),to leather and shoes(3), shipbuilding(1), and accessories(1). Ceramics in Malang and fruit processing in Batu are designated as OVOPs.

##### (2) Conditions of the candidate cluster

Among several accessory(using gold, silver, jewelry) clusters in the province, the MOI has selected the silver accessory cluster in Lumajang. In the cluster, there are about 100 home industries hiringa total of 1,000 workers. 80% of products is export-bound, sold to the U.S., Australia, the EU, and Middle East. Also, foreign tourists visiting Bali and other areas are good customers. The cluster makes a variety of products such as rings, necklaces, and earrings.While most motifs of silver products produced in Bali Jogjakarta, and other major places of silver accessory production, are traditional, those in Lumajang have contemporary tastes. Many exporters are in Bali, which also serves as an accessory market targeting tourists.

Accessoriesin the cluster are mostly made by hand work except for blow torches and polishing machines. Since customers specify designs, the cluster has not developed own design capability.

Accessory shops in the cluster purchase silver from Surabaya and Bali, but the price has heavily fluctuated, which poses a high business risk. Annual sales had increased by 30% to 40% from 2000 to 2007, but they dropped dramatically since the global financial crisis in 2008.

The provincial government plans to build a joint sales outletin Sidoarjo Regencyto promote the industry.



#### 4.1.2.4 Industry and clusters in South Kalimantan

##### (1) Clusters in South Kalimantan

As shown in Table 4.1-5, the MOI cluster study lists 17 clusters in the province, totaling 258 enterprises. Each cluster has an average of 15 establishments. Compared with the other candidate provinces, handicraft clusters hold a relatively large share, while food-related clusters are fewer in number. The average number of worker per business unit is 12 and the average production value is Rp. 40 million. An average production value per business is larger than that in West Sumatra, but per worker production value of Rp. 3 million is well below that in West Sumatra, Rp. 14 million.

Table 4.1-5 Clusters in South Kalimantan

Sector	Number of clusters	Number of enterprises (unit)	Number of employees (person)	Investment (Rp.000)	Production value (Rp.000)
Food (sugar, dry fish, rice crackers, etc.)	3	96	238	203.740	1.345.750
Metal processing (ring fabrication, etc.)	1	10	15	23.000	371.520
Handicraft (embroidery, fabrics, rattan, etc.)	13	152	2,863	5,867,578	8,497,674
Total	17	258	3,116	6,904,318	10,214,944

Source: MOI Cluster Study

According to the Presidential Regulation No. 28, 2008, South Kalimantan has 20 local industry core competence products, including palm oil, rattan processing, rubber processing, handicrafts using precious stones and silver. Precious stone crafts in Banjarmasin are chosen as an OVOP. Batik is also an important cluster product in the province.

##### (2) Condition of the candidate cluster

The candidate cluster, located in Taping Regency, produces handicrafts made of rattan purun, and janggan, such as bags, baskets, hats, fans and mats. About 100 home industries are situated along a river and are engaged in handicraft production. These products are sold not only as household items in the markets in Banjarmasin and Martapura but also as souvenirs in Bali.

Middlemen called “collectors” collect products and ship them to major buyers whom they are connected with. There are four collectors active in the cluster and handle the purchase of raw materials, delivery schedule and quality control, and sales and marketing.

While some raw materials are available in the neighborhood, but rattan and others are purchased from other provinces too. Raw materials and products are largely transported by river boats, their transportation costs are relatively low.

#### 4.1.2.5 Industry and clusters in West Java

##### (1) Clusters in West Java

Table 4.1-6 shows general profiles of clusters in West Java. The MOI cluster study lists 125 clusters, containing 14,374 enterprises. An average cluster is composed of 115 establishments, the densest among the five provinces. With the production value of Rp. 420 million, an average enterprise hires 8 workers. These clusters hire the largest number of workers among them. Garment clusters are relatively small in number, but each cluster is highly concentrated with nearly 200 companies. On the other hand, clusters specialized in construction materials are larger, with 653 enterprises per cluster.

According to the Presidential Regulation No. 28 2008, West Java has 32 local industry core competence products, including leather and shoes, textile and garments, rattan processing, automotive and other parts. The provincial government has strategy to promote the following areas: creative business<sup>3</sup>; agribusiness; marine business; tourism; manufacturing; and other services. On the other hand, knit goods in Bandung, fabrics in Tasikmalaya, and sweet potato flour in Kuningan are selected as OVOPs.

Table 4.1-6 Clusters in West Java

Sector	Number of clusters	Number of enterprises (unit)	Number of employees (person)	Investment (Rp.000)	Production value (Rp.000)
Food (tofu, dry fish, rice crackers, etc.)	64	3,402	15,580	16,748,299	1,169,154,360
Garment (garments, batik, shoes, etc.)	9	1,785	17,710	48,470,075	2,212,447,490
Construction materials (bricks, roof tiles, etc.)	8	5,226	51,516	24,522,480	338,274,900
Metal processing (furniture, parts, precious metal, etc.)	30	786	3,882	8,279,885	249,097,667
Handicraft (fabrics, rattan, bamboo, puppets, etc.)	14	3,175	25,515	6,253,530	2,090,404,728
Total	125	14,374	114,203	104,274,269	6,059,379,145

Source: MOI Cluster Study

## (2) Condition of the candidate cluster

The MOI proposed a cluster in Sumedang producing nilam oil (known as patchouli oil), a kind of essential oil. It is used for making soaps, cosmetics, perfume and foods by being added as a fixative or stabilizer.

18 groups of nilam leaves and/or nilam oil producers are identified in the area. 144 farmers belong to the group which the JICA study team visited, in which around 300 people work in total. Nilam oil produced is gathered by "collectors" and is eventually exported to the U.S., Japan and the EU.

Although more or less 10 distillation facilities, part of which are provided by the government, are said to be in Sumedang Regency, some are out of order or seldom in use.

Exporters perform final quality check and sometimes redistill collected oil before shipment. As required, nilam oil goes through secondary refinement. Nilam produced in Sumedang is not particularly high in quality; exporters do final quality checks and sometimes redistill collected oil before shipment to meet the customer's specification.

While nilam oil is also produced in Kuningan, neighboring regency, Sumatra Island is renowned as the country's major production center.

In October 2009 which was during the final stage of this study project, the road map for the development of aetheric oil cluster, Regulation No. 136/M-IND/PER/10/2009 was drawn up and stipulated as promising industry for the future development.

### 4.1.2.6 SWOT analysis of the candidate provinces

Based on the interviews with companies, local governments, and other concerned people in the candidate provinces, the JICA study team conducted SWOT analysis of the five candidate provinces. They may not be accurate due to the time constraint relating to information

<sup>3</sup> Creative business refers to a range of economic activities generating or exploiting knowledge and information, such as design, fashion and games.

gathering. Keeping this in mind, the JICA study team used the results as an important basis of making final selection for two provinces. The results of SWOT analysis are summarized in Table 4.1-7.

Table 4.1-7 Analysis results of the five candidate provinces

	West Sumatra	Central Java	East Java	West Java	South Kalimantan
Cluster and product	<ul style="list-style-type: none"> <li>• Kerancang embroidery cluster, Bukittinggi</li> </ul>	<ul style="list-style-type: none"> <li>• Cassava snacks (slondok, puyur) and tofu clusters, Mageran Regency</li> </ul>	<ul style="list-style-type: none"> <li>• Silver accessories cluster, Lumajan Regency</li> </ul>	<ul style="list-style-type: none"> <li>• Essential oil (nilam oil) cluster, Sumedan Regency</li> </ul>	<ul style="list-style-type: none"> <li>• Rattan and bamboo handicrafts clusters, Taping Regency</li> </ul>
Strength	<ul style="list-style-type: none"> <li>• The provincial government is already implementing the cluster project.</li> <li>• In-factory training system of embroiderers has been in place for a long time. Over 1,500 people are engaged in the industry.</li> <li>• Public institutions offer a range of embroidery training courses (from designing to finishing).</li> <li>• All necessary materials are available in the neighborhood.</li> <li>• Outlets are in the city.</li> <li>• The MOI has provided many sewing machines at no charge.</li> <li>• Appointed cluster facilitators are in place. A working group has been formed.</li> <li>• Bank loans are available.</li> <li>• Potential cluster leaders are in the private sector.</li> </ul>	<ul style="list-style-type: none"> <li>• Framework to promote clusters (facilitators, forums) is in place.</li> <li>• Local governments have experienced cluster development projects.</li> <li>• Foreign donor institutions have supported cluster development. Domestic demand for the products is steady.</li> <li>• Main actors (BDS providers, BDS facilitators, local governments, etc.) have formed forums.</li> </ul>	<ul style="list-style-type: none"> <li>• As one of the three largest areas producing silver accessories, the industry has comparative advantage in skilled labor.</li> <li>• Various kinds of jewelry processing houses are in the region. Competition both in the same cluster and between clusters may become keen.</li> <li>• It is close to Surabaya (a large market), Bali and Yogyakarta (tourist sites).</li> <li>• Some companies maintain marketing channels in the U.S. and sell products over the Internet.</li> </ul>	<ul style="list-style-type: none"> <li>• Nilam cultivation and distillation are divided (division of labor).</li> <li>• Some tie up with collectors.</li> <li>• They receive technical support from college students.</li> <li>• Though small in scale, some groups are composed of distillers and farmers, which can be model cases.</li> <li>• A group leader has been appointed.</li> <li>• Autonomous groups have also been organized.</li> </ul>	<ul style="list-style-type: none"> <li>• Intermediaries called collectors, who are connected to market, play a coordinating role.</li> <li>• Required skills are low, and the recruitment of workers is easy.</li> <li>• Products are expendable supplies, and the demand is stable.</li> <li>• Procurement of raw materials is easy.</li> </ul>
Weakness	<ul style="list-style-type: none"> <li>• Market is limited to the areas in which people share the same culture and religion as those in Bukittinggi.</li> <li>• Kerancang, specialty embroidery of the city, does not look high grade relative to machine-made embroidery</li> </ul>	<ul style="list-style-type: none"> <li>• They do not have comparative advantage in raw materials; they are available around the country, but its supply is not stable.</li> <li>• Production process is simple, and there seems to be no possibility of division of labor</li> </ul>	<ul style="list-style-type: none"> <li>• SHINDANSHI are not available; they have been either transferred to other sections or promoted and do not conduct consulting activities.</li> <li>• Except some dominant enterprises, they lack the</li> </ul>	<ul style="list-style-type: none"> <li>• Distillation apparatus is not good enough to meet market requirements; it cannot produce highly concentrated oil; the process time is long.</li> <li>• Nilam production is dependent on weather conditions.</li> <li>• Nilam oil is used as an</li> </ul>	<ul style="list-style-type: none"> <li>• Procurement of raw materials is not always easy.</li> <li>• Products lack originality.</li> <li>• Product prices are low.</li> <li>• Quality control management is poor. Completed products often have defects.</li> <li>• Development of the distribution</li> </ul>

	West Sumatra	Central Java	East Java	West Java	South Kalimantan
	<p>produced in the other areas.</p> <ul style="list-style-type: none"> <li>• Networks of horizontal division of labor have underdeveloped.</li> <li>• They cannot produce high value added products due to low skills.</li> <li>• The provincial government does not function as a facilitator between clusters.</li> </ul>	<p>among enterprises.</p> <ul style="list-style-type: none"> <li>• The provincial government does not choose them as priority clusters; no financial support from them for a pilot project can be expected.</li> <li>• Raw material supply is not stable.</li> </ul>	<p>ability to collect market information and depend on buyers for it.</p> <ul style="list-style-type: none"> <li>• Market is limited because they lack the ability for market development.</li> <li>• Almost no one takes risks for business expansion.</li> <li>• Their bargaining power against buyers is weak; processing charges of export products are low.</li> <li>• Linkages are weak; the industry has formed an association and cluster has a cooperative, but they are not closely united. They have never carried out collaborative works.</li> <li>• No framework to promote cluster development (such as forums) has been formed.</li> </ul> <p>Regency and city Dinas function as BDS facilitators, but their activities are insufficient.</p>	<p>intermediate commodity only. The cluster development framework for the entire province has still to be built up.</p>	<p>infrastructure is delayed.</p> <ul style="list-style-type: none"> <li>• The cluster development framework for the entire province has still to be built up.</li> </ul>

	West Sumatra	Central Java	East Java	West Java	South Kalimantan
Opportunity	<ul style="list-style-type: none"> <li>• Songket fabric cluster is in a neighboring village, and the collaboration with it may be possible.</li> <li>• Design ability can be developed.</li> <li>• Collaboration with the tourist industry may be possible in Bukittinggi which is a tourist spot.</li> <li>• The city government wishes to make Kerancang a regency's high-profile national brand.</li> <li>• Design team in University Negeri Padang is available as a BDS.</li> <li>• It is designated as a target cluster under the top-down approach, with high expectation for continuous support.</li> <li>• Dinas Koperindag in the province is considering development of a textile industry cluster.</li> </ul>	<ul style="list-style-type: none"> <li>• Past experience and existing framework of cluster development is available.</li> <li>• Universities are available as BDS providers.</li> <li>• Cluster development framework has much more developed than other areas of the country.</li> </ul>	<ul style="list-style-type: none"> <li>• Some enterprises export directly. They are potential leaders of the cluster.</li> <li>• The provincial government has promoted the industry.</li> <li>• The provincial government is going to build an exhibition site (GEM Police) in the near future.</li> <li>• Provincial government promotes export industry.</li> <li>• Cluster development is a component of next mid-term development plan of the province.</li> <li>• Networking with other producing areas in other regencies within the province is possible.</li> </ul>	<ul style="list-style-type: none"> <li>• Production (drying and warehouse) is expanding and productivity is expected to improve.</li> <li>• Fuel expenses may be halved if the fuel is changed to coal.</li> <li>• Nilam oil serves various uses such as aromatic oils, cosmetics, perfumes, and insect repellent.</li> <li>• It is feasible to obtain collaboration of many universities and research institutes in the province.</li> </ul>	<ul style="list-style-type: none"> <li>• JETRO choose the handicrafts in the province as a target of their OVOP assistance.</li> <li>• Cooperative style workshops function as commercial entity.</li> <li>• Governor of the regency considers the collaboration of the tourist and tourist industries.</li> </ul>

	West Sumatra	Central Java	East Java	West Java	South Kalimantan
Threat	<ul style="list-style-type: none"> <li>• Foreigners do not recognize any distinction between Kerancang and the embroidery produced in the other countries.</li> <li>• No large initial investment is necessary and the barrier to entry is low. Competitors are in Indonesia.</li> <li>• There is inflow of poor-quality goods from other regencies and cities.</li> <li>• Deterioration of the market image due to poor-quality goods</li> </ul>	<ul style="list-style-type: none"> <li>• Process of production is simple, and raw materials are available around the country. As a result, these products are made everywhere. Rapid market expansion cannot be expected.</li> <li>• Poor food hygiene management may cause problems</li> <li>• Required skills are low and thus barrier to entry is low. Market may become more competitive.</li> </ul>	<ul style="list-style-type: none"> <li>• They access to market mainly through buyers.</li> <li>• Demand of accessories decrease due to the recession; the orders from them have decreased.</li> <li>• Gold and silver prices fluctuate.</li> </ul>	<ul style="list-style-type: none"> <li>• Nilam plants grow in the other areas of Indonesia. Competition becomes fiercer if other areas begin growing them.</li> <li>• Large price fluctuation in the nilam oil market creates a risk of recovering capital investment.</li> </ul>	<ul style="list-style-type: none"> <li>• Local competition becomes fiercer.</li> </ul>

Source: JICA study team

### 4.1.3 Evaluation of cluster growth factors of the five provinces

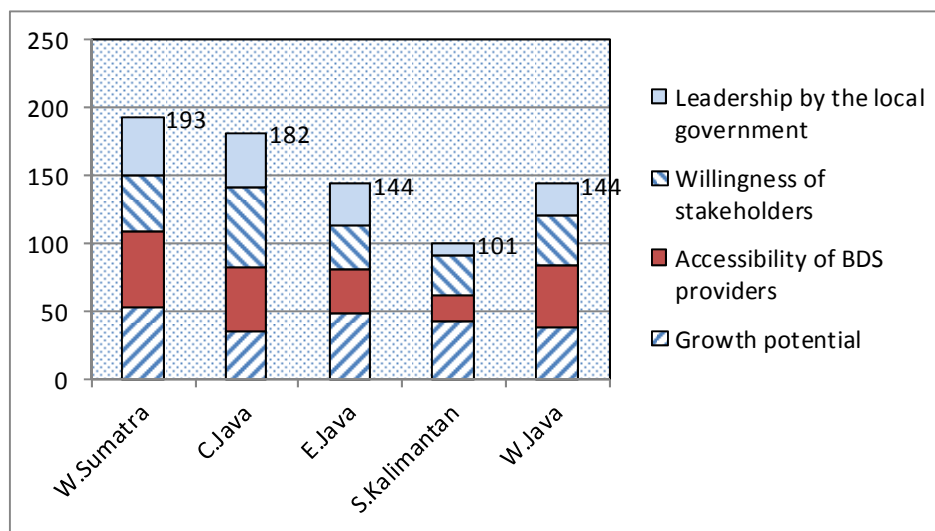
Cluster growth factors of the candidate provinces have been evaluated by the JICA study team members on the basis of an evaluation sheet prepared by the JICA study team and by applying the following four criteria.

- Growth potentiality of the cluster
- Access to BDS
- Willingness of stakeholders
- Leadership of local governments

In order to ensure evaluation on a unified basis, the JICA study team members evaluated them on an individual basis, and then discussed the items on which they disagreed over assessment to develop common understanding.

#### 4.1.3.1 Reasons for selecting provinces as pilot project sites

The evaluation results are summarized in Fig.4.1-2.



Source: JICA study team

Fig.4.1-2 Evaluation of the five candidate provinces

As seen in Fig.4.1-2, West Sumatra received the highest average score, followed by Central Java. East Java and West Java got the same score, and that of South Kalimantan was the lowest. Figure 4.1-2 shows the results in stacked bar chart.

While West Sumatra scored high in growth potential and accessibility to BDS, Central Java got the best points in leadership of local governments.

While quantitative evaluation ranked West Sumatra first, followed by Central Java, East Java, and West Java, West Sumatra and West Java have been selected as pilot project sites by taking into account the qualitative aspects that are described below. Upon consent of the steering committee, the two provinces have been formally selected for the pilot project.



As selection of two provinces is designed to obtain lessons relating to cluster development during the pilot project, the JICA study team has selected the final candidate sites by taking into account the following factors, together with the above evaluation results.

[Local conditions taken into account in the selection process]

#### Central Java

- Central Java is already ahead in cluster development and other donor organization (GTZ) is implementing a cluster development project. Also, two pilot projects were carried out under the previous JICA development study in Klaten and Kebumen. As a result, the province has been excluded from the candidate list. Instead, it will be used as an information resource for developing the guideline.

#### West Sumatra

- In West Sumatra, both provincial and city governments showed cooperative attitudes to carrying out a pilot project, and they have a cluster development plan. Moreover, SHINDANSHI who are working mainly for Dinas Koperindag of the province, regencies or cities seemed to be available for the pilot project. As of February 2009, there are 11 of them in West Sumatra..
- There is possibility to collaborate with the OVOP project led by Japan External Trade Organization (JETRO).
- In the embroidery cluster in Bukittinggi city, an institutional framework for cluster development and promotion measures had been in place, although the whole process of these activities was led by the governments. Improving the existing activities seemed to draw out more lessons.

#### West Java

- Research institutions and universities concentrate in West Java, and Jakarta where the MOI is located is not far; involving them seemed easier. Also, a leading embroidery cluster is in Tasikmalaya, which can serve as reference for the chosen cluster in West Sumatra. There seemed to be opportunity to obtain their collaboration too.
- Thirteen SHINDANSHI were in West Java (as of March, 2009), one of which worked for the provincial government, seven for regencies or cities, three for MIDC, and three for Balai Besar Textile.
- The adjacency of West Java to Jakarta makes it easy for both the JICA study team and DGIKM staff to visit the selected cluster.
- The nilam oil cluster in Sumedang Regency had been underdeveloped; except small-scale and partial ones, no networks in the nilam oil business were observed. That is, they had failed to make use of the concentration although actors in the business were geographically concentrated. That's why it had remained at the embryotic stage, and this is a typical condition of industrial agglomerations in Indonesia. Supporting their network building seemed to be an informative example to other clusters.

## 4.2 Current Status and Problems of the Clusters in the Selected Provinces

### 4.2.1 Current status of the embroidery cluster in Bukittinggi, West Sumatra

#### 4.2.1.1 Structure of the embroidery industry

##### (1) Embroidery industry in Indonesia

According to the Report on Embroidery Cluster development 2008, which was prepared by the DGIKM, the embroidery industry of Indonesia is dominated by SMEs and microenterprises. There was 20,502 embroidery enterprises in 2006 and 21,770 in 2007. These enterprises are dispersed over as many as 13 provinces and special region or city, including Aceh, North Sumatra, West Sumatra, South Sumatra, Special Capital City District of Jakarta, West Java, Central Java, Special Region of Yogyakarta, East Java, Bali, North Sulawesi, Gorontalo, and Maluku. These enterprises together employed 76,262 people in 2007 (71,962 in 2006), while their production value in total was about Rp.505.042 billion in 2007 (Rp.466.465 billion in 2006).

Embroidery is applied to such diverse products as clothes, bed covers, Jilbab<sup>4</sup>, cloths/clothes for Islamic prayer, tablecloths, tissue paper box packages, ladies' underwear, bags, wallets, and household articles.

##### (2) Embroidery industry in Bukittinggi

The status of the embroidery industry in Bukittinggi is compiled on the basis of the "Industrial Statistics of Small and Medium Enterprises 2008" by Dinas Koperindag, and the "Report on Embroidery Cluster Development 2008" by the DGIKM.

The city of Bukittinggi is located at the center of the West Sumatra Province. The city has an area of 25,239 km<sup>2</sup>, and its population was 104,278 in 2007. Main industries of the city include tourism and textiles (especially embroidery and garment manufacturing). According to an interview survey with the Culture and Tourism Dinas in Bukittinggi, the city depends on the tourism industry for about 43% of its income. In 2008, the embroidery and garment industries represented about 48.6% of the total employment by SMEs in the city, while in the same year both industries together generated some 52.3% of the total sales of SMEs in Bukittinggi. Companies in these industries are mainly concentrated in three areas, totaling 108.

Bukittinggi is a center of the embroidery industry in Indonesia; in 2008, there were 249 enterprises in the industry. Although there is a one-year time lag, the figure was equivalent to 1.1% of the total number of embroidery enterprises in Indonesia in 2007 (See Table 4.2-4).

Table 4.2-1 shows breakdown of embroidery SMEs in the city, by employment size. Labor statistics indicate that, in 2008, there were a total of 1,549 people working in the embroidery enterprises in Bukittinggi, and this figure corresponds to 2% of the country's total employment in the embroidery industry in 2007. The number of employees in the embroidery companies in Bukittinggi ranged between one and 51, with the average being 6.2. Table 4.2-1 shows the distribution of the number of the embroidery companies in Bukittinggi in 2008 by size; 134 enterprises, or 53.8% of them, hired 5-19 employees<sup>5</sup>; 105 (42.2%) 1-4 workers<sup>6</sup>; 10 enterprises (4%) 20-99 employees<sup>7</sup>.

Table 4.2-1 Number of embroidery enterprises by the number of employees  
(as of 2008)

---

<sup>4</sup> Islamic head cloths for Muslim ladies

<sup>5</sup> Small enterprises by the definition of the Badan Pusat Statistik or BPS-Statistics Indonesia.

<sup>6</sup> Microenterprises by the definition of BPS-Statistics Indonesia

<sup>7</sup> Medium-scale enterprises by the definition of BPS-Statistics Indonesia

No. of Employees (Unit: person)	No. of Enterprises (Unit: enterprise)	Percentage Distribution (Unit: %)
1~4	105	42.2
<b>Total (Micro)</b>	<b>105</b>	<b>42.2</b>
5~9	103	41.4
10~14	20	8.0
15~19	11	4.4
<b>Total (Small)</b>	<b>134</b>	<b>53.8</b>
20 or more	10	4.0
<b>Total (Medium)</b>	<b>10</b>	<b>4.0</b>

Note: Categorization of enterprise scale is of the BPS-Statistics Indonesia.

Source: "Industrial Statistics of Small and Medium Enterprises in 2008," Dinas Koperindag.

Table 4.2-2 shows the production data of embroidery SMEs in Bukittinggi together with their share in those of all SMEs in the city. In 2008, the embroidery SMEs in Bukittinggi all together generated about Rp. 56.43 billion of sales, which represented around 17% of the total sales by all SMEs in the city.

Table 4.2-3 shows the breakdown by annual sales, together with percentage share.

From the "Report on Embroidery Cluster Development 2008," general characteristics of the city's embroidery industry, including sales, are summarized below.

- Sales of embroidery enterprises in Bukittinggi ranged from Rp. 1.2 million to Rp. 2.4 billion in 2008, indicating a large difference between large and small enterprises..
- The average sales were Rp. 230 million.
- In terms of sales distribution, 128 enterprises (51.6%) reported Rp. 100 million or less, while 91 enterprises (36.7%) Rp. 100-500 million, and 20 (8.1%) sold Rp. 500-1,000 million.
- Meanwhile, there were 9 enterprises that reported annual sales of Rp. 1 billion or more, accounting less than 4% of the total.

Table 4.2-2 show production data concerning embroidery SMEs in Bukittinggi. Also, Table 4.2-3 presents the breakdown by annual sales. Table 4.2-4 compares the numbers of embroidery SMEs and employees and production data in the city with those in the entire country.

As seen from Table 4.2-4, the embroidery cluster in the city is much larger in terms of employment per enterprise than the national average by around 180%. Likewise, production per employee in the city is around 420% that in the country as a whole, suggesting high value added of Kerancang embroidery products (shipped to medium- and high-end markets) as well as high productivity.

Table 4.2-2 Production data of embroidery SMEs in Bukittinggi (2008)

Item	Value	Share in all the SMEs in Bukittinggi (Unit: %)
Raw Material Cost(Unit: Thousand Rupiahs)	26,491,212	15.5
Production Value(Unit: Thousand Rupiahs)	43,443,396	16.6
Investment Value(Unit: Thousand Rupiahs)	4,436,517	14.5
Sales Value(Unit: Thousand Rupiahs)	56,429,251	16.8
Ration of Raw Material Cost to Sales Volume (Unit: %)	46.9	-

Source: "Industrial Statistics of Small and Medium Enterprises in 2008," Dinas Koperindag

Table 4.2-3 Number of SMEs by annual sales (2008)

Annual Sales in Rp million	No. Enterprises (Unit: enterprise)	Percentage Distribution (Unit: %)
100	128	51.6
100-500	91	36.7
500-1,000	20	8.1
1,000 or more	9	3.6

Note: Total number of enterprises in the table is 248, because the datum of an enterprise is unavailable.

Source: "Industrial Statistics of Small and Medium Enterprises in 2008," Dinas Koperindag

Table 4.2-4 Comparison with national value

Item	Bukittinggi	Indonesia	Raito to Indonesia
No. of Enterprises	249 enterprises	21,770 enterprises	1.14%
No. of Employees	1,549	76,262	2.03%
Production Value	43,443,396 (Unit: Rp. 1,000)	505,042,000 (Unit: Rp. 1,000)	8.6%

Note: Values are as of 2008 for Bukittinggi and 2007 for Indonesia

Source: "Industrial Statistics of Small and Medium Enterprises in 2008," Dinas Koperindag  
"Report on Embroidery Cluster Development 2008," DGIKM

### (3) Structure of the embroidery cluster in Bukittinggi

The embroidery cluster in Bukittinggi is one of the two Indonesian embroidery clusters that the DGIKM has selected as those with the highest potential for future growth<sup>8</sup>. The main players are embroidery product manufacturers including companies, individual-based groups, subcontractors, raw material suppliers, distributors, wholesalers and retail markets. They are not necessarily specialized in embroidery manufacturing and some are engaged in multiple undertakings (for instance, production and distribution, production and raw material supply, production as an individual-based group while undertaking subcontracts from a production company, and so forth). In addition to the major players, the following companies and organizations also constitute the cluster: garment manufacturers, sewing machine distributors and repair shops, physical distribution companies, importers and exporters, financial institutions and financial assistance organizations, BDS providers and government agencies.

Between large and small enterprises in the cluster, there are generally contract manufacturing relationships. Enterprises having their own outlets or distribution channels outsource embroidery especially when they face the annual demand in excess of their production capacities. In this case, they usually provide designs, yarn and fabric to the subcontractors. Irrespective of being busy or slack, however, large embroidery enterprises have

<sup>8</sup> The other one is located in Tasikmalaya, West Java

regular subcontracting relationships with micro-sized ones. Embroidery products in the cluster are mainly for middle-class consumers, and value chains to them have developed. Constrained by their skills, design capacity and the quality of raw materials, they have yet to meet the needs of high-end markets, in comparison to medium markets

Figure 4.2-1 shows a conceptual image of the embroidery cluster in Bukittinggi.

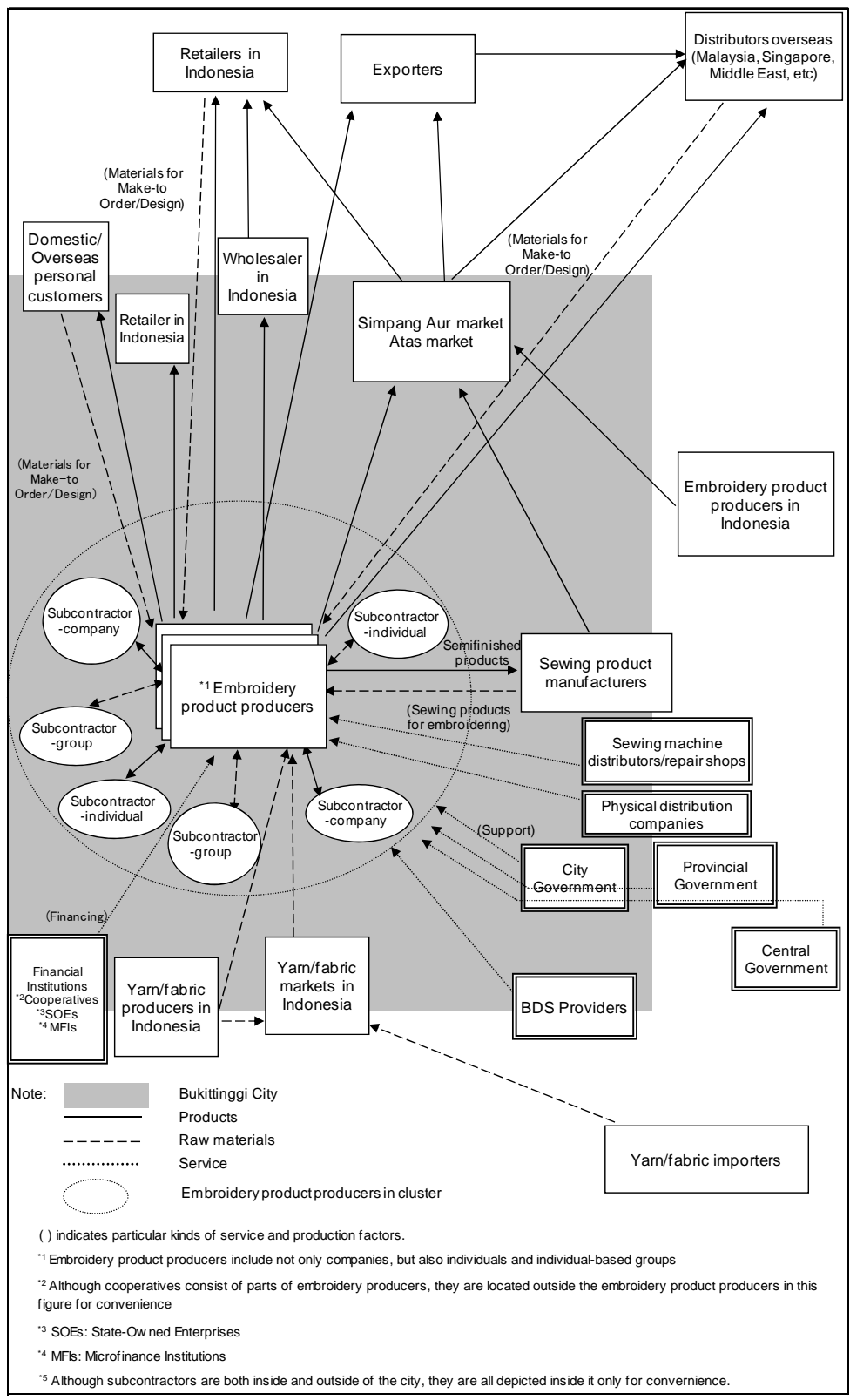
In the following sections, the current state of raw material procurement, production, and distribution activities by the embroidery cluster is summarized on the basis of the results of the questionnaire survey conducted at the Focus Group Discussion (FGD), as shown in Table 4-2.5.

#### 1) Procurement of raw materials

Judging from the interview surveys that the JICA study team has conducted for embroidery companies and stakeholders in the cluster, many of the embroidery manufacturers procure raw materials such as yarn and fabric from retailers in the Simpang Aur market located in the city. In the questionnaire survey at the FGD, 11 out of 12 respondents answer that they procure raw materials in West Sumatra Province, some of which buy what are hard to get in the province from elsewhere (such as Jakarta). Imported raw materials, especially cotton cloth and Rubiya, mostly come from China, India, Japan and Taiwan. Some produce embroidered clothes to order especially from overseas customers who supply raw materials and design. No respondent answers that he procures raw materials directly from raw material producers.

Almost all raw materials are available in the cluster. However, there is no material that is considered as local specialty, so that the cluster does not enjoy a strong comparative advantage in terms of price or quality, which serves as the cluster's driving force. On the other hand, the cluster's ability to procure a wide range of raw materials with ease constitutes its strength.

As can be calculated from the figures in Table 4.2-2, their raw material cost represents approximately 47% of their sales value. According to the interviews with embroidery companies, raw materials are a little bit cheaper when they are purchased directly from suppliers than the markets inside or outside the city. However, in case of procuring raw materials from suppliers they need to purchase a large amount at a time, which necessitates SMEs to procure from the market.



Source: JICA study team

Fig.4.2-1 Relationship of the embroidery cluster in Bukittinggi

Table 4.2-5 Result of questionnaire survey at FGD

		Answer	Ratio to Total
Q1. What has been the trend of business orders to your company for the past 3 years?			
1	Increasing a little	7	63.6%
2	Increasing much	3	27.3%
3	Decreasing a little	2	18.2%
4	No change	0	0.0%
5	Decreasing much	0	0.0%
Total Valid Answers		11	100.0%
Q2. Where do you procure raw materials? (Multiple answers allowed)			
1	Markets inside WestSumatraProvince	12	66.7%
2	Markets outside WestSumatraProvince	5	27.8%
3	Wholesalers outside markets	1	5.6%
4	Directly from raw suppliers outside markets	0	0.0%
5	Others	0	0.0%
Total Valid Answers		18	100.0%
Q3. What is the current condition in terms of procurement of sewing machines and workers?			
1	Both sewing machines and workers are not sufficient	7	63.6%
2	Sewing machines are sufficient but workers are not sufficient	3	27.3%
3	Both sewing machines and workers are sufficient	1	9.1%
4	Sewing machines are not sufficient but workers are sufficient	0	0.0%
5	Both sewing machines and workers are in excess of demand.	0	0.0%
Total Valid Answers		11	100.0%
Q4. What kinds of marketing activities listed below are you conducting? (Multiple answers allowed)			
1	Participation in exhibitions	8	40.0%
2	Market research	7	35.0%
3	Development of company brochure	3	15.5%
4	Advertisement through media	1	0.0%
5	Company website	1	0.0%
Total Valid Answers		20	100.0%
Q5. What is the ratio of the products that you design on your own to all the products of your company?			
1	50%~99%	5	45.5%
2	100%	4	36.4%
3	1~20%	2	18.2%
4	0%	0	0.0%
5	20%~49%	0	0.0%
Total Valid Answers		11	100.0%
Q6. What are the problems that your business is currently facing? Choose from the items listed below. (Multiple answers allowed)			
1	Skill level of workers	8	18.6%
2	Procurement of workers	7	16.3%
3	Access to finance	7	16.3%
4	Financial affairs/accounting issues	5	11.6%
5	Design capability	5	11.6%
6	Procurement of raw materials	4	9.3%
7	Marketing capability	4	9.3%
8	Production capacity	2	4.7%
9	Acquirement of point of sale	1	2.3%
10	Infrastructure including power	0	0.0%
Total Valid Answers		43	100.0%

Source: Questionnaire survey at the FGD on May 26, 2009

## 2) Production

Some embroidery manufacturers have in-house production capacity as well as outside companies that perform contract manufacturing, which sometimes form their own production group. The mode of payment for workers varies among companies; some companies pay monthly and others pay according to piece rates. As judged from the interviews with some companies, the monthly salary per worker ranges between Rp. 400,000 and Rp. 1

million. When a company receives a bulk order beyond its production capacity, it asks for help to other companies. In such a case, it shares the profits with the fellows. This profit sharing practice is especially found among those belonging to the cooperatives. In the meantime, similar production groups are formed by persons who have completed a Kerancang embroidery training program that Dinas Koperindag provides for low-income households. The group is called Kelompok Usaha Bersam (KUB). Currently, 30 KUBs with a total of some 600 members are in Bukittinggi.<sup>9</sup> Note that KUB is a group of individuals who are members of the cluster.

According to the interviews with embroidery companies, it takes about two months for new employees to acquire the basic embroidering skills using sewing machines. Furthermore, it takes them about additional 6 months to obtain Kerancang skills. Note that, in the questionnaire survey, about 64% of the respondents answered that sewing machines and workers were in short supply. In particular, 67% of them faced problems relating to the upgrading of workers' skill and 58% relating to recruitment. The majority of embroidery workers are young women, but they often leave after marriage, making it difficult to retain a skilled workforce over a long period of time. On the other hand, some of married workers become subcontractors to continue embroidery work at home. In this case, they generally rent sewing machines from primary contractors (customers), usually their former employers, or buy them. The primary contractors are generally fixed, and therefore, the companies regard them as their outside employees (as opposed to live-in employees). Those which have many of such outside employees enjoy a relatively stable workforce and skill level.

The cluster has difficulty in training sewing machine operators. Although the UPTD offers occasional training programs on sewing skills, there is a gap between the skills required in embroidery companies and those acquired by this kind of training programs, because these programs are positioned as to target persons who start businesses, thus covering basic knowledge about business promotion including raw materials and design, rather than focusing on specialized skills relating to sewing machine operation for embroidery making. As a result, some companies hire live-in workers who come from rural areas and train them from the beginning. However, these operators, even if trained for a long time, tend to return to their hometowns when they reach marriageable ages, thereby causing an outflow or loss of the skilled operators. Whereas the wide recognition of the cluster as the embroidery producing area attracts a certain degree of influx of new workers, they are mostly women who tend not to settle in the city for a long period.

In terms of product design, some companies create their own designs, while others imitate designs made by other companies or those found in the fashion media, or use outside designers. Meanwhile, some wealthy customers and overseas customers place order by specifying designs. Some companies having advanced design capability collect information on the Internet about popular designs in target markets in order to incorporate it into their designs. Note that the results of the questionnaire survey indicate that about 82% of the respondents (9 out of 11 companies) design more than half of their products.

According to design experts outside the cluster, embroidery designs in Bukittinggi are limited to motifs, mostly floral, and cluster companies seem to be content with making embroidered sheets and do not look for higher value added products such as dresses. They usually purchase blouses and Kebaya from manufacturers located outside the cluster, which they embroider to make final products. While they are concerned about the quality of Kerancang, Suzi (patterned embroidery) and hand-sewing, they are less interested in quality

---

<sup>9</sup> According to a facilitator of the embroidery cluster in Bukittinggi, half of them were ex-trainees of the Kerancang training program.



of sewing and buttons of the clothing itself. Thus, they usually regard a motif as a principal design element.

### 3) Distribution

There are the following distribution channels for embroidery products in Bukittinggi.

- At outlets which embroidery companies own
- Directly delivered to retail shops both in Indonesia and overseas
- Via wholesalers
- Via exporters
- Sold directly to individual customers both in Indonesia and overseas

Note that, according to the interview surveys with companies and the Markets Dinas which is responsible for the markets in the city, many embroidery products traded in the Atas market and Simpang Aur market come from the Agam Regency or Java region, adjacent to Bukittinggi City, rather than manufacturers in the city.

The means of embroidery production can be divided into hand sewing, use of treadle sewing machines, electronic sewing machines, and computer-controlled sewing machines. Among these, embroidery products by hand sewing fetch the highest prices and the customers are mainly wealthy people. Traditional embroidery in Bukittinggi and its neighboring area, Kerancang, is made mostly by using a treadle sewing machine. Prices of the Kerancang products are high in comparison with high-volume embroidery products made by an electronic or computer-controlled sewing machine.

In the questionnaire survey, 10 out of 12 respondents (83%) answered that orders increased in the past three years; 7 companies (58%) experienced a slight increase and 10 companies (25%) a large increase. According to the interview with the Markets Dinas in the city, demand reaches its peak at the beginning of the month, school holidays, and the periods shortly before the Islamic holidays and Ramadan. Besides, since Bukittinggi is a tourist destination, many people visit the embroidery markets in November and December, the peak season for the tourism industry in Bukittinggi.

Their marketing activities include participation in trade fairs or exhibitions (67% of the respondents), market research (58%), distribution of company brochures (25%), and advertisement through the media and setting up company websites (8% each).

In the embroidery cluster, market development is largely dependent upon individual companies' self-efforts. The JICA study team did not confirm the existence of collective strategies to sell themselves as a cluster. Participation in exhibitions is usually led by individual companies, not by the cluster as a whole. The Dinas Koperindag has developed a catalog to introduce cluster companies. However, the basis of the qualification to be listed was unclear, and most of the cluster companies did not know about the catalog. Clearly, they have not attained a cluster dynamism that would enable them to exploit the markets.

#### 4.2.1.2 Cluster development framework

##### (1) Priority status for cluster development

In 2006, the DGIKM conducted cluster diagnoses in the following four areas where embroidery enterprises were concentrated.

- 1) Tasikmalaya City, West Java Province

- 2) Bukittinggi City, West Sumatra Province
- 3) Special Region of Yogyakarta
- 4) Gorontalo Province

Major items for cluster diagnosis were: growth potentiality; degree of cooperative relationships with supporting and related industries, and that of infrastructure development; value-chain conditions; and efficiency in terms of value-added generation. As a result of the diagnosis, the clusters in Tasikmalaya City, West Java Province, and Bukittinggi City, West Sumatra Province were selected as those with higher potentiality for continuous cluster development.

At the end of November 2007, the embroidery cluster in Bukittinggi was formally designated as a development target cluster by the MOI. At the same time, an action plan for its development was formulated through participatory workshops attended by the stakeholders. Other activities contributing to the cluster development are being implemented outside the framework of the action plan as well.<sup>10</sup> The following sections discuss the cluster development organizations, and content and the implementation status of the action plan.

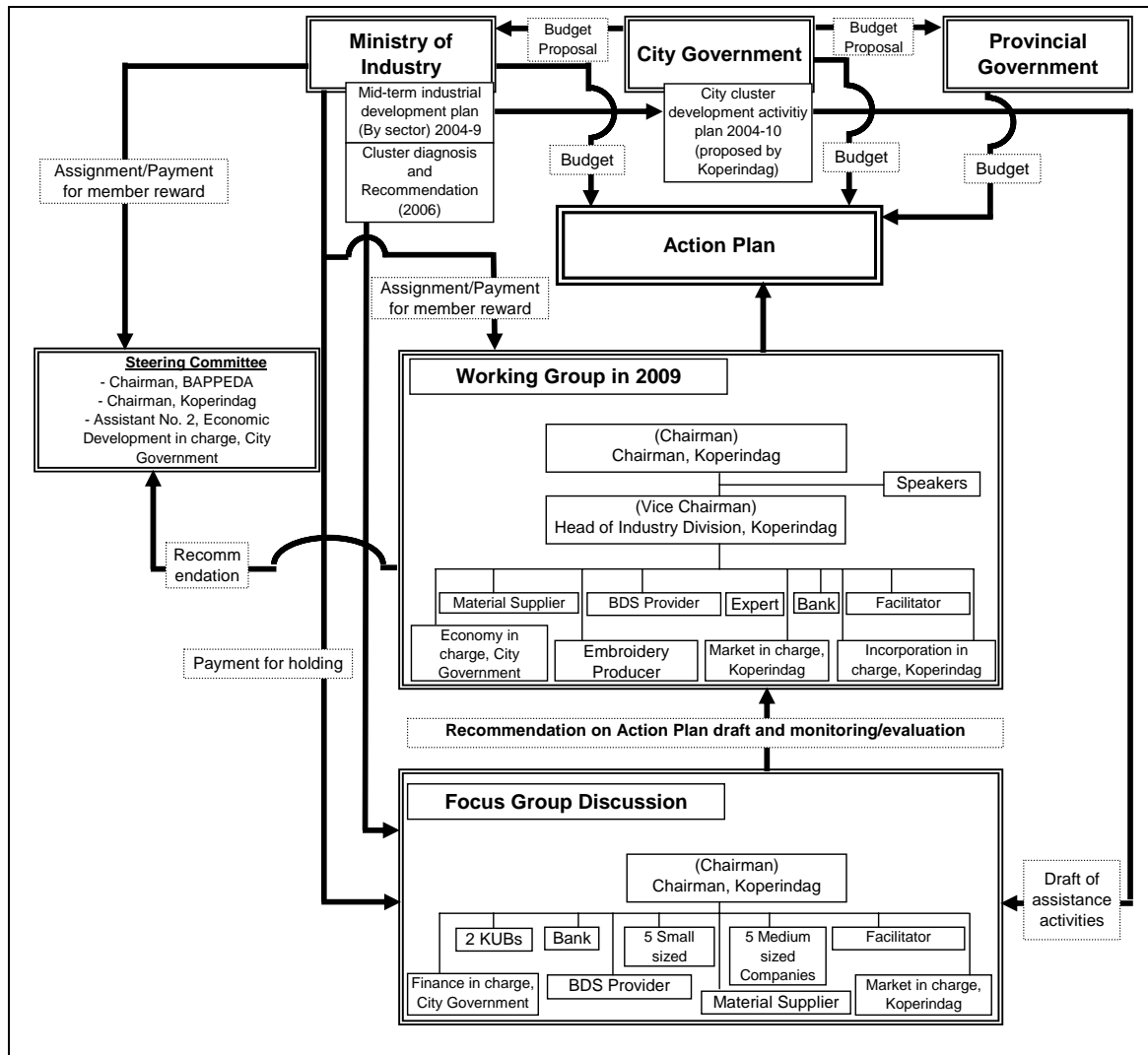
## (2) Cluster development organizations

Figure 4.2-2 illustrates a cluster support organization in Bukittinggi. The cluster holds the Focus Group Discussion (FGD) four times annually, which is composed of 30 stakeholders and chaired by the head of the Dinas Koperindag. Members include staff of the city government, representatives of embroidery companies, raw material suppliers, BDS providers, and banks. There is also the Working Group (hereafter referred to as “WG”), which is responsible for formulation and implementation of action plans. All WG members are appointed by the MOI and receive compensation. The chairman and the vice-chairman also serve as the FGD’s chairman and vice-chairman, respectively. Other members include BDS providers and banks.

Key players of the embroidery cluster development organization in Bukittinggi, namely the steering committee, the WG and facilitators, and other government institutions, are analyzed by referring to Fig. 4.2-2.

---

<sup>10</sup> Strictly speaking, some of these activities do not necessarily aim for cluster development. To avoid complications, however, this chapter describes them as cluster development activities.



Source: JICA study team

Fig.4.2-2 Cluster support framework of the embroidery industry in Bukittinggi

1) Steering committee

The steering committee for the embroidery cluster in Bukittinggi was established along with the recommendation based on the cluster diagnosis conducted by the MOI. Its members for year 2009 are as follows:

- Assistant, economic development in charge, Bukittinggi City government
- Chairman, BAPPEDA, Bukittinggi
- Chairman, Dinas Koperindag, Bukittinggi

The committee draws up policies in response to cluster-related problems, proposals and recommendations made by WG members and facilitators, as discussed below.

2) Working Group and facilitators

The WG is the government-private sector collaborative platform for action plan implementation. Members of the working group in 2009 are:

- Chairman: Chairman, Dinas Koperindag
- Deputy chairman: Director, Industry Division, Dinas Koperindag

- Staff, marketing, Dinas Koperindag
- Staff, incorporation, Dinas Koperindag, Bukittinggi
- Staff, Economic Division, Bukittinggi City government
- Design experts
- Information providers (on important topics)
- Branch manager, Nagari Bank, Bukittinggi
- Representative, embroidery SMEs
- Representative, suppliers of raw materials
- Facilitators (two persons from Dinas Koperindag)

Table 4.2-6 shows the roles and responsibilities of the WG and facilitators defined by the DGIKM of the MOI.

The JICA study team reviewed the WG's roles in Table 4.2-6 and conducted field survey. As a result it was concluded that the WG did not function as the platform for the public/private sector partnership.

Table 4.2-6 Roles and responsibilities of the WG and facilitators

Actor	Responsibilities
Working Group	<ul style="list-style-type: none"> <li>a. Plan and implement activities for promotion and evaluation of the embroidery cluster (including machine-made and hand-made embroidery) in accordance with the approved action plan.</li> <li>b. Find problems the embroidery cluster face and place them on the agenda of the FGD on a continual basis. By this, realistic solutions can be found, thereby enabling to achieve its vision, missions, and goal of the action plan.</li> <li>c. Report summaries of problem-analysis results to the steering committee, and ask it to follow up on the problem solution.</li> <li>d. Undertake administrative roles in implementation and evaluation of the action plan.</li> <li>e. Write the final report on implementation and evaluation of the action plan and submit it to the coordinator of the MOI.</li> </ul>
Facilitators	<ul style="list-style-type: none"> <li>a. Assist the preparation work for promotion activities (including liaison and coordinating activities with local stakeholders) in the embroidery cluster (including machine-made and hand-made embroideries).</li> <li>b. Monitor continuously the implementation status of promotion activities in the embroidery cluster, and provide assistance when necessary.</li> <li>c. Grasp the progress in the collaboration of stakeholders, find problems through continuous field visits, and promote communications among the stakeholders.</li> <li>d. Report to the WG the problems which cannot be solved at the on-site level, and perform coordination tasks so that those problems are taken up as the agenda of the WG meetings.</li> <li>e. Assist experts.</li> <li>f. Report to the WG the results of works mentioned above.</li> </ul>

Source: Degree by DGIKM, MOI (No.17 in 2009)

### 3) Other government institutions

The MOI, the provincial government (mainly through the Dinas Koperindag), and the government of Bukittinggi City undertake programs to support the implementation of the action plan for the embroidery cluster. While the MOI directly provides support, the provincial and city governments use Dinas Koperindag under them.

Although it is not part of the action plan, the Tourism and Culture Dinas of the city government has provided a yearly training program on sales service for embroidery retailers located in tourist spots of the city. Around 30 participants receive training each time.

The Markets Dinas of the city has administrative jurisdiction over the markets in the city including the two leading markets for embroidery transaction, namely Simpang Aur and Atas. In addition, the city Labor and Welfare Dinas carries out support activities, such as training programs on business startup and technology implementation.

### (3) Action plan

As mentioned in (1) of this section, in November 2007, the cluster formulated an action plan for development of the embroidery cluster (See Table 4.2-7 for the action plan and its results.). Concurrently, the workshop also laid down the following vision and missions for cluster development.

#### *Vision*

“Make embroidery products in Bukittinggi competitive and reliable in the world markets”

#### *Missions*

- Improvement of the quality of human resources in the embroidery industry.
- Improvement of the access to the embroidery market, and expansion of it.
- Improvement of the quality of embroidery products.
- Strengthening of business networks of embroidery enterprises.

Table 4.2-7 shows the contents of the action plan together with the results of the interim evaluation conducted in 2008.

Table 4.2-7 Action plan of the embroidery cluster in Bukittinggi and its interim evaluation (as of July 2008)

Mission	Activity	Implementing Agency	Budgetary Resource	Schedule for Implementation	Results
1. Improvement of the quality of human resources in the embroidery industry	- Enhancement of entrepreneurs' capabilities of distribution network/cooperation (through an IT training program)	BAPPEDA, Telkom, Trade division of Dinas Koperindag	Local budget	2009	
	- Improvement of production technology	BAPPEDA, Industry division and SME cooperatives divisions of Dinas Koperindag	Local budget	2009	Training on Keranchang skills were implemented for 100 poor households
	- Improvement of business management capability	BAPPEDA, Industry division of Dinas Koperindag	Local budget	2008-9	
	- Improvement in capabilities of selection and supply of high-quality fabrics and subsidiary materials	Industry division of Dinas Koperindag	Local budget	2008-9	
	- Implementation of technical guidance to lower production cost	Dinas Koperindag	National budget	2009	
	- Improvement capabilities of working group through workshop on problem-solving	BDI in Jakarta	National budget, BDI	April to May in 2008	3 persons attended the workshop held from June 14, 2008 to June 19, 2008
	- Capacity development of facilitators	BDI in Jakarta	National budget, BDI	April to May in 2008	2 persons attended the workshop held from June 14, 2008 to June 19, 2008
2. Improvement of the access to the market, and market expansion	a. Promotion of trade visits and missions				
	- Establishment of the brand image of Keranchang embroidery in Bukittinggi	PIKM, Trade division of Dinas Koperindag	Local tourism budget	2009-12	
	- Embroidery trade mission	BAPPEDA, Trade division of Dinas Koperindag	PIKM <sup>11</sup>		
	- Participation in exhibitions in Indonesia and overseas	DGIKM, Entrusted budget to PIKM, Trade division of Dinas Koperindag	National budget, local budget	2008-12	Implemented, but the number of participation is still limited.
	- Promotion of publicity of intellectual property rights and trademark	DGIKM	Cooperatives, Industrial associations	March to April in 2008	Publicity has been implemented
	- Expansion of the rental area in Banto Market Mall	Trade division of provincial Dinas Koperindag	Local budget	2009	

<sup>11</sup> PIKM stands for "Pengembangan Industri Kecil dan Menengah," involving development of SMEs. It is a budget of the Ministry of Industry for development of SMEs. The budget is allocated from the Ministry to local autonomous bodies, which can decide how to use it.

Mission	Activity	Implementing Agency	Budgetary Resource	Schedule for Implementation	Results
	- Holding of a competition of Kerancang products at the provincial level in West Sumatra	Provincial Dinas Koperindag, DEKRANASDA, Banto Market Mall	Provincial budget	2009	
	- Participation in a design contest on Keranchang prayer clothes at the provincial level in West Sumatra	Local government	Provincial budget	2008	
	b. Promotion of tourists who visit Bukittinggi to buy embroidery products				
	- Increase in tourists to Bukittinggi	Tourism Dinas	Local budget	2008-12	
	- Dispatch of Keranchang entrepreneurs to overseas for the promotion of embroidery tourism in Bukittinggi	Tourism Dinas	Local budget	2008-12	
3. Improvement of the quality of embroidery products	a.Improvement in quality and quantity of embroidery products				
	- Application of quality control and code of production	Dinas Koperindag	Local budget	2008-12	Publicity and application of TQM/quality control
	- Procurement of embroidery machines	PIKM, DGIKM, Directorate General of Metal, Machinery, Textile and Multifarious Industries	National budget	2008-12	<ul style="list-style-type: none"> <li>• Industry minister provided 12 sets of major machine, 10 sets of embroidery design machine, and 300 sets sewing machine</li> <li>• DGIKM extended assistance for procurement of Juki electronic sewing machines</li> </ul>
	b. Promotion of the innovation in embroidery products through combination of technology and locally unique tradition				
	- Embroidery design clinic	Industry division of Dinas Koperindag	Local budget	2008-12	
	- Development of new embroidery design and fosterage of many designers through collaboration with universities, design institutes and JETRO	Industry division of Dinas Koperindag	National budget, Local budget	2008-12	
	- Acquirement of optimal technologies through development of embroidery machines by collaboration with universities	Directorate of Metal of thenow-defunct Ministry of Trade and Industry Local government	National budget, Local budget	2008-12	
	- Specialization of business in accordance with the capability of entrepreneurs	Entrepreneurs	Entrepreneurs		

Mission	Activity	Implementing Agency	Budgetary Resource	Schedule for Implementation	Results
4. Strengthening of business networks	- Implementation of cyber (Internet) business	Local government, entrepreneurs	Local budget	2008-12	
	- Establishment of an embroidery business organization and strengthening of its roles	Local government, now-defunct Dinas Koperindag	Local budget	2008-9	
	- Development of financial schemes for easing and improving access to finance from banks and aid agencies and establishment of collaboration with banks through exchanging the MoU	Local government, financial institutions	Local budget	2008-9	MoU with Nagari Bank is now in preparation
	- Development of business infrastructure	Public Work Dinas, Transportation Dinas	Local budget	2008-12	
	- Establishment of collaborative relationship with raw material suppliers through exchanging the MoU	Local government	Embroidery industry's cooperatives	From March to June in 2008	MoU with raw material suppliers is now in preparation

Source: "Report on Embroidery Cluster Development 2008," DGIKM



Table 4.2-8 summarizes the changes<sup>12</sup> made between the action plan for 2008 and that for 2009, which are classified into the following types: activities newly added in the action plan for 2009; those which had existed in the action plan for 2008 but were excluded in that for 2009; and those modified in their contents in the action plan for 2009. Note that the activities excluded in the action plan for 2009 are mainly those already implemented in 2008 or those considered not to be necessary for implementation.

Table 4.2-8 Changes in activities in action plan for 2009

Mission	Activity (Added)	Activity (Excluded)	Activity (Modified)
1. Improvement of the quality of human resources	- Improvement of business capabilities of embroidery companies by professional means		- Implementation of technical guidance to lower production cost → - Implementation of a study tour to Tasikmalaya, which looks for ways to reduce production
	- Improvement of product development capacity		- Improvement in capabilities of selection and supply of high-quality fabrics and subsidiary materials → - Improvement of design skills (such as motif development and selection of raw materials) in order to meet market needs
	- Enhancement of employee's moral and motivation for reduction of production costs		
2. Improvement of the access to the market, and market expansion		- Expansion of the rental area in Banto Market Mall	- Promotion of tourists who visit Bukittinggi to buy embroidery products → - Making an appeal on attraction of tourism in Bukittinggi for promotion of the embroidery industry
		- Holding of a competition of Kerancang products at the provincial level in West Sumatra	
		- Participation in a design contest on Kerancang prayer clothes at the provincial level in West Sumatra	
3. Improvement of the quality of embroidery products	- Strengthening access to finance for operating funds in order to meet market needs		- Application of quality control and code of production → - Implementation of the small group movement to make the owners to engage in 5S activities
	- Replacement of sewing machines		
4. Strengthening of business networks			- Development of business infrastructure → - Achievement of better business environment (like infrastructure)

Note: Activity (Modified) is summarized as a result of analysis that JICA study team made between the action plan for 2008 and that for 2009.

<sup>12</sup> Revision of the action plan begins with the facilitators' summarizing the problems identified in their monitoring activities. Then, the stakeholders discuss them in the FGD and evaluation workshops, which are held for several times in a year and bring out the recommendation to solve them. Finally, the WG (in practice, Dinas Disperindag alone) formulates the action plan for the next year based upon the recommendation.

Source: JICA study team made the table based upon the handout materials in the Focus Group Discussion on May 26, 2009

Finally, Table 4.2-9 presents the activities to be implemented in 2009, according to the Dinas Koperindag, including those implemented in part.

Table 4.2-9 Activity plan for embroidery cluster development in Bukittinggi in 2009 (as of May 2009)

Budget Resource	Activity	Implementation Period	Budget Scale
National Government	Provision of 362 sewing machines for KUB	Implemented	Rp.400 million
	Provision of cluster activity expenses	Implemented	Rp.300 million
	Guidance on access to finance and other training programs by experts	From June to October	Unclear
	Subsidies for renewal of production machines (80% of purchasing price)	From July 9	Unclear
	low-interest financing for procurement and renewal of production machines	Unclear	Unclear
Provincial Government	Study tour to Tasikmalaya	June	Unclear
	Training program on product development for new application	June	Unclear
City Government	Assistance in participation in exhibitions in Indonesia	Implemented in April-May. Will be implemented late June in Jakarta and October in Bukittinggi	Rp.350 million
	P2WKSS (Empowerment of women for healthy and good-welfare households): Training on embroidery technologies, assistance in the procurement of machines and raw materials	June	Rp.150 million
	Strengthening of cluster SMEs: Development of the company directory and product brochure, and various training programs by experts	Beginning of July	Rp.15 million
	Business clinics	Under implementation	Rp.30 million
	Strengthening of regional priority industries: Grant-in-aid of raw material for KUB	Unclear	Unclear
	Training on business management for KUB	Under implementation	Unclear
	Achievement Motivation Training	Beginning of July	Unclear

Source: Interview surveys with the Dinas Koperindag

#### 4.2.1.3 Business development service (BDS) providers

Table 4.2-10 shows a list of the BDS providers accessible to the embroidery cluster in Bukittinggi, which has been compiled on the basis of the cluster's members and related companies as well as the Dinas Koperindag. General profiles of major providers are presented in (1) through (5) below. (The addresses and contacts of the major BDS providers are listed in Appendix 2.)

Table 4.2-10 List of BDS providers

Category	HRD/Business Management Support	Production Management Technologies	Marketing	Access to Finance
Government	MOI, MOT, and other central government agencies	MOI and other central government agencies (1) Dinas Koperindag	(1) Dinas Koperindag (including Business Clinic)	MOI (1) Dinas Koperindag (including Business

Category	HRD/Business Management Support	Production Management Technologies	Marketing	Access to Finance
	(1)Dinas Koperindag (including Business Clinic) Culture and Tourism Dinas Labor and Welfare Dinas Provincial Dinas Koperindag (2)UPTD BDI (in Padang)	(including Business Clinic) Labor and Welfare Dinas (2)UPTD BDI (in Bukittinggi) SHINDANSHI/ Extension Officer	Culture and Tourism Dinas Provincial Dinas Koperindag	Clinic) State Owned Enterprises
University	UniversityNegeri Padang SMIK (in Agam Regency) Negeri 2 SMK HajiAgusSalimUniv ersity of Economics	University Negeri Padang SMIK (in Agam Regency)		
Private	(3)BDS Tri Arga (4)DEKRANASDA KADINDA (in Bukittinggi)	(3)BDS Tri Arga (4)DEKRANASDA	(3)BDS Tri Arga (4)DEKRANASDA KADINDA (in Bukittinggi)	(3)BDS Tri Arga (5)Lumbuang Puska (embroidery companies' cooperatives)

Note: Numbers in parentheses in the table refer to the profile of the respective organizations presented below.

Source: JICA study team.

#### (1) Business clinic in Dinas Koperindag

The Business Clinic in Bukittinggi offers consultation and facilitation services to local SMEs in Bukittinggi. The clinic's service is provided by staff members of the Dinas Koperindag, including SHINDANSHI and Extension Officers. Its operating cost is funded by the municipal budget and service is provided with free of charge. The clinic's consultation service covers a variety of fields ranging from business development (including incubation), to market exploration, accounting, packaging, asset and patent registrations, and entrepreneurship motivation enhancement. The clinic also provides mediation service between SMEs and banks, calls for exhibitions, and provides information about machines and equipment, and so forth. The clinic usually provides 5 to 10 consultations to SMEs monthly. In addition, the clinic holds a workshop for some 20 SMEs four times a year, where experts in various fields are invited to discuss problems SMEs face. Note that every city and regency in the province does not operate the business clinic. It is established at discretion of the chairperson of the Dinas in charge.

#### (2) Regional common service facilities (UPTD: Unit Pelaksana Teknis Daerah)

The UPTD is local public institutions providing training and consultation. The UPTD in Bukittinggi, established in 2008, mainly targets embroidery SMEs. It is under jurisdiction of the Dinas Koperindag, four seconded staff of which serves as the chairperson, the secretary general and instructors. As of May 2009, it has one computer controlled sewing machine and 14 treadle electronic sewing machines. SMEs can commission needlework to the UPTD at the price of Rp. 0.09 per needlework, while the market rate is around Rp. 0.15. Being a new

organization, its facilities and equipment are far from being used effectively by SMEs for training, sewing and other services. With regard to training, it only provides the venue for training programs on design, and business management offered by other organizations.

### (3) BDS Tri Arga

The BDS Tri Arga is a foundation established in 2000 in Bukittinggi. Three staffs (chairman, secretary, and accountant in charge) are in the office, and 11 external consultants are registered. These consultants include employers and employees of SMEs, university instructors, and other experts of various fields, whose specialties are as diverse as finance, accounting, business start-up, production technology, design, sales, and so on. A design consultant residing in Central Java is registered. It has held various training programs mainly for embroidery SMEs, and the participants are usually about 25 each. By the end of May in the fiscal year of 2009, it had conducted four trainings that year. It has held 10 design training programs (as of the end of 2009) since 2003, a year after they received financial assistance of Rp. 50 million from the then Ministry of Cooperatives and SMEs. Each program was attended by around 25 persons. Note that a total of 30 BDS providers founded by the ministry are in West Sumatra Province and that the provincial government helped them to establish their association. The chairman of the BDS Tri Arga also serves as the chairman of the association.

### (4) National committee for craftwork (Bukittinggi) (DEKRANASDA: Dewan Karajinan Nasional Daerah)

DEKRANASDA is a nation-level promotion committee for craftwork established in 1981 and maintains a regional lodge in each province, regency and city. Six ministries, namely the Ministry of Trade, the Ministry of Industry, the then Ministry of Cooperatives and SMEs, the Ministry of Culture and Tourism, the Ministry of National Education, and the Ministry of Home Affairs, jointly determined to establish the committee, but it has operated as a private organization. The lodge in Bukittinggi has about 250 member companies, about 80% of which is embroidery-related. Each year, it provides technical guidance and financial assistance for participating in exhibitions (for booth rental). When necessary, it can apply for financial assistance to the city Dinas Koperindag.

### (5) Lumbuang Puska

The "Lumbuang Puska" is a cooperative of embroidery related companies in Bukittinggi. Established in 1985, it was incorporated as a cooperative in 1987. As of the end of May 2009, there were 168 member companies, about 60% of which were embroidery product manufacturers. The only activity that the cooperative currently undertakes is to provide member companies with two kinds of low-interest loans<sup>13</sup>. One is funded by the government, and the other is by its own resources (internal reserves and contribution from member companies). Interest rate of the former is set at 1% per month with a loan limit per company of Rp. 20 million, with repayment over 20 months. The interest rate of the latter is set at 0.5% per month with a loan limit per company of Rp. 50 million, and the borrowers can make repayment in 5, 10 or 20 installments. They can use the loaned money for any purpose as long as it is for embroidery-related activities and has been approved at the stage of loan application. The member companies place deposits in the cooperative on a voluntary basis and can borrow up to three times the amount of deposit with the cooperative in the case of the latter type of loan. On the other hand, those with a small deposit can borrow over the set ceiling if they accept a higher interest rate of 1% per month. In this

---

<sup>13</sup> The cooperative used to have a retail shop in the Atas market but it was burned down in 1995 and 1997. Also, it had had a branch office in Malaysia but was bankrupted in 1992 because of sluggish sales in the previous year. Now, their service to members is limited only to financing because it is clearly tied up by law when they were financed by the then Ministry of Cooperative and SMEs in 2006.

case, half of the loan interest becomes the income of the cooperative, while the other half will be deposited with the borrower's cooperative account so that this deposit balance increases over time. Annual income of the cooperative in 2008 was about Rp. 4.27 billion. As of December 31, 2008, it had 126 borrower companies, and the outstanding loans amounted to about Rp. 3.3 billion.

#### 4.2.2 Current state of the nilam cluster in Sumedang, West Java

##### 4.2.2.1 Structure of the nilam oil industry

###### (1) Essential oils and nilam oil industry in Indonesia

Indonesia is rich in raw material for the essential oil and is one of the notable exporting items. According to the National Agency for Export Development (NAFED), the volume of essential oil exports in 2008 was 4,355 tons and the value of exports reached US\$147 million. The trend of production volume of essential oils generally continues to be flat. However, the value of exports shows an annualized rate of 33% increase compared with that of 2004 (about US\$ 47 million). The essential oil industry has been designated as a priority industry cluster by the Presidential Regulation No. 28 2008.

Nilam oil (or patchouli oil), which is a targeted commodity of the pilot project, is one of the most outstanding essential oils produced in Indonesia. Nilam oil distilled from nilam plants is efficacious as a fixative for soap, detergent, cosmetics, and food, etc. In particular, nilam oil is only one type of essential oil that can be used for the purpose of fixating an aroma of the above products, and the absence of an alternative product constitutes its effective strength. In addition there is strong demand for natural nilam oil that cannot be compounded artificially. Recently, the fragrance of nilam itself also receives attention. All in all, Indonesia enjoys the position as the major exporter of nilam oil, accounting for 80-90% of the annual volume traded worldwide (1,500 tons/year).

Nilam is cultivated throughout Indonesia. Indonesian Essential Oil Council or DAI (Dewan Atsiri Indonesia) selects five provinces as the center of nilam production: Aceh, North Sumatra, West Sumatra, West Java and East Java. Among these production centers, Aceh and North Sumatra have a long production history and reputation for quality.

Nilam is cultivated relatively easily and it takes only six months for the first harvest, which makes it easier for farmers to expand or begin nilam production when the nilam oil price rises. On the other hand, once the price plunges, farmers reduce production and shift to other crops.

###### (2) Overview of the essential oil industry in West Java

West Java grows nearly 30 varieties of plants from which essential oils are extracted, including all the five essential oils DAI prioritizes as promising and promoting items: vetiver, nilam, clove, nutmeg and citronella. In particular, Garut of West Java is the only place in the country where vetiver is cultivated. Table 4.2-11 shows the land area and production volume of these oils.

Table 4.2-11 Cultivation acreage and production volume of major essential oils in West Java (2007)

Kind of Oils	Cultivated Acreage (Ha)	Production (Tons)
Vetiver	2063	Essential Oil 62
Nilam	2245	Dried leaves 851
Clove	n.a.	n.a.
Nutmeg	6541	Dried fruits 580
Citronella	989	Essential oil 472

Note: The available data shows that cultivated acreage for clove is 30,919 ha and production volume is 5,683 tons for dried buds. However, these figures are about clove used for tobacco production only. The data of clove in the table are given as "n.a." because no data on clove production for essential oil are available.

Source: West Java in Figures 2008 (BPS West Java Province)

West Java is often called the country's center of essential oil production because of its large volume. In particular, the regional development plan 2009 designates West Java Province chooses essential oil as a preferential promotion commodity and selects three regencies, Garut, Kuningan and Sumedang as production centers.

### (3) Current situation of nilam oil production in West Java

According to the provincial Agriculture Dinas, nilam is cultivated in 11 regencies and cities in West Java. Table 4.2-12 shows cultivated acreage and production volume of nilam in the province.

Table 4.2-12 Cultivation acreage and production volume of nilam in West Java (2007)

Regency	Cultivation Acreage (Ha)	Dried Nilam Leaf (tons)	Number of Farmers
Garut	1,153	79	925
Ciamis	408	201	1,745
Majalengka	158	5	665
Sumedang	150	19	525
Tasikmalaya	136	85	514
Sukabumi	104	171	342
Kuningan	92	220	337
Bandung	20	28	18
Kota Tasikmalaya	10	30	38
Kota Banjar	9	n.a.	17
Cianjur	6	15	45
Total	2,246	853	5,171

Source: Plantation Dinas, West Java Province

The most important factor to determine quality of nilam oil is the content of panchouli alcohol (PA), which is governed by the growing environment such as soil and weather conditions, and they say that the conditions in Aceh and North Sumatra are suitable for nilam cultivation. Historically, nilam oil from West Java has been regarded inferior in quality compared with that from Aceh and North Sumatra. On the other hand, poor soil quality and insufficient sunlight due to the growing environment (in the forest or under preserved trees) are considered to have an adverse effect on quality of nilam oil in West Java. In particular, the oil from Sumedang Regency has been concerned over the low PA content, compared with that from Aceh and North Sumatra, because Sumedang is a

forested area and farmers have only a few years' experience in nilam cultivation. Thanks to technical support from local collectors and the government, however, the PA content in the nilam oil from Sumedang reached an average of 28-32% in recent years, and the reputation of Sumedang as a nilam oil production area is improving<sup>14</sup>. In response, some buyers in Sumatra have opened agent offices in West Java.

(4) Structure of nilam leaves and nilam oil industry in Sumedang Regency

1) Overview of production

As seen in Table 4.2-13, the nilam cultivation area in Sumedang expanded from 77 ha in 2005 to 196 ha in 2009. As shown in Table 4.2-12, however, while both the number of farmers engaged in nilam production and the area under nilam cultivation in the regency are larger than those in Kuningan, Kuningan produces much more dried nilam leaves. Provincial Agricultural/forestry Dinas points out that there are major crops grown in the regency, while nilam is a secondary crop with relatively small production due to the cultivation method and the use of fertilization. In Sumedang, the majority of nilam farmers started growing it as a side crop, which seems to explain a large part of their low production. Nilam is cultivated in 12 districts, which are grouped to four clusters. Table 4.2-13 lists major growing districts and their cultivation areas.

Table 4.2-13 Area under nilam cultivation in Sumedang Regency (2009)

Area / Cluster	District	Land Area (ha)
West Part of Sumedang	Rancakalong	9
	Sukasari	16
	Cisitu	1
East Part of Sumedang	Cibugel	9
	Darmaraja	1
	Wado	7
Southern Part of Sumedang	Cimalaka	1
	Buahdua	3
	Conggeang	143
	Cimanggung	1
Central Part of Sumedang	Sumedang Selatan	3
	Pamlihans	2
Total		196

Source: Survey by the cluster committee (2010)

2) Nilam producer groups

As shown in Table 4.2-14, 10 producer (farmer) groups were organized in 2009. The ninth group, Koperasi Kelompok Tani, is formed as a cooperative having the corporation status, which is therefore authorized to lend money to its members..

<sup>14</sup> It is interesting that the price of nilam oil is not proportional to its PA content; once PA reaches the benchmark of over 30%, the price does not increase much even if it becomes higher. If the oil has a higher PA, the collectors mix it with lower PA oil to standardize the PA content as well as to meet buyers' demand.

Table 4.2-14 Producers (farmers) group of nilam in Sumedang (2009)

No.	Name of Group	Location		Production (ton/quarter)
		(District)	(Desa)	
1	Tani Mandiri	Wado	Cilengkrang	5.225
2	Bina Mandiri	Cisitu	Situ Mekar	7.875
3	Srigati	Conggeang	Narimbang	10.15
4	Reksa Mulya	Conggeang	Narimbang	9.075
5	Bagja Mulya	Cimalaka	Padasri	3
6	Puji Nilam Wangi	Buah Dua	Buah Dua	17.3625
7	Paniis	Pangadegan	Rancakalong	4.6125
8	Sugih Mukti	Sumedang selatan	Marga Laksana	19
9	Koperasi Kelompok Tani	Tanjungsari	Pamulihan	5
10	Sumber Tani	Sukasari	Nangerang	1.34
Total				82.64

Source: Survey by UNPAD (2009)

### 3) Nilam distillers

In 2009, there were nine distillers in the regency, but some of them are no longer in operation due to the breakdown of their equipment or severe market price fluctuation. Table 4.2-15 shows the overview of the seven out of nine existing distillers, and only half of them operate continuously. These seven distillers together produce 755.4kg of nilam oil per month, almost equivalent to 9 tons per year. Some of those that suspended operation have become oil collectors or switched to nilam seed farmers.

Table 4.2-15 Nilam oil distillers in Sumedang (2009)\*

No.	Producers	Distiller		Distillation Rate(%)	Production (Kg/month)	Fuel	Employed (persons)
		No.	Capacity of Machines (kg)				
1	A	1	100	1.5	20.4	firewood	2-3
2	B	1	100	2	100	Firewood	2-3
3	C	1	300	1.5	50	Diesel	3
4	D	2	100	2	300	Firewood / gas	3 and more
5	E	1	100	2	192	firewood	2
6	F	2	250	1.5	63	firewood	2
7	G	1	100	2	30	firewood	2
Total		8	1050		755.4		

Note: Among the nine Sumedang distillers, no data is available for two of them.

Source: Survey by UNPAD (2009).

## (5) Structure of the nilam industry in Sumedang

### 1) Supply chain

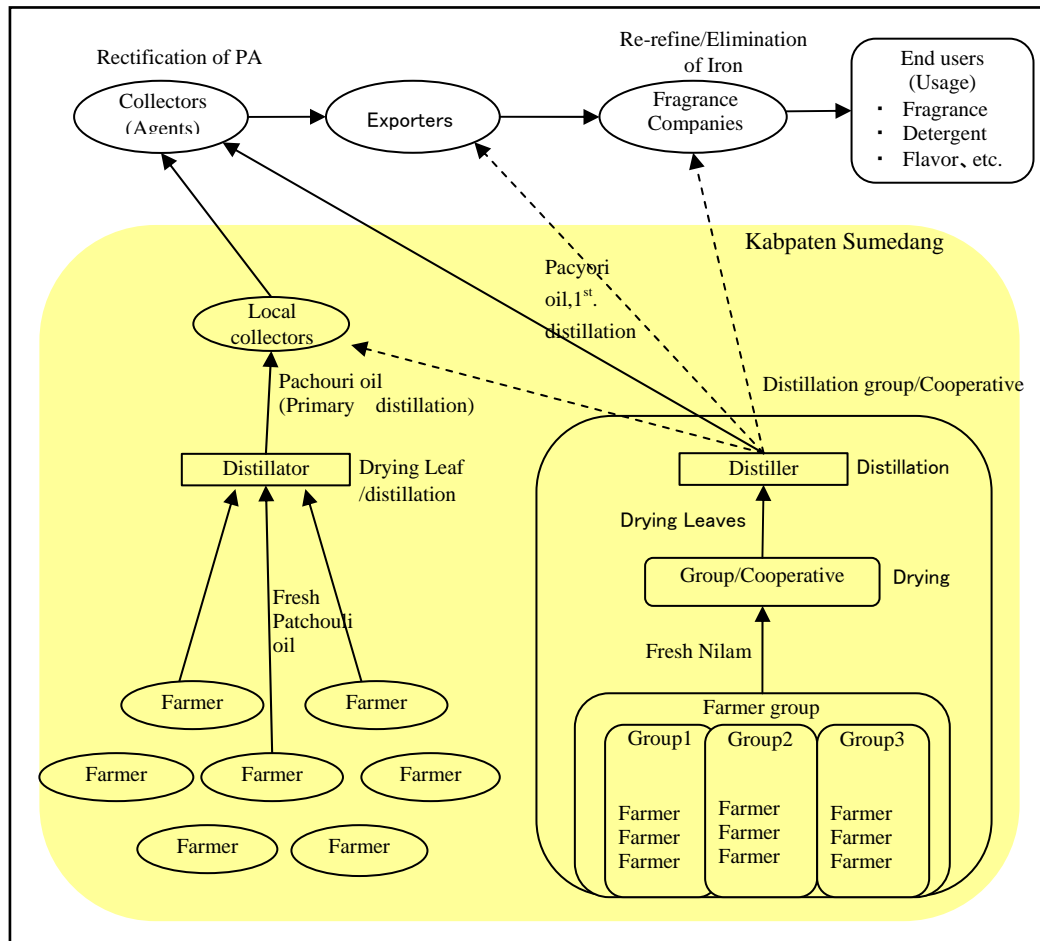
Nilam oil distillers gather nilam leaves to distil (primary distillation) from farmer groups or individual farmers. Collectors in and around the regency gather the oil and sell it to exporters after accumulating a certain volume. Either collectors or exporters re-refine the oil which is largely shipped to foreign cosmetic companies via fragrance companies.

Nilam oil produced in the regency is supplied by a group of farmers and distillers or a single farmer or distiller. Figure 4.2-3 shows the conceptual image of the two types of the supply chain. In the former case, farmers' groups collect nilam leaves, which are then



dried by themselves or the member distillers. Then, the distillers extract nilam oil. Some distillers lend their facilities to member farmers so that farmers distil the oil by themselves. Nilam oil is usually sold to collectors or agents. A few distillers deal directly with exporters or fragrance companies, but the transaction volume is little to no.

In the latter case, individual farmers sell their nilam leaves independently to distillers (Fig.4.2-3). The trade volume is relatively small, and collectors have a stronger bargaining position than the former case.



Note: —> major flows, - - -> minor flows (few)  
Source: JICA study team

Fig.4.2-3 Supply chain of the nilam cluster in Sumedang

## 2) Bargaining power of buyers

In the essential oil industry, major collectors including exporting agents are in a dominant position in the market. There are roughly two types of collectors by size; small collectors operating in and/or adjacent regencies, and large collectors (or agents) covering several provinces or even are nationwide in their scope of activity. According to DAI, they distinguish between agents and collectors based on their transaction volume; agents trade tons of essential oils and collectors deal with quantities less than one ton. Agents sometimes act as exporters as well. By maintaining a position to adjust supply to the market, they have the ability to control the purchase price from distillers.

The nilam cluster in Sumedang deals with major collectors or agents stationed in Jakarta, Bandung, Bogor and Yogyakarta as well as smaller local ones. While the groups

compare purchase prices presented by multiple collectors or agents, large-scale ones usually offer higher prices than local ones. As a result, they mostly accumulate the oil to sell to a large collector. Some collectors give advice to farmers in relation to cultivation and distillation.

Collectors usually maintain a long-term relationship with farmers by using a business practice called the “Ijon System”, “ under which collectors loan funds to farmers to purchase seeds, fertilizers or machinery (or lend machinery) and purchase nilam oil at relatively low prices in return. In the system, collectors are able to get nilam oil stably for lower prices while farmers have to keep dealing with them as long as they are in debt. Thus the system allows collectors to maintain and strengthen their bargaining power.

In addition to collectors’ strong bargaining power, farmers and refiners are highly affected by the violent price fluctuations, price stability is a major issue. In Sumedang, farmers and refiners are increasingly organizing themselves in the form of cooperative or joining a related trade association, suggesting that they are seeking ways to build a partnership that promotes price stability and bargaining power.

At present, exporters or fragrance companies rarely trade directly with groups of farmers and distillers. Although they want direct sales because simplifying the supply channel should reduce transaction costs, the minimum amount of trade is relatively large (say 200 liters or more per transaction) in comparison to production capacity of a single group of farmers/refiners.

Nilam oil is commodity subject to violent price fluctuation. The annual average price was Rp. 26,600/kg in 1995 and rose to Rp. 500,000/kg in 1997. It then declined to Rp. 150,000/kg in the following year. It started rising again in 2006 to reach Rp. 400,000/kg the ensuing year. In 2008, it jumped to Rp. 1,000,000/kg<sup>15</sup>. The price fell to the range of Rp. 200,000 to 250,000/kg in May 2009 at the time of confirmation by the JICA study team.

### 3) Organization of the nilam industry in Sumedang

Box 2 shows the overview of the nilam oil cooperative in the regency, while is operated by a group listed in Table 4.2-14. While other groups focus on activity to integrate nilam cultivation and distillation, it also aims to stabilize their selling price.

Formation of groups or cooperatives has just started. However, it is not easy for a group to ensure stable supply of nilam leaves, because members may be tempted to sell to outside distillers or collectors for a higher price even if their bylaws prohibit it. To make the group or cooperative work effectively, members must reach an agreement to act upon the understanding of benefits to be brought by collective activities as a group, while making the members committed to the group’s activity. Alliance of these groups is likely to benefit them, but the geographic dispersion of nilam farmers makes it difficult for them to strengthen the relationship among the groups.

---

<sup>15</sup> The price information is from a collector-cum-exporter, Indarro Aromatic.

### Box 2: Activities of a Cooperative

Name of the Cooperative	“Koperasi Pelopor Mandiri” (“Koperasi Kelompok Tani” in Table 4.2-14)
Year of Foundation	2006
Head of the Cooperative	Ibu. Puji Sumiati Zinsit (the owner of the distiller “CV. Gina”)
Number of members	13 groups of farmers in Sumedang and surrounding regencies; each group consists of some 10-30 farmers. In total, the number of active farmers reaches around 200 (over 200 if inactive members are included.).
Aim of the Cooperative	Stabilization of price and standardization of nilam oil quality
Activities of the Cooperative	<ul style="list-style-type: none"><li>• The cooperative gathers fresh nilam from members and dries it by itself. CV. Gina refines it, collects oil from other farmers groups, and sells the aggregated oil.</li><li>• The price for fresh nilam gathered from the members is standardized at one price such as Rp. 1,000/kg. Given that non-member farmers had to accept prices around Rp. 500/kg (in June 2009), gains of the members are large.</li><li>• The cooperative provides seedlings and organic fertilizers, but it does not force the members to apply a specific cultivation method.</li></ul>

#### 4.2.2.2 Cluster Development Framework

Table 4.2-16 lists stakeholders that can be considered as supporting organizations. The following sections discuss the current state of these stakeholders, and the list of BDS providers, including their addresses and contacts, is presented in Appendix-3.

##### (1) Government

The central government has provided essential oil clusters with equipment-related support as well as technical assistance in the form of training and seminar. For instance, various ministries, including the MOI, SMOCSME, Ministry of Trade, and Ministry of Agriculture, provide distillers in recent years. Most recently, the DGIKM gave a distiller to the leader of the Mandiri Cooperative in December 2009.

At the provincial level, Industry and Trade Dinas (hereafter referred to as “Dinas Disperindag”) launched cluster development programs for five industries<sup>16</sup> in 2006, but they do not include the essential oil industry; it serves just as the intermediary for the equipment grant by the central government, such as the MOI and the Ministry of Trade.

Although the SME Cooperative Dinas launched the cluster Extension officer system<sup>17</sup> in 2005, it does not cover the nilam cluster in Sumedang. However, agricultural/forestry Dinas supports the cluster by providing education and training in the areas of nilam cultivation, growth of seedlings, drying and distillation. It also gives distillers as a part of the program by the Ministry of Agriculture; in November 2009, a group in Conggeang received a distiller, mill, and workshop house. In equipment-related support, however, there

<sup>16</sup> Auto parts clusters (Sukabumi, Bogor, Bandung, Bekasi, Purwakarta, and Karawang), shoes cluster (Bandung, Bogor, Tasikmalaya, and Cirebon), textile and garments clusters (Bandung, Cimahi, Garut, Tasikmalaya, Bogor, and Sumedang), furniture clusters (Cirebon, Indramayu, Kuningan, Majalengka, and Sumedang), and fruits clusters (Kuningan, Cirebon, and Majalengka)

<sup>17</sup> Every year, 100 Extension officers are trained to be sent to each regency to develop clusters. In 2008, the province introduced SMEs clinics (KKB), in which advisers stationed in the clinics train the Extension officers to improve their coaching skills. Currently, 5 of them are in Sumedang.

seem to be no collaboration or coordination among related ministries, except for consideration to avoid duplicated equipmentsupply to the same operator or group.

The Government of Sumedang Regency selected 10 products in 2008 and 12 in 2009 as priority products to be promoted, neither of which included nilam oil. However, the regency Dinas Disperindag supports the nilam oil cluster. Since 2007, it has introduced distillaers by using the equipment grant scheme of the central government, and it requests the supply of addtional two distillers and technical training in 2010. In 2009, it also mapped out a training plan to promote Sumedang nilam oil clusterdevelopment, in which the potential and problems of the cluster were analyzed. In order to achieve the goal, the JICA study team recommends that not only the regency Dinas Disperindag but the regency as a whole offer training and help the cluster to be actively engaged in group formation and technical assistance for the purpose of increasing income. It is also recommended to support market development and improvement ofmarketing and management skill under the leadership of the regency government.

Jointly with the Bank of Indonesia, West Java Province has established a Small and Medium Financing and Development Center (P3UKM). It is a unique financing institute aiming to improve financial access tosmall businesses including microenterprises. It alsointends to provide information on financing demand for other financial institutions. For the same purpose, the provincial Dinas Disperindag provides counseling on how to apply for a loan, bookkeeping assistance and matching seminars withfinancial institutions.

Table 4.2-16 Supporting institutions and BDS

	Human Resources and/or Management	Production Techniques	Marketing	Financial Access
Government	MOI, MOT, MOA, and other central government agencies Provincial and regency Dinas Disperindag Provincial and regency SME Cooperative Dinas BALITRO BBIA BaliKB Badan Penyuluhan Pertanian	MOI, MOA and other central government agencies Provincial and regency Dinas Disperindag BPPT LIPI BBLM MIDC BALITRO BBIA BaliKB	BKPMDBPEN	Regency SME Cooperative Dinas P3UKM Bank Jabar and Banten BRI Bank Bukopin PKDL
University	IPB UNISBA	ITB IPB UNPAD UNWIM	IKOPIN	
Private	KADIN DAI AP3MA Nilam Cooperative in Sumedang PUPUK(NGO) Bina Mitra Usaha (BDS) Performa Optima (BDS)	DAI AP3MA Nilam Cooperative in Sumedang Bengkel Mutiarra(Workshop)	DAI AP3MA Nilam Cooperative in Sumedang Exporters Association of Essential Oils Bina Mitra Usaha (BDS) Performa Optima (BDS)	BMT (MFI coforming to Sharia) BPR MFIs Performa Optima (BDS)

Source: JICA study team.

## (2) Associations

### 1) DAI (Indonesian essential oil council)

DAI was founded in 2007 by the public and private stakeholders of the essential oil industry in Indonesia. It works together with the MOI, Ministry of Agriculture, Ministry of Trade and other related local government organizations to promote the Indonesian essential oil industry.

DAI ranks five essential oils as prioritized commodities and nominates the following areas as the production centers.

- Nilam : Aceh, North Sumatra, West Sumatra, West Java, East Java
- Nutmeg : Aceh, West Sumatra, West Java, North Sulawesi, North Maluku
- Vetiver : Garut
- Clove : Banuas, Boyolali, East Java, Purwakarta
- Citronella: West Java, East Java, Aceh, Cilacap

DAI has also developed a “CULTIVA project” to unify the methodology for technical assistance in the areas of cultivation, distillation and marketing and has been implementing pilot projects since 2008. The CULTIVA aims to accomplish the following objectives in collaboration with the government’s cluster approach.

- To upgrade production technology by applying GAP (Good Agricultural Practice) to farmers and by applying GMP (Good Manufacturing Practice) to distillers
- To make farmers and distillers more organized through cooperative formation and incorporation
- To improve fairness and efficiency of the supply chain of the essential oils

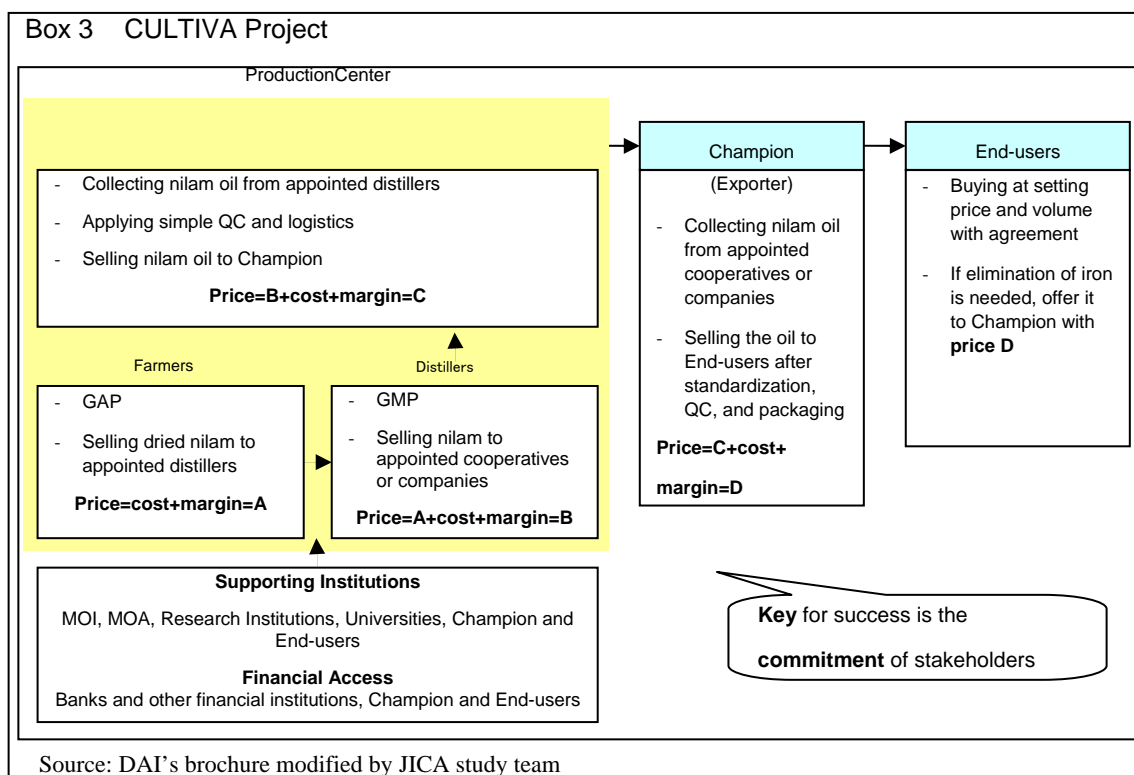
As shown in the box below, the CULTIVA project is considered as the essential oil cluster development project that involves stakeholders at all levels.

Among the nilam oil production centers, their pilot projects were started in North Sumatra in 2008 and then in West Sumatra, West Java and Central Java in the following year. No activity is under way in Sumedang, and the regency government is making approaches to the central government.

DAI selected Kuningan Regency as the project site of West Java by listing the following distinctive characteristics.

- A large number of farmers and high volume of nilam production
- Long history of nilam production in comparison to other regencies in West Java
- Vigorous activities undertaken by cooperatives and informal groups, and the strong commitment by the regency’s governor

Furthermore, DAI views Kuningan, Sumedang and Majalengka as an integrated nilam producing area. As of February 2010, however, no support activity has been started. None of these regencies has made any action to start the project.



2) AP3MA Jabar (Association of farmers, producers and businessman for essential oils in West Java)

Although the provincial government has been providing support for the essential oil industry, it has still to produce tangible outcome. This is attributed mainly to the continued use of the traditional cultivation and distillation techniques by farmers and distillers as well as their poor marketing and negotiation skills.

To solve these issues, AP3MA was established in 2008 under facilitation of the provincial Dinas Disperindag. It is an association organized by individual farmers, distillers and groups of farmers and major distillers in West Java. Covering 14 regencies in the province, it encourages the information exchange among members, promotes quality standardization, helps handling of fund shortage, and provides training relating to technology, quality management and business management. By promoting the cooperation with them, it aims to reinforce producer's bargaining power against collectors, which is supported by the Ijon system.

Being a subordinate organization of DAI, AP3MA also provides market and technical information for stakeholders in West Java as well as reporting information on the province to DAI.

(3) Universities and research organizations<sup>18</sup>

IPB (Bogor Agricultural University) and ITB (Bandung Institute of Technology) provide support for the essential oil industry. In particular, IPB hires experts in essential oil who are

<sup>18</sup> Not directly related to the nilam cluster in Sumedang, UNISBA and UNPAS, both in Bandung, serve as facilitators of the cluster projects by the provincial Dinas Disperindag. The former is working for shoes cluster, and the latter for automobile parts cluster.

founding members of DAI and IPB act as an information center of agricultural expertise as well as a facilitator to support essential oil clusters throughout the country.

BALITRO (Research Institute for Spice and Medicinal Crops), located in Bogor of West Java, conducts research and study covering a whole process of essential oil production, from seedlings, cultivation, harvesting and post-harvest practices. Also, it conducts nilam development programs in five provinces, in collaboration with the MOI, the Ministry of Agriculture and DAI, including technical assistance on cultivation and seedlings.

In surrounding areas of Sumedang, the agricultural department of UNPAD provides technical support to nilam farmers and makes efforts to disseminate its research achievements through LPPM (Institute for Research and Community Services).

#### (4) NGO

Founded in 1979 and formally registered in 1988, PUPUK (The Association for Advancement of Small Business) is an NGO that works toward local cluster development by setting the overall goal of promoting regional prosperity and the rise of income level. It carries out cluster development projects nationwide and has a regional activity base in Bandung. Major activities aim to strengthen regional competitiveness, to reinforce business linkages among private sectors and supporting organizations, and to provide efficiency improvement programs/services. It conducts a project to support anilam cluster in East Kalimantan, which has been used as a good reference for the pilot project.

### 4.3 Problems Revealed in the In-depth Survey at the Pilot Project Provinces

In the detail survey conducted in the two provinces of West Sumatra and West Java, the JICA study team has identified specific issues and challenges relating to cluster development. These issues, as shown below, seem to be commonly present in the rest of the country. Note that, in addition to these issues, the JICA study team has also found the benefits which could be gained from cluster development, i.e., effective utilization of local natural and human resources, increase in cash income, and changes in local awareness about industry.

#### (1) Underdeveloped cluster development framework

The Dinas Disperindag in Sumedang has not launched cluster development activity due to the lack of knowledge on development techniques, although it pays attention to the CULTIVA project conducted in its neighboring regency, Kuningan. Accordingly, it has not supported the formation of the cluster representative organization, which is the first step in cluster development.

On the other hand, the Bukittinggi City has started cluster development under the government initiative. The WG, the upper organization of the cluster, was led by the government and did not function as a platform for cooperation between the public and private sectors.

More specifically, only one person represents embroidery companies in the WG. Additionally, no organization has been formed in the city to represent the embroidery industry in alignment with the private-public partnership platform. Hence, it was difficult for the WG to address problems facing embroidery companies and to deal with requests in a centralized manner.

#### (2) Absence of leaders or facilitators to foster cooperative mindset

Bukittinggi City formed the WG and FGD without motivating the private sector to participate in the cluster development process. Furthermore, the representatives of embroidery companies did not have the ability to feed back the results of cluster development

activities together companies, promotion activities targeted a limited number of companies and collaborative attitude did not grow.

Also, no one could disseminate the expected results and benefits of cluster development. In general, cluster leaders or facilitators are expected to play this role. Absence of these people seems to explain low levels of collaborative attitude.

(3) Absence of cross-sectional coordination in the public sector

Cluster development activities by the government are divided according to sectors, and several Dinas provide support for the same cluster without coordination. There is duplication of support programs in some cases.

For example, the regency Dinas Disperindag in Sumedang collected information on the nilam distillers in the regency, but it did not recognize the recent situation relating to nilam cultivation which is under jurisdiction of the regency Agricultural/forestry Dinas.

(4) Disjunction of support measures by administrative units

In Bukittinggi, the city government insists that the support should be limited to the embroidery companies within the city although the embroidery cluster extends to the neighboring regency, Agam. It has no information on the embroidery companies which is in the cluster but outside the city. Or even if it has, no attention is paid. For example, a lot of subcontractors and a technical school hiring design experts are in Agam, but there is no cooperative activity with Bukittinggi City for the development of the cluster. Therefore, the provincial government needs to get involved to coordinate efforts so that their cluster development activity can reach the whole area of the embroidery cluster.

(5) Slow progress in specialization

Division of labor among cluster companies has not been in progress, resulting in relatively high production costs. Many of them are more concerned about troubles caused by collaboration with other companies as well as information leaks, rather than the improvement of work efficiency and productivity as a result of collaboration. This is partly because they do not fully recognize the benefits of collaboration, but also because they are mostly small operations and are accustomed to work practice in which a single worker takes care of all production processes.

In Bukittinggi, some companies state that they cannot meet demand or expand their business due to short supply of sewing machine operators. On the other hand, others argue that they cannot increase their operation rate or expand their business due to the small size of order from customers. By specializing in embroidery sewing, their operation rate will likely rise and their embroidering skills can be upgraded. Then, the former can receive more orders. In case the more companies opt to collaborate, the productivity of the cluster improves.

(6) Poor quality management

Quality management of the cluster companies, both embroidery and nilam oil, is insufficient.

In Bukittinggi, both a cloth and a dress with embroidery have not been through the quality control before shipping. None of the companies visited by the JICA study team has quality inspection standards or manuals, making it difficult for them to meet high quality demand in the export markets. While the sharing of inspection equipment is possible, most companies do not show interest. Some companies have introduced production management techniques such as 5S, but could not continue using them due to the lack of sufficient follow-up support, leading to inefficiency and low quality.



In the nilam cluster in Sumedang, no standard operation procedure was in place at distillers, which led to low yield rates. As for cultivation, the cluster has still to develop a cultivation standard suitable for their specific cultivation environment. No effort has been made to improve varieties.

(7) Poor information gathering capacity and reluctance to information sharing

Public support for information gathering is insufficient, which is thus left to the efforts of individual companies. As a result, they seldom grasp the product trends and demands of the market. As pointed out above, they lack a sense of belonging to their respective clusters, which discourages information sharing. Announcement by the public sector on their support does not seem to reach potential beneficiaries.

One of the problems raised by SMEs is the difficulty in getting loans. It is true that loan terms are often difficult for SMEs to satisfy. However, it is also often the case that they just do not know about available loan schemes, nor do they have any place to exchange such information.

In the embroidery cluster in Bukittinggi, companies do not use information obtained from their value chain systems for market exploration purposes. They try to develop new markets individually and they seldom share their information obtained from their customers. Their ability to collect information on the internet is fairly limited.

(8) Absence of awareness to launch an effective branding strategy

Clusters have failed to make effective use of their reputation for a major producing area. Developing a common logo can strengthen their reputation and boost sales, but no such activity is undertaken due to the absence of a cluster network. In Bukittinggi, the city government has made a brochure to sell Kerancang by introducing embroidery companies and their products. However, the brochure is not known widely by embroidery companies and is thus not used as an effective promotional tool.



## Chapter 5 Training in Cluster Analysis for Purposes of Pilot Project Formation

### 5.1 Cluster Analysis Training

#### 5.1.1 Background and Main Features of the Training

As part of this Cooperation a pilot project utilizing the PDCA cycle was implemented in West Sumatra and West Java provinces; in preparation for this a Cluster Diagnosis Training Program was implemented on behalf of related persons in both provinces, for the purpose of strengthening their motivation for cluster promotion, and transferring to them knowledge about cluster promotion. This section reports on the implementation of the Cluster Diagnosis Training Program and its results.

The purpose of the program was to equip related persons from both provinces with the capacity to properly ascertain the state of development of clusters and the surrounding environments supporting such development, so that these persons would be able to work at planning, implementing, evaluating, and revising pilot projects from the standpoint of an insider to these processes. It was anticipated that by carrying out this preliminary effort both that the derivation of the recommendations and guidelines from the Cooperation would be more effective, and that in these two provinces cluster promotion activities, subsequent to completion of the pilot projects, could be undertaken without outside help.

The program began with presentation of the general aspects of cluster analysis followed by classroom work for providing an understanding of the nature of major matters contributing to cluster development. This comprised the first stage.

The second stage involved Cooperation visits to companies in the regions where cluster products are made, as hands-on training in cluster analysis. On the occasion of this training program, time was not available for a detailed study of the approach to cluster promotion and support by related organizations (compensated for by obtaining information from a leader of the Dinas Koperindag), because emphasis in training in diagnosis was placed on study at the companies visited.

In the third stage participants did a SWOT analysis of the cluster region by way of summarizing the program, and on that basis prepared long lists for action on behalf of cluster promotion.

#### 5.1.2 Training Participants and the Curriculum

##### 5.1.2.1 Training Participants

Government workers assigned to cluster promotion were given priority in selecting participants for the training program. Included among those given preference in selecting participants were SHINDANSHI, Extension Officers, facilitators and members of cluster promotion working groups from Bukittinggi City in West Sumatra and Sumedang Regency in West Java, where pilot projects were to be implemented.

In addition, training program participants who were not from the regions where the pilot projects were to be implemented were SHINDANSHI, BDS providers from colleges and research centers (Balai Besar), employees of Regional Common Service Facilities (UPTD), and consultants. These persons were invited in anticipation of their using in their work the techniques of cluster analysis acquired through the program.

##### 5.1.2.2 Training Schedule

The schedule of training was as shown below in Table 5.1-1.

Table 5.1-1 Training Schedule

West Sumatra Province		
Year/Month/Day	Content	Venue
2009/5/13	Lecture, 1st day	Padang City
2009/5/14	Lecture 2nd day	Padang City
2009/5/25	Practice 1st day	Bukittinggi City
2009/5/27	Practice 2nd day	Bukittinggi City
2009/5/28	Wrap-up of practice	Padang City
West Java Province		
Year/Month/Day	Content	Venue
2009/5/19	Lecture, 1st day	Bandung City
2009/5/20	Lecture 2nd day	Bandung City
2009/6/1	Practice 1st day	Sumedang Regency
2009/6/3	Practice 2nd day	Sumedang Regency
2009/6/4	Wrap-up of practice	Sumedang Regency

Source: JICA study team.

### 5.1.2.3 Training Curriculum

The following Table 5.1-2 shows the training curriculum. Also, Table 5.1-3 shows the companies visited for training.

Table 5.1-2 Training Curriculum

#### Stage 1

Day & time	Title	Content
1st day 1st session	1. Definition and concept of cluster approach Relation to industrial policy	What is a cluster? Cluster is a geographical concentration of industry, but it has to be a cross-industry group that develops a supply chain linkage and/or one-product-one-village product as well. To form a cluster, organic coupling among core companies, supporting industries, technical support institutes such as universities, and advisors, (here, the SHINDANSHI who serve as comprehensive assistance and Extension Officers) are required. Important factors for cluster growth are discussed in the lecture.
2nd session	2. Geographical concentration of industry and promotion policy	Experience and practices in networking among cross-industry group coordinated by the Organization for Small and Medium Enterprises and Regional Innovation, Japan (SMRJ) is explained. Examples of development of a new product by joint activity among a few companies and, facilitation activity by regional coordinator is explained.
3rd session	3. BDS (Business Development Service) network	West Sumatra Province : Presentation on BDS by Ms. Yetti of Dinas Koperindag  West Java Province : Discussion among all the participants, which concerns (1) BDS providers who help clusters right now and their support systems, (2) BDS providers who can help clusters , (3) Current problems on BDS assistance, and (4) BDS providers necessary for growth of the target cluster. .

4th session	4 SWOT analysis method	SWOT analysis method is reviewed. Note: SHINDANSHI had learnt it in the training course, but their understanding was insufficient; Sometimes there was difficulty in their dealing with Strength and Weakness. It was new for some Extension Officers
2nd day 1st session	5. Key point of cluster development West Sumatra Province : Mr. Juunaidi of West Sumatra Province Disperindag West Java Province: instruction by Ms. Friad (Facilitator of shoe cluster) of Bandung Islam University.	Clustering activity done by the government of Indonesia for nurturing geographic concentration of industry is reviewed.
2nd session	6. Outline of cluster diagnosis  7. Mutual relations and cluster formation	Items to be identified and methodology when conducting cluster diagnosis are presented.  The concepts on joint working are explained. When people start new business activity as part of clustering activity, it is necessary to commercialize a product so that benefits of making and selling it are higher than obtained in the past. In it, companies with different ways of business and culture work together. Then, they need to clarify the roles of participants, the sharing of profit, delivery, price, and quality standards and make it a memorandum of agreement signed by them.
3rd Session	8. Preparation of diagnosis questionnaire	Practice is done by group activity. Each group will prepare its own questionnaire that reflects the assumed character of its target cluster.
4th session	9. Method to grasps industry trend  10. Feature of a production and point to diagnose	Elements of analysis in the survey of cluster structure such as cluster association, and dispersion of cluster companies is explained. 1. 10 external conditions such as (1) regional character, (2) background and history of the target cluster, (3) regional economy, etc. are summarized  2. Explanation of the relation between raw materials and products, leadership of the core company, issues on industry-public-academic alliance and necessity of assistance from public services is given.

## Stage 2

Practice day 2	11. Hearings during visits to cluster companies, facilitators etc.	West Sumatra Province: three companies or organizations/day/group on two days (total 16 companies). Factories visited as shown below (all participants will visit the 1st company) West Java Province: two companies or organizations/day/group (total 16 companies). Factories visited as shown below (all participants will visit the 1st company)
----------------	--	---

Day 5	12. Summary of the hearing survey	Report on hearings at firms and institutes Analyze industry trend (apply 10 items) Summarize outline of cluster after site survey with due discussion with SHINDANSHI
		Do SWOT analysis
		Summarize problems of each company and organization visited. Develop cluster development goal, identifying constraints and the BDS provider that is needed.
		Identify constraints of company and organization Draft action plan. (Following the setting-up of the draft plan, practical measures to evaluate project progress, issue resolving method and methodology to evaluate output are discussed.)

Source: JICA study team.

Table 5.1-3 Companies Visited During the Practice

**West Sumatra Province**

Date	Name of company
2009/5/25 (first day of the training)	Sulaman Ambun Suri (Production)
	Amalia Bordir Komputer (Production)
	Oska Bordir (Production)
	Assyfa Bordir (Production)
	Ayang Bordir (Production)
	Yeni Bordir (Production)
2009/5/27 (second day of the training)	Marina Bordir
	Campago Sari (Distribution/Production)
	Roza Bordir (Supplier/Production)
	Sulaman Putri Bungsu (Production)
	Soraya Bordir (Distribution/Production)
	Kub Selamat Campago Ipuh (Production)
	Aura Bordir
	Kub Melati Campago Ipuh (Production)
Mujmin 44 (Distribution/Production)	
Ghiosya Bordir (Distribution/Production)	

**West Java Province**

Date	Name of company
2009/6/1 (first day of training)	Pamulihan (distiller)
	Citengahi (job shifting and mushroom cultivation)
	Pasanggrahan (farmhouse)
	Narimbang (farmhouse)
	Buahdua (farmhouse)
	Tanjung sar (farmhouse)

2009/6/3 (second day of training)	Kecamatan (farmhouse)
	Kecamatan Mado (farmhouse)
	Karang Taruna (farmhouse)
	Bina Karya (farmhouse)
	Reksamulya (farmhouse)
	Kecamatan Congean (distiller)
	Mekarsari (farmhouse)
	CV Nilam Inti Karsa (distiller)
	Pelopor Perkebunan (farmhouse)
	Sri Bagja Mulya (farmhouse)

Source: JICA study team.

### 5.1.3 Training Results in West Sumatra

#### 5.1.3.1 Evaluation by Participants Regarding the Locational Environment of the Cluster

Training participants were divided into three groups and in each group several persons who were SHINDANSHI or Dinas Koperindag staff who work at cluster promotion in Bukittinggi City were included. They were told to provide information on the cluster environments to the members of their groups.

Below are the results of evaluations of the cluster environments made by the participants. The impression received is that in overall terms the evaluation by participants was somewhat optimistic relative to that by the JICA study team. Nevertheless, with due respect for the independence of the Indonesians in holding those views, their evaluations are summarized below.

The tables below summarizing evaluations are provided in four segments. The first deals with indispensable factors for network development, including demand conditions, input resources conditions, the situation regarding related industry and supporting industry, company strategy and conditions of the environments for competition. The purpose was to perform an evaluation as a preparation for detailed analysis of the cluster, and to enable participants to obtain a general understanding of the cluster. Segments (2) to (4) present detailed judgments as to whether there are advantageous conditions for the location of industry.

Following completion of discussions with cluster-related persons, evaluation results were made known to each group. Although there were some items for which a considerable difference was evident between the groups, inquiries found that many of the differences were due to differences in understanding the standards or basis for analyses.

Table 5.1-4 summarizes the evaluation result of the first segment. Where there were differences among the groups in their evaluations, efforts were made to unify analytic standards and opinions. Scores that were close to the average were used to represent overall results.

Table 5.1-4 Result of Cluster Environment Assessment (1)

Indispensable factors for network development		Score	Classification Criteria
Base 1	Geographic distance	5	✓ within 2.5 km radius and within 30 minutes of traveling
		4	within 2.5 km radius and within 1 hour of traveling
		3	within 2.5 km radius and within 2 hours of traveling
		2	within 5 km radius and within 2 hours of traveling
		1	Within 5 km radius and over 2 hours of traveling
Base 2	Number of core companies	5	✓ More than 200 companies
		4	Over 100, within 200 companies
		3	Over 50, within 100 companies
		2	Over 15, within 50 companies
		1	Within 15 companies
Base 3	Subsector/ market	5	There is a big market domestic and overseas and growing industry with high possibility for innovation
		4	✓ Moderately growing industry having a stable local market
		3	Industry with stable local market and having possibility to exploit oversea demand through aggressive marketing
		2	Industry with stable local market but without potential to expand overseas
		1	Stagnant, conventional industry with limited regional market
Base 4	Existence of comparative advantage raw materials	5	High quality and cheap raw materials can be obtained regionally
		4	High quality and cheap raw materials can be obtained regionally but only seasonally and in limited quantity
		3	High quality raw materials are available regionally and freely
		2	✓ Cheap raw materials are available regionally and freely
		1	Cheap raw materials are available regionally and freely but only seasonally and in limited quantity
Base 5	Local particular resources	5	✓ Special, traditional resources are available abundantly and is well known locally and overseas
		4	Special, traditional resources are available abundantly and is well known locally
		3	Special, traditional resources are available abundantly and is relatively well known locally
		2	Special resources are relatively available
		1	Special resources are not available locally
Base 6	R&D institutes	5	There are more than 5 R&D institutes within one hour of traveling and industry-public-academy alliance has been formed in the past
		4	There are more than 2 R&D institutes within 1 hour of traveling. And, industry-public-academy alliance is eagerly done.
		3	There are universities, institutes and/or technical high school within 1 hour of traveling. Industry-Public-Academic joint effort has started discussion.
		2	✓ There are UPT and a technical high school within 1 hour of traveling. Industry-Public-Academic joint effort has just started in low technology field.
		1	There are UPT and a technical high school within 1 hour of traveling. Industry-Public-Academic joint working has not started yet.
Base 7	Network promotion agents	5	There is a facilitator assigned by Disperindag and clustering activity is aggressively done. A project supported by the national government is being conducted and committee meetings have been held regularly. A network among the facilitator, BDS providers and cluster members has developed. Cluster development is assured by the regulation and promotion measure has been devised. Tangible outcomes are observed.
		4	✓ There is a facilitator assigned by Disperindag and clustering activity is aggressively done. A project supported by the national government is being conducted and committee meetings have been held regularly. A network among the facilitator, BDS providers and cluster members has developed. Cluster development measures have just started.



		3		Cluster section has been established within Disperindag for facilitation work. Discussion on cluster development project between cluster members and Dinas facilitator has started.
		2		Cluster section has been established within Disperindag for facilitation work. Identification of cluster through SWOT analysis and enumeration of BDS started.
		1		There is no official facilitation activity at all. Staff in Disperindag has just started activity to organize a cluster network.
Base 8	Core company	5		A large local enterprise with high technology exists and it leads other cluster companies. Based on the leadership of the company, all the stakeholders can share information mutually. There is government support, cluster activities and network integration.
		4		There is a middle ranked company recognized as a leader in the region. The company also volunteers to promote regional development.
		3	✓	The enterprise that operates a long time at one site has a will to take leadership at the region.
		2		There are many strong companies at the site but no definite leader has been selected.
		1		There is no leader company at site.

Note: Geographic range here is based on conditions involving small-scale industrial agglomerations in Indonesia.  
Source: Compiled by the JICA study team, June 2009.

Regarding the components of network formation, scores for Base 1 and Base 2 which are indicators of the degree of geographic concentration of industry as a cluster were high (many participants awarded a score of 5).

Further, evaluations were high for the indigenous technology and skills of the region. Expert of embroidery in trading firm points out that motifs used in the kerancang is replaceable by other designing skill.

While there is awareness that the embroidery cluster in Bukittinggi City possesses designs and skills specific to the region, as represented by Kerancang embroidery and has a stable market, the view was also expressed that its market at present was narrowly confined to products for use in religious, ceremonial and local ethnic clothing, and what was needed was development of designs for new markets. Considering the number of embroiderers who have highly developed skills at making Kerancang to be insufficient, some gave the opinion that in order for the region to retain its fame as a center of embroidery it was necessary to embark on a continuing effort to train skilled workers. According to a trading company that specializes in selling embroidery and lace, however, Kerancang is not really unique; its embroidery designs could be achieved by other methods too.

Further, evaluations of raw materials and research centers were low.

It is possible to purchase raw materials, of both domestic and foreign origins at two places within Bukittinggi City (three, if a smaller market is included). These materials, however, are relatively cheap and not of high quality. Moreover, for these materials it is a seller's market, and at times when demand for embroidered goods is high (e.g., Ramadan), the prices of raw materials are raised, and sellers are reluctant to give quantity discounts. These are the factor believed to be behind the low evaluation.

R&D conditions also got a low evaluation; there are no institutions doing research on new designs or motifs that could be used to develop new markets, such efforts being left entirely up to the individual companies.

Table 5.1-5 shows evaluations of cluster initiatives and supporting organizations.

As is evident from the results summarized in Table 5.1-5, there were wide gaps in the evaluations provided by the groups. However, as far as we focus on the averages of evaluations by all groups, in this cluster (1) while there are organizations concerned with promoting joint activities, there is no one who leads the activities and there are no joint activities, (2) the tendency is for the number

of companies in the cluster to increase, and competition between companies is getting keen, and (3) organizations for support of companies in the cluster are relatively well established.

There was a division into two groups with regard to judgment on collaboration among cluster companies and the coherency of the cluster, with one group giving an approving evaluation and the other a disapproving one. Their judgments seemed to depend on whether they viewed the WG and FGD, which were actually led by the government sector, as part of the venue for collaboration led by cluster companies. There was also a difference between groups regarding evaluation on the access to financial institutions and finance systems. It is thought to be due to the difference in ability to collect information.

Table 5.1-5 Result of Cluster Environment Assessment (2)

Evaluation result: 1 (satisfied), 2 (affirmative), 3 (negative)

Cluster Initiatives and Supporting Organizations (Corporate strategy/competitive setting)		Group			
		1	2	3	Avg
1	There is an association within the cluster and operates on its own budget	1	2	3	2.0
2	There is an association within the cluster but no joint program has been implemented	2	1	3	2.0
3	A cooperative is established only for a loan program	1	2	3	2.0
4	Provincial or city government appointed a facilitator or municipal government take part in the cluster support program	2	3	3	2.7
5	An action plan to promote the cluster has been proposed by the cluster forum	1	1	3	1.7
6	A core technical research and development institute (university, laboratory) exists	1	1	1	1.0
7	A cluster leader to manage cluster activities exists	1	1	3	1.7
8	Number of companies in cluster network is increasing	2	3	2	2.3
9	Competition within the cluster is severe	2	3	2	2.3
10	Cluster has participated in a trade show or fair as a cluster activity	1	1	1	1.0
11	Cluster missions and a goal can be settled under the initiative of the cluster	1	1	1	1.0
12	Cluster is able to hire BDS using its own budget	1	3	1	1.7
13	Private management consultants can be hired within an accessible distance	3	3	2	2.7
14	An engineering and technical support public institute and consultant are available within an accessible distance	3	2	3	2.7
15	Financial agents are available for institutional financing	3	2	3	2.7
16	There are private management consultants for financial advice and financing agents to provide loan programs	1	3	3	2.3
17	A credit guarantee organization exists within an accessible distance	1	2	3	2.0

Source: Compiled by the JICA study team, June 2009.

Further, responses (7, 11) concerning cluster initiatives suggested that the cluster was not in a situation where it can undertake autonomous activities.

Evaluations by each group of the cluster's business environments are shown in Table 5.1-6.

Table 5.1-6 Result of Cluster Environment Assessment (3)

(4=Agree completely;  
3=Agree; 2=Agree partially;  
1=Not agree)

Factors			Evaluation by Groups				
			1	2	3	Avg	
Input Factor	Human resources	1	Supply of technicians (Technical institutes, vocational schools, UPT and etc.) is abundant	1	4	4	3.0
		2	Supply of clerical staff and managers (Universities, business schools, accounting schools, etc.) is abundant	4	4	4	4.0
		3	Skilled labor can be hired	2	3	4	3.0
		4	Recruiting labor is easy	2	4	2	2.7
		5	Excellent human resources are easily obtained thanks to good recognition as a production area	1	2	2	1.7
	Management	6	Financing agents are at accessible distances and institutional finance can be obtained	4	3	2	3.0
		7	There is a financial institution nearby in which a private management consultant is stationed	1	3	1	1.7
		8	A credit guarantee program is available	1	3	1	1.7
		9	There are more than 15 competing companies in the region	4	4	4	4.0
		10	There are comparatively advantageous raw materials	4	3	4	3.7
		11	Indispensable raw materials are procured easily	2	4	4	3.3
		12	There are various industries and their relationship can be easily developed through a cross-industry association	4	2	2	2.7
		13	Vertical specialization is possible	4	1	2	2.3
	Production	14	Raw materials for production are abundant and easily obtained	2	4	4	3.3
		15	Raw materials are available at cheap prices	2	2	4	2.7
		16	Subcontractors (specialized manufacturer) are available any time	4	1	2	2.3
		17	A public testing institute exists in an accessible distance	2	1	4	2.3
		18	Tech support institutes and/or consultants are available	2	4	4	3.3
	Infrastructure	19	Backbone road networks to neighboring cities are developed	4	4	4	4.0
		20	Railway is available	1	2	1	1.3
		21	A seaport for oversea shipment is located in an accessible distance	4	3	4	3.7
		22	It takes less than 2 hours from the airport	2	3	4	3.0
		23	A distributor/transporter is available in an accessible distance	4	4	4	4.0
		24	Broadband network is available	2	4	4	3.3
		25	Power supply is stable and blackout seldom happens	3	2	4	3.0
		26	Potable and industrial water is abundant and stably supplied	3	3	4	3.3

Demand Factor	Technology	27	R&D institutes for counseling/instruction are 1 to 2 hours away	2	4	4	3.3
		28	Engineers are easily hired	2	3	4	3.0
		29	There are information sources for advanced technology	2	3	1	2.0
	Sales Status	30	There is a market nearby	4	4	4	4.0
		31	Buyers are accessible anytime	3	4	4	3.7
32		It is well known as a production region	4	4	4	4.0	
33		Public information source for market data is in half a day distance	4	4	4	4.0	
		34	An exhibition information & inquiry counter is available within 2 hours away	1	4	4	3.0

Source: Compiled by the JICA study team, June 2009.

Training participants rated highly the reputation of Bukittinggi City both as a source of supply of embroidered goods and as a production base. When reference was made to “near” in regard to “existence of a market nearby,” what was meant was the shopping arcade in Bukittinggi City where the main products sold are embroidered goods. It is a general practice among tourists from elsewhere in the country or from foreign countries, as well as buyers, to visit these sales outlets and producers directly, and negotiate purchases. Further, the very large markets of Singapore and Malaysia are only about an hour by air from West Sumatra, and there are daily flights. It is common for producers to take samples and products for sale to these countries.

Further, regarding the supply of human resources, responses were clearly divided into statements that there was a source of abundant supply of skilled persons and that there was no such supply. Sewing techniques needed to make normal embroidery are taught by UPTD. There is no public institution, however, providing training specifically in production of Kerancang for which a degree of skill is needed, and training on Kerancang provided by the Dinas Koperindag is outsourced to large companies. In addition, OJT within companies is a source of training.

The following Table 5.1-7 gives the evaluations of BDS availability.

Table 5.1-7 Result of Cluster Environment Assessment (4)

BDS Check List

1: Yes, 0: No, blank: No Answer

Related Industry/supporting industry/BDS			Group Number									
			Availability			Accessible in 1 hour			Quality (qualitative)			
			Group			Group			Group			
	1	2	3	1	2	3	1	2	3			
Skill training	1	There is a UPT for skill training		1	1	1	0	1	1	1	1	1
	2	There are private experts who can provide training		1	1	1	1	1	1	1	1	1
	3	There is a public research institute or testing institute (Baristand, Balai Besar)		1	1	1	0	0	0	1	1	1
	4	There is a vocational training center		1	1	1	1	0	0	1	1	1
	5	There are technical institutes such as an engineering university or laboratory that can provide skill training		1	1	1	0	0	0	1	1	1

Facilitation of training	6	There is a human resource training center such as PUSDIKLAT	1	1	1	1	0	1	1	1	1
	7	There are private seminar houses or institutes	0	0	0						
	8	There are colleges and universities that can provide training for administration staff	1	1	1	1	0	0	1	1	1
	9	There are schools for accounting and monetary skills	1	1	1	0	0	1	1	1	1
Practical Business Support	10	Lawyer	1	1	1	1	1	1	1	1	1
	11	Company management consultant									
	12	Marketing consultant	1	1	1	0	0	0	1	1	1
	13	HRD specialist	1	1	1	0	0	0	1	1	1
	14	Industry designer	1	1	1	0	0	1	1	1	1
	15	ISO consultant	1	0	1	0		0	1		1
	16	SHINDANSHI	1	1	1	1	1	1	1	1	1
	17	TQC specialist	1	1	1	0	1	1	1	1	1
	18	IT Specialist	1	1	1	0	1	1	1	1	1
	19	Accounting specialist	1	1	1	0	1	1	1	1	1
	20	Tax accountant	1	1	1	0	1	0	1	1	1
	21	Baristand	1	1	1	1	0	0	1	1	1
22	Balai Besar	0	0	0							

Source: Compiled by the JICA study team, June 2009.

Evaluations show that it is possible to make use of many BDS. Evaluations of service quality were also high. For some services negative evaluation was given regarding accessibility (required travel time), because access was not possible within a short time, suggesting that suppliers of these services were not easily found within Bukittinggi City. The reasons for divergence of evaluations between the groups vary from item to item. With regard to the availability of business support, three groups agreed except on that of ISO consultants; they are available in fact, and the group answered they were unavailable was wrong. Regarding access within one hour, it is reasonable to judge that respective supports are available nearby if even one group answered positively because “one hour” was just a rough guideline. When cells were left blank it was because either the group was unable to collect information or the opinion of the group was divided.

### 5.1.3.2 Results of SWOT Analysis

Table 5.1-8 below shows the results of SWOT analysis.

Analysis results from the three groups were generally as had been expected, that is, no unique element was in their analysis. Analysis of cluster conditions by Group 2 was relatively good.

Points deserving special notice made in the analysis by Group 2 were that the official regulations for cluster promotion in Bukittinggi City were in order, that there was urgent need of introducing IT, and that establishment of an embroidery promotion center was proposed.

Table 5.1-8 SWOT Analysis on the Embroidery Cluster in Bukittinggi in the Cluster Diagnosis Training Program

(1) SWOT analysis by Group 1

Date: May 28, 2009

Internal Factor  External Factor	Strengths (S)	Weaknesses (W)
	<ol style="list-style-type: none"> <li>1. Sewing is well made and finished products are comfortable to wear</li> <li>2. Companies employ workers who possess sewing techniques</li> <li>3. Delivery time is ensured</li> </ol>	<ol style="list-style-type: none"> <li>1. Visions and missions of the companies are not documented</li> <li>2. Product standards are not established</li> <li>3. 5S is not introduced in the companies</li> <li>4. Companies cannot develop their own designs</li> <li>5. Companies are suffering from financial shortage</li> </ol>
Opportunities (O)	S-O strategies	W-O strategies
<ol style="list-style-type: none"> <li>1. There is a possibility that the embroidery market will expand</li> <li>2. Raw materials are richly available</li> <li>3. Markets are accessible nearby</li> <li>4. Transportation network is developed</li> </ol>	<ol style="list-style-type: none"> <li>1. Improve product quality, reduce the costs, and ensure the delivery time (or improve the QCD) for expansion of the markets</li> </ol>	<ol style="list-style-type: none"> <li>1. Develop visions, missions and objectives of the companies</li> <li>2. Implement 5S. Produce the products in compliance with the standards.</li> <li>3. Improve the productivity through 5S</li> <li>4. Develop own designs</li> <li>5. Strengthen cooperation with financial institutions</li> </ol>
Threats (T)	S-T strategies	W-T strategies
<ol style="list-style-type: none"> <li>1. Competing products with high quality and low prices are coming into the markets from China, Korea, Bandung, and Jakarta</li> <li>2. Price of raw materials are high</li> </ol>	<ol style="list-style-type: none"> <li>1. Enhance capabilities of the workers in order to compete with the companies with modern technologies</li> </ol>	<ol style="list-style-type: none"> <li>4. Identify and collaborate with the raw material suppliers which supply the materials at lower price</li> </ol>

Source: Participants in the cluster diagnosis training program (Group 1)

(2) SWOT analysis by Group 2

Date: May 28, 2009

Internal Factor  External Factor	Strengths (S)	Weaknesses (W)
	<ol style="list-style-type: none"> <li>1. Distance among SMEs is small</li> <li>2. There are many (about 200) embroidery companies</li> <li>3. Raw materials are richly available</li> <li>4. Industry is traditionally developed and well known in/outside the country</li> <li>5. The companies employ skillful workers</li> </ol>	<ol style="list-style-type: none"> <li>1. Product designs are not protected by patents</li> <li>2. Experts are not available nearby</li> <li>3. IT is not utilized for design development, production technologies and sales activities</li> <li>4. Companies are suffering from financial shortage</li> </ol>

<p>Opportunities (O)</p> <ol style="list-style-type: none"> <li>1. Embroidery markets are expanding in/outside the country</li> <li>2. Laws and regulations for cluster development are well developed</li> <li>3. West Sumatra is located inside the IMT-GT (Indonesia, Malaysia, and Thailand – Growth Triangle)</li> <li>4. Events like expositions and exhibitions are held in West Sumatra and the countries close to it.</li> <li>5. Bukittinggi is a tourist spot for domestic and foreign travelers.</li> </ol>	<p>S-O strategies</p> <ol style="list-style-type: none"> <li>1. Establish the cluster representing organization</li> <li>2. Develop designs</li> <li>3. Make inroads in the markets other than Malaysia</li> </ol>	<p>W-O strategies</p> <ol style="list-style-type: none"> <li>1. Establish the training center in the cluster</li> <li>2. Support patent application for designs</li> <li>3. Conduct training programs for IT utilization</li> <li>4. Support information provision and access to finance</li> </ol>
<p>Threats (T)</p> <ol style="list-style-type: none"> <li>1. Products with low prices are coming into the markets from other regions of the country as well as the foreign countries</li> <li>2. There is the world-wide financial crisis</li> <li>3. There are companies in/outside the country that have high technologies</li> </ol>	<p>S-T strategies</p> <ol style="list-style-type: none"> <li>1. Establish the cluster representing organization</li> <li>2. Set up the sales promotion agency</li> <li>3. Promote introduction of product control systems (like 5S, QC, TQM)</li> </ol>	<p>W-T strategies</p> <ol style="list-style-type: none"> <li>1. Establish the cluster representing organization</li> <li>2. Strengthen cooperation with concerned parties (like universities, government agencies, companies and banks)</li> </ol>

Source: Participants in the cluster diagnosis training program (Group 2)

### (3) SWOT analysis by Group 3

Date: May 28, 2009

<p>Internal Factor</p> <p>External Factor</p>	<p>Strengths (S)</p> <ol style="list-style-type: none"> <li>1. Products are well known over the world</li> <li>2. Skillful workers are available.</li> <li>3. Delivery time is ensured</li> <li>4. Motifs change over time according to the trend</li> <li>5. There is a unique technique (Kerancang)</li> <li>6. There are unique hand-made products like terawang and suji caia.</li> </ol>	<p>Weaknesses (W)</p> <ol style="list-style-type: none"> <li>1. Product standards are not established</li> <li>2. Production capacity is small due to shortage of capital</li> <li>3. Payroll cost is high</li> <li>4. Brands are not registered</li> <li>5. Production control is difficult as the production sites are dispersed</li> <li>6. ISO is not introduced</li> <li>7. Products are made of imported materials</li> </ol>
	<p>Opportunities (O)</p> <ol style="list-style-type: none"> <li>1. There is a possibility that the market will expand domestically and abroad</li> <li>2. There is the Minangkabau International Airport</li> <li>3. Embroidery industry is growing every year</li> </ol>	<p>S-O strategies</p> <ol style="list-style-type: none"> <li>1. Make advertisement through internet</li> <li>2. Take advantage of flight cargos to promote export</li> </ol>

Threat (T)	S-T strategies	W-T strategies
1. High-volume products with high quality and low prices are coming into the markets (from China, Taiwan, India, Tasikmalaya, and Bandung) 2. Prices of raw materials are relatively high	1. Undertake continuous improvement activities of the quality 2. Improve capabilities and skills of the employed workers continuously.	1. Use raw materials locally produced instead of the imported materials 2. Tighten the regulations on imported products

Source: Participants in the Cluster Diagnosis Training Program (Group 3)

## 5.1.4 Training Results in West Java

### 5.1.4.1 Evaluation of Participants Regarding the Locational Environment of the Cluster

A SHINDANSHI was assigned to each training group and attention was paid so that there would not be duplicate representation of any organization in a given group.

Table 5.1-9 summarizes the preparatory evaluation of each group. Where there were differences in the evaluation, the score closest to the average were used to represent the overall result of the relevant item. In particular, they disagreed over evaluations of material endowments providing a comparative advantage, but this is thought to reflect differences in knowledge about the clusters concerned.

Table 5.1-9 Result of Cluster Environment Assessment (1)

Indispensable Factors for Network Developmen		Score	Classification Criteria
Base 1	Geographic distance	5	within 2.5 km radius and within 30 minutes of traveling
		4	within 2.5 km radius and within 1 hour of traveling
		3	within 2.5 km radius and within 2 hours of traveling
		2	within 5 km radius and within 2 hours of traveling
		1	✓ Within 5 km radius and over 2 hours of traveling
Base 2	Number of core companies	5	More than 200 companies
		4	Over 100, within 200 companies
		3	Over 50, within 100 companies
		2	Over 15, within 50 companies
		1	✓ Within 15 companies
Base 3	Subsector/ market	5	Growing industry with high potential for innovation, having big domestic and overseas markets
		4	Moderately growing industry with stable local and/or foreign markets
		3	✓ Industry with stable local markets and having potential to exploit oversea demand through aggressive marketing
		2	Industry with stable local markets but with little or no potential to exploit overseas markets
		1	Stagnant or traditional industry whose marketability is limited even in the home market
Base 4	Existence of comparative advantage raw materials	5	High quality and cheap raw materials can be obtained regionally
		4	High quality and cheap raw materials can be obtained regionally but only seasonally and in a limited quantity
		3	✓ High quality raw materials are available regionally and freely
		2	Cheap raw materials are available regionally and freely
		1	Cheap raw materials are available regionally and freely but only seasonally and in limited quantity



Base 5	Local particular resources	5		Special, traditional resources are available abundantly and are well known locally and overseas
		4		Special, traditional resources are available abundantly and are well known locally
		3		Special, traditional resources are available abundantly and are relatively well known locally
		2	✓	Special resources are relatively available
		1		Special resources are not available locally
Base 6	R & D Institutes	5		There are more than 5 R&D institutes within one hour of traveling and there are well-known cases of industry-public-academy alliance.
		4		There are more than 2 R&D institutes within 1 hour of traveling. Industries are active in industry-public-academy alliance.
		3	✓	There are universities, institutes and/or technical high schools within 1 hour of traveling. Some Industry-Public-Academic joint efforts are observed.
		2		There are UPT and a technical high school within 1 hour of traveling. Industry-Public-Academic joint efforts have just started in a low technology field.
		1		There are UPT and a technical high school within 1 hour of traveling. Industry-Public-Academic joint working has not started yet.
Base 7	Network promotion agents	5		There is a facilitator assigned by the Disperindag and clustering activity is aggressively done. A project supported by the national government is being conducted and committee meetings have been held regularly. A network among the facilitator, BDS providers and cluster members has developed. Cluster development is assured by the regulation and promotion measures have been devised. Tangible outcomes are confirmed.
		4		There is a facilitator assigned by the Disperindag and clustering activity is aggressively done. A project supported by the national government is being conducted and committee meetings have been held regularly. A network among the facilitator, BDS providers and cluster members has developed. Cluster development activities have just started.
		3		Cluster promotion section has been established in the Disperindag for facilitation work. Discussion on a cluster development project between cluster members and Dinas facilitators has started.
		2	✓	Cluster promotion section has been established in the Disperindag for facilitation work. Identification of cluster situation (through SWOT analysis) and available BDS has started.
		1		There is no official facilitation activity at all. Staff in Disperindag has just started activity to organize a cluster network.
Base 8	Core company	5		A large local enterprise with high technology exists and it leads other cluster companies. Based on the leadership of the company, all the stakeholders can share information mutually. There is government support, cluster activities and network integration.
		4		There is a middle ranked company recognized as a leader in the region. The company also volunteers to promote regional development.
		3	✓	The enterprise that operates a long time at one site has a will to take leadership at the region.
		2		There are many strong companies at the site but no definite leader has been selected.
		1		There is no leader company at site.

Note: Geographic range here is based on conditions involving small-scale industrial agglomerations in Indonesia.  
Source: Compiled by the JICA study team, June 2009.

Evaluation of the factors related to network formation was low, overall. It is thought that the situation of networks not being formed imparted influence to evaluations by training participants. Relatively favorable evaluations were made for the superiority of raw materials and existence of research institutes. All groups, however, gave low scores for geographic concentration and number of core companies.

The following Table 5.1-10 shows the evaluation results for cluster initiative and supporting organizations.

Table 5.1-10 Result of Cluster Environment Assessment (2)

(Evaluation result: 3 = satisfied; 2 = affirmative; 1 = dissatisfied)

Cluster Initiative and Supporting Organization (Corporate strategy/competitive setting)	Group			Average
	1	2	3	
1 There is an association within the cluster and operates on its own budget	3	2	3	2.7
2 There is an association within the cluster but no joint program has been implemented	3	3	2	2.7
3 A cooperative is established only for a loan program	3	3	3	3.0
4 Provincial or city government appointed a facilitator or municipal government taking part in the cluster support program	3	3	3	3.0
5 An action plan to promote the cluster has been proposed by the cluster forum	2	2	1	1.7
6 A core technical research and development institute (university, laboratory) exists	2	2	3	2.3
7 A cluster leader to manage cluster activities exists	2	2	3	2.3
8 Number of companies in the cluster network is increasing	2	2	2	2.0
9 Competition within the cluster is severe	2	1	2	1.7
10 Cluster has participated in a trade show or fair as a cluster activity	2	3	3	2.7
11 Cluster missions and a goal can be set under the initiative of the cluster	2	2	3	2.3
12 Cluster is able to hire BDS using its own budget	3	3	1	2.3
13 A private management consultant is within an accessible distance	3	3	3	3.0
14 An engineering and technical support public institute and consultant is available within an accessible distance	2	2	2	2.0
15 Financial agents are available for institutional financing	3	3	3	3.0
16 There are private management consultants for financial advice and financing agents to provide loan programs	2	3	3	2.7
17 A credit guarantee organization exists within an accessible distance	3	3	2	2.7

Source: Compiled by the JICA study team, June 2009.

Reviewing results for individual evaluation items, scores were high for the existence of cooperatives, facilitators, and private management consultants and financial agents. Low scores were given for action plan proposal and competition within the cluster. Concerning the environment, while conditions were found to be relatively good, pro-active use was not being made of BDS providers. Lack of understanding of the BDS providers on the part of the trainees can be cited as an explanation for this. That is, it is only the organizations established by the government as BDS providers that are recognized as BDS providers, and BDS providers from other sources, notably technical institutes, and consultants or instructors, are not considered to be within the scope of BDS.

Table 5.1-11, below, gives evaluations for the business environments of the clusters.

Table 5.1-11 Result of Cluster Environment Assessment (3)

(4=Agree completely; 3=Agree; 2=Agree partially; 1=Not agree)

		Factors		Evaluation			
				Group			
				1	2	3	Avg.
Input Factor	Human resources	1	Supply of technicians (Technical institutes, vocational school, UPT and etc.) is abundant.	2	4	3	3.0
		2	Supply of clerical staff and managers (University, business school, accounting school, etc.) is abundant.	4	1	4	3.0
		3	Skilled labor can be hired.	4	3	3	3.3
		4	Recruiting labor is easy.	4	4	3	3.7
		5	Excellent human resources are easily obtained thanks to good recognition as a production area.	1	1	4	2.0
Demand Factor	Management	6	Financing agents are at accessible distances and institutional finance can be obtained.	1	1	1	1.0
		7	There is a financial institution nearby in which a private management consultant is stationed.	1	1	1	1.0
		8	Credit guarantee program is available.	1	3	2	2.0
		9	There are more than 15 competing companies in the region.	1	1	1	1.0
		10	There are comparatively advantageous raw materials.	4	4	3	3.7
		11	Indispensable raw materials are procured easily.	4	4	4	4.0
		12	There are various industries and their relationship can be easily developed through a cross-industry association.	4	4	3	3.7
		13	Vertical specialization is possible.	1	4	1	2.0
	Production	14	Raw materials for production are abundant and easily obtained.	4	3	1	2.7
		15	Raw materials are available at cheap prices.	4	3	4	3.7
		16	Subcontractors (specialized manufacturer) are available any time.	1	2	2	1.7
		17	A public testing institute exists in an accessible distance.	1	2	1	1.3
		18	Tech support institutes and/or consultants are available.	4	3	4	3.7
	Infrastructure	19	Backbone road networks to neighboring cities are developed.	4	4	4	4.0
		20	Railway is available.	1	1	1	1.0
		21	A seaport for oversea shipment is located in an accessible distance.	1	1	1	1.0
		22	It takes less than 2 hours from the airport.	1	1	1	1.0
		23	A distributor/transporter is available in an accessible distance.	1	4	2	2.3
		24	Broadband network is available.	4	4	4	4.0
		25	Power supply is stable and blackout seldom happens.	4	4	4	4.0
		26	Potable and industrial water is abundant and stably supplied.	2	4	1	2.3
	Technology	27	R&D institutes for counseling/instruction are 1 to 2 hours away.	2	4	4	3.3
		28	Engineers are easily hired.	2	4	1	2.3
		29	There are information sources for advanced technology.	3	4	1	2.7

Demand Factor	Sales Status	30	There is a market nearby.	1	4	1	2.0
		31	Buyers are accessible anytime.	1	4	3	2.7
		32	It is well known as a production region.	2	4	1	2.3
		33	Public information source for market data is in half a day distance.	1	4	4	3.0
		34	An exhibition information & inquiry counter is available within 2 hours away.	1	1	4	2.0

Source: Compiled by the JICA study team, June 2009.

While differences are evident among the groups depending on the items, whereas the overall judgment is that it is easy to obtain human resources and raw material inputs, the financial aspect of the business environment was given low scores. Some items related to infrastructure got low scores. In view of the absence of problems related to infrastructure such as roads, telecommunications, and electric power, however, no difficulties were seen hampering nilam oil production. There was a major difference among the groups in terms of demand conditions, judgments varied according to whether the local oil collectors or buyers were considered to be “a market nearby.” In any event, training participants had the understanding that there was adequate demand for nilam oil.

Assessments regarding BDS availability are as shown in Table 5.1-12.

Table 5.1-12 Result of Cluster Environment Assessment (4)

(1=Yes, 0=No )

Related Industry/supporting industry/BDS			Availability			Accessibility in 1 hour			Quality (qualitative)		
			Group			Group			Group		
			1	2	3	1	2	3	1	2	3
Skill training	1	There is a UPT for skill training	0	1	0	0	1	0	0	1	0
	2	There are private experts who can provide training	1	1	1	1	0	0	0	0	0
	3	There are a public research institute or testing institute (Baristand, Balai Besar)	1	1	1	0	0	0	0	0	0
	4	There is a vocational training center	0	0	0	0	0	0	0	0	0
	5	There are technical institutes such as an engineering university or laboratory that can provide skill training	1	1	1	0	1	0	0	0	0
Facilitation of training	6	There is a human resource training center such as PUSDIKLAT	1	1	1	0	1	0	0	0	0
	7	There are private seminar houses or institutes	0	1	0	0	0	0	0	0	0
	8	There are colleges and universities that can provide training for administration staff	1	1	1	1	1	0	1	1	0
	9	There are schools for accounting and monetary skills	1	1	1	1	1	0	0	1	0

Practical Business Support	10	Lawyer	1	1	1	1	1	1	1	1	1
	11	Company management consultant	0	0	0	0	0	0	0	0	0
	12	Marketing consultant	1	1	1	1	1	0	1	1	0
	13	HRD specialist	1	1	1	1	1	1	1	1	1
	14	Industry designer	1	1	1	1	1	0	1	1	0
	15	ISO consultant	1	1	1	1	1	0	1	0	0
	16	SHINDANSHI	1	1	1	1	0	0	1	0	0
	17	TQC specialist	1	1	1	1	1	0	1	1	0
	18	IT Specialist	1	1	1	1	0	0	1	0	0
	19	Accounting specialist	1	1	1	1	1	0	1	1	0
	20	Tax accountant	1	1	1	1	1	1	1	1	0
	21	Baristand	1	0	1	1	0	0	1	0	0
	22	Balai Besar	0	1	1	1	0	0	1	0	0

Source: Compiled by the JICA study team, June 2009.

As can be seen from the above table, high scores were given for the availability of almost all BDS. The view was evident, however, that there were problems of accessibility to and quality of assistance through technical training and operations management consultation. There were groups, however, that assigned high ratings to both accessibility and quality of support for practical business activities. The key to evaluation in the case of Sumedang would be how access to Bandung is considered; some employees of the Sumedang Dinas Disperindag commute 90-120 minutes every day to Bandung, and for these persons Bandung are readily accessible. From such a viewpoint, it is thought that if even one group were to respond that there was accessibility, it could be taken to mean that accessibility was within acceptable range. Assessment differed from group to group regarding accessibility of UPTD, but this is because two groups were unaware that there was a UPTD in the Bandung suburbs. Further, only one group was aware that there was a private-sector seminar house. Baristand and Balai Besar were present in Bandung but their knowledge or recognition differed group to group (e.g., there was no knowledge that they existed, or it was thought that they were too distant to be of good use). Differences in assessment were also evident regarding expectations of the quality of BDS; they were dependent on what the trainees expected from BDS. Therefore, it would be necessary to have a re-evaluation of BDS done at the time of determining promotion goals for the cluster.

#### 5.1.4.2 Results of SWOT Analysis

After evaluation of the environment of the cluster, each of the three groups of trainees undertook SWOT analysis.

Some group is not able to provide appropriate evaluation due to the limited working hours and lack of special knowledge on nilam business. It is necessary to reevaluate the quality of BDS after setting-up of the goal of the cluster development.

Table 5.1-13 SWOT Analysis on the Nilam Cluster in Sumedang in the Cluster Diagnosis Training Program

(1) SWOT analysis by Group 1

<p>Internal Factor</p> <p>External Factor</p>	<p>Strength (S) :</p> <ol style="list-style-type: none"> <li>1. Abundant nilam as raw material.</li> <li>2. Potential cultivation area for nilam production</li> <li>3. Suitable climate for nilam production</li> <li>4. Easy to cultivate nilam.</li> <li>5. Strong support from the government sector (Indap, Hutbun, Perhutani, university associations, public research institutes and other related organizations)</li> <li>6. Highly skilled farmers and distillers</li> <li>7. Usage of appropriate technology</li> <li>8. Well-developed infrastructure</li> <li>9. Easy access to information</li> <li>10. Nilam is a priority agricultural product in Sumedang</li> <li>11. Operations of banks and financial institutions</li> </ol>	<p>Weakness (W):</p> <ol style="list-style-type: none"> <li>1. Low quality of raw material</li> <li>2. Unstable quality of nilam oil (Oil with average 30% or more PA and light color is required)</li> <li>3. No standard of nilam oil production causes unstable quality</li> <li>4. Lack of technical assistance to farmers and distillers</li> <li>5. No partnership between farmers and distillers</li> <li>6. Lack of knowledge of nilam oil in farmers</li> <li>7. Lack of instructors in nilam oil industry</li> </ol>
<p>Opportunity (O) :</p> <ol style="list-style-type: none"> <li>1. Availability of potential area for nilam cultivation</li> <li>2. Possibility to market expansion as development of perfume, cosmetics, soaps, medicines and pesticide industries</li> <li>3. High export demand</li> <li>4. Regional income may be increased</li> <li>5. Possibility to improve prosperity of nilam farmers</li> <li>6. Possibility to increase job opportunities</li> </ol>	<p>S-O</p> <ol style="list-style-type: none"> <li>1. Expand nilam cultivation area</li> <li>2. Improve the nilam oil quality and quantity</li> <li>3. Upgrade the skills of existing human resources to cope with nilam oil production</li> <li>4. Procure fertilizers from agents and providers</li> <li>5. Make cooperation with R&amp;D institutes and universities</li> </ol>	<p>W-O</p> <ol style="list-style-type: none"> <li>1. Improve production technology to meet the quality standard</li> <li>2. Form the nilam oil cluster</li> <li>3. Procure nilam oil distillation facilities</li> <li>4. Set up a UPT for nilam oil</li> </ol>
<p>Threat (T) :</p> <ol style="list-style-type: none"> <li>1. Consumer trends toward higher quality nilam oil</li> <li>2. Difficult to obtain raw materials when the price is low</li> <li>3. Nilam farmers outside of Sumedang will increase</li> <li>4. No standard oil price</li> <li>5. Unemployment in nilam farmers will increase</li> <li>6. Strong business networks have not been set up</li> </ol>	<p>S-T</p> <ol style="list-style-type: none"> <li>1. Improve production quality according to the standard</li> <li>2. Make cooperation with related organizations</li> </ol>	<p>W-T</p> <ol style="list-style-type: none"> <li>1. Execute cluster training</li> <li>2. Disseminate nilam cultivation and improvement of marketing ability</li> </ol>

(2) SWOT analysis by Group 2

Internal factor	Strength (S) : 1. Stable sales price 2. Availability of potential cultivation areas owned by the government	Weakness (W): 1. Far from water sources
External factor		
Opportunity (O) : 1. High demand of nilam (plants) from outside Sumedang	S-O 1. Improve the structure of nilam cultivation 2. Utilize the government owned areas	W-O 1. Make agricultural ditches in the nilam cultivation area
Threat (T) : 1. High failure percentage of a rooted cutting 2. Difficult to change the way of thinking and tradition of farmers	S-T 1. Study better seedlings 2. Change the attitude of farmers through training 3. Change seedling from cutting to nursery trees	W-T None

(2) SWOT analysis by Group 3

Internal factor	Strength (S) : 1. Abundant local raw materials 2. 230ha of nilam cultivation area 3. Interests of nilam cultivation among farmers 4. Existence of a nilam farmer group 5. Nilam is listed in the Regency development plan as a potential product of Sumedang 6. Nilam oil distillers with appropriate technologies 7. Use excellent seeds of nilam. 8. Access to market through collectors	Weakness (W): 1. Lack of entrepreneurs who produce nilam seedling 2. Nilam cultivation is considered as side business by farmers 3. Low knowledge of nilam cultivation in farmers 4. Unstable sales price (oil and plant) 5. No UPT for nilam 6. No standardization for products and processes 7. No nilam cultivation mapping 8. No policy for nilam sales channels 9. No global standard for nilam oil 10. Weak organizational management
External factor		

<p>Opportunity (O) :</p> <ol style="list-style-type: none"> <li>1. High market demand</li> <li>2. High possibility to expand cultivation area</li> <li>3. No substitute for nilam oil</li> <li>4. Increase jobs in the agricultural sector</li> <li>5. Chance to start the nilam oil distillation business</li> <li>6. Nilam can be easily produced with other crops</li> </ol>	<p>S-O</p> <ol style="list-style-type: none"> <li>1. Improve product quality and quantity to meet the world market demand</li> <li>2. Form a nilam oil producer cluster</li> <li>3. Provide finance to nilam entrepreneurs</li> </ol>	<p>W-O</p> <ol style="list-style-type: none"> <li>1. Set up a nilam UPT</li> <li>2. Give guidance to nilam entrepreneurs</li> <li>3. Standardize products and processes</li> </ol>
<p>Threat (T) :</p> <ol style="list-style-type: none"> <li>1. Potential competitors in India, Brazil and Philippines</li> <li>2. Potential domestic competitors.</li> <li>3. Interests of nilam farmers lost as other plants get more profitable</li> <li>4. Nilam is cultivated in the area owned by villages or state-owned forestry companies</li> </ol>	<p>S-T</p> <ol style="list-style-type: none"> <li>1. Form a strong business network among farmers, distillers and exporters (including partnerships)</li> <li>2. Make a purchase contract of an agreed amount of nilam for a certain period</li> </ol>	<p>W-T</p> <ol style="list-style-type: none"> <li>1. Execute nilam cultivation training</li> <li>2. Execute management training.</li> <li>3. Make and apply the SOP for distillation to meet the standard</li> <li>4. Make research for expanding the nilam business</li> </ol>

Source: Compiled by the JICA study team.

## 5.2 Pilot Project Formation

On the basis of assessment results on the cluster environment, as obtained through the Cluster Diagnosis Training Program, persons from both West Sumatra and West Java provinces participated in the planning of pilot projects to be carried out as part of this Cooperation, for the Bukittinggi embroidery cluster in West Sumatra and the nilam cluster in West Java.

The processes of formation of the pilot project at each cluster were as follows.

- First, on the basis of information collected and SWOT analysis related to the environments of the cluster (business environments, government policy, facilitators and other support organizations, use of BDS providers, etc.), a draft plan of actions was prepared as best could be done by all training participants, each of which builds on “strengths” and “opportunities” or overcomes “weaknesses” and “threats.”
- Next, the contents of the action plan were used to make groupings for compilation of a long list that reflected higher-level objectives.
- Each action proposed in the long list was screened for possibility of achieving the objective in a short time, or need to assign it as a medium- or long-term activity owing to the need for extensive preparation. Having done that, after consultation with cluster-related persons (local government officials, cluster companies, financial institutions and others), a short list of short-term actions was drawn up.
- On the basis of the short list, the pilot project were planned, including therein activities deemed suitable for the present Cooperation. In spite of the above processes, the length of pilot project would be too short for some listed actions to be carried out fully; these activities were split into those done in the pilot project and those presumed to be performed by cluster-related persons at a later time.



Regarding the Bukittinggi embroidery cluster, because there already existed a “vision” for the cluster and an action plan, the pilot project was planned taking them into account. As they did not exist in the nilam cluster in Sumedang, the planning included preparation of a long-term “vision” as well.

The following were considered in determining priorities in the pilot projects.

- Making effective use of local resources, and giving maximum respect to the autonomy of local persons.
- (Especially in connection with the Bukittinggi embroidery cluster) Respecting the action plan presently being implemented, and attempting to provide support for it.
- Identifying BDS providers who could contribute to effective promotion of clusters, and planning on mobilizing them.
- Including activities that would be within the capacities of the cluster personnel and would be realistically thought to be capable of implementation.
- Including activities that would contribute to strengthening the organization of core enterprises thought to be valuable for promoting the effectiveness and efficiency of cluster development.

## 5.2.1 Pilot Project for Strengthening the Competitiveness of the Bukittinggi Embroidery Cluster

### 5.2.1.1 The Long List

The long list of activities intended to improve the competitiveness of the Bukittinggi embroidery cluster is shown below, as Table 5.2-1.

**Table 5-2.1 Long List of Action Plans for Strengthening the Competitiveness of the Bukittinggi Embroidery Cluster**

<p><u>Project Purpose 1: Establishment of the cluster working group and promotion of collaborative activities</u></p> <p>Action Plan 1) Strengthening of the working group</p> <ol style="list-style-type: none"> <li>1. Establishment of the working group</li> <li>2. Capacity building of the cluster facilitators and increase in the number of facilitators.</li> <li>3. Organization of the working group for each quality level in the markets (High, Middle, and Low).</li> </ol> <p>Action Plan 2) Establishment of the embroidery cluster development forum in West Sumatra</p> <p><u>Project Purpose 2: Expansion of demand for embroidery products</u></p> <p>Action Plan 1) Demand expansion through design development</p> <ol style="list-style-type: none"> <li>1. Design training program</li> <li>2. Classification of existing designs</li> <li>3. Collection of information about new designs</li> <li>4. Establishment of a working group for exploitation of new markets</li> <li>5. Implementation of design contests</li> <li>6. Implementation of fashion shows in Bukittinggi</li> </ol> <p>Action Plan 2) Promotion of a brand image</p> <ol style="list-style-type: none"> <li>1. Establishment of product standards</li> <li>2. Establishment of the authentication system</li> <li>3. Clear definition of brand concepts of the embroidery products produced in Bukittinggi</li> <li>4. Development of a brand logo</li> </ol>
--

5. Development of packages in consonance with the brand logo
6. Implementation of design contests
7. Implementation of fashion shows in Bukittinggi

Action Plan 3) Exploitation of new domestic and foreign markets

1. Implementation of exhibitions in new markets (in Europe, East Asia, and Middle East)
2. Implementation of questionnaire surveys on images of the products produced in Indonesia on occasion of the exhibitions in the new markets
3. Organization of exhibitions by utilizing the Internet
4. Establishment of antenna shops in the places like shopping malls

Project Purpose 3: Utilization of Information Technologies

Action Plan 1) Training program on IT utilization

1. Organization of seminars for effective use of IT (at basic level)
2. Training on application of IT to sales promotion
3. Lectures on marketing methods by means of IT
4. Cyclic site training programs on dissemination of IT usage

Project Purpose 4: Strengthening of support system

Action Plan 1) Establishment of embroidery development center

1. Collection of advanced information on:
  - Product design
  - Packaging
  - Raw materials
  - Technologies, machines
  - Quality control
  - Financial management
  - Product standards, product specifications
  - Application methods of IT
2. Skill training (by collaboration with UPTD, universities, etc.) on:
  - Business management
  - Production
  - Online transaction (e-commerce)
  - Motivation enhancement
  - 5S
  - KAIZEN technologies
3. General training on:
  - Business management
  - Administrative works (like bookkeeping, etc)
  - Financial management
  - 5S, KAIZEN technologies
  - Stock management
4. Consultation on improvement in business management such as:
  - Investment
  - Operation fund
5. Provision of the trading house functions such as:
  - Development of a database of embroidery companies
  - Information provision for buyers
6. Establishment of incubation centers for embroidery business such as:
  - Opening of a consultation center by collaboration with universities
  - Regular consultation by SHINDANSHI and Extension Officers in the Disperindag

Source: Information from participants in the Cluster Diagnosis Training Program, and JICA study team.

### 5.2.1.2 Formation of the Pilot Project

On the basis of the long list shown above, activities that could be carried out as the pilot project were identified (making the short list). Participating in preparation of the short list were some of

the trainees who had worked on the long list, and persons from Dinas Koperindag of the city, as well as persons related to the embroidery cluster (producers, sellers, banks, raw material suppliers, government officials concerned with economic affairs, and market development personnel from Dinas Koperindag).

A FGD meeting was held by the Ministry of Industry several days prior to the work of deciding on the short list, in which the progress of their original action plan was presented by area of emphasis and correction of the course of actions was discussed. Discussions during the FGD meeting were referred to in the identification of the pilot project.

It was decided on the basis of the foregoing that the pilot project for Bukittinggi City in West Sumatra would be as follows.

- 1) Forming an Embroidery Cluster Forum and a Local Economy Development Forum: By way of promotion of the cluster, the organizational aspect of the cluster is to be strengthened at the initiative of private enterprises, so that there can be development of private company ownership.
- 2) Implementation of design training with the objective of facilitating development of products that match the requirements of markets: Implementation of instructor training and basic design training.
- 3) Training in the 5S approach: To be done as OJT.
- 4) Compilation and preparation of marketing oriented presentation materials for embroidery companies: brochures, database improvement.

## 5.2.2 Pilot Project for Strengthening the Competitiveness of the Sumedang Nilam Cluster

### 5.2.2.1 The Long List

The long list of action plans for strengthening the competitiveness of the Sumedang nilam cluster is shown as Table 5.2-2.

Precautions were taken by participants to ensure that a comprehensive promotion plan would be prepared, because promotion of the nilam cluster spans two industrial sectors, namely agriculture (cultivation of high-quality nilam), and industry (extraction of high-quality oil)

**Table 5.2-2 Long List of Action Plans for Strengthening the Competitiveness of the Sumedang Nilam Cluster**

1.	Form a Strong Business Network (including partnership cooperation) of Farmers, Distillers And Exporters <ul style="list-style-type: none"> <li>• Organize an association of farmers, distillers and exporters</li> <li>• Build a cooperation relationship with relating sectors (collectors, large distillers and exporters)</li> <li>• Make and sign a MOU among farmers, distillers, and exporters.</li> <li>• Streamline the marketing channels</li> </ul>
2.	Improve the Quality and Quantity of the Products to Match the Needs of the Global Market <ul style="list-style-type: none"> <li>• Improve the quality of nilam leaves</li> <li>• Increase the quantity of nilam leaves</li> <li>• Expand the cultivation area</li> <li>• Make the SOP for distillation</li> <li>• Make the SOP for cultivation</li> <li>• Provide training in nilam cultivation</li> <li>• Provide business management training</li> </ul>
3.	Improvement of Access to Finance <ul style="list-style-type: none"> <li>• Strengthen the management of group members</li> <li>• Request banks to mitigate loan conditions to SMEs (by the government).</li> </ul>
4.	Build the UPT for nilam <ul style="list-style-type: none"> <li>• Distill nilam</li> <li>• Check the quality of nilam oil</li> </ul>

Source: Compiled by trainees and edited by the JICA study team.

Because of time constraints, not everything that was considered essential was included in the long list. For example, there was no concrete proposal such as “to use government-owned land now not being cultivated, in order to expand the area under nilam.” Therefore, when the nilam cluster at its own initiative decides on projects to be implemented next time, it would be desirable for there to be a review of the long list, with cooperation by outside supporting entities and institutions.

#### 5.2.2.2 Formation of the Pilot Project

On June 5, a day after the cluster diagnosis training was completed, the stakeholders gathered to establish priority actions. The meeting was intended to let stakeholders, particularly the refiners and farmers determine how to proceed, and complete preparations for the required activities. From the government sector, provincial and regency Dinas Disperindag and regency agricultural/forestry Dinas attended. Some of the trainees also took part. The representative trainees presented the deliverables of the training (SWOT analysis results and long list), and then those in attendance exchanged ideas of ideal cluster conditions to be achieved by 2025. The following are the ideas that were presented.

[Ideas for formation of a Vision for 2025]

- (1) The cluster will have developed products using local nilam which domestic consumers use.
- (2) The nilam oil refined in the cluster will have met the international PA standard.
- (3) Sumedang will have become a “nilam city” (that is, it will have been publicly recognized as a top-quality essential oil production area in Indonesia).
- (4) Sumedang will have become a business center for essential oil.
- (5) The welfare of nilam farmers will have improved.
- (6) The cluster will have had the top-ranked cultivation technology in Indonesia.
- (7) Nilam production will have become a main job, not a side job like now.
- (8) The cluster will have had a nilam-related information system and database.

- (9) The cluster will have produced a sufficient amount of nilam oil enough to be a center of the global essential oil business.
- (10) The cluster will have been an advanced base of the global essential oil business.
- (11) Sumedang will have become a center of nilam study.
- (12) Nilam production will have become a driving force of the development of other industries.

Among these ideas, (9) and (10) were selected as the goals which the stakeholders in the Sumedang nilam industry could share. Putting them together, they determined the vision up to the year 2025 as follows.

[Vision for 2025]

- Sumedang of West Java Province would be the most superior nilam oil industry/business center of the world.

Next, referring to the long list, they determined the priority actions to be implemented for the coming three years, which were shown in the box below.

Priority actions to be implemented for the coming three years (2009-2011)

1. Actions to stabilize the nilam price
2. Improvement of the quality and increase of the quantity of nilam cultivated.
  - a. Implementing training in nilam cultivation and business management
  - b. Using superior nilam seedlings, and preparing a cultivation SOP.
  - c. Increasing the growing area.
3. Standardization of the nilam oil quality
  - a. Developing a SOP for cultivation and distillation.

They included the action 1, one to stabilize nilam oil price, after active discussions, reflecting their strong concern with it, though it was originally not on the long list. If in the future the price is low and unstable as it is, the farmers may have to stop cultivating nilam. However, there were also comments that fixing the price was difficult and that such attempts in the past had failed. Therefore, they eventually agreed to undertake a fact-finding survey instead of taking some concrete actions for the stabilization.

Note that action details or the project implementation system (role assignments) were not determined at that time; the JICA study team wanted stakeholders to raise the levels of their awareness of involvement and willingness to participate and thus let them decide what to do. Also, it seemed to be better to improve relationships between related parties through preparation and implementation of the pilot project, because relationships of trust have not been formed among the stakeholders.

[Pilot Project Implementation]

In order to make progress toward realization of the pilot project, a workshop was held with participation by the Sumedang Dinas Koperindag, BAPPEDA, nilam farmers, distillers, dealers and others. At this workshop, it was agreed to organize a cluster first to carry out the priority actions as shown above. Moreover, concerning standardization of nilam oil quality, it was agreed that drafting of guidelines and training for both cultivation and distillation techniques were required. As a result, agreement was reached that the following three actions would be implemented as the pilot project: (1) formation and strengthening of a Nilam Cluster Committee, (2) preparation and dissemination of a SOP for nilam cultivation, and (3) training on nilam oil distillation.



## Chapter 6 Outline and Results of Pilot Projects

Two pilot projects were carried out in an embroidery cluster in the Bukittinggi City, West Sumatra and in a nilam cluster in the Sumedang Regency, West Java, for about six and half months, from the late July of 2009 to the mid-February of 2010. This chapter presents the summaries and evaluation results of the pilot projects that were implemented under the present study.

### 6.1 Pilot Project for Development of Embroidery Cluster in Bukittinggi City, West Sumatra

Table 6.1-1 presents the summary of four actions planned for the pilot project. Each has its own purpose, while sharing an overall goal which is same as the existing vision of the embroidery cluster in Bukittinggi ("Embroidery products made in Bukittinggi becomes a competitive and reliable product in the world market."). Actions 1, 2 and 3 were designed to be completed within the pilot project period, whereas the action 4 was planned to be concluded by the end of the next fiscal year by the self-driven efforts of the Dinas Koperindag in Bukittinggi. Note that achieving all the four purposes does not necessarily warrant the accomplishment of the overall goal. As discussed in Chapter 5, the stakeholders chose these actions based on the long list of actions for development of the embroidery cluster in Bukittinggi (or attainment of the cluster vision), by taking into account the following factors.

- Priorities of cluster companies
- Properness as the pilot project components.

Hence, the achievement of the overall goal will require other actions as well.

Table 6.1-1 Summary of actions

<b>Action 1</b> "Establishment of Embroidery Cluster Forum and Local Economic Development Forum"	<b>Action 2</b> "Design Training Program for Product Development in Consonance with Market Needs"	<b>Action 3</b> "Training of Trainers on 5S Techniques"	<b>Action 4</b> "Creation of Marketing-oriented Company Catalog"
<b>Overall Goal (Vision of embroidery cluster in Bukittinggi)</b> * Embroidery products produced in Bukittinggi will become more competitive and reputable in the world markets			
<b>Purpose</b>			
* Organizations in charge of development of embroidery cluster in Bukittinggi will incorporate more private participation and industrial comprehensiveness	* The number of embroidery companies with capability to develop designs in consonance with the market needs will increase in Bukittinggi	* Teaching capability of SME trainers in the Dinas Koperindag for 5S techniques will be enhanced	* A catalog for embroidery companies in Bukittinggi will be more exhaustive to encompass information that is necessary for buyers in 2010, compared to the current version.
<b>Output</b>			
1. Establishment of an embroidery cluster forum and a local economic development forum will be agreed upon by the cluster stakeholders.	1. Curricula for the training programs will be developed	1. A curriculum for the training program will be developed	1. Points of improvement in the current embroidery company catalog in Bukittinggi will be comprehended.
2. Taskforces for establishment of both the forums will be set up.	2. A training of design trainers will be conducted for designers in/around Bukittinggi to improve their capability to apply and diversify their skills in design development	2. Model enterprises will be selected.	2. A sample will be developed as a draft template for development of a new embroidery company catalog in Bukittinggi in both Indonesian and English.
3. Both the forums will be established.	3. Embroidery companies will obtain skills and knowledge about design development in consonance with market needs through the advanced training program.	3. A training of SME trainers for 5S techniques will be implemented.	3. The Dinas Koperindag will agree that it will develop the new embroidery company catalog based upon the template developed in Output 2 as a part of its activities in the fiscal year of 2010.
4. Practical knowledge of members of both the forums about the forum system will be increased.	4. A base curriculum for the future design training program for embroidery companies in Bukittinggi will be developed.		
<b>Activities</b>			
1-1 Hold a workshop with the cluster stakeholders for socialization of forum establishment.	1-1 Review curricula for the design training programs that have been done in the past.	1-1 Review experiences of 5S application in embroidery SMEs in Bukittinggi in the past that had been studied by the second field survey.	1-1 Review contents and purposes of the current embroidery company catalog.
1-2 Ask participants (including high-rank officials of the city government) in the workshop for permission to establish both the forums.	1-2 Review contents of the design training programs in the past through interview surveys with design trainers	1-2 Review training experiences of the Dinas Koperindag and other government agencies in regards to application of 5S techniques and other production control methods to SMEs that had been studied by the second field survey.	1-2 Buyers and textile companies evaluate contents of the current embroidery company catalog.
2-1 Conduct mapping exercise to analyze stakeholders in the embroidery cluster and local economic development through workshops and individual interview surveys with the stakeholders.	1-3 Understand problems and points to improve about the design training program through interview surveys with participants in the training program in the past.	2-1 Hold a seminar with embroidery SMEs to explain this action.	2-1 Select about three embroidery companies for sample making.
2-2 Hold a workshop with the stakeholders identified in Activity 2-1. to set up taskforces to establish both the forums.	1-4 Understand level of consistency between the market needs and embroidery product design/level of designers' skill in Bukittinggi.	2-2 Recruit model enterprises in which the trainees will receive OJT on 5S technique guidance.	2-2 Create a sample template for development of the new embroidery company catalog based upon points of improvement comprehended in Output 1.
3-1 Establish an article of association for each forum, including organization structure, objectives, rules, regulations, etc	1-5 Set standard qualification for participation in the training program.	2-3 Select the model enterprises.	2-3 Translate the sample template into English.
3-2 Hold a workshop with the stakeholders to officially announce establishment of both the forums.	2-1 Select design TOT participants among designers in Bukittinggi and neighboring cities.	3-1 Select the trainees from the employees of the Dinas Koperindag.	3-1 JICA study team draws up recommendations about future improvement and how-to-use of the sample template developed in Output 2.
4-1 Conduct a study tour with members of both the forums to Central Java where forum system is well developed.	2-2 Implement a study tour to Jakarta for qualified trainees.	3-2 Impart a lecture on 5S techniques to the selected trainees.	3-2 The Dinas Koperindag receives the sample template as its template for the future development of the embroidery company catalog.
	3-1 Select participants in the training of design trainers from the designers stationed in/around Bukittinggi	3-3 JICA study team extends OJT in the model enterprises on 5S technique guidance to the selected trainees.	The Dinas Koperindag and the JICA study team discuss how the new embroidery company catalog should be utilized based upon the recommendations made in Activity 3-1.
	3-2 Conduct the training of design trainers in BukittinggiCity.		
	4-1 Sort out good lessons found at the training. 4-2 Improve the training curriculum developed in Output 1.		

Source: JICA study team

## 6.1.1 Outline of the priority actions

### 6.1.1.1 Action 1: Establishment of the embroidery cluster forum and the local economic development forum

#### (1) Objective

The objective of this action is to make the existing organizations for embroidery cluster development in Bukittinggi more private-oriented and more industrially comprehensive by



establishing an embroidery cluster forum and a public-private sector dialogue forum participated in by various stakeholders of the city's economic development. As stated in Chapter 4, the Working Group, which had been organized with assistance of the Ministry of Industry, has existed for the development of the embroidery cluster in Bukittinggi. Under the action, the Working Group is used as the basis of establishing a more comprehensive support system, namely a local economic development forum which addresses development issues relating to not only the embroidery cluster but also other potential clusters in Bukittinggi. At the same time, it also is expected to help establish a private-owned embroidery cluster forum to inform problems and needs of embroidery companies to public assistance providers in a more consolidated manner.

(2) Implementation schedule and implementation results

Table 6.1-2 shows the action implementation schedule according to output.

Table 6.1-2 Implementation schedule (Action 1)

Year	2009												2010					
Month	July		August			September		October			November		December		January		February	
Survey	Home work		Third Field Survey			Home Work		Fourth Field Survey					Home work		Fifth Field Survey		Home Work	
Output1 (Establishment of an embroidery cluster forum and a local economic development forum will be agreed upon by the cluster stakeholders.)																		
Output2 (Taskforces for establishment of both the forums will be set up.)																		
Output3 (Both the forums will be established.)																		
Output4 (Practical knowledge of members of both the forums about the forum system will be increased.)																		

Note: The number of output in this table is linked to the number of output in Table 6.1-1.

Source: JICA study team.

Implementation results are represented below. Note that the JICA study team hired experts in the area of forum development from the Resource Development Center<sup>1</sup> (RDC) in Central Java to serve as organization facilitators required to produce all the outputs.

<sup>1</sup> A subsidiary organization of FEDEP in Central Java which is implementing capacity building to facilitators and cluster related personnel for cluster development within the province.

### 1) Output 1

As shown in Table 6.1-2, output 1 of this action is that “Establishment of an embroidery cluster forum and a local economic development forum will be agreed by the cluster stakeholders.” The following activities by the JICA study team produced this output as planned.

- During the third field survey, a socialization workshop was held with attendances from stakeholders of the embroidery cluster in Bukittinggi to establish an embroidery cluster forum and a local economic development forum. On the first day, the then vice mayor of Bukittinggi (currently the mayor) attended the workshop and announced his consent to the establishment of both forums, which was also agreed by all the attendants (including those in the private sector and public sector).
- During the fourth field survey, a workshop was held in November 2010 for related parties in the embroidery cluster. (Note that its primary purpose was to conduct a stakeholder mapping.) Again, the then vice mayor of Bukittinggi participated and then instructed the Dinas Koperindag to make a draft decree on the establishment of both forums.

### 2) Output 2

Output 2 of this action is that “Taskforces for establishment of both the forums will startup.” The output was produced by implementing two activities described below.

One was a mapping task to identify stakeholders relating to the embroidery cluster and general economic development in Bukittinggi by means of interview surveys covering private enterprises and government organizations during the fourth field survey. The other was to hold a workshop for the stakeholders in the embroidery cluster in November 2009. At the workshop, organizations which should take part in the two forums were identified and made into a list under consensus of the participants..

Then, all the listed organizations were invited to the workshop held in November 2009, in order to set up a taskforce for formation of the forums. In the workshop, five persons representing embroidery companies were selected for the taskforce’s members. As for the taskforce members of the local economic development forum, representatives of the following organizations were selected.

- Lumbuang Puska (cooperative of embroidery and textile industry)
- KADINDA
- BAPPEDA
- Dinas Culture and Tourism, Dinas Koperindag
- Economic division of the city government
- Nagari Bank

### 3) Output 3

Output 3 of this action is that “both forums will be established,” and the following activities were conducted to achieve the goal.

In December 2009, during the fourth field survey, the taskforce team organized in output 2 had a meeting with the JICA study team and RDC facilitators. At the meeting, they finalized the draft articles of association for each forum, including objectives, organization, rules and regulations. In particular, the articles of association of the local economic development forum was required to be issued in the form of the mayor’s decree., and the draft decree so prepared was later submitted to the city government for final approval by the mayor. On the other hand, the taskforce for the embroidery cluster forum already wrote up their first draft

articles before the meeting. Thus, they, in consultation with the JICA study team and the RDC assistants, modified them to prepare a final version.

The JICA study team held a workshop to publicly announce the establishment of both forums in January 2010, during the fifth field survey. The embroidery cluster forum was officially established at that time. The local economic development forum was not established since the mayor had yet to approve the draft decree. Therefore, the workshop simply offered the opportunity for the mayor and the board members to confirm their decision to establish it.

#### 4) Output 4

Output 4 of this action is that “practical knowledge of members of both forums will be augmented.” A study tour was organized to Central Java in February 2010. Participants were five board members of the embroidery cluster forum and expected four members of the local economic development forum. The purpose of the study tour was to understand the current state of the forum system by visiting the Central Java Province where the forum-based development structure is the most advanced in Indonesia. Table 6.1-3 shows the schedule of the tour.

Table 6.1-3 Schedule of study tour (February 7 to 11, 2010)

Day	Time	Activity
Day 1	05.00 – 08.00	Bukittinggi to Padang
	09.20 – 10.00	Padang to Jakarta
	12.40 – 13.40	Jakarta to Semarang
	13.40 – 15.00	Visit tour and lunch in Semarang City
	15.00 – 18.00	Travel to Kudus
	19.30-	Night discussion
Day 2	08.00 – 10.00	Meeting with FEDEP Kudus
	10.00 – 12.00	Meeting with Embroidery Cluster Forum
	13.00 – 15.00	Visiting border cluster and other cluster
	15.00 – 16.00	Travel to Jepara
	19.30-	Night discussion
Day 3	08.00 – 10.00	Meeting with FEDEP Jepara
	10.00 – 14.00	Visiting clusters : mebel, handicraft, textile
	15.00 – 17.00	Travel to Surakarta
	18.30-	Night discussion
Day 4	08.00 – 09.00	Meeting with Walikota Surakarta
	09.00 – 10.00	Visiting Office : One Stop Services for Permission
	10.00 – 11.00	Visiting batik Laweyan cluster
	11.00 – 12.30	Visiting Sari warna fabric
	13.30 – 16.30	Meeting with FEDEP Surakarta
	18.30-	Night discussion
	19.30-	Dinner
20.30-	Continuing night discussion	
Day 5	06.00 – 06.45	Travel to Airport
	07.45 – 08.50	Surakarta to Jakarta
	10.45 – 12.35	Jakarta to Padang
	12.35 – 15.00	Travel to Bukittinggi

Source: JICA study team.

#### 6.1.1.2 Action 2: Design training program for product development in consonance with market needs

##### (1) Objective

The objective of this action is to increase the number of companies in the embroidery cluster in Bukittinggi that possess capability to develop the design in consonance with market needs. Also,

it is intended to improve skills of design trainers available in/around Bukittinggi. Furthermore, by establishing a new curriculum of design training for embroidery companies, an attempt will be made to develop a framework in which embroidery companies could receive appropriate training in the future.

(2) Implementation schedule and implementation results

Table 6.1-4 shows the schedule of the action according to output.

Table 6.1-4 Implementation schedule (Action 2)

Year	2009						2010		
	July	August	September	October	November	December	January	February	
Survey	Home work	Third Field Survey	Home Work	Fourth Field Survey			Home work	Fifth Field Survey	Home Work
Output 1 (Curricula for the training programs will be developed)									
Output 2 (A training of design trainers will be conducted for designers in/around Bukittinggi to improve their capability to apply and diversify their skills in design development)									
Output 3 (Embroidery companies will obtain skills and knowledge about design development in consonance with market needs through the advanced training program.)									
Output 4 (A base curriculum for the future design training program for embroidery companies in Bukittinggi will be developed.)									

Note: The number of output in this table is linked to the number of output in Table 6.1-1.

Source: JICA study team.

Implementation results by output are presented below. Note that the JICA study team hired two design experts based in Jakarta to develop the training curriculum for the action. In addition, the JICA study team outsourced their implementation to the PT Graha Karya Kreasi (design firm).

1) Output 1

Output 1 of this action is that “a curriculum for the training program will be developed,” and was produced by conducting the following activities.

In August 2009 during the third field survey, the JICA study team, with the two design experts, visited four embroidery companies in Bukittinggi that had participated in the past design training programs organized by the Dinas Koperindag. There were two purposes in this visit. One was to hear problems and possible improvements relating to the design training programs, together with request for future design training. The other was to see how their product design matched market needs. Also, a meeting was held in August 2009 to develop a curriculum of design training for embroidery companies to be conducted in this action. It was attended by representatives of the Dinas Koperindag, seven embroidery companies that had participated in the past design training program held by the Dinas Koperindag, three designers who had instructed them, and the above two design experts based in Jakarta.

The results of the corporate visits and the curriculum development meeting are summarized as follows:

- To target training for companies at relatively high levels in design development, as the design training programs held by the Dinas Koperindag mainly aim at teaching basic design skills);
- To focus on the enhancement of creativity, branding capability and motivation for design development;
- To emphasize application of embroidery design to various types of products that meet market needs; and
- To teach IT skills for design development.

Based upon the conclusion as well as detailed reviews of the past design training curricula, the two design experts developed a design training curriculum as well as one to train design trainers. At the same time, they established qualifications for participants in the training program. Table 6.1-5 presents the summary of the curriculum.

Table 6.1-5 Summary of curriculum for design training program

Type	Period	Objective	Contents
Training of Design Trainers	3 days	To improve the trainees' capability of application and diversification in relation to design development. To enhance general capability of the trainees as a design trainer	Conduct survey visit to the markets at various consumer levels in Jakarta (1 day) Conduct survey visit to the workshops owned by famous designers in Jakarta (1 day) Hold night discussion sessions aiming for improvement in capabilities as a design trainer, enhancement of motivation for design training activities, and application of embroidery to various types of products. (1 day)
Advanced Training	18 days	To enhance capabilities of developing designs in consonance with the market needs, by targeting the embroidery companies with relatively high design development skills	Hold a kick-off workshop to explain details of the training program, to enhance motivation of the participants, and set the action assignments, among others (2 days) Implement the action assignment (making sample products) (monitored and advised by the participants in the Training of Design Trainers (10 days) Give lectures and practical training about history of embroidery industry in Bukittinggi, application of embroidery innovation, development of motif, knowledge of raw materials, market strategies and expansion, IT utilization, product image, application of drawing techniques, color matching (5.5 days) Hold a closing seminar where sample products are exhibited (0.5 days)

Source: JICA study team.

## 2) Output 2

Output 2 of this action is that "training of design trainers will be conducted for designers in and around Bukittinggi to improve their capability to apply their skills in design practice." It was successfully produced by conducting the following activities.

During the fourth field survey, the JICA study team selected participants of the training program. The qualifications established by the design experts as part of output 1 are as follows:

- Participants are required to have instructed in the design training programs organized by the Dinas Koperindag;
- Participants should be based in Bukittinggi or surrounding areas; and
- Participants should possess knowledge and skills design development which can be applied mainly to Kerancang embroidery products.

During the fourth field survey, the JICA study team interviewed seven candidates, who submitted the curricula vitae. Then evaluation of their qualifications, the levels of knowledge and motivation found in the interviews were reviewed and taken into account to select

four participants: a designer/design trainer, a design teacher in the design school, a design trainer/ embroidery company owner, and a design trainer/non-embroidery company owner.

In November 2009, the training program for design trainers was conducted according to the curriculum that is summarized in Table 6.1-5. Table 6.1-6 lists activities undertaken during the training program.

Table 6.1-6 Activity schedule of training of design trainer program (Actual: from November 30, 2009 to December 2, 2009)

Time	Activity
Day 1	November 30, 2009 "Broaden the Horizons"
8:20	Depart to Jakarta, GA 161
10:45	Arrived in Jakarta – 30 minutes late because of the flight delay
12:15	Program Briefing
13:15	Visited " <b>Pasar Raya</b> " in Blok M
15:50	Visited <b>Plaza Senayan</b> Mall
16:20	Visited <b>Sahid Jaya Hotel, Ramli Exhibition</b> (Indonesia's top fashion designer)
19:50	Dinner and Night Discussion
Day 2	December 1, 2009 "Embrace the Challenges"
8:55	Visited <b>Tanah Abang Grocery Centre</b>
12:40	Visited <b>Heritage Batik Exhibition</b> at Departement of Industry
14:25	Visited <b>Maharani Design Centre</b>
19:40	Dinner and Night Discussion
Day 3	December 2, 2009 "Exploring Market Possibilities"
8:55	Visited <b>JACC</b> to see <i>Tasikmalaya Embroidery market</i>
10:20	Visited <b>Grand Indonesia</b> to see <i>Alun Alun Indonesia - high end market.</i>
11:10	Visited <b>Plaza Indonesia</b> to see <i>embroidery application in Debenhams</i>
12:20	Lunch and Discussion
15:25	Jakarta to Padang

Source: JICA study team.

### 3) Output 3

Output 3 of this action is that “embroidery companies will obtain skills and knowledge about design development in consonance with market needs through the advanced training program.” The following activities were conducted to produce the output.

In early December 2009 during the fourth field survey, the JICA study team, in consultation with the Dinas Koperindag, listed 20 embroidery companies in Bukittinggi that met the qualifications for participation in the advanced training program. The qualifications set as part of the output 1 are as follows:

- Participant companies are one of major embroidery companies in Bukittinggi;
- Participant companies have already developed their own design as a part of business;
- Participant companies possess their own design assets;
- Participant companies have fifteen or more full-time/part-time employees;
- Participants carry sufficient knowledge and capabilities in regards to product development, market exploitation, and application of embroidery to various types of products; and
- Participants have participated in the design training programs organized by the Dinas Koperindag.

The JICA study team presented the list to the taskforce for establishment of the embroidery cluster forum in the form of recommendation. At the end of December 29, 2009, the taskforce finally selected 20 participants after minor modifications.<sup>2</sup>

In January 6, 2010 to January 23, 2010, the advanced training program was held in accordance with the curriculum shown in Table 6.1-5. The program started with a kick-off workshop followed by lecture and practical training sessions where participants received guidance and advice, as well as monitoring. The schedule of lecture and practical training conducted by design experts is presented in Table 6.1-7.

#### 4) Output 4

Output 4 of this action is that “a basic curriculum for the future design training program for embroidery companies in Bukittinggi will be developed,” and the following activities were conducted.

In January 2010, a final report on the training programs was prepared and submitted by the company which administered the programs. It proposed, among other things, a newly designed training curriculum for the embroidery cluster in Bukittinggi on the basis of the lessons learned from the training in the pilot project. Table 6.1-8 presents its outline. The curriculum divides embroidery related companies into two groups and provides each group with training designed according to its conditions. More precisely, they are divided into two groups, namely the embroidery producer group and the embroidery distributor group, each of which is further divided into three groups based upon such criteria as levels of design capability, production capacity, capital size, and management capacity. Note that the training items for B-1, B-2 and B-3 cover business management, but they are devised so that they can address issues relating to embroidery product sales and design development issues.

---

<sup>2</sup> The Koperindag used to choose the training participants of the design training hosted by them. By leaving the selection of participants to the taskforce of the embroidery cluster forum, the JICA study team tried to find a way to involve the private sector in the project planning of a government funded program.

Table6.1-7 Schedule of lecture and practical training in the advanced training program (Actual)

Time	Activity
Day 1 (2010/1/18)	
9:30	Opening Ceremony
10.45 – 12.15	Embroidery History by Pananingtyas Prabantari (2 sessions)
13.00 – 16.45	Embroidery Technique Development by Tuty Cholid (2 sessions)
Day 2 (2010/1/19)	
08.30 – 12.15	Entrepreneurship: Innovation, Motivation by Anto Suroto (4 sessions)
13.00 – 16.45	Design Motive by Tuty Cholid (4 session)
Day 3 (2010/1/20)	
09.00 – 12.15	Embroidery Materials by Tuty Cholid (4 sessions)
13.00 – 16.45	Quality Control: Group Assignment Evaluation by Tuty Cholid (4 sessions)
Day 4 (2010/1/21)	
09.00 – 12.15	Business Development by Kusuma Andrianto (4 sessions)
13.00 – 16.45	Brand Image Building by Kusuma Andrianto (4 sessions)
Day 5 (2010/1/22)	
09.00 – 11.30	Sketch Application in Embroidery by John Martono (4 sessions)
14.30 – 16.45	Closing Seminar at The Hills Hotel
	- Opening
	- JICA Program Explanation
	- Training Result Explanation by Local Trainers
	- Training Result Explanation by Participants
20.00 – 22.00	Discussion with Head of Dekranasda and team
Day 6 (2010/1/23)	
09.00 – 11.30	Colorings by John Martono(3 sessions)
11.30 – 12.15	Program Evaluation

Source: JICA study team.

Table6.1-8New design training curriculum

Grouping by Business Field	Grouping by Design/Company Capacity	Continuous Training by Group
A. Producer	A-1. Basic Level	<b>1. Design, Creativity and Innovation Development (For A-1, A-2)</b> - Introduction of color and composition (4 sessions for tutorial, 4-6 sessions for workshop) - Drawing Sketch Idea (4 sessions for tutorial, 4-6 sessions for workshop) - Design Development & Variety Decorative Motifs(2 sessions for tutorial, 4-6 sessions for workshop)
	A-2. Advanced Level	
	A-3. Master Level	<b>2. Training Development in the Function / Application Design (For A-2, A-3)</b> - Introduction of a variety of embroidery designs application (4 sessions for tutorial, 4-6 sessions for workshop) - Pattern Making (2 sessions for tutorial, 4-6 sessions for workshop) - Techniques and Applications Design Methods (2 sessions for tutorial, 10-12 sessions for workshop)



B. Distributor	B-1. Basic Level	<b>3. Entrepreneurship Training (For B-1, B-2)</b> - Business Development & Production (4 sessions for tutorial, 2 sessions for workshop, 2 FGDs) - Financial Management(4 sessions for tutorial, 2 sessions for workshop, 2 FGDs) - Equity and Human Resources Management (4 sessions for tutorial, 2 FGDs)
	B-2. Advanced Level	
	B-3. Master Level	<b>4. Marketing Training (For B-2, B-3)</b> - Market Penetration (4-8 sessions for tutorial) - Marketing & Promotion Strategy (4-8 sessions for tutorial, 2 FGDs) - Information Technology (4-8 sessions for tutorial, 4 sessions for workshop)

Note: 1 session is for 45 minutes.

Source: JICA study team

### 6.1.1.3 Action 3: Training of trainers on 5S techniques

#### (1) Objective

The objective of this action is to enhance teaching capability of SME trainers in the Dinas Koperindag(Extension Officer,SHINDANSHI, and staff of the industry division) in relation to 5S techniques so that embroidery SMEs in Bukittinggi can receive effective guidance on 5S techniques on a sustainable basis.<sup>3</sup> Japanese licensed SHINDANSHI took part in the training as an instructor.

#### (2) Implementation schedule and results

Table 6.1-9 shows the activity schedule according to output.

Table6.1-9Implementation schedule (Action 3)

Year	2009						2010	
	July	August	September	October	November	December	January	February
Survey	Home work	Third Field Survey	Home Work	Fourth Field Survey		Home work	Fifth Field Survey	Home Work
Output 1 (A curriculum for the training program will be developed)								
Output 2 (Model enterprises will be selected)								
Output 3 (A training of SME trainers for 5S techniques will be implemented.)								

Note: The number of output in this table is linked to the number of output in Table 6.1-1.

Source: JICA study team.

Implementation results of the action are reported by output in the following.

#### 1) Output 1

As shown in Table 6.1-1, output 1 of this action is that “a curriculum for the training program will be developed.” The following activities were conducted to produce the output.

<sup>3</sup> Both production control training of 5S method and TQC method were provided ad hoc by the provincial government and the city government.

During the second field survey, the JICA study team visited five embroidery companies in Bukittinggi as part of a preliminary survey for designing the action, in order to check their actual experience in adoption of the 5S method and other production control techniques. Although some of them had previously adopted 5S method, there was no sign of its sustainable application on the shop floor. They have implemented the 5S method or other techniques under assistance and guidance of the city or provincial government, but they failed to apply such techniques on a continuous basis because there was no follow-up activity by the government. Meanwhile, the JICA study team conducted interview survey of the Dinas Koperindag to learn experience of the city and provincial governments in teaching 5S and other production control techniques in Bukittinggi. As a result, the JICA study team found that significant problems in their 5S promotion activities including the lack of field experience on actual production sites, lack of phased progress management based upon a systematic evaluation method, and disregard for sustainable application. Taking account of them, the JICA study team designed a training program with pivotal emphasis on OJT in model enterprises, progress management with evaluation sheets, and c) awareness-raising toward the importance of sustainable application.

## 2) Output 2

Output 2 of this action is that “model enterprises will be selected.” The following activities were conducted to produce it.

In August 2009 during the third field survey, a meeting was held to explain the action to embroidery companies in Bukittinggi. It presented a brief explanation about the 5S method and invited embroidery companies to become model enterprises by showing the following requirements:

- Should be engaged in embroidery production;
- Should continue 5S activities at least until the end of the action;
- Should consent to photographing at the production site;
- Should have at least five employees; and
- Should be willing to undertake 5S activities on its own initiative.

Nine companies applied and eight companies were selected, as one company withdrew its application.

## 3) Output 3

Output 3 of this action is that “training of SME trainers for 5S techniques will be implemented.” The following activities were conducted to produce the output.

The JICA study team held a meeting with the Dinas Koperindag in July 2009 in preparation for implementation of the action. The meeting selected ten trainees, namely four staff members of the Dinas’s industry division, a SHINDANSHI, and five Extension Officers<sup>4</sup>.

In August 2009, the 5S training course (lecture) was conducted under the attendance of the ten trainees. After completion of the training course, two trainees were grouped into one team and five teams selected their model enterprises. Each team was required to take care of the same enterprise until the end of the action. Note that model enterprises are not revealed.

The OJT in the model enterprises was started in August 2009. Table 6.1-10 shows the actual record of the OJT. As seen from the table, a total of 60 man-times of OJT were carried out at the model enterprises.

---

<sup>4</sup> Of these ten trainees, a SHINDANSHI discontinued participation due to maternity leave, while an Extension Officer pulled out of the OJT in the end of November 2009.

In principle, the trainees were required to visit the assigned companies once a week to provide one-hour guidance on 5S activities, which also served as OJT. However, no model enterprise received the assigned team every week. Also, the number of visits varied greatly between model enterprises as well as between trainees. Particularly, no OJT was carried out at model enterprise E as two trainees decided not to participate in the program for various reasons. On the other hand, only one visit was made for model enterprise G (at the beginning of the program period), because the trainees explained that they were very busy. Note that no trainee performed 5S guidance during the period when the JICA study team was absent in Indonesia.

Table 6.1-10 5S Technique OJT schedule (Actual)

Survey Month	Day	Third Field Survey						Fourth Field Survey														Total (Unit Man-times)									
		August						November							December																
		13	14	18	19	20	26	27	28	4	5	12	13	16	17	19	20	24	26	2	3	9	10	11	14	15	16	17			
1	Extension Officer						F	H						F				F			F	H							F	H	8
2	Extension Officer						A	H				H	A			H	A		H	A	H	A	H	H				A	H	14	
3	Extension Officer						A					H	A				A			A		A						A		7	
4	SHINDANSHI	E		B		E			B	Maternity Leave														5							
5	Staff of Industry Division		G						B																					2	
6	Staff of Industry Division		G				F						F				F			F									F	6	
7	Extension Officer	D	E							Withdrawal														2							
8	Extension Officer	D												D			D			D						C	D			5	
9	Staff of Industry Division				C				C				C				C										C			6	
10	Staff of Industry Division				C				C				C														C			5	
Total																														60	

Note: A to H shown in the table indicates a model enterprise in which the OJT was performed.  
Source: JICA study team.

#### 6.1.1.4 Creation of marketing-oriented company catalog

##### (1) Objective

The objective of this action is to refine the embroidery company catalog produced by the Dinas Koperindagin order to include information is demanded by and relevant to buyers, thereby improving the cluster's ability to advertise and make itself known widely in the market, while allowing it to learn demand conditions of various markets, which then would encourage the embroidery companies to improve their products for more competitiveness and better reputation.

##### (2) Implementation schedule and implementation results

Table 6.1-11 shows the implementation schedule for this action according to output.

Table 6.1-11 Implementation schedule (Action 4)

Year	2009						2010		
Month	July	August	September	October	November	December	January	February	
Survey	Home work	Third Field Survey	Home Work	Fourth Field Survey			Home work	Fifth Field Survey	Home Work
Output 1 (Points of improvement in the current embroidery company catalog in Bukittinggi will be comprehended.)									
Output 2 (A sample will be developed as a draft template for development of a new embroidery company catalog in Bukittinggi in both Indonesian and English.)									
Output 3 (The Dinas Koperindag will agree that it will develop the new embroidery company catalog based upon the template developed in Output 2 as a part of its activities in the fiscal year of 2010.)									

Note: The number of output in this table is linked to the number of output in Table 6.1-1.

Source: JICA study team.

Implementation results of the action for each of the four outputs are summarized as follows.

1) Output 1

As shown in Table 6.1-1, output 1 of this action is that “areas of improvement in the current embroidery company catalog in Bukittinggi will be identified.” The output was produced by conducting the following activities.

The JICA study team, during the third field survey, reviewed the embroidery company catalog developed by the Dinas Koperindag in 2008 and analyzed its content and purpose. The catalog introduced products of 35 SMEs, of which 22 were 3m embroidery products. Its major content includes the following information.

- Company name
- Address, telephone/facsimile number of the headquarter;
- Addresses, telephone/facsimile numbers of sales points/showrooms
- E-mail address
- URL of homepage
- Name of contact person
- Information of an introduced product (name, product code, type, and specifications such as length, width, weight, and raw material).

Color-printed sideways on A4 paper, the above items are arranged around a photograph of a product. According to the Dinas Koperindag, it was mainly used for distribution at exhibitions.

In September 2009, the JICA study team asked two textile experts and one embroidery company in Japan to evaluate the catalog from the viewpoints of buyers of embroidery products. They pointed out items that were not included in the catalog and those that were included but needed to be refined, as listed in Table 6.1-12.

Table 6.1-12 Missing information items in the embroidery company catalog

Necessary Information Items	Remarks
1 Company logo	
2 Foundation year	
3 Number of employees	
4 Motto/appealing points	In one sentence
5 Map of sales points/showrooms	
6 Color of products	Including colors that can be applied to the products
7 Motif of embroidery	
8 Close up pictures of design feature	
9 Languages that can be used for communication with buyers	
10 Price range	For main products
11 Raw materials and place of origin	Including raw materials that can be procured
12 Care instruction	Such as appropriate ways of laundry, clothes iron, removing stains, etc
13 Main consumer class	By age, sex, religion, region, etc.
14 Main product types	
15 Supply method for raw material	By ordering party, by receiving party, etc.
16 Order method	Lead time, payment methods, etc.
17 Types of machines used for production	Types of sewing machines, possibility of hand-making, etc.

Source: JICA study team based upon evaluation of two textile experts and an embroidery company in Japan.

In addition, the JICA study team, during the fourth field survey, visited five embroidery companies introduced in the catalog to hear of their opinions about it. Their comments are summarized as follows.

- It gives an impression that the company is selling only one product, because only one product is introduced in the catalog.
- The English version should also be published.
- There is incorrect information (such as contact information).

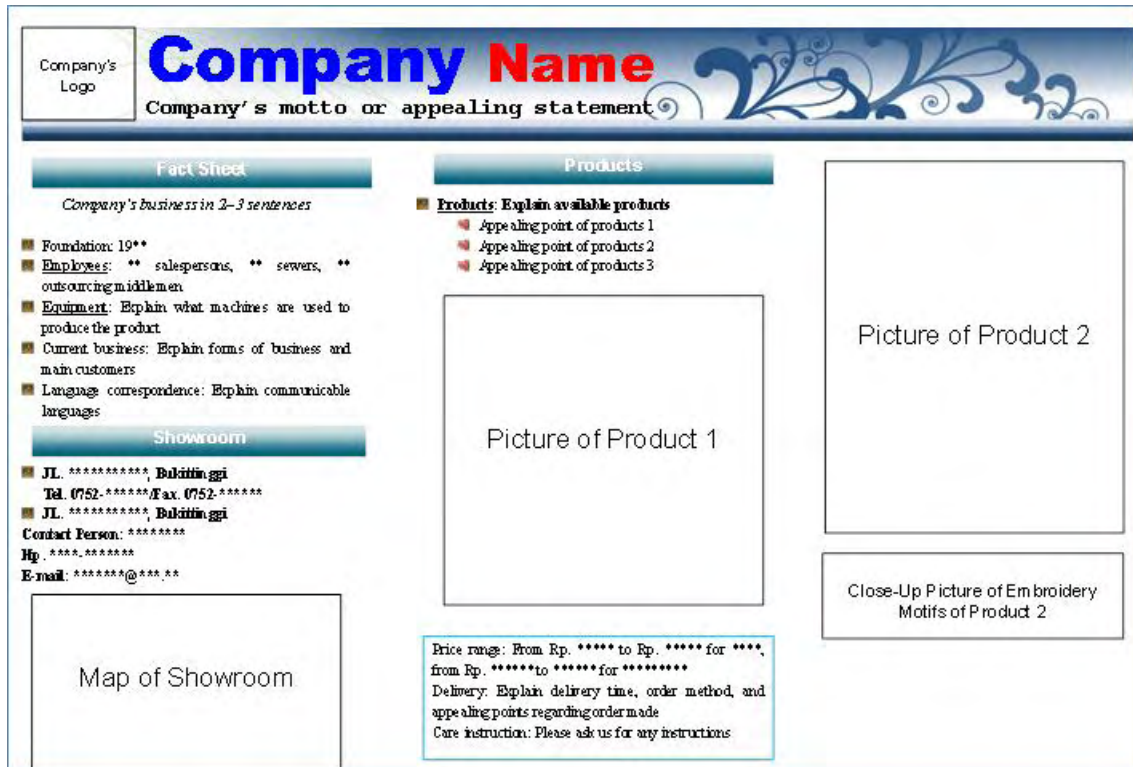
## 2) Output 2

Output 2 of this action is that “a sample catalog with new design and content will be developed as a draft template for development of a new embroidery company catalog in Bukittinggi in both Indonesian and English.” It was achieved by implementing the activities described hereunder.

Based upon the results of output 1, the JICA study team created a sample company catalog. In developing the sample catalog, the following points were taken into account.

- On the basis of the survey results, it should add information items that were missing in the original catalog, as far as possible.
- It should reflect opinions of the interviewed companies.
- It should be developed without hiring such experts as advertising/marketing experts and translators in consideration of the budget constraints of the Dinas Koperindag.

For the purpose of developing the sample catalog the JICA study team randomly selected three companies introduced in the original catalog. At first the JICA study team made an Indonesian version, which was then translated to English. Fig. 6.1-1 shows the sample template in English.



Source: JICA study team

Fig.6.1-1 Sample template for development of new embroidery company catalog (English version)

### 3) Output 3

Output 3 of this action is that “the Dinas Koperindag will agree that it will develop the new embroidery company catalog based upon the template developed in Output 2, as a part of its activities in the fiscal year of 2010.” It was produced by the following activities.

During the fourth field survey, the JICA study team drew up a proposal for the future improvement and usage of the prepared sample, which included:

- Need to define where the catalog will be distributed
- Need to make fair selection of the companies to be introduced in the catalog
- Need to increase budget provision to continuously make it higher and higher in quality
- Need to publish the catalog on a website and to find a way to gain a high rank in web search results
- Need to introduce a historical story of the embroidery industry in Bukittinggi in the catalog

The JICA study team, during the fifth field survey, submitted the sample catalog and the proposal to the Dinas Koperindag. Then, the JICA study team and the Dinas discussed how the sample template would be produced and utilized. As a result, it was agreed to use the sample catalog as a template for the future catalog and to use it as reference for the future method for use. As of the end of January 2010, the Dinas Koperindag was making a new embroidery company catalog listing forty-one companies by using the sample template.

## 6.1.2 Evaluation on the pilot project

During the fifth field survey, the JICA study team conducted terminal evaluation all the actions but action 4, for which mid-term evaluation was conducted. The purpose and method of evaluation is as follows.

- (1) Purpose: To summarize the results of each action using the five evaluation criteria and in accordance with the PDCA cycle, which was adopted as facilitator, and to examine the results and future prospects for each action and obtain lessons for cluster development.
- (2) Period: From January 18, 2010 to February 17, 2010, during the fifth field survey
- (3) Method of the evaluation: Simplified analysis based on the DAC five evaluation criteria
- (4) Method of data gathering: Questionnaire and interview surveys with stakeholders relating to each action

The following sections present the results with respect to each criterion.

### 6.1.2.1 Action 1: Establishment of the embroidery cluster forum and the local economic development forum

Table 6.1-13 summarizes questions set for evaluation on this action and evaluation results. Results of questionnaire surveys conducted on the taskforce members of both the embroidery cluster forum and the local economic development forum are attached as Appendix-4. In addition, the JICA study team interviewed the Dinas Koperindag and the RDC facilitators for the evaluation purpose.

In the following sections (1)-(5), the evaluation questionnaire and results for action 1 are shown in Table 6.1-13. Key results for the five items constituting each category are analyzed in detail below.

Table 6.1-13 Evaluation questionnaire and evaluation results (Action 1)

Criteria	Evaluation Questions	Evaluation Results
Relevance	1 Necessity: Did the action deal with significant problem(s) that the embroidery cluster in Bukittinggi is facing?	(Result) Yes (Verification 1) The action was selected through SWOT analysis and a long list of actions for development of the target cluster in the second field survey (Verification 2) Short-listing of the actions through a participatory workshop in the second field survey
	2 Priority: Are the purposes of the action in line with the cluster development policies and regional industry development policies in Indonesia and Bukittinggi?	(Result) Yes (Verification) The embroidery industry is one of the priority industries in Indonesia for which the cluster approach is applied for development. The embroidery cluster in Bukittinggi has been designated by the Ministry of Industry as the priority embroidery cluster for development.
	3 Relevance as means: Will the action contribute sufficiently to achievement of the cluster vision?	(Result) Partly (Verification 1) The same as "Verification 1" in "Relevance 1" in this table. Also refer to the 2nd paragraph in Section 6.1. (Verification 2) Analysis by Dinas Koperindag: "It is a very necessary action to achieve the cluster vision."
	4 Relevance as means: Were the taskforce members for establishment of both the forums selected fairly and properly?	(Result) They were done so fairly and properly (Verification 1) Analysis by JICA study team: The members were selected by consensus based upon the stakeholder analysis in the workshop (Verification 2) Analysis by RDC assistants: "They were done so fairly and properly." (Verification 3) Analysis by Dinas Koperindag: "They were done so fairly and properly."
	5 To what degree was cluster development organizations involved in project planning?	(Result) Involved to a great degree (Verification) Analysis by JICA study team: The action was to establish the cluster development organizations. The current working group for development of the cluster was involved in planning and implementation of the action.

Effective ness	1	Did the organizations in charge of development of embroidery cluster in Bukittinggi come to incorporate more private participation and industrial comprehensiveness?	(Result) Expected to do in the near future (Verification 1) An embroidery cluster forum was officially established, but a local economic development forum was not. (Verification 2) In questionnaire surveys with taskforce members of both the forums, 6 out of 8 respondents answered that they did. (Verification 3) Analysis by Dinas Koperindag: "They will do so in the near future."
	2	Was the output sufficient to achieve the project purpose? Was there any other necessary output? Was there any output that is not contributing to achieving the project purpose?	(Result) Not sufficient (Verification 1) Analysis by RDC assistants: "Enough, but more private participation could have been achieved." (Verification 2) In questionnaire surveys with taskforce members of both the forums, there were answers in the output that "Participation from private companies other than the taskforce members will be secured" was necessary."
	3	To what degree was achievement of project purpose shared in the whole cluster?	(Result) Widely shared (Verification) Analysis by JICA study team and Dinas Koperindag: "This action has been implemented by a series of workshops attended by many cluster stakeholders."
	4	What are the promoting and inhibiting factors for the achievement of the project purpose?	(Result) (Promoting Factor) "Everyone recognizes the forums are for everyone." (Verification) Analysis by Dinas Koperindag
Efficiency	1	Was the output achieved?	(Result) Achieved except output 3. (Verification) Refer to Section 6.1.1.1
	2	Were the training period and ability of RDC assistants appropriate to achieve the output?	(Result) Not appropriate in many senses (Verification 1) Analysis by JICA study team: Lack of knowledge about the target cluster, low trusting relationship with the cluster stakeholders, difficulty in operational coordination due to geographical distance. (Verification 2) In questionnaire surveys with taskforce members of both the forums, 6 out of 8 responded that they were "appropriate." (Verification 3) Analysis of Dinas Koperindag: "Their ability was appropriate, but training period was too short."
	3	Has the same or very similar project been done in the past or is planned to be implemented?	(Result 1) Analysis of JICA study team: Efficiency was found in familiarizing the cluster stakeholders with concepts of forum, as there have been similar organizations to forum in Bukittinggi.
Impact	1	Will the organizations in charge of the development of embroidery cluster in Bukittinggi which incorporate more private participation and industrial comprehensiveness contribute to achievement of the cluster vision?	(Result) Yes (Verification 1) The same as "Verification 1" in "Relevance 1" in this table. (Verification 2) Analysis by Dinas Koperindag: "It will surely contribute to achievement of the cluster vision." (Verification 3) In questionnaire surveys with taskforce members of both the forums, 6 out of 8 respondents answered that they would contribute to achievement of the cluster vision."
	2	Does this action produce beneficiaries in the cluster other than participants in it? Or is there any plan to produce so?	(Result) Analysis by JICA study team: The action will benefit the whole cluster, as it was designed to strengthen the organizations for development of the whole cluster.
Sustain- ability	1	Will the city government continue to support both the forums after completion of the action?	(Result) Expected to do (Verification) Interview survey with Dinas Koperindag
	2	Will the embroidery cluster forum continue its activities after completion of the action?	(Result) Expected to do (Verification) In questionnaire survey with taskforce members of the embroidery cluster forum, all the respondents answered that they would continue.
	3	Will the local economic development forum continue its activities after completion of the action?	(Result) Expected to do (Verification) In questionnaire survey with taskforce members of the local economic development forum, all the respondents answered that they would continue.
	4	What are promoting and inhibiting factors for the embroidery cluster forum to continue its activities on a sustainable basis in the future?	(Result) Refer to the main body text.
	5	What are promoting and inhibiting factors for the local economic development forum to continue its activities on a sustainable basis in the future?	(Result ) Refer to the main body text.

Source: JICA study team



### (1) Relevance

The terminal evaluation concludes that relevance of this action was high in consideration of the whole evaluation results shown in Table 6.1-13, together with the results of their analysis, as discussed below.

In the second field survey, a long list of actions for development of the embroidery cluster in Bukittinggi was developed after the SWOT analysis on the cluster. This action constitutes one of the actions in the short list, which were picked from the long list in a participatory workshop according to priorities for the cluster companies. As such, it dealt with important issues faced by them. Hence, the relevance in terms of necessity is considered to be high.

Meanwhile, taskforce members for the establishment of both the embroidery cluster forum and the local economic development forum were selected on the basis of the stakeholder analysis performed in another participatory workshop. The selection was made by consensus of its participants. As seen from Table 6.1-13, the RDC facilitators and the Dinas Koperindag consider that the taskforce members for the establishment of both forums have been selected properly and fairly.

In addition, this action covers the strengthening of cluster development organizations, which is an essential part of cluster development. Furthermore, formation of the forums was conceived on the ground that the Working Group in the embroidery cluster in Bukittinggi at the time lacked broad participation by the private sector and the comprehensive coverage of the existing working group. The cluster stakeholders, especially the Working Group, fully understood such background. The JICA study team worked together with these cluster stakeholders for planning and implementation of the forum establishment, and it can be said that this action provided an opportunity for them to plan and implement a cluster development project under their leadership. Thus, this action was highly relevant in terms of a means to achieve the goal.

### (2) Effectiveness

The terminal evaluation concludes that effectiveness of this action was not sufficiently high in consideration of the overall evaluation results shown in Table 6.1-13.

The project purpose under this action is that “organizations in charge of development of the embroidery cluster in Bukittinggi will transform themselves to a comprehensive system empowered by active participation of the private sector.” The fact that the embroidery cluster forum was formally established raises the level of private participation in comparison to the Working Group before the pilot project. As for the local economic development forum that has the purpose of developing not only the embroidery industry but all other potential industry clusters in Bukittinggi, it is ready for operation now, but it has still to be officially established because it is waiting for the final approval from the mayor. Hence, “industrial comprehensiveness” in the project purpose has not been officially secured yet. In this sense, the project purpose should be expected to be achieved in the future. In the meantime, the assistants from the RDC comment that the level of private participation is not sufficient while it did increase. Some taskforce members for the establishment of both the forums opine that an additional output “the forums will be joined by the private companies other than the taskforce members” is needed to realize further private participation.

Meanwhile, the JICA study team sees that the establishment of both forums is well known among the cluster stakeholders. Under this action, a series of participatory workshops were held in the course of the pilot project period, which attracted about 60 stakeholders each time. In addition, a workshop was organized to widely announce the start of the forums, which was also attended by around 60 persons. These activities have successfully promoted the sharing of information that is required to achieve the goals within the cluster.

### (3) Efficiency

The terminal evaluation concludes that efficiency of inputs for achieving the outputs was a little low in consideration of the whole evaluation results shown in Table 6.1-13.

As stated in 6.1.1.1, this action produced all the outputs except output 3.

The JICA study team makes the following analysis on efficiency of inputs. As explained earlier, the JICA study team hired experts from the RDC in Central Java as facilitators who visited Bukittinggi four times during the pilot project period to facilitate the forum establishment. While they have considerable experience in facilitation of establishing forums in their locality, their knowledge about the Bukittinggi embroidery cluster was not sufficient. Also, the long distance between the two locations resulted in lower efficiency of their activities. For one thing, they did not have sufficient time to nurture a trusting relationship with the cluster stakeholders. For another, their facilitation activities were in the form of workshops, which were sporadic in nature rather than continuous, and lacked complementary measures enabling (or promoting) day-to-day mutual discussions, on-demand consultation, and networking amongst the cluster stakeholders. In comparison to the JICA study team's evaluation, most taskforce members for the establishment of both forums opine that their input activity was appropriate, whereas the Dinas Koperindag considers that the training period for sending RDC assistants was too short.

Note that this action attempted to reinforce and upgrade an existing system. In the embroidery cluster in Bukittinggi, there existed organizations such as the Working Group and the Focus Group Discussion, although they did not perform the expected functions. Thanks to this, familiarization of the cluster stakeholders with forum concepts was made in an efficient manner, in comparison with the case where a forum was to be built on the new ground.

### (4) Impact

As of the end of the pilot project, the impact assessment in the five criteria evaluation is a "prospective" one. The possibility to achieve the overall goal of the action and other prospective impact of this action are discussed as follows.

First, this action, like the other three actions, was designed to contribute to achieving the vision of the embroidery cluster in Bukittinggi, or the overall goal of the actions, "embroidery products produced in Bukittinggi will become more competitive and reputable in the world markets." The Dinas Koperindag states in the interview that the achievement of the purpose of this action will largely contribute to achieving the cluster vision in the future. Likewise, in a questionnaire survey of taskforce members for the establishment of both forums, the same response comes from the majority of respondents.

As for the possibility that this action benefits people other than those who participated in it, the JICA study team considers that it is very high because it was about strengthening the organizations for development of the whole cluster. Hence, all the stakeholders in the cluster can become beneficiaries of the action, at least indirectly.

### (5) Sustainability

Assessment of the sustainability in the five criteria evaluation is limited to a "future prospect". The evaluation results are discussed below.

As shown in Table 6.1-13, all the taskforce members for the establishment of the two forums express their willingness to continue the forums' activities after completion of this action. Furthermore, the city government shows interest in continuing its support to both of them.

Facilitators from the RDC, the Dinas Koperindag, and taskforce members for the establishment of the two forums list key factors for promoting sustainability of the forums' activities, as follows.

- Information, communication, opinions, and mutual discussion are sufficient amongst the forum members.
- A sense of unity among the forum members is strengthened.
- Every stakeholder recognizes that the forums are meant for everyone.
- Board members of the forums work with professionalism.
- The city government extends its support and commitment to the forums on a sustainable basis.
- There are sufficient manpower and resources for continuation of the forums.
- Activities for organizational development are undertaken (especially for strengthening cluster operation and establishing a system to create profits for forum members).

At the same time, the inhibiting factors were listed as follows.

- There are frequent personnel transfers in the government agencies.
- Recognition as a forum member is still weak among the members.
- Forum member has less experience in cluster activity.
- The operating budget is limited.
- There is a low sense of unity among the members.
- Motivation of the board members of the forums is low.

In the questionnaire survey of the taskforce members of the forums, all the respondents answered that they would continue the forums' activities, while the majority responded that there was shortage of capability to do so. The JICA study team thus believes that the sustainability of the forums' activities will depend greatly upon the availability and capability of facilitators supporting cluster activities. Taking these factors into consideration, the terminal evaluation concludes that the sustainability of this action is high, provided that there is a growing sense of participation among the forum members, the continuous support from the city government to the forum activities, and capable facilitators for the cluster activities available in/around Bukittinggi.

#### 6.1.2.2 Action 2: Design training program for product development in consonance with market needs

Table 6.1-14 summarizes questions set for evaluation of this action and evaluation results. The results of the questionnaire survey of the participants in the advanced training program are attached as Appendix-5. In addition, the JICA study team interviewed the Dinas Koperindag, the participants in the training of design trainers, and design experts (trainer of the training programs in this action) for the evaluation purpose.

Key evaluation results, among those shown in Table 6.1-14, are described in details for five items constituting each evaluation criteria.

Table 6.1-14 Evaluation questionnaire and evaluation results (Action 2)

Criteria	Evaluation Questions	Evaluation Results
Relevance	1 Necessity: Did the action deal with significant problem(s) that the embroidery cluster in Bukittinggi is facing?	(Result) Yes (Verification 1) The action was selected through SWOT analysis and a long list of actions for development of the target cluster in the second field survey (Verification 2) Short-listing of the actions through a participatory workshop in the second field survey
	2 Priority: Are the purposes of the action in line with the cluster development policies and regional industry development policies in Indonesia and Bukittinggi?	(Result) Yes (Verification) As stated in Chapter 4, the embroidery industry is one of the priority industries in Indonesia for which the cluster approach is applied for development. The embroidery cluster in Bukittinggi has been designated by the Ministry of Industry as the priority embroidery cluster for development.
	3 Relevance as means: Will the action contribute sufficiently to achievement of the cluster vision?	(Result) Partly (Verification 1) The same as "Verification 1" in "Relevance 1" in this table. (Verification 2) Analysis by Dinas Koperindag: "It is a very necessary action to achieve the cluster vision."
	4 Relevance as means: Were participants in the training of the design trainers and advanced training selected fairly and properly?	(Result) They were done so fairly and properly from the viewpoint of the relevance as means. (Verification 1) Analysis by JICA study team: Refer to the main body text (Verification 2) Analysis by Dinas Koperindag: "Participants in the advanced training were selected fairly and properly, but those in the training of design trainers were not appropriate" (Note that no analysis on selection process was made by Dinas Koperindag).
	5 To what degree were cluster development organizations involved in project planning?	(Result) Involved fairly (Verification) Participants in the advanced training were ultimately selected by the taskforce of embroidery cluster forum.
Effectiveness	1 Did the number of embroidery companies with capability to develop designs in consonance with the market needs increase in Bukittinggi?	(Result) Yes (Verification 1) Analysis by design experts: "Capability to develop design in consonance with the market needs of 85% of participants in the advanced training was enhanced." (Verification 2) Analysis by all the participants in the training for design trainers: "Participants in the advanced training obtained or obtained very much capability to develop design in consonance with the market needs." (Verification 3) In questionnaire survey with participants in the advanced training, all the respondents answered that they obtained or obtained very much capability to develop design in consonance with the market needs."
	2 Was the output sufficient to achieve the project purpose? Was there any other necessary output? Was there any output that is not contributing to achieving the project purpose?	(Result) Evaluated as sufficient to a large degree, but design experts evaluated as not sufficient. (Verification 1) All the participants in both the training programs evaluated the project purpose as achieved. (Verification 2) Analysis by Dinas Koperindag: "It was sufficient." (Verification 3) Analysis by design experts: "There needed to be the output that "capability of participants in the advanced training will be enhanced for product imaging and branding."
	3 To what degree was achievement of project purpose shared in the whole cluster?	(Result) Widely shared (Verification 1) A lot of cluster stakeholders was participated in the closing seminar. (Verification 2) Analysis by Dinas Koperindag: "It was widely shared."
	4 What are the promoting and inhibiting factors for the achievement of the project purpose?	(Result) (Promoting Factor) High motivation of participants in the advanced training (Verification) Analysis by JICA study team: Almost every participant attended all the sessions. Participants were very active toward learning from the training.
Efficiency	1 Was the output achieved?	(Result) Yes (Verification) Refer to Section 6.1.1.2 and "Verification 1-3" in "Effectiveness 1" in this table.
	2 Were the training period and ability of design experts appropriate to achieve the output?	(Result) Appropriate (Verification 1) In questionnaire survey with participants in the advanced training, 86.7% of the respondents answered "Appropriate." (Verification 2) In interview survey with participants in the training of design trainers, 3 out of 4 responded that they were appropriate. The rest said that their training period was too short.
	3 Has the same or very similar project been done in the past or is planned to be implemented?	(Result) No (Verification 1) Analysis by Dinas Koperindag: "Our design training programs in the past have mostly been at the basic level, teaching how to make embroidery motifs. The systematic and holistic design training programs as conducted in this action was the first experiment for us." (Verification 2) This action designed the design training curriculum in consideration that it would not overlap targets of the design training programs by Dinas Koperindag.

Impact	1	Will the fact that the number of embroidery companies with capability to develop designs in consonance with the market needs increase in Bukittinggi contribute to achievement of the cluster vision?	(Result) Yes (Verification 1) The same as "Verification 1" in "Relevance 1" in this table. (Verification 2) In questionnaire survey with participants in the advanced training and interview survey with participants in the training of design trainers, 94.7% of respondents answered that it would contribute to achievement of the cluster vision. (Verification 3) Analysis by Dinas Koperindag: "It will surely contribute to achievement of the cluster vision."
	2	Does this action produce beneficiaries in the cluster other than participants in it? Or is there any plan to produce them?	(Result) Other companies (small sized companies in particular), buyers, etc (Verification) Analysis by JICA study team, Dinas Koperindag, and participants in the training of design trainers.
Sustain-ability	1	Will the city government continue design training programs based upon the outcome of this action?	(Result) Expected to do (Verification 1) Interview survey with Dinas Koperindag (Verification 2) Announcement by the mayor on willingness for the continuation at the closing seminar
	2	Will participants in the training of design trainers continue the activities as design trainers after completion of this action?	(Result) Expected to do (Verification) In interview survey with participants in the training of design trainers, all responded that they would continue.
	3	What are promoting and inhibiting factors for the design training programs based upon the outcome of this action to be continued and improved on a sustainable basis in the future?	(Result) Refer to the main body text
	4	What are promoting and inhibiting factors for the design training programs in which participants in the training of design trainers in this action act as trainers to be continued in the future?	(Result) Refer to the main body text.

Source: JICA study team

### (1) Relevance

The terminal evaluation concludes that the relevance was high in this action in consideration of the whole evaluation results shown in Table 6.1-14.

The JICA study team views relevance in terms of necessity to be high for the same reasons described in Section 6.1.2.1 (for action 1).

As explained in Section 6.1.1.2, the JICA study team selected the participants in the training of design trainers based upon the qualifications set by the design experts hired for this action. As for those in the advanced training program, the JICA study team created a list of companies based upon the qualifications set by the design experts, and then the taskforce members for establishment of the embroidery cluster forum selected the participants by referring to the list. For these selection processes, the Dinas Koperindag considers that the former was fair and proper, whereas the opposite was true for the latter. However, their evaluation on the latter process is not based on the fairness or properness of the process itself. Their conclusion was based on the fact that the selected trainees were not necessarily the same as those whom they intended to employ for its future design training programs. Nonetheless, the JICA study team regards both processes as fair and proper for the following reasons.

- Clear qualifications were defined for selection of the participants in both training programs.
- Comprehensive assessment was made to select participants of the training program for design trainers by combination of interviews and reviews on curricula vitae.
- The final decision on the selection of participants in the advanced training was left to the taskforce members for the establishment of the embroidery cluster forum.

In overall consideration of these factors, the current terminal evaluation concludes that this action is also relevant as the means to achieve the goal.

## (2) Effectiveness

The terminal evaluation concludes that effectiveness of this action is high in consideration of the whole evaluation results shown in Table 6.1-14.

The project purpose under this action is that “the number of embroidery companies with capability to develop designs in consonance with the market needs will increase in Bukittinggi.” The design experts, who served as trainers, answered that 17 out of 20 participants in the advanced training program improved their capability to develop design in consonance with market needs. In addition, all the participants of both trainings opine that the participants in the advanced training program attained such capability. These evaluation results indicate that the project purpose under this action was achieved. The JICA study team credits it to high motivation of the participants and the ability of the trainers to stimulate it. In the advanced training program, instructors were composed of experts in diverse fields such as design development, marketing strategy/sales promotion, motivation enhancement, sketch techniques, raw materials, and color matching. Such systematic and comprehensive approach to design development was new to the participants, thus effectively contributing to enhancing their motivation for learning.

All the participants in both training programs and the Dinas Koperindag regard the output of the action as sufficient to achieve the project purpose. On the other hand, the design experts commented that another output, “capability of participants in the advanced training program will be enhanced for product imaging and branding” should have been included in the action too.

In addition, the JICA study team and the Dinas Koperindag believe that the high level of recognition on the project purpose in the cluster is important. About 60 persons attended a closing seminar reporting the outcome of the training programs, in which sample products made by the participants in the advanced training program were exhibited. The seminar thus provided opportunity to share the project purpose broadly among cluster members. The similar view was expressed by the Dinas Koperindag.

## (3) Efficiency

The terminal evaluation concludes that the outputs were produced efficiently in this action in consideration of the whole evaluation results shown in Table 6.1-14.

As stated earlier in Section 6.1.1.2 and (2) Effectiveness in this section, the action has produced all the outputs.

The JICA study team also evaluates that the quality and quantity of the inputs were appropriate. According to a questionnaire survey of participants in the advanced training program, 86.7% responded that the training period and teaching ability of the design experts were appropriate. (Note that the rest answered that they could not say either appropriate or not appropriate.) In addition, three out of four participants in the training of design trainers stated that they were appropriate. (Note that the rest considered the training period was too short.) All in all, the inputs were evaluated as efficient.

As discussed in Section 6.1.1.2, the JICA study team designed to avoid duplication of content with the design training programs organized by the Dinas Koperindag. The Dinas Koperindag answered in the interview that they had never implemented design training programs as systematic and comprehensive as the one conducted in this action.

#### (4) Impact

The possibility to achieve the overall goal of the action and other prospective impact of this action are discussed in the following.

This action, like the other three actions, was designed to contribute to achieving the vision of the embroidery cluster in Bukittinggi, together with the overall goal of the action. In the questionnaire survey of the participants in the advanced training program, 93.5% of them responded that their products would become competitive and reputable in the world market in three to five years. Likewise, in the interview surveys of the participants in the training of design trainers, all the participants gave the same view. Further, the Dinas Koperindag considers that achieving the project purpose will contribute largely to accomplishing the cluster vision.

As for the possibility that this action benefits someone other than the participants, the analysis of the viewpoints of the participants in the training of design trainers, the Dinas Koperindag, and the JICA study team indicates that positive impacts will be exerted, at least, on buyers, consumers, and the companies that collaborate with the participants in the advanced training program (particularly subcontractors).

#### (5) Sustainability

The sustainability of this action is described below.

As seen from Table 6.1-14, all the participants in the training of design trainers express their willingness to continue activities as design trainers after completion of this action. Furthermore, the city government and the mayor show interest in continuing design training programs by capitalizing on the results of this action. The JICA study team also observed a very high appraisal of the advanced training program from the city government, thereby creating a strong impetus for continuation.

Participants in the training of design trainers raise the conditions promoting continuation of their activities as trainers in future design training programs including: "Many companies in the cluster need design training;" and "the Dinas Koperindag provides support and equipment for design training programs." Design experts point out such conditions as: "Companies have high motivation toward producing products with specific themes;" and "design trainers make efforts to widen their knowledge and view necessary for the expansion of business."

On the contrary, the participants in the training of design trainers identify the inhibiting factors for the same issue including: "A number of companies are downgrading the importance of design increases;" "it is difficult for trainers and SMEs to be at a daylong session;" and "SMEs do not study design continuously."

Also, the design experts propose the following actions designed to support continuation and improvement of the design programs by utilizing the results of this action.

- A pilot project is proposed to train SMEs aboutwide subjects from product branding to market expansion.
- Training programs cover instructions on sales network development and sales promotion.
- Training programs cover instructions on the related technologies including sewing techniques, accessory manufacturing and interior production.

The Dinas Koperindag lists the promoting factors for the same issue including: “The city government shows commitment to the continuation;” and “SMEs express large interests in it.” On the contrary, “a limited budget” is cited as an inhibiting factor.

In overall consideration of the above opinions and factors, the terminal evaluation concludes that sustainability of this action depends largely upon the degree of the commitment by the city government to sustaining the activities, SMEs’ needs and motivation to participate in systematic design training programs, and the improvement in design trainers’ teaching capabilities and expansion in their field of view.

### 6.1.2.3 Action 3: Training of trainers on 5S techniques

Table 6.1-15 summarizes the questions and results of the evaluation for this action. Besides, the results of evaluation questionnaire surveys conducted on the trainees and the model enterprises as part of this action are attached as Appendix 6. In addition, the JICA study team interviewed the Dinas Koperindag for the evaluation purpose.

Sections (1)-(5) below present details of key evaluation results, among those shown in Table 6.1-15, with regard to five factors for each evaluation criteria.

Table 6.1-15 Evaluation questionnaire and evaluation results (Action 3)

Criteria	Evaluation Questions	Evaluation Results
Relevance	1 Necessity: Did the action deal with significant problem(s) that the embroidery cluster in Bukittinggi is facing?	(Result) Yes, but little low. (Verification 1) The action was selected through SWOT analysis and a long list of actions for development of the target cluster in the second field survey (Verification 2) Short-listing of the actions through a participatory workshop in the second field survey
	2 Priority: Are the purposes of the action in line with the cluster development policies and regional industry development policies in Indonesia and Bukittinggi?	(Result) Yes (Verification) As stated in Chapter 4, embroidery industry is one of the priority industries in Indonesia for which the cluster approach is applied for development. The embroidery cluster in Bukittinggi has been designated by the Ministry of Industry as the priority embroidery cluster for development.
	3 Relevance as means: Will the action contribute sufficiently to achievement of the cluster vision?	(Result) Partly (Verification 1) The same as "Verification 1" in "Relevance 1" in this table. (Verification 2) Analysis by Dinas Koperindag: "It is a very necessary action to achieve the cluster vision."
	4 Relevance as means: Were participants in the training of the design trainers and advanced training selected fairly and properly?	(Result) They were done properly but were a little unfair from the viewpoint of the relevance as means. (Verification 1) Analysis by JICA study team: Refer to the main body text (Verification 2) Analysis by Dinas Koperindag: "Participants in the advanced training were selected fairly and properly, but those in the training of design trainers were not appropriate" (Note that no analysis on selection process was made by Dinas Koperindag).
	5 To what degree was cluster development organizations involved in project planning?	(Result) Not involved (Verification) Training program was ultimately developed by JICA study team.



Effective-ness	1	Was the teaching capability of SME trainers in the Dinas Koperindag for 5S techniques promoted?	(Result) Yes (Verification 1) Analysis by JICA study team: Teaching capability of 7 SME trainers out of 10 in Dinas Koperindag for 5S techniques were promoted. (Verification 2) In questionnaire survey with model enterprises. 4 out of 7 responded enterprises answered "highly promoted" or "so far promoted". (Verification 3) All the trainees evaluated themselves that their capability of 5S technique guidance "highly promoted" or "so far promoted".
	2	Was the output sufficient to achieve the project purpose? Was there any other necessary output? Was there any output that is not contributing to achieving the project purpose?	(Result) Not sufficient. (Verification 1) Analysis by JICA study team: It was necessary to hold regular meetings for trainees. And, teaching materials and evaluation sheet were modified by trainees. (Verification 2) Analysis by Dinas Koperindag: "It was sufficient." (Verification 3) Analysis by design experts: "There needed to be the output that "capability of participants in the advanced training will be enhanced for product imaging and branding."
	3	To what degree was achievement of project purpose shared in the whole cluster?	(Result 1) Hardly known (Verification 1) Analysis by JICA study team: There was no PR activity. (Verification 2) Analysis by Dinas Koperindag: It was partly known by the model enterprises and those close to them.
	4	What are the promoting and inhibiting factors for the achievement of the project purpose?	(Result) (Inhibiting Factor) Low motivation of trainees, their lack of willingness to improve their own capability, and insufficiency in progress of management (Verification) Analysis by JICA study team expert.
Efficiency	1	Was the output achieved?	(Result) Yes (Verification) Refer to Section 6.1.1.3.
	2	Were the training period and ability of design experts appropriate to achieve the output?	(Result) Appropriate to some extent but some trainees are not satisfied (Verification 1) In questionnaire survey with trainees, 6 out of 9 respondents answered "Appropriate", but 2 respondents answered "not Appropriate". (Verification 2) In questionnaire survey with model enterprises, 6 out of 7 answered "Appropriate". (Verification 3) Analysis by Dinas Koperindag: "It was appropriate".
	3	Has the same or very similar project been done in the past or is planned to be implemented?	(Result) Yes. (There were training curriculums that were developed by the provincial government) (Verification 1) Refer to Section 6.1.1.3.
Impact	1	Will the fact that the SME trainers in the Dinas Koperindag with enhancement of 5S guidance capability contribute to achievement of the cluster vision?	(Result) Yes (Verification 1) The same as "Verification 1" in "Relevance 1" in this table. (Verification 2) In questionnaire survey with trainees, 8 out of 9 answered that it would contribute to achievement of the cluster vision (Verification 3) Analysis by Dinas Koperindag: "It will contribute to achievement of the cluster vision."
	2	Does this action produce beneficiaries in the cluster other than participants in it? Or is there any plan to produce them?	(Result) Consumers, enterprises other than model enterprises, governmental entities, raw material suppliers, retailers, employees, etc. (Verification) Result of questionnaire with Dinas Koperindag and trainees.
Sustain-ability	1	Will the city government continue the guidance activities on 5S techniques for SMEs?	(Result) They have a plan to continue. (Verification 1) Interview survey with Dinas Koperindag. And, budgetary allocation in 2010 assured. (Verification 2) In questionnaire survey with trainees, 8 out of 9 answered that they will continue the guidance activity.
	2	What are promoting and inhibiting factors for the guidance activities on 5S techniques of this action to be continued in the future?	(Result 1) Refer to the main body text. (Result 2) Refer to the main body text.

Source: JICA study team

### (1) Relevance

The terminal evaluation concludes that relevance of this action was relatively low in consideration of the whole evaluation results shown in Table 6.1-15.

The JICA study team considers relevance in terms of necessity to be high for the same reasons stated in Section 6.1.2.1 and 6.1.2.2 (for actions 1 and 2).

As for the relevance as the means to achieve the goal, the selection process of the model enterprises was properly done, but not very fairly. In a workshop, the JICA study team solicited applications for model enterprises in which the trainees would receive OJT. Among the 249 embroidery companies in Bukittinggi, however, only 12 embroidery companies (5%) of

them participated in the workshop. Although there was the time and manpower limitations for the JICA study team and the trainees, selection of model enterprises from a small fraction of the cluster is not considered to be very fair. The trainees have the same view, and thus this action lacked relevance as the means to achieve the goal.

In addition, this action was designed by the JICA study team without any involvement of the cluster development organizations in the planning stage, which makes relevance further lower.

## (2) Effectiveness

The terminal evaluation concludes that effectiveness of the outputs was not high, although the project purpose itself was achieved, in consideration of the whole evaluation results shown in Table 6.1-15.

The project purpose under this action is that “teaching capability of SME trainers in the Dinas Koperindag for 5S techniques will be enhanced.” According to a JICA study team expert in Technologies/SME Consulting who was the trainer in this action, seven out of ten trainees enhanced guidance capability in the 5S method. In particular, two trainees improved significantly. Also, in the questionnaire survey of the model enterprises that received the 5S guidance, four out of seven respondents consider that the 5S teaching capability of the trainees has improved. Further, all the trainees themselves consider that their capability was enhanced. All the SME trainers in the Dinas Koperindag participated as the trainees, and the capability of 5S technique guidance for most of them was evaluated as enhanced. These indicate that the project purpose under this action is deemed to be achieved.

However, the JICA study team believes that there should have been additional outputs to achieve the project purpose more effectively (or one that would have led to higher enhancement of 5S teaching capability of more trainees). As the factors that inhibited more effective achievement of the project purpose, the JICA study team lists the following: “low motivation of the trainees to participate in this action;” “the lack of willingness to improve their own capability;” and “insufficiency in progress management.” In order to overcome these factors, for example, it was critical to hold regular meetings where every trainee was required to attend. These meetings could have offered opportunities for them to present and discuss the progress of their activities, thereby strengthening the progress management of the guidance as well as improving their motivation. Furthermore, the trainees should have worked for revision and updating of teaching materials and the evaluation sheet (provided by the JICA study team at the beginning of the action) over the course of the action. This could have heightened their willingness to improve their own capabilities of 5S technique guidance.

In addition, the results of this action are hardly known in the cluster. There was no PR activity. The Dinas Koperindag acknowledges that it is known only by the model enterprises and those close to them.

## (3) Efficiency

The terminal evaluation concludes that the outputs were produced efficiently in consideration of the whole evaluation results shown in Table 6.1-15.

As described earlier in Section 6.1.1.3, the action has successfully produced all the outputs.

Evaluation results indicate that the inputs were also appropriate in terms of the quality and quantity. The Dinas Koperindag holds positive view of the training period and capability of the JICA study team expert in Technologies/SME Consulting who was the trainer in this action. According to the questionnaire survey of the trainees, six out of nine respondents also stated that they were “appropriate.” Two of them regard them as “not appropriate,” but the reason is not

about the appropriateness in question, but about the implementation method of the training. In the meantime, six out of the seven model enterprises responded to the same question as “appropriate.” All in all, efficiency is evaluated as fairly high.

In addition, as stated in Section 6.1.1.3, the training curriculum was developed on the basis of the training programs on production control techniques, including the 5S method conducted by the Dinas Koperindag and other government agencies. Thus, the output to develop the curriculum was more efficiently done than the case where it was to be developed from scratch.

#### (4) Impact

The possibility to achieve the overall goal of the action and other prospective impact of this action is discussed below.

This action, like the other three actions, was designed to contribute to achieving the vision of the embroidery cluster in Bukittinggi, together with the overall goal of the action. According to the questionnaire survey of the trainees, eight out of nine respondents thought that the enhancement of their 5S teaching capability would contribute to achieving the cluster vision. The Dinas Koperindag also considers that achievement of the project purpose will contribute largely to the same.

As for the presence of beneficiaries in the cluster, other than direct ones, overall consideration of the viewpoints of the trainees, the Dinas Koperindag, and the JICA study team indicates that the action will have positive impacts on employees, buyers, consumers, distributors, raw material suppliers, other embroidery companies (assuming that 5S technique guidance activities continue), and government agencies (particularly the Dinas Koperindag).

#### (5) Sustainability

Sustainability of this action is described below.

In the questionnaire survey of the trainees, eight out of nine respondents answered that the Dinas Koperindag would continue the guidance activities on 5S techniques for SMEs. Moreover, according to the Dinas Koperindag, the city municipal assembly approved the budget to implement them in 2010 for the Dinas Koperindag.

In the view of the Dinas Koperindag, a factor promoting their continual 5S guidance activities is “a commitment by the chairperson of the Dinas Koperindag to such continuation.” The trainees cited Dinas support and 5S training for trainers. They also pointed out inhibiting factors for the same issue, including presence of trainers who look for a special allowance and the low level of knowledge on 5S among trainers.

All in all, the terminal evaluation concludes that sustainability of this action seems to depend largely upon commitment by the Dinas Koperindag to budget execution, and the awareness/motivation of SME trainers in Dinas Koperindag.

#### 6.1.2.4 Creation of the Marketing-oriented Company Catalog

Table 6.1-16 summarizes evaluation questions and results for this action. The JICA study team interviewed the Dinas Koperindag for the purpose of evaluation. Note that the project purpose under this action was designed to be achieved by the end of the fiscal year 2010, and this is considered to be a mid-term evaluation.

Table 6.1-16 Evaluation questionnaire and evaluation results (Action 4)

Criteria	Evaluation Questions	Evaluation Results
Relevance	1 Necessity: Did the action deal with significant problem(s) that the embroidery cluster in Bukittinggi is facing?	(Result) Yes (Verification 1) The action was selected through SWOT analysis and a long list of actions for development of the target cluster in the second field survey (Verification 2) Short-listing of the actions through a participatory workshop in the second field survey
	2 Priority: Are the purposes of the action in line with the cluster development policies and regional industry development policies in Indonesia and Bukittinggi?	(Result) Yes (Verification) As stated in Chapter 4, the embroidery industry is one of the priority industries in Indonesia for which the cluster approach is applied for development. The embroidery cluster in Bukittinggi has been designated by the Ministry of Industry as the priority embroidery cluster for development.
	3 Relevance as means: Will the action contribute sufficiently to achievement of the cluster vision?	(Result) Partly (Verification 1) The same as "Verification 1" in "Relevance 1" in this table. (Verification 2) Analysis by Dinas Koperindag: "It is a very necessary action to achieve the cluster vision."
	4 Relevance as means: Were companies in the sample template selected fairly and properly? Were they appropriate as companies for sample template development?	(Result 1) They were done so fairly and properly (Verification) Analysis by JICA study team and Dinas Koperindag: "No factitive bias was found as they were selected at random." (Result 2) They were proper for sample template development (Verification) Analysis by JICA study team: "They were in the current catalog, on which the sample template development was based."
	5 To what degree were cluster development organizations involved in project planning?	(Result) Involved fairly (Verification) Analysis by JICA study team: "The catalog is to introduce the cluster companies as a whole. Dinas Koperindag plans and implement development of the new catalog (2010 version) based upon the sample template submitted in this action."
Effective-ness	1 Will the catalog for embroidery companies in Bukittinggi be more exhaustive to encompass information necessary for buyers in 2010, compared to the current version?	(Result) Expected to be (Verification 1) Analysis by JICA study team: "The sample template has been developed to encompass necessary information for buyers based upon evaluation results from textile experts and an embroidery company in Japan." (Verification 2) Analysis by Dinas Koperindag: "We have already started to develop the new catalog in 2010 based on the sample template."
	2 Is the output sufficient to achieve the project purpose? Is there any other necessary output? Is there any output that is not contributing to achieving the project purpose?	(Result) Sufficient (Verification 1) Analysis by JICA study team (Verification 2) Analysis by Dinas Koperindag
	3 To what degree is the achievement of project purpose shared in the whole cluster?	(Result) Expected to be shared fairly (Verification) Analysis by JICA study team : Refer to the main body text
	4 What are the promoting and inhibiting factors for the achievement of the project purpose?	(Result 1) (Inhibiting Factor) Work for creating the new catalog is being done by only staff in the industrial division of Dinas Koperindag (lack of manpower) (Verification) Analysis by JICA study team and Dinas Koperindag
Efficiency	1 Was the output achieved?	(Result) Yes (Verification) Refer to Section 6.1.1.4
	2 Were the training period and ability of JICA study team appropriate to achieve the output?	(Result) Appropriate (Verification) Analysis by Dinas Koperindag: Refer to the main body text
	3 Has the same or very similar project been done in the past or is planned to be implemented?	(Result) Yes, but the action was designed based upon experience of the past project. (Verification) Refer to Section 6.1.1.4
Impact	1 Will the catalog for embroidery companies in Bukittinggi which is more exhaustive to encompass information necessary for buyers in 2010, compared to the current version, contribute to achievement of the cluster vision?	(Result) Yes (Verification 1) The same as "Verification 1" in "Relevance 1" in this table (Verification 2) Analysis by Dinas Koperindag: "It will contribute to achievement of the cluster vision."
	2 Does this action produce beneficiaries in the cluster other than participants in it? Or is there any plan to produce them?	(Result) Consumers, buyers, and companies which will be introduced in the catalogs in the future. (Verification) Analysis by JICA study team and Dinas Koperindag.

Sustain-ability	1	Will the Dinas Koperindag continuously be improving the sample template submitted in this action?	(Result) Expecting to continue. (Verification) Interview survey with Dinas Koperindag
	2	What are promoting and inhibiting factors for Dinas Koperindag to be improving the sample template on a sustainable basis in the future?	(Result) Refer to the main body text

Source: JICA study team

Sections (1)- (5) below present the details of the main evaluation results, among those shown in Table 6.1-16, for five items under each evaluation criteria.

#### (1) Relevance

It is concluded that relevance was high in consideration of the whole evaluation results shown in Table 6.1-16.

The JICA study team considers relevance in terms of necessity to be high for the same reasons stated in Sections 6.1.2.1, 6.1.2.2, and 6.1.2.3 (for the action 1, 2, and 3).

Also, both the JICA study team and the Dinas Koperindag have found high relevance as the means to achieve the goal. As described in Section 6.1.1.4, the JICA study team randomly selected companies for the sample catalog from those included in the current catalog. Also, it is easier to compare the sample and current catalogs before and after the revision, if the same companies are included in the two versions. Hence, the selection process is considered to be appropriate.

In addition, the action was designed to ensure that the Dinas Koperindag, a pivotal cluster development organization, designs and creates a new catalog on the basis of the sample catalog prepared by the JICA study team. Their involvement in the planning and implementation therefore ensures high relevance of this action.

#### (2) Effectiveness

The evaluation concludes that effectiveness of this action is high in consideration of the whole evaluation results shown in Table 6.1-16.

The project purpose under this action is that “a catalog introducing embroidery companies in Bukittinggi will be upgraded to encompass information needed by buyers in 2010, compared to the current version.” The JICA study team anticipates that the possibility to achieve the goal is high for two reasons. One is that the sample template was designed by referring to the evaluation results covering textile experts and an embroidery company in Japan so that it can cover information needed by buyers. Secondly, the Dinas Koperindag has agreed and started to develop a new catalog in 2010 on the basis of the sample catalog.

Meanwhile, the JICA study team and the Dinas Koperindag are concerned about the “lack of human resources” to be engaged in its development as an inhibiting factor for achieving the project purpose. As a result, they may not be able to collect necessary information or it may take considerable time to do so.

Finally, it can be expected that information relevant to the achievement of the goal will be widely known in the cluster, because a company catalog is created for external distribution and use, thus allowing it to be shared by many people. In addition, the Dinas Koperindag is now creating a new catalog that will cover 41 embroidery companies, which means that it will be made known to them so long as the Dinas Koperindag allows them to use it.

### (3) Efficiency

The evaluation concludes that the outputs were produced efficiently in consideration of the whole evaluation results shown in Table 6.1-16.

As stated earlier in Section 6.1.1.4, all the outputs were realized.

The inputs are also considered as appropriate. The Dinas Koperindag points out that the input was appropriate on the grounds that a) the JICA study team has the connection with textile experts and an embroidery company in Japan; b) it has the ability to prepare the template in both Indonesian and English; and c) most of the JICA study team members have experience in creating company catalogs in other countries.

In addition, as explained in Section 6.1.1.4, the JICA study team modified the current catalog developed by the Dinas Koperindag, and it was more efficiently prepared than the case where the sample template was to be developed from scratch.

### (4) Impact

The possibility to achieve the overall goal of the action and other prospective impact of this action is discussed below.

This action, like the other three actions, was designed to contribute to achieving the vision of the embroidery cluster in Bukittinggi, together with the overall goal of the action. In the interview survey, the Dinas Koperindag expressed its expectation that its achievement would promote recognition of the embroidery companies in various markets in the world. As more and more embroidery companies know diverse market conditions, they will be inspired to make efforts to improve competitiveness and reputation of their products. This evaluation is consistent with the objective of this action mentioned (1) of Section 6.1.14.

As for the presence of beneficiaries in the cluster, other than direct one, both the Dinas Koperindag and the JICA study team expect that the positive impact will extend to consumers, buyers as well as the companies introduced in the new catalog.

### (5) Sustainability

Sustainability of this action is described below.

The Dinas Koperindag expresses its willingness to improve continuously its embroidery company catalog after production of a new one in 2010.

The Dinas Koperindag and JICA study team have concluded and list the following promoting factors for continual improvement on a sustainable basis.

- Sustainable and growing provision of budget for the activities
- Needs from the companies for improvement of the catalog
- Continuous research for making it more attractive to buyers
- Provision of budget for subcontracting to advertising/sales promotion professionals

On the contrary, “the budget is not approved for the activities,” and “the decline in need to use the catalog that introduces the cluster companies, because as they become capable of creating their own,” are raised as the inhibiting factors for the same issue.

All in all, the current mid-term evaluation concludes that sustainability of this action depends largely upon sustainable budget allocation for continuation of the activities and the degree of the companies' need for a catalog that introduces the cluster companies together.

### 6.1.3 Lessons learned from the pilot project

This section presents the lessons learned from implementation of the actions stated in Section 6.1.1 and the evaluation described in Section 6.1.2. Note that the action numbers in parentheses at the end of the subject of each lesson indicates what action produced the respective lessons.

#### (1) Possibility of achieving the overall goal (the cluster vision) and sustainability of actions (all actions)

The four actions implemented under the pilot project share the existing vision of the embroidery cluster in Bukittinggi as the overall goal. The evaluation results indicate that there is high possibility that achievements of the project purposes will contribute to its realization. As seen in "Impact 1" in Table 6.1-13 to 6.1-16 showing the evaluation results of each action, almost all the concerned parties agree on this view. However, as also stated earlier in Section 6.1, achieving all the project purposes will not necessarily lead to the achievement of the overall goal. Rather, they need to timely undertake all the actions listed in the long list, which has been made out of the SWOT analysis and discussion with related parties. At the same time, possibility to achieve the overall goal also depends upon how they develop and disseminate the results of each action in the future. In other words, the degree of contribution of each action is also a function of the sustainability thereof.

The previous sections discussed sustainability of each action and the factors influencing it, which can be broadly classified into four factors: continuous commitment of the city government to sustainable implementation of each action; the improvement of a sense of participation of the concerned parties in each action; the improvement in capabilities of the concerned parties in each action; and continued needs of the target group for each action. It is important to realize it as the basis of the sustainability of the actions. Having said that, the JICA study team believes that possibility of achieving the overall goal heightens if each action evolves in the following way:

Action 1. The establishment of the embroidery cluster forum raises the level of private participation in the organizations for development of the embroidery cluster in Bukittinggi. In the days ahead, the embroidery cluster forum will take initiative in cluster development activities and foster capability to communicate their needs to the local economic development forum in the direction of satisfying them;

Action 2. The local economic development forum or the city government will implement activities to improve the availability and capabilities of design trainers in/around Bukittinggi on a sustainable basis so that the new design training curriculum, which were prepared in the action 2, will be utilized effectively;

Action 3. The local economic development forum or the city government will devise and implement measures to improve the SME trainers' motivation to provide guidance for SMEs. Besides, the city government will implement the approved budget for 5S guidance activities; and

Action 4. The Dinas Koperindagor both the forums will improve the embroidery company catalog on a sustainable basis, thereby expanding market recognition in the world of the companies introduced in the catalog. Then, these companies will have more opportunities to understand a variety of demand conditions in the world, thereby being motivated to improve competitiveness and reputation of their own product.

- (2) Evaluation on the overall development of the cluster and focusing on the joint activity among cluster stakeholders (all actions)

As discussed in Chapter 5, the four actions were short-listed from the long list of the actions for development of the embroidery cluster in Bukittinggi after consultation with the cluster stakeholders. Over the course of action implementation, the JICA study team aimed to develop capacity of the concerned parties, which is indispensable to cluster promotion. On the other hand, cluster development activities also need to provide concrete benefits to the entire cluster constituents or at least those participating in collaboration. Both perspectives are important. However, if the latter perspective is to be prioritized, then the project evaluation method needs to be adjusted accordingly. In this case, evaluation should be made by paying attention to the items that cover the development of the cluster as a whole, such as effects of collaboration, utility of networking, establishment of information-sharing institution, and the importance of a framework that comprehensively supports the cluster throughout the whole project, which progress should be monitored over the entire project period and then used as the basis of evaluation.

- (3) Capability and location of facilitator (Action 1)

As stated in Section 6.1.1.1, the JICA study team hired Central Java-based experts as facilitators for establishing both the embroidery cluster forum and the local economic development forum in action 1. They visited Bukittinggi four times to assist the JICA study team in formulating both forums. In particular, they served as organization facilitators in a series of the workshops held for the purpose. The JICA study team considers their expertise in forum establishment to be at a very high level in the country. However, as discussed in (3) of Section 6.1.2.1, the geographical distance between Bukittinggi and Central Java has adversely affected the efficiency of their facilitation activities. Factors attributable to the distance include a lack of their knowledge on the embroidery industry in Bukittinggi, insufficient time to nurture a trusting relationship with the cluster stakeholders, difficulty in daily communication for operational coordination, and a relative large cost incurred for their activities.

In addition, a challenge still remains as to who will act as facilitator for the future cluster activities now that the embroidery cluster forum is in place. For both of organization activities and cluster activities, the availability of a capable facilitator in or around Bukittinggi can solve the issue effectively. Thus, it is necessary to foster facilitators in local regions like Bukittinggi in both quantity and quality terms.

- (4) Importance of participation of the local administrative chief in organizing activities (Action 1)

As discussed in Section 6.1.1.1, while the embroidery cluster forum has been officially established, the local economic development forum, a public-private development platform, has not been established because the mayor has not issued the final approval. According to the forum-establishment experts hired under action 1, it is the permission and decision-making by the local administrative chief that is the most important factor for the establishment of an official organization in a local region like Bukittinggi. In particular, it is indispensable in making the local government staff committed to the organizing activity as well as obtaining sustainable support from the local government. Section 6.1.2.1(5) argues that sustainability of the forum activities require a growing sense of participation of the forum members and continuous support from the city government. These depend greatly upon the cooperation and decision-making of the mayor of Bukittinggi.



(5) Insufficient quantity of experts who train SMEs in local community (Actions 2 and 3)

As stated in Section 6.1.1.2, action 2 included training of design trainers, but only seven candidate participants were available in and around Bukittinggi. Only two of them are professional designers or design instructors. In order to effectively and continuously utilize the new design training curriculum developed under the action, more design trainers will be required. To do so, continuous activities will be needed to train design trainers in and around the city. At the same time, it is necessary to find potential design trainers and develop their database not only in Bukittinggi and its surrounding area, but also in the whole provincial territory.

In the meantime, as explained in Section 6.1.1.3, a total of 10 staff members of the Dinas Koperindagin charge of SMEs promotion participated in action 3 as trainees. Among them, 6 trainees were either SHINDANSHI or the Extension Officers specialized in guiding SMEs. Among the leading BDS providers in Bukittinggi (see Chapter 4), the BDS Tri Arga, UPTD, and DEKRANASDA (not directly involved in the pilot project) do not employ full-time experts. Instead, they hire experts from other regions on a project basis. A total of 249 embroidery SMEs are registered in Bukittinggi. The number goes up to 1,824 if non-embroidery SMEs are included, not to mention unregistered business units like KUBs. Clearly, the number of experts capable of providing service for SMEs are currently far smaller relative to the number of SMEs. This situation is found not only in Bukittinggi, but also in other regional cities in Indonesia.

(6) Motivation and capability of SME trainers (Action 3)

Action 3 proved that 5S technique is effective for embroidery SMEs. At the same time, as pointed out in Section 6.1.2.3(2), one of the factors that inhibited effectiveness of the action was poor motivation of the trainees (SME trainers in the Dinas Koperindag) toward participation. The lack of motivation was observed frequently during the training program: failure to bring teaching materials or evaluation sheets to OJT; failure to visit the assigned model companies while the JICA study team was out of Bukittinggi; failure to prepare or submit reports; unauthorized leave during the OJT; and the lack of enthusiasm in advice service for the assigned SME. In addition, the OJT revealed their lack of understanding on how to teach 5S techniques (especially practical guidance skills) and neglect for continuous guidance; they were satisfied by explaining the concept of Seiri, Seiton, Seisou, Seiketsu, and Shitsuke to SMEs. In other words, they failed to recognize one of the most important factors relating to field guidance and advice, i.e., the 5S method takes a stepwise approach and thus it yields positive effects only if implemented continuously. While many factors are involved in causing insufficiency of motivation and capability of SME trainers, a major factor seems to lie in the lack of a system to let client SMEs to evaluate SME trainers, as well as the organization they belong to. Linking evaluation on capability and outcome of field guidance activities to overall performance evaluation can become an impetus to motivate the SME trainers to support SMEs sincerely and to improve their own skills.

## 6.2 Pilot Project for Development of Nilam Cluster in Sumedang Regency, West Java

As seen in Table 6.2-1, three actions were planned under the pilot project. Each action has its own project purpose, while sharing the same overall goal with other actions.

Table6.2-1 Summary of actions

<u>Action 1</u> Formation and strengthening of nilam cluster committee	<u>Action 2</u> Development of the SOP (Standard Operation Procedure) for nilam cultivation	<u>Action 3</u> Training for distillation skill
<b>Overall Goal</b> * SMEs which belong to the nilam cluster in Sumedang will improve their capabilities to produce competitive products in terms of price and quality.		
<b>Project Purpose</b> * The cluster committee for the nilam industry will be established in Sumedang as an organization which coordinates stakeholders and executes actions with planning and monitor itself		
* Quality and quantity of both nilam leaves and oils produced in Sumedang will be improved	* Distillation technology of nilam oil in Sumedang will be upgraded	
<b>Outputs</b>		
1. Stakeholders will understand the concept of nilam cluster development and build consensus among them to form a cluster organization	1. An SOP for nilam cultivation will be designed	1. Appropriate distillation technology will be transferred to sample distillers
2. A cluster committee for nilam industry will be established.	2. The SOP will be disseminated among farmers and the SOP-based cultivation will be adopted	2. Guidelines for upgrading of distillation technology will be utilized among distillers in Sumedang
3. Related activities will be strengthened by good understanding of how to operate the committee by members.		
<b>Activities</b>		
1-1. Hold cluster initiation workshops	1-1. Investigate current cultivation method of nilam farmers	1-1. Investigate current condition of production devices and distillation method of nilam distillers
1-2. Stakeholders reach the consensus about promotion of nilam cluster	1-2. Draft the initial SOP by referring to related information and documents	1-2. Hold FGDs for technology transfer to distillers
2-1. The committee holds initiation workshops	1-3. Draft the specific SOP of cultivation for Sumedang in line with the results of investigation	1-3. Transfer technology to 3 distillers
2-2. Stipulate vision, purposes, activities, and role of committee members	1-4. Discuss the specific SOP for Sumedang at FGD	2-1. Identify common technological problems
3-1. Committee members and officials of Sumedang regency learn cluster management from the study tour to Tegay regency of Central Java	1-5. Revise the specific SOP in line with discussions at FGD	2-2. Draw up guideline for the upgrading of distillation technology
3-2. Committee members learn cluster management from the study tour to Kutai Timur, East Kalimantan	2-1. Develop handbook of the specific SOP to accelerate farmer's understanding	
3-3. With PUPUK's assistance, the committee plans, carries out and undertakes monitoring about the activity 1	2-2. Provide training for farmers based on the SOP	
3-4. Devise and continuously implement the marketing strategy in the committee		

Source: JICA study team

## 6.2.1 Results of action implementation

This section presents the objective and implementation results of each action summarized in the Table 6.2-1.

The majority of Indonesian clusters are at the embryonic stage where no network is formed for stakeholders, and the nilam cluster in Sumedang fits the pattern. Therefore, the pilot project attempted to build a network by mobilizing more stakeholders to be involved and fostering a sense of ownership and/or participation. In the pilot project, the JICA study team hired an experienced facilitator to nurture a trusting relationship among cluster stakeholders.

### 6.2.1.1 Action 1: Formation and strengthening of the nilam cluster committee

#### (1) Objective

Previously, there had been no organization to promote the nilam cluster in the Sumedang Regency. While various governmental organizations provided their own assistance programs separately, private farmers, distillers and associations failed to organize themselves or act collectively as a cluster. Under these circumstances, this action aimed to establish an organization which would play a pivotal role in promoting the nilam cluster. The organization envisaged in this action is a committee coordinating a wide variety of stakeholders, including related governmental agencies, farmers, distillers, local collectors, universities and

research institutes, as well as managing, namely planning, implementing, monitoring, and evaluating cluster development activities.

(2) Implementation schedule and results

Table 6.2-2 shows the implementation schedule of the action according to output.

Table 6.2-2 Implementation schedule for Action 1

Year	2009							2010	
Month	July	August	September	October	November	December	January	February	
Survey	Home Work	Third Field Survey	Home Work	Fourth Field Survey			Home Work	Fifth Field Survey	Home Work
Output 1 (Stakeholders will understand the concept of nilam cluster development and build consensus among them to form a cluster organization)									
Output 2 (A cluster committee for nilam industry will be established.)									
Output 3 (Related activities will be strengthened by good understanding of how to operate the committee by members.)									

Note: The numbers of output link to Table 6.2-1.

Source: JICA study team

The following is the implementation results for each output. For this action, the JICA study team employed PUPUK as a facilitator. It is an NGO located in the Bandung City of the West Java Province which is experienced in cluster facilitation.

1) Output 1

As shown in Table 6.2-1, output 1 of this action is “stakeholders will understand the concept of nilam cluster development and build consensus among them to form a cluster organization.” The output has been accomplished through the following meeting and workshops. Each activity schedule, attendants and the content are summarized below.

**FGD (kick-off meeting of the pilot project)**

Date: August 25, 2009 (in the third field survey)

Participants: Stakeholders of the nilam cluster in Sumedang

- Local governments: Bappeda, Setda, Dinas Disperindag, Dinkop, Dishubun
- Provincial government: Dinas Disperindag Jabar
- Private sector: Leaders of farmer groups, distillers, Kadinda, universities, trainees in the cluster diagnosis training, etc.

Outline: Participants confirmed the importance of organizing the nilam cluster and expressed their commitment to participation in related actions.

**Cluster initiation workshop**

Dates: October 7 and 8, 2009 (in the fourth field survey)

Participants: Stakeholders of the nilam cluster in Sumedang

- Local governments: Bappeda, Setda, Dinas Disperindag, Dinkop, Dishubun

- Provincial government: Dinas Disperindag Jabar
- Privatesector: Leaders of farmer groups, distillers, universities, trainees in the cluster diagnosis training,etc.

Outline: Participants including trainees of the cluster diagnosis training program analyzed the present state of the cluster and draftedavision<sup>5</sup>, and agreed to form a cluster committee. Also, committee members were nominated

## 2) Output 2

Output 2 is that “a cluster committee for the nilam industry will be established.”For the purpose, the following activities were conducted.

### **Workshop for formation of cluster committee**

Date: October 14, 2009 (in the fourth field survey)

Participants: Candidate committee members who were nominated by the stakeholders during the cluster initiation workshop

- Local governments: Bappeda, Dinas Disperindag, Dinkop, Dishubun
- Private sector: Leaders of farmer groups, distillers, universities

Outline: The cluster committee was set up. Member of the committee developed itsvision, mission, objectivesand organization structure (refer to the BOX 4 and 5)

#### **BOX4: Nilam Cluster Committee in Sumedang “Medal Nilam Wangi” Vision / Mission / Action of the Committee**

##### Vision:

- 1) Improve local economic competitiveness through upgrading innovation capacity of Sumedang
- 2) Make Sumedang a nilam production centre in West Java
- 3) Improve socio-economic conditions of Sumedang through nilam business

##### Mission:

- 1) Attain fair trade through preferable competition among nilam stakeholders
- 2) Establish business networks among nilam stakeholders
- 3) Upgrade human resources in the nilam business
- 4) Upgrade management system of the nilam business

##### Objectives :

- 1) Nilam product development
- 2) Improvement of social welfare through nilam business
- 3) Quality management of nilam oil production
- 4) Marketing of nilam oil
- 5) Seedling development
- 6) Human resource development for farmers
- 7) Development of nilam business management
- 8) Strengthening of farmers capacity in nilam business and attainment of socio-economic development
- 9) Set nilam oil as the priority product in Sumedang
- 10) Aggressive participation of entire stakeholders
- 11) Attainment of local economic competitiveness through nilam business
- 12) Development of nilam farm

Source:The cluster committee

<sup>5</sup>

A vision that was set at the time of the cluster diagnosis training program was meant for the nilam cluster in Sumedang in the year 2025, based upon which the vision of the nilam cluster committee in Sumedang introduced in BOX 4 has been developed.

BOX5: Organization of the Nilam Cluster in Sumedang ("Medal Nilam Wangi") (As of October 2009)

Leader	Jamil (Distiller)
Secretary	Hendra (PUPUK)
Accountant	Ius Yuliawati (Farmer)
Business linkage and marketing section	Tatang Prawoto (Coordinator) (Dinkop, Sumedang regency) BPPMD (Regional promotion and development Dinas) Dinas Disperindag Ario (Distiller)
R & D section	Atang (coordinator) (Dinas Disperindag, Sumedang) Tatang (Agro-forestry Dinas, Sumedang) Unpad (Padjajaran University) Unwim (Winayamukti university)
Production section	Kusman (Coordinator) (Dishubun) Sahadi (Dinas Disperindag, Sumedang) Rediana (State owned company employee)
HRD and Organization Development section	Rosmala Dewi (coordinator) Dudi (Farmer / AP3MA association) Andes (Dishubun) Faisal (Bappeda, Sumedang)
North Sumedang region coordinator	Yaya (Farmer) Danu (Distiller)
South Sumedang region coordinator	Akub (Distiller)
East Sumedang region coordinator	Enceng (Farmer)
West Sumedang region coordinator	Dedi (Farmer)

Source: The cluster committee

### 3) Output 3

Output 3 of this action is that "related activities will be strengthened by good understanding of how to operate the committee by members." The activities conducted to produce this output are classified into two: the one was the study tours to learn how to promote a cluster and, more precisely, how to operate the committee, and the other was to plan, do and monitor the two actions proposed in the first committee meeting with the assistance of PUPUK. Their activity schedules, attendants, and outlines are described below.

#### **Committee activities**

Dates: October 19 and 21, 2009;  
November 4, 5, 9 and 18, 2009;  
December 3, 16 and 30, 2009;  
January 16, 18 and 30, 2010; and  
February 3, 2010

Participants: Committee members (farmers, distillers, and local governments)

Outline: The committee first determined its organization structure and division of roles. Then they planned and monitored activities. In February 2010, they discussed their activities in the year 2010.

### **Study tour 1 (Tegal, Central Java)**

Dates: January 13 and 14, 2010 (in the fifth field survey)

Participants: Representatives of the nilam cluster committee and local governments

The committee: Leader of the committee, leaders of farmer groups, distillers

Local governments: Bappeda, Setda, Dinas Disperindag, Dinkop, Dishubun, and Extension office<sup>6</sup>

Outline: Participants visited the Tegal Regency to learn the system and activities of the regency-level forum, Committee of Local Economic Competitiveness (DPDS), and several cluster committees under DPDS. They exchanged views of cluster development.

### **Study Tour 2 (Kutai Timur, East Kalimantan)**

Dates: January 25 to 29, 2010 (in the fifth field survey)

Participants: Nilam cluster committee

The committee: Leader of the committee, leaders of farmer groups, distillers

Local government: Bappeda, Dinas Disperindag, Dinkop, Dishubun

Outline: The committee members visited "Patchouli Borneo," thenilam cluster committee in Sangata, Kutai Timur, East Kalimantan and learned its organization structure, cluster system, linkages among the private stakeholders, the government and support organizations.

### **Identification of nilam production capacity in Sumedang (an action proposed by the committee)**

Period: November 2009 to February 2010

Target: Entire nilam production area in Sumedang

Outline: There had been no comprehensive information on nilam production in Sumedang. To see the potential of the local nilam oil industry, the committee members collected information, and the committee compiled it.

### **System building for marketing and promotion (another action proposed by the committee)**

Period: October 2009 to February 2010

Participants: Members of the nilam cluster committee (farmers, distillers and the local government)

Outline: The committee started building a system for marketing and promotion activities. As part of the action, the representatives of the committee attended the international essential oil seminar (ISEO) in Bogor which was held from October 24 to 26, 2009, and collected information on the international market trend and requirements of international buyers. After the ISEO, they shared the information at a committee meeting, from which the members understood the importance of marketing.

### **Action planning for 2010**

Period: February 2010

Participants: The committee members (farmers, distillers and the local government)

Outline: Reflecting the evaluation seminar held on February 9 and 10, 2010, they started to develop an action plan for 2010

---

<sup>6</sup> Extension officers in Sumedang belong to agricultural, forestry and fisheries provincial extension office but not related Dinas.

6.2.1.2 Action 2: Development of the SOP(Standard Operation Procedure) for nilam cultivation

(1) Objective

In the cluster initiation workshop and the workshop to start up the cluster committee, the participants share common perception that nilam oil produced in Sumedang does not meet production (volume) and quality requirements demanded by the market. In Sumedang, farmers traditionally grew nilam in their own ways, which made their production output fluctuate. This action aimed to improve quality and production yield of nilam leaves by standardizing cultivation techniques through the introduction of a SOP for nilam farms.

(2) Implementation schedule and results

Table 6.2-3 shows the implementation schedule for the action according to output.

Table 6.2-3 Implementation schedule for Action 2

Year	2009						2010		
Month	July	August	September	October	November	December	January	February	
Survey	Home Work	Third Field Survey	Home Work	Fourth Field Survey			Home Work	Fifth Field Survey	Home Work
Output 1 (An SOP for nilam cultivation will be designed)									
Output 2 (The SOP will be disseminated among farmers and the SOP-based cultivation will be adopted)									

Note: The numbers of output link to Table 6.2-1

Source: JICA study team

The JICA study team contracted out technical components of the activities to the agriculture department of UNPAD in Sumedang.

1) Output 1

As shown in the Table 6.2-1, output 1 is that “an SOP for nilam cultivation will be designed.” The output was achieved by interviewing farmers with regards to the cultivation environment and analyzing existing data.

**Survey for current situation of nilam cultivation in Sumedang**

Period: November 2009

Target: Nilam farmers in Sumedang

Outline: Using a pre-designed questionnaire, UNPAD interviewed 47 farmers in 10 wards throughout Sumedang in order to collect information relating to the nilam cultivation environment that would form the basis of the SOP.

**Drafting a prototype SOP**

Period: November 2009

Outline: In parallel to the interview survey, UNPAD conducted a literature survey to draft a prototype SOP which is not limited to Sumedang.

**Drafting an SOP customized for Sumedang**

Period: December 2009

Target: Nilam farmers in Sumedang

Outline: Referring to the results of the interview survey, UNPAD modified the prototype SOP that would be suitable for agricultural conditions in Sumedang.

#### **FGD to develop the SOP**

Dates: December 30, 2009

Participants: The committee, nilam farmers, related government agencies

Outline: UNPAD reported the survey results and two SOPs to related parties and discussed with the participants (Dinkop and Dishubun) to refine the prototype SOP to the one customized to the cultivation environment in Sumedang.

#### **Refinement of the draft SOP to be customized for Sumedang**

Period: January 2010 and thereafter

Outline: UNPAD refined the draft SOP by reflecting the feedback at FGD to develop the customized one.

#### 2) Output 2

Output 2 is that “the SOP will be disseminated to farmers, who will become capable of cultivating nilam according to the SOP.” Note that the dissemination continues after the pilot project since it takes six months to harvest nilam leaves after planting. The following is the activity details.

#### **Completion of handbook of the SOP**

Period: January 2010

Outline: UNPAD finalized the draft SOP to develop an easy-to-understand handbook. UNPAD presented it at the FGD held to report the results of actions 2 and 3 on January 30, 2010 and distributed the copies to cluster stakeholders..

#### **Training for farmers adopting the SOP**

Period: Around one year from January 30, 2010

Participants: Nilam farmers and related government agencies

Outline: The cluster launched a demonstration plot to provide direct training for farmers relating to the improvement of the nilam cultivation method. In the plot, participant farmers practice the SOP-based cultivation once a week. Stakeholders agreed to continue it for one year after the pilot project period. Because the training activity is conducted by UNPAD in cooperation with Dishubun and the Extension Office in Sumedang, dissemination of the SOP led by government agencies is expected to make progress.

#### 6.2.1.3 Action 3: Training for distillation skill

##### (1) Objective

In the cluster initiation workshop, participants confirmed that improvement in not only cultivation but also distillation was necessary to improve quality and quantity of Sumedang-made nilam oil. There are nine distillers in Sumedang which use a variety of distillation facilities, and their yield rates and oil quality (PA content and color) are different from each other. As a result, PA content, color and the distillation rate vary among oils made by the distillers, preventing uniform quality from achieving for Sumedang nilam oil as a whole. In consideration of these factors, Action 3 aimed to upgrade their distillation skills to improve distillation rates and achieve uniform PA content.

##### (2) Implementation schedule and results

Table 6.2-4 shows the implementation schedule for each output.



Table 6.2-4 Implementation schedule for Action 3

Year	2009												2010			
Month	July		August			September		October			November		December		January	February
Survey	Home Work	Third Field Survey			Home Work	Fourth Field Survey						Home Work	Fifth Field Survey		Home Work	
Output1 (Appropriate distillation technology will be transferred to sample distillers)																
Output2 (Guidelines for upgrading of distillation technology will be utilized among distillers in Sumedang)																

Note: The numbers of output link to table 6.2-1

Source: JICA study team.

1) Output 1

As described in Table 6.2-1, output 1 is that “appropriate distillation technology will be transferred to sample distillers.” To achieve this output, interview survey of distillers, the exchange of opinions with specialized agencies at the workshop (January 16, 2010) and technical counseling were conducted.

**Survey for current situation of nilam distillers and selection of model distillers in Sumedang**

Period: November to December 2009

Participants: Distillers, related government agencies

Outline: UNPAD interviewed distillers in Sumedang by using a questionnaire and inspected their facilities to understand the current situation of their operation and facility. Also, three model distillers to give advice on the improvement of PA and the yield rate were selected at FGD.

**Workshop to improve distilling skill**

Dates: January 16, 2010

Participants: The cluster committee, local distillers, related government agencies

Outline: UNPAD reported the survey results relating to distillers. Then, the distillers and related government agencies exchanged views on distillation training.

**Technology transfer**

Period: January 2010

Target: Selected three distillers

Outline: UNPAD visited the selected three distillers and provided them with advice to improve distillation rates and PA content. However, UNPAD was not able to allocate sufficient time due to duplication with other committee activities, particularly the study tours conducted in action 1. In addition, UNPAD was not able to observe the production process when they visited these three distillers, as the distillers did not refine nilam oil regularly. This limited the UNPAD’s advice only to facility improvement.

2) Output 2

Output 2 of this action is that “a guideline for upgrading distillation technology will be adopted and utilized widely by distillers in Sumedang.” In order to produce this output,

a guideline was developed to upgrade distillation technology of distillers in Sumedang on the basis of the activity results of output 1 and technical analyses made on these distillers. Note that development of the guideline was concluded during the pilot project period, but promotional campaigns to disseminate it for commercial use by distillers have not been carried out due to time constraint. Therefore, the committee and UNPAD signed an MOU to continue the activities after the end of the pilot project.

#### **Identification of common issues**

Period: January 2010  
Target: Distillers in Sumedang  
Outline: UNPAD analyzed the technology levels of the distillers based upon the survey results obtained from output 1, and identified the issues particular to individual distillers as well as common to them.

#### **Development of the guideline for upgrading distillation skills**

Period: February 2010  
Outline: UNPAD developed a guideline that describes techniques to improve quality (PA content) and distillation rates of nilam oil. The guideline categorized the issues relating to nilam oil distillation into those relating to individual distillers and those commonly applicable to the industry as a whole. The guideline was announced at the nilam cluster committee meeting held on February 3, 2010.

### 6.2.2 Evaluation of the pilot project

In the fifth field survey, the JICA study team made evaluation on the pilot project. A general outline of the evaluation is shown below.

- Purpose: To summarize the results of each action using the five evaluation criteria and in accordance with the PDCA cycle; and to examine the results and future prospects for each action and derive lessons for cluster development.
- Period: From January 12, 2010 to February 11, 2010 (in the fifth field survey)
- Method of evaluation: Simplified analysis based on the DAC five evaluation criteria
- Method of data gathering: Questionnaire and interview surveys with the stakeholders.

#### 6.2.2.1 Action 1: Formation and strengthening of the nilam cluster committee

Table 6.2-5 shows the question set for evaluation of this action and evaluation results.

Table 6.2-5 Summary of evaluation items and results of action 1

Criteria	Evaluation Questions	Evaluation Results
Relevance	1 Did the action deal with the crucial issue of nilam oil industry in Sumedang?	[Result] Yes, it dealt with the crucial issue. [Verification 1] There was no organization for cluster promotion before start of the action 1 [Verification 2] The action was proposed at the cluster initiation workshop
	2 Was the action consistent with cluster / local economic development policies?	[Result] Highly consistent [Verification] Central government (MOI) has a cluster development program including the essential oil sector. Local government (Sumedang) has a policy (mid-term development plan) to promote agribusiness including the nilam industry
	3 Did the action contribute to achieving the overall goal?	[Result] Contributed [Verification 1] The cluster committee secured aggressive participation from both private and government sectors and they have been making active discussion [Verification 2] Questionnaire: Further participation by private stakeholders will be required
	4 Was the member of the committee selected appropriately and / or fairly?	[Result] Selected appropriately and fairly [Verification 1] Member of the committee were selected through the workshop in a participatory manner [Verification 2] Questionnaire: Selected appropriately and fairly (answered by government stakeholders)
	5 Were the cluster implementation institution / stakeholders involved in the action planning?	[Result] Stakeholders were involved in the action planning [Verification 1] Stakeholders have been involved in SWOT analysis and action planning [Verification 2] The committee designed the action in detail
Effective-ness	1 Was the cluster committee established as an organization which coordinates stakeholders and plan, executes, and evaluates actions?	[Result] Yes, the base for coordination of stakeholders and implementation body of actions were established. [Verification 1] Committee members from both the private and government sectors have become able to act collaboratively. [Verification 2] Questionnaire: Yes
	2 Was the output of the action enough to achieve the project purpose?	[Result] Enough in limited period [Verification 1] Participants were motivated and enhanced their capacity to manage the committee [Verification 2] Questionnaire: Further participation by private stakeholders will be required
	3 Was the status of achievement of project purpose under this action disseminated to stakeholders of the nilam cluster?	[Result] Disseminated [Verification 1] Disseminated to the stakeholders through the committee meetings, debriefing session on implemented activities, and the evaluation seminar [Verification 2] Questionnaire: Disseminated / Relatively disseminated
	4 What are the promotional / obstructive factors to achieve the project purpose?	[Promotional factor] Importance of the cluster committee was understood by the private and government stakeholders. Network among stakeholders was developed. [Obstructive factor] Dissemination was made but did not reach the whole stakeholders
Efficiency	1 Was the output achieved?	[Result] Achieved [Verification] Based upon the agreement made at the cluster initiation workshop, the nilam cluster committee was established and it has been planning and implementing the activities since then.
	2 Were training period and capability of the expert (PUPUK) appropriate to achieve the output?	[Result] Appropriate [Verification 1] Commitment among the stakeholders related to the action 1 was promoted by PUPUK based on their extensive experiences with cluster development. PUPUK established a trusting relationship with the cluster stakeholders. [Verification 2] Questionnaire: PUPUK was appropriate as a facilitator
Impact	1 Was the action necessary to achieve the overall goal?	[Result] Necessary [Verification 1] Importance of organization to acquire cluster competitiveness was understood by the stakeholders [Verification 2] Questionnaire: Necessary
	2 Are the beneficiaries outside of the committee induced in the cluster?	[Result] Possibly induced [Verification 1] The recognition as a nilam cluster will be increased through aggressive marketing activities and identification of nilam production capacity by the committee and the benefits will then spread to others [Verification 2] Questionnaire: Induced (answered by the government stakeholder)

	3	What are the promotional / obstructive factors to achieve the overall goal by the committee?	[Promotional factor] Motivated human resources identified outside the committee and strong will to grow [Obstructive factor] Passive attitude of stakeholders outside the committee. Deterioration of environment.
Sustain-ability	1	Will the governments of Sumedang continue to support the committee after the pilot project?	[Result] Will possibly continue [Verification 1] Governments are members of the cluster committee. [Verification 2] Questionnaire: Will continue (answered by 5 out of 7 respondents)
	2	What are the promotional / obstructive factors to continue the actions by the committee?	[Promotional factor] Strong motivation for growth in the private sector [Obstructive factor] Less support from policies. Weak sense of unity among the committee members. Lack of operating fund of the committee. More time needed to enhance organizational capacity
	3	Is the cluster committee capable of continuing the action by themselves?	[Result] Capable [Verification 1] Questionnaire: Capable

Source: JICA study team

### (1) Relevance

The terminal evaluation concludes that action 1 is highly relevant.

In the Sumedang Regency, there was no organization that played a primary role in cluster development prior to the start of action 1. As a result, networking and information sharing were weak among the stakeholders such as the related governments, farmers and distillers. The lack of the network linking nilam oil stakeholders and the need for organizing them were confirmed in the course of the SWOT analysis and other actions undertaken during the second field survey, together with the drafting of the long list, and at the cluster initiation workshop in the fourth field survey.

From the point of view of the consistency with industrial policies, the MOI prioritizes the essential oil sector as a priority industry and has selected Sumedang for the pilot project. The Sumedang Regency has also focused on promotion of the nilam industry in its mid-term development plan.

Although the nilam cluster committee in Sumedang has been founded only recently, both the private and public sectors participate in the cluster committee activities with the support of PUPUK. Active discussion on future actions is also underway. For example, the study tour to Kutai Timor in East Kalimantan was organized under the leadership of the committee members and helped the members to learn about “SMS Gateway<sup>7</sup>”.

The committee has built up basic capacity by planning and executing the series of actions. The committee thus seems to become the organization that is gaining the ability to make contribution to achieving the overall goal of the pilot project.

### (2) Effectiveness

The terminal evaluation concludes that this action is highly effective for the following reasons.

Within a limited period of time during the pilot project, a new organization - the cluster committee - was founded. While participants were motivated through the committee activities, the committee has developed management capabilities. For example, representatives of the committee (two distillers) attended at the International Seminar for Essential Oil (ISEO) in Bogor where they interacted with international buyers. They were able to collect

<sup>7</sup> A method for information-sharing, which was implemented in Kutai Timor, and to understand that the information sharing method motivated cluster shareholders greatly toward collaboration, thus invigorating cluster development activities.

information relating to the market needs and reputation for nilam oil produced in Sumedang. Such information collected at the ISEO was later shared among the committee members, resulting in common recognition that this action was effective in driving collaboration among the stakeholders required to achieve the overall goal. Thus, attendance at the ISEO seminar raised awareness of cluster shareholders on the current state of the cluster, while reinforcing common recognition on importance of the committee's activity. In particular, effectiveness of the action was increased as the first step toward invigoration of future activities.

While the committee is becoming a major activity base for future cluster development, the results of the questionnaire survey indicate that a higher level of involvement by the private sector is necessary, and the committee is expected to broaden the scope of activities.

Factors which contributed to achieving the project purpose include high motivation for growth and commitment by the committee members and their willingness to participate, the sharing of the cluster vision by stakeholders, and availability of competent human resources and research institutes. On the other hand, the government-led top-down approach is rather difficult to generate motivation or foster commitment by the private sector. In action 1, thus, commitment and initiative by the private sector in relation to cluster development activity, which built up after the cluster initiation workshop, seems to be a major factor for enhancing effectiveness of this action.

### (3) Efficiency

The terminal evaluation also concludes that this action has achieved high efficiency.

As described in Section 6.2.1.1, all the outputs were produced. The stakeholders established the cluster committee under a formal agreement that was reached through the cluster initiation workshop. Through the committee's activity, they deepened discussion on the role of the committee, while successfully planning and carrying out various cluster development activities.

Use of the local facilitator, PUPUK, is considered to be an efficient input. Having led cluster promotion activities around the country, PUPUK has profound understanding of the cluster and its development. Their knowledge and experience helped the cluster committee members and other stakeholders to drive consensus building, which then solidified trust from the stakeholders toward PUPUK as a local facilitator. Furthermore, as the organization based in Bandung, PUPUK shares the same local characteristics and cultural base with the stakeholders. This has minimized frictions which would have been generated if they came from outside. In the questionnaire survey, all respondents indicated that the input of PUPUK was appropriate.

### (4) Impact

The overall goal of the pilot project is that "SMEs which belong to the nilam cluster in Sumedang will improve their capabilities to produce competitive products in terms of price and quality." The cluster committee was formed under the recognition that stakeholders need to be organized if the cluster is to become more competitive. As the cluster stakeholders, under the leadership of the committee, continue cluster development activities, thereby creating opportunity and dynamism that will contribute to improving market competitiveness of the nilam cluster in Sumedang.

This action is expected to produce tangible benefits for nonmember stakeholders. Clearly, as the committee continues its activity, Sumedang can expect a further improvement of recognition for as a major nilam oil producer. Also, the committee's cluster development

activity has significant externality by creating benefits that extend to all stakeholders in the nilam industry.

The key factor for the committee to achieve the overall goal is that stakeholders outside the committee show a strong desire to promote cluster development. On the other hand, a major inhibiting factor is that nonmember stakeholders are not actively involved.

While the five criteria evaluation on impact is limited to “a future prospect” as described in Section 6.1.2, at the time of evaluation, the committee, related government organizations and the JICA study team share the expectation that this action will have positive impacts.

#### (5) Sustainability

Evaluation on sustainability in the terminal evaluation is limited to assessing the future prospect. The terminal evaluation conducted for this action has found sustainability to be relatively high for the following reasons.

First of all, the nilam cluster committee is represented by local government agencies involved in cluster development, including BAPPEDA, Dinas Disperindag, Dinkop, Dishubun and the extension office. Also, these organizations form a steering committee to monitor and guide the committee's activities, increasing the likelihood of the action's sustainability. Nevertheless, it is still premature to conclude that the cluster development system has been firmly established and takes root in the cluster. The JICA study team expects that the committee will be legally authorized in the direction to build a self-driven cluster development system.

In the questionnaire survey, the respondents cited high motivation of SMEs in the nilam industry and active participation by the local governments as key factors to promote sustainability of this action. On the other hand, inhibiting factors include the lack of policy support and operating fund, and a risk of discontinuation of commitment by stakeholders over a long period of time. In addition, it was pointed out that the sharing of information on the committee's activity tended to be limited within the committee. If the committee is to develop further, it is imperative to build a mechanism to enable information sharing with diverse stakeholders.

In the areas of price stabilization and income growth, which were among the original purposes of the cluster, the committee plans to launch activities after having achieved the goals under actions 2 and 3, namely the improvement of nilam oil quality and the increase in production volume. Organizational bargaining power of the committee will be essential to achieve the price stabilization and income growth, because, if they are not achieved, motivation of the stakeholders is likely to wear down.

#### 6.2.2.2 Action 2: Development of the SOP (Standard Operation Procedure) for nilam cultivation

Table 6.2-6 summarizes the questions and results of the evaluation for this action.

Table 6.2-6 Summary of evaluation items and results of action 2

Criteria	Evaluation Questions	Evaluation Results
Relevance	1 Did the action deal with the crucial issue of nilam oil industry in Sumedang regency?	(Result) Yes it dealt with the crucial issue. (Verification 1) There had been no SOP for nilam cultivation before action 2 started. (Verification 2) Stakeholders proposed the action and its necessity by SWOT analysis at the cluster initiation workshop
	2 Was the action consistent with cluster / local economic development policies?	(Result) Highly consistent (Verification) Central government (MOI) has a cluster development program including the essential oil sector. Local government (Sumedang) has a policy (mid-term development plan) to promote agribusiness including nilam industry
	3 Did the action contribute to achieving the overall goal?	(Result) Will possibly contribute in the future (Verification 1) Depends on the dissemination and training through demoplots (Verification 2) Questionnaire: Adopt the SOP (answered by farmers)
	4 Were trained farmers selected appropriately and / or fairly?	(Result) Selected appropriately and fairly under some conditions (Verification) Planned action was changed to demoplots. Selection of farms for demoplots was made based on discussion between farmers and UNPAD.
	5 Were the cluster implementation institution / stakeholders involved in the action planning?	(Result) Stakeholders were involved in the action planning (Verification 1) The action was developed through the initiation workshops by stakeholders (Verification 2) The committee designed the action in detail
Effectiveness	1 Was nilam oil improved in quality and quantity by the action?	(Result) Further action is expected (unable to judge at this moment) (Verification 1) Questionnaire: Effective to improve nilam production (answered by 5 out of 7 farmers). Dishubun Sumedang pointed out insufficiency and the necessity of regular assistance to farmers.
	2 Was the status of achievement of the action disseminated to stakeholders?	(Result) Disseminated (Verification) Disseminated through the committee meetings, FGD, and the evaluation seminar
	3 What are the promotional / obstructive factors to improve nilam in quality and quantity in Sumedang?	(Promotional factor) Motivated farmers. Access to the expert (UNPAD) and related facilities. Preferable environment for planting (Obstructive factor) The SOP is not popular among farmers and thus it takes time to be disseminated. Enhancement of the organization is needed. Market of nilam is unstable. It is difficult to get fertilizer. There is lack of financial access.
Efficiency	1 Were training period and capability of the expert (UNPAD) appropriate to achieve the output?	(Result) Relatively Appropriate (Verification 1) Appropriate (answered by 5 out of 7 farmers and Dishubun) (Verification 2) The SOP was developed and planting in demo plot started.
	2 Were similar projects to the action already conducted / planned to be conducted in Sumedang?	[Result] Planned in the future [Verification 1] Questionnaire: Dishubun Sumedang is planning to apply it in the future
Impact	1 Was the action necessary to achieve the overall goal?	(Result) Necessary (Verification 1) Importance of improvement in quality and quantity of fresh nilam to acquire cluster competitiveness was understood by stakeholders (Verification 2) Questionnaire: Necessary
	2 Are the beneficiaries outside of the committee induced in the cluster?	(Result) Possibly induced (Verification 1) The SOP will be disseminated by the committee, universities and the government and thus benefits of the action are likely to spread to others. (Verification 2) Questionnaire: Induced (answered by Dishubun and UNPAD)
	3 What are the promotional / obstructive factors to achieve the overall goal by the committee?	[Promotional factor] Better facilities and good weather [Obstructive factor] Lack of operating funds

Sustainability	1	Will the governments of Sumedang continue to support the committee after the pilot project?	(Result) Will possibly continue (Verification 1) Dishubun Sumedang is a member of the cluster committee and the steering committee (Verification 2) Questionnaire: Will continue (answered by Dishubun)
	2	What are the promotional / obstructive factors to continue the actions to improve nilam in quality and quantity in Sumedang?	(Promotional factor) Motivation for quality improvement by farmers is quite strong. Collaboration with UNPAD continues. Stakeholders participate in the action (Obstructive factor) There is lack of funds. Agricultural land is widely dispersed in Sumedang. There is large gap of basic knowledge among farmers
	3	Is the cluster committee capable to continue the activities to improve nilam in quality and quantity in Sumedang by themselves?	(Result) Capable (Verification 1) Importance of upgrading skill for nilam cultivation is a consensus of the committee (Verification 2) Questionnaire: Capable (answered by Dishubun and UNPAD)

Source: JICA study team

### (1) Relevance

The terminal evaluation concludes that this action is highly relevant.

There are a variety of issues facing nilam farmers in Sumedang. For instance, as farmers traditionally grow nilam in their own ways, PA content is governed by weather and other environmental conditions. Also, many farmers cannot gain the yield that could have been achieved if a proper cultivation method was adopted. Under the circumstance, the cluster stakeholders confirmed the importance of standardizing their cultivation method as a result of the SWOT analysis, the drafting of the long list of the actions in the second field survey, and discussion at the cluster initiation workshop in the fourth field survey.

To achieve the project purpose of action 2, farmers are required to apply a new cultivation method specified in the SOP. In the questionnaire survey, the majority of respondents expressed strong willingness to follow it. Therefore, the action is considered to be highly relevant.

### (2) Effectiveness

For the following reasons, the terminal evaluation concludes that effectiveness was relatively high.

In this action, the UNPAD developed an SOP customized for Sumedang and launched a demonstration plot where the farmers receive training on the standardized cultivation method. As of the terminal evaluation, however, it is not feasible to verify the improvement of quality and quantity according to the use of the SOP, because it takes six months to grow and become ready for harvest and the results cannot be checked prior to the completion of the pilot project. Nevertheless, if the appropriate cultivation method widely adopted, the improvement of nilam quality and the increase in production volume will likely be achieved.

In the questionnaire survey of selected nilam farmers, five out of seven respondents felt that the SOP was good for improving their cultivation and expressed their willingness to follow it. A If training by UNPAD in the demo plot continues after the end of the pilot project, it will help disseminate the SOP-based cultivation practice.

A factor inhibiting the increase in nilam production volume is that farmers may stop cultivating nilam if its price fluctuates heavily.

The development of the SOP and its dissemination activity were reported at the wrap-up meeting of this action. In addition, the JICA study team invited the stakeholders to the evaluation seminar where the results of the pilot project were reported. In the seminar, development of the SOP was publicized to the Extension Office which is responsible for training the farmers and extending the technologies to them. Thus, the SOP is expected to be



adopted by an increasing number of farmers in the future. As activities undertaken in the action are likely to continue in the future, effectiveness of this action is considered to be high.

### (3) Efficiency

The terminal evaluation concludes that the action's efficiency is relatively high.

With regards to the degree of output attainment, the action developed an SOP and started its dissemination at the demo plot. As already pointed out, effectiveness can only be verified at least six months after planting. Therefore, it is tentatively concluded that the outputs expected for the action have been largely produced. Meanwhile, experts hired for the action drafted the customized SOPs by reflecting the results of literature survey and their own survey, while realizing the six-month time lag. In the questionnaire survey, five out of seven farmers evaluated UNPAD as an appropriate input, together with Dishubun. However, some view that the SOP content is rather general or is short in explanation on cultivation maintenance. As UNPAD and the committee refine the SOP by reflecting the needs of farmers as well as results of the first harvest, efficiency of the action is expected to rise further.

### (4) Impact

Through this action, the stakeholders shared the recognition that it was important to improve quality and quantity of nilam leaves for the increase in the cluster's competitiveness. It is credible that the nilam cluster committee and the farmers introduce the SOP for the purpose of achieving the overall goal of the pilot projects, i.e., "SMEs which belong to the nilam cluster in Sumedang will improve their capabilities to produce competitive products in terms of price and quality."

According to the results of the questionnaire survey, respondents expect that an increasing number of farmers will adopt the SOP according to the coordinated dissemination activities by the committee, related government agencies and UNPAD, thereby improving the nilam production and ultimately achieving the overall goal. In particular, the Dishubun Sumedang values the SOP and shows a willingness to assume a central role in promoting it. Thus, the terminal evaluation concludes that this action is likely to produce positive impacts on the accomplishment of the overall goal.

### (5) Sustainability

The terminal evaluation concludes that the action is highly sustainable.

The Dishubun Sumedang which is in charge of nilam cultivation on the government side is a member of the cluster committee as well as the steering committee and has been actively participating in the action. In the questionnaire survey, the Dishubun indicated that it would continue the dissemination activities.

Factors promoting the continuation of the action include farmers' high motivation for quality improvement, good coordination with UNPAD, and participation of the stakeholders in the committee. Meanwhile, inhibiting factors include geographical dispersion of cultivation sites which makes the dissemination activities difficult, and the need for customized training to serve farmers having varying knowledge levels. At present, the farmers still need the assistance of outside facilitators and experts such as PUPUK and UNPAD. Nevertheless, as farmers and distillers are increasingly vigorously working with quality improvement activities, the action is expected to be sustained.

### 6.2.2.3 Action 3: Training for distillation skill

Table 6.2-7 summarizes questions set for evaluation of the action and evaluation results.

Table 6.2-7 Summary of evaluation items and results of action 3

Criteria	Evaluation Questions	Evaluation Results
Relevance	1 Did the action deal with the crucial issue of the nilam oil industry in Sumedang?	[Result] Yes, it dealt with the crucial issue. [Verification 1] Standardization of distillation skill had been required because of a wide gap of quality of produced oil among distillers before action3 started. [Verification 2] Necessity of the action was confirmed by SWOT analysis, drafting of long list of the actions and the cluster initiation workshop.
	2 Was the action consistent with cluster / local economic development policies?	[Result] Highly consistent [Verification] Central government (MOI) has a cluster development program including the essential oil sector, local government (Sumedang) has a policy (mid-term development plan) to promote agribusiness including the nilam industry
	3 Did the action contribute to achieving the overall goal?	[Result] Possibly contribute in the future [Verification 1] Necessity of improvement in distillation technology is shared among the stakeholders outside/inside the cluster committee and each distiller is expected to obtain proper distillation technologies. [Verification 2] Questionnaire: Will contribute in the future (answered by Dinas Disperindag). Contribute (answered by the expert)
	4 Were the distillers selected appropriately and / or fairly?	[Result] Fairly but less appropriately [Verification 1] Selection was fairly made in a participatory way. But selection was made for the distillers to which technologies could not be transferred completely within the pilot project period due to difficulty in scheduling. [Verification 2] Questionnaire: Appropriately and fairly (answered by 4 out of 7 respondents)
	5 Were the cluster implementation institution / stakeholders involved to the action planning?	[Result] Stakeholders were involved in the action planning. [Verification 1] The action was developed through the initiation workshops by stakeholders [Verification 2] The committee designed the action in detail
Effectiveness	1 Was the distillation skill improved by the action?	[Result] Further action is expected (unable to judge at this moment) [Verification 1] Dissemination of guidelines will be continued because technology transfer was not able to be completed within the pilot period [Verification 2] Questionnaire: Will be achieved in the future (answered by Dinas Disperindag)
	2 Was the output of the action enough to improve distillation skills in Sumedang	[Result] Not enough [Verification 1] Expected output was not completed within the pilot project period and guidelines will be disseminated after the pilot project [Verification 2] Questionnaire: Not enough (answered by 4 out of 7 distillers and Dinas Disperindag)
	3 Was the status of achievement of action disseminated to stakeholders?	[Result] Disseminated [Verification] Disseminated through the committee meetings, FGD, and the evaluation seminar
	4 What are the promotional / obstructive factors to improve distillation skill in Sumedang?	[Promotional factor] Support from the government, abundant and experienced human resources [Obstructive factor] There is lack of TA for distillers. Design of distillation facilities is not appropriate. Market for nilam oil is unstable
Efficiency	1 Was the output achieved?	[Result] Not achieved [Verification] Level of technology transfer to the distillers was low. The contents of TA and guidelines are limited to general issues and immediate action to improve distillation skill was not proposed
	2 Were training period and capability of the expert (UNPAD) appropriate to achieve the output?	[Result] Not appropriate [Verification 1] The expert was not capable of conducting expected TA for distillers, and the contents of the guidelines were limited to general issues [Verification 2] Questionnaire: Appropriate (answered by 4 out of 7 distillers and 1 out of 2 Dinas Disperindag) and Not appropriate in research and basic knowledge
	3 Were similar projects to the action already conducted /planned to conduct in Sumedang?	[Result] Already conducted partly [Verification] Participants and the government indicated that the contents of TA was not new for them.

Impact	1	Was the action necessary to achieve the overall goal?	[Result] Necessary [Verification 1] Importance of improvement in quality and quantity of nilam oil to acquire cluster competitiveness was understood by the stakeholders [Verification 2] Questionnaire: Necessary
	2	Are the beneficiaries outside of the committee induced in the cluster?	[Result] Possibly induced [Verification 1] Nilam farmers would benefit from this action if sales of nilam oil is to increase as a result of improvement in distillation technologies of the distillers. [Verification 2] Questionnaire: Induced (answered by the expert and Dinas Disperindag) Beneficiaries would be local government
	3	What are the promotional / obstructive factors to achieve the overall goal?	[Promotional factor] BALITRO will extend its supportmeasures. [Obstructive factor] Distillers will not be able to access finance for repairing their distillation facilities.
Sustainability	1	Will the government of Sumedang continue to support the committee after the pilot project?	[Result]Will continue [Verification 1] Dinas Disperindag Sumedang is a member of the cluster committee and the steering committee and has been involved in the action aggressively [Verification 2] Questionnaire: Will continue (answered by Dinas Disperindag)
	2	What are the promotional / obstructive factors to continue the actions to improve distillation skills in Sumedang?	[Promotional factor] Continuous support from MOI and the local government is committed. Distillers become able to invest in facilities to improve quality of nilam oil. Motivation for improvement of quality by distillers is strong. [Obstructive factor] Government support is limited only in specific area. It is not easy to change distillation process due to lack of finance.
	3	Is the cluster committee capable of continuing the activities to improve distillation skills in Sumedang by themselves?	[Result] Capable [Verification 1] The committee and distillers in particular have strong motivation to continue the activities [Verification 2] Questionnaire: Capable (answered by 4 out of 7 distillers and Dinas Disperindag)

Source: JICA Study Team

### (1) Relevance

The terminal evaluation concludes that the action relevance is generally high for the following reasons.

Nilam oil produced in Sumedang varies greatly in quality (i.e., PA content and color) and the yield rate among distillers. In the SWOT analysis, the process of drafting a long list in the second field survey, and at the cluster initiation workshop in the fourth field survey, stakeholders agreed on the importance of quality standardization. Then, participants in the workshop proposed to take up the upgrading of distillation technology as a priority action under the pilot project.

In the questionnaire survey of stakeholders, respondents expect that the upgrading of distillation technology through wide dissemination of the developed guideline will contribute to achieving the overall goal.

### (2) Effectiveness

The terminal evaluation concludes that the action is not sufficiently effective.

In this action, technology transfer of distillation skills and dissemination of the guideline were not completed by the end of the pilot project, and it was decided to continue dissemination of the guideline after the pilot project. Hence, the terminal evaluation cannot properly evaluate effectiveness as to whether distillation technology of the nilam industry in Sumedang was improved as a result of the outputs in this action. However, according to the questionnaire survey, both distillers and Dinas Disperindag are not satisfied by content of the technology transfer. Therefore, not only has the technology transfer not been completed within the pilot project period, but also content of such technology transfer may not be proper.

Note that actions undertaken in this action were widely known by the nilam cluster committee. Besides, the JICA study team presented the evaluation results of this action to the stakeholders at the evaluation seminar. The JICA study team expects that the committee will carry on the dissemination of the distillation guideline and update it together with the related government agencies and UNPAD, so that effectiveness will increase in the future.

### (3) Efficiency

The terminal evaluation concludes that the efficiency of this action is low for the following reasons.

As previously mentioned, the outputs of the action have not been achieved because the content of technology transfer UNPAD planned were rather general and not customized for each distiller. They failed to propose any improvement plan that could produce immediate results. Thus, the terminal evaluation questions appropriateness of UNPAD as an input in terms of both capacity and activity period.

In the questionnaire survey, four out of seven respondents ( distillers) and Dinas Disperindag regarded UNPAD as an appropriate input. However, other respondents pointed out the lack of knowledge and research skills on the side of UNPAD. Furthermore, some distillers and government staffs stated that they had already conducted technical assistance of similar content or had already obtained such knowledge, suggesting that the content did not meet their expectations<sup>8</sup>.

### (4) Impact

The overall goal of the nilam cluster in Sumedang (or pilot projects) is that “SMEs which belong to the nilam cluster in Sumedang will improve their capabilities to produce competitive products in terms of price and quality.” The stakeholders in the cluster generally recognize the importance of improving quality and quantity of nilam oil for attaining this overall goal. However, since room for improvement of distillation technology is limited at present, the action is expected to make relatively small contribution to the attainment of the overall goal.

The results of the questionnaire survey indicate that a key factor for attaining the overall goal is concerted efforts by the nilam cluster committee and distillers toward technology development. However, it is pointed out by some respondents that the committee and UNPAD should work together to revise the guideline so as to meet the needs of distillers and enable quality standardization. Thus, further improvement of technology transfer and dissemination of the improved guideline will enable the action to produce significant impacts.

### (5) Sustainability

For the action to achieve sustainability, the following issues should be addressed.

The Dinas Disperindag Sumedang which is in charge of public support for distillers is a member of the cluster committee and the steering committee, and has been actively participating in this action. It also shows commitment to continued implementation of the action after the pilot project. The MOI also promotes supporting measures related to the action such as the CULTIVA project and the provision of the related equipment. Government support will contribute greatly to sustaining the action after the pilot project.

---

<sup>8</sup> Upon the time of collections of the questionnaire, survey results on PA content percentage were not officially announced. Therefore, the responses such as “the knowledge already known” and “the contents of guidance which were already received” are the result of evaluation during the workshop which was held on Jan. 16.

In the questionnaire survey, respondents cited, as key factors for sustainable operation of the action with desirable outcome, high motivation of distillers for quality improvement and the establishment of the R&D section in the committee which promotes the activities under clear division of responsibilities. On the other hand, inhibiting factors include potential difficulty in quality standardization due to the difference of distillation facilities and the challenges created by time and financial constraints despite the need to renew facilities and equipment for quality standardization.

As the committee is eager to upgrade distillation technology, many voices are raised to expect the continuation of activities. Sustainability will be heavily affected by the ability of the committee, related governments and experts to provide appropriate technical assistance that meets distillers' needs. Thus, it is imperative to ensure good coordination of stakeholders by the committee, which can lead to higher sustainability.

### 6.2.3 Lessons learned from the pilot project

This section presents the lessons learned from the evaluation exercise. The lessons are described from the perspective of key issues to be considered in cluster development. This section takes up three broad issues based upon the lessons that can be applied to development of other clusters, namely "qualification of the cluster facilitator," "continuity of the cluster development organization," and "key considerations in relation to implementation of cluster development projects."

#### 6.2.3.1 Qualification of the cluster facilitator

It has been revealed that the cluster facilitator had large impacts on the building process of the nilam cluster committee. Lessons learned from the pilot project that can be applied to other clusters in selection of cluster facilitators are discussed below.

##### (1) Planning capacity backed up by knowledge and experience relating to cluster development

For implementation of action 1 (formation and reinforcement of the nilam cluster committee), the JICA study team hired PUPUK, which was involved in cluster promotion activities around Indonesia, as a local facilitator. As mentioned in Section 6.2.2.1 (3), PUPUK performed the facilitation for the establishment and consolidation of the nilam cluster committee by making the most of their rich knowledge and experience in the field of cluster development. Their facilitation contributed to generating a commitment to the committee activities among the stakeholders. Such contribution by PUPUK in this action was made possible not only by their knowledge and experience in cluster development, but also by their planning capacity that has been nurtured through gaining such knowledge and experience.

A primary example is seen in two study tours that PUPUK planned and coordinated for the nilam cluster in Sumedang. Especially in a study tour conducted in Kutai Timor, East Kalimantan, participants (nilam cluster committee members in Sumedang) were able to interact with members of nilam cluster committee in Kutai Timor. By this, the participants from Sumedang have moved toward recognition of their competitors as well as the understanding of their industry's position in the whole country. This recognition served as a driving force for discussion on the subsequent steps by stakeholders, which is considered to be a major outcome of their planning capability.

##### (2) Quality and quantity of communication

Forging a trusting relationship among the stakeholders is a key success factor for cluster development. Especially, such relationship should be established between cluster facilitators

and stakeholders in the early stage of forming a cluster development organization.<sup>9</sup> This has been tangibly felt in the course of project implementation.

PUPUK is an NGO based in Bandung that knows well about the economic and social conditions of the Sumedang Regency and is widely recognized by the local governments. For example, by sharing the cultural base with the Sundanees, PUPUK was able to communicate and develop a trusting relationship with the stakeholders quickly, in comparison to the case where the facilitator came from outside.

Moreover, PUPUK interacted separately and directly with members of the cluster committee and government officials in charge of cluster development shortly before/after the cluster initiation workshop as well as the cluster committee meetings held for 13 times during the pilot project period. Not only has PUPUK performed good communication with the stakeholders on the basis of their experience, knowledge and understanding about the local culture, but also they have secured a host of opportunities for direct communication with the stakeholders. Effective communication between the cluster facilitator and the cluster stakeholders, in terms of both quality and quantity, brought about commitment and consensus among the stakeholders in relation to development of their own cluster.

#### 6.2.3.2 Continuity of the cluster development organization

Continuity of the activities matters most for cluster development organizations. Respondents to the evaluation survey in the pilot project attached a relatively high value to continuation of activities by the nilam cluster committee, despite the fact that only less than six months have passed since the establishment of the committee. Continuity of the cluster development organization depends on the ability to motivate as many stakeholders as possible and to conduct effective activities. In this connection, the following lessons were obtained from the pilot project.

##### (1) Establishment of the network

As previously mentioned in Section 6.2.2.1, the nilam cluster in the Sumedang Regency was at the embryonic stage where there was no foundation to promote cluster activities. There were a variety of stakeholders such as nilam farmers, distillers, local collectors, government agencies, related research institutions, and NGOs, yet there was no active network to link them. However, a series of meetings of the nilam cluster committee deepened the understanding of the stakeholders about the need for cluster development according to their own capacities and responsibilities. As a result, their network is now beginning to form by those stakeholders who discuss what they can and should do in order to generate synergy effects through networking.

##### (2) Leadership of the private sector

Direct beneficiaries of cluster development for the nilam cluster in Sumedang are found in the private sector, namely farmers, distillers and local collectors. Clearly, the leadership should be taken by the private sector that is directly benefitted from cluster development, rather than the government sector. In the nilam cluster committee in Sumedang, a member from the private sector became a leader after a series of internal discussions. As a result, the private sector, which previously remained very passive and simply waited for government support, began to take initiative in the committee. Furthermore, other members from the private sector in the committee actively support the leader, thereby energizing the committee activities further.

---

<sup>9</sup> David A. Wolfe, "Social Capital and Cluster Development in Learning Regions"

UNIDO "Social Capital for Industrial Development: Operationalizing the Concept"

### (3) Information sharing

A cluster consists of a variety of stakeholders and the nilam cluster in Sumedang is no exception to this. A major purpose of forming a cluster is to allow the stakeholders to coordinate their activities, share information and consolidate opinions. By implementing action 1 as part of the pilot project, the cluster committee has begun to play such a coordinating role and promote information sharing. One of the reasons that actions 2 and 3 attracted many participants is the sharing of information within the cluster committee, which was also communicated to other stakeholder groups through the committee members who represent the groups. It does not necessarily mean that information is shared throughout the cluster, but the situation has been improved significantly in comparison to the formation of the committee. Furthermore, information sharing between the private sector and the government sector promotes a trusting relationship between them, which also enables the government support to meet the private needs. This will therefore be effective for cluster activities in the future.

#### 6.2.3.3 Key considerations relating to implementation of cluster development projects

Growth of a cluster is stimulated by actions or projects which are implemented by the cluster development organization. In this section, projects implemented by the cluster are classified to those implemented by the cluster members and those by BDS providers, or experts outside the cluster. Then key considerations to be taken in implementing the projects are discussed.

##### (1) Projects implemented under the leadership of cluster members

While nilam farmers and distillers in Sumedang realized that their products were exported, they mostly dealt with local collectors and few understood the international market trends. As part of the activities for output 3 under action 1, two distillers attended at the ISEO (International Seminar for Essential Oil) in Bogor as representatives of the committee and interacted with international buyers directly. In particular, they learned market needs and the reputation of Sumedang-made nilam oil in the market, which were then reported to the stakeholders. As a result, the cluster shareholders were strongly motivated to cooperate for the purpose of achieving the overall goal, while clarifying the issues to be addressed by the cluster committee. Furthermore, through the data obtained by the action "identification of nilam production capacity in Sumedang," which was implemented under initiative of the cluster committee, the nilam entrepreneurs in Sumedang became able to know how much nilam oil they can supply to the international markets. As a result, motivation of the committee members has risen to the level where they feel confidence in undertaking export marketing activities.

The above cases serve as a good example where a project implemented under the initiative of the cluster development organization can raise awareness of stakeholders about the issues faced by the whole cluster, while motivating them to participate in cluster development activity. They also imply that even a small project turns out to be effective so far as it is initiated by the cluster members. Furthermore, if the project directly leads to actual sales, it can serve as a further impetus to motivate participants from the private sector.

##### (2) Projects implemented by BDS providers

In actions 2 and 3, the JICA study team commissioned technical support in nilam cultivation and distillation to UNPAD. As discussed in Section 6.2.2.2 (3), a cultivation SOP customized for Sumedang was developed and its dissemination was started by means of training at the demo plot within a limited period allocated for project implementation. On the other hand, as mentioned in Section 6.2.2.3 (3), technical assistance in distillation did not make a sufficient progress to meet expectation of the distillers and Dinas Disperindag.

A reason for the unsatisfactory result in action 3 is the lack of execution capability on the UNPAD side. While UNPAD possesses sufficient information and experience in connection with the development of the cultivation SOP and its training. On the other hand, as for distillation technology, its knowledge on actual operation of training distillers is rather general and is not sufficient to offer proper solutions and advice on operation know-how, such as temperature control and management of heating time.

In selecting an organization implementing the pilot project, the JICA study team prepared a long list of candidate organizations recommended by distillers and related government organizations and examined their past performance. They selected and invited three organizations to place a bid for rendering technical service under actions 2 and 3. As a result of the bidding procedure, the contract for both actions 2 and 3 was awarded to UNPAD. There were opinions that organizations other than UNPAD should have been selected, but there was little information available about experts in Indonesia who possess knowledge and experience regarding business improvement of nilam oil distillers. Also, it appears to be unrealistic to obtain support from a qualified expert based in an area far away from Sumedang, which is likely costly. For the nilam cluster in Sumedang, it seems to be desirable to improve distillation technology by sustaining and strengthening the partnership with UNPAD, which is based in West Java. At the same time, it may be viable to seek other resources like ITB and BALITRO and domestic and international buyers, which have useful expertise or information, along with the support from UNPAD. This way, a cluster development organization should be able to build a long-term cooperative relationship with reliable local BDS providers, while extra support should also be sought from other experts. The approach can lead to a roadmap through which private entrepreneurs and local BDS providers can grow together, with an ultimate goal of achieving sustainable growth of the whole cluster.



## Chapter 7 Cluster Development in Indonesia: Issues and Strategies

This chapter examines the issues related to development of clusters in Indonesia, as identified by field studies, and presents the desirable policy orientations for the central and local governments in their cluster development efforts. Then, a general framework for activities to be undertaken in the next step is presented in the form of strategies and action programs.

### 7.1 Objectives and Issues of Cluster development

#### 7.1.1 Expectations for and Roles of Cluster development in Industrial Policy

As seen in many other countries, the number of micro, small and medium companies in Indonesia accounts for more than 99% of the total. Clearly, they play an important role in the social and economic development process, and the development of a cluster made up of MEs, SMEs and sole proprietors can contribute to Indonesian economic development with the following effects:

- (1) Diversification of and the increase in the value added by local industries produces; job creation and alleviation of poverty; and improvement of a regional economic infrastructure.
- (2) Region-led industrial development and development of local human resources, contributing to greater autonomy of each region.
- (3) Generation of societal synergies within each region by amassing resources in a single place and for a single purpose.
- (4) Invigoration and diversification of the entire industry sector through promotion of competition among clusters and regions.

#### 7.1.2 Issues relating to Cluster Development

The issues identified through field studies are presented at the end of each chapter. These issues, however, are diverse and may include some that have the same nature depending on the viewpoint taken, or differ in level or scope but not by nature, or are either the cause or effect of an issue. For the sake of clarity, these issues are reorganized here as priority issues to be addressed in promoting industrial clusters in Indonesia.

Specifically, key actors in the cluster development process are classified to the following three types: (1) central and local government organizations; (2) cluster support organizations; and (3) cluster member companies and cluster organizations. Then, priority issues are identified for each actor group. In the process, particular attention was given to the following three points.

- (1) Common issues identified through various studies.
- (2) Issues imposing major impacts on the results of cluster development.
- (3) Issues with high urgency in relation to policymaking.

On the basis of the above guideline, the following nine items were identified as priority issues relating to cluster development in Indonesia.

### 7.1.2.1 Issues Confronted by Central and Local Government Organizations

#### (1) Facilitation of Development and Dissemination of the Cluster Development Guideline

Government officers engaged in industrial development-related activities, whether central or local government, are familiar with the term 'cluster development,' but they have limited understanding of its details. They have little knowledge on cluster development procedures and required elements. Also, almost no government office has a cluster development guideline or a guidebook and similar reference materials.

Needless to say, industries in each region have unique characteristics, so that a single development approach cannot be applied uniformly. On the other hand, a development guideline is essential in providing an orientation for development because it ensures efficiency and sustainability of development activities, while improving knowledge about and understanding of cluster activities on the part of government. As seen from the results of the review of the recommendations made at the time of the previous study, the lack of the guideline appears to be one factor for causing the delay in preparation of a guideline containing a basic approach to cluster development. The development of the guideline therefore continues to be an urgent issue relating to cluster development in Indonesia.

#### (2) Building of an Efficient Cluster Development Organization that Acts Beyond Governmental and Administrative Boundaries

At present, the central and local governments relating to industrial development are organized, staffed, and funded on a sector basis. As a result, there have been cases where several departments (Dinas) are engaged in development of the same cluster, resulting in duplication of efforts. On the other hand, as cluster development is carried out on a regency or city basis, a cluster that spans more than one administrative area may be neglected in government support. Primary examples of this problem are discussed in Chapter 4, (4) Disjunction of support measures by administrative units of clause 4.3. Negative consequences may include impedance to wide-area marketing activity and difficulty in promoting optimum use of local resources. Adverse effects of these administrative 'silos' are particularly evident in rural areas, and at the central government level, there are the cases where operational efficiency is adversely affected in terms of budget, human resource and/or information. As a result, a waste of resources is created when support is not provided for promising clusters, resulting in loss of opportunity for favorable economic benefits, as well as ineffective undertaking by the government.

Aside from the shortage of budget funds, efforts should be made to ensure effective budget allocation within limited resources by reassessing and rebuilding the cluster development system.

### 7.1.2.2 Issues Relating to Cluster-Supporting Organizations

#### (1) Dissemination of the Concept of Cluster development, and the Development of Hands-On Facilitators

There are local governments that failed to make progress in cluster development efforts on the basis of recommendations made in the previous study. It was found that they have conducted business support activities without understanding the advantages of industrial clusters and the concept of cluster development. As seen in the discussion on the cluster development guideline, it is imperative, as the first step, to promote understanding and dissemination of the basic concept among stakeholders.

In this connection, the facilitator is expected to an important role, as important as the development of the cluster development guideline by the government. As part of the MOI's cluster development, the training of facilitators is carried out by the BDI. Its facilitator training curriculum mainly consists of lectures on cluster development theory and the legal

framework. For small enterprises, the prospect for business expansion provides an incentive for participating in cluster activities. In the present training curriculum, however, little attention is paid to methodology for producing results from cluster activities, its application to business operation and management, communication skills and other practical matters useful to small enterprises, or to practical training that can raise their motivation. It is therefore desirable to review and revise the curriculum and make improvements such as the increase in the number of training facilities and opportunities.

## (2) Building Efficient Inter- and Intra-Cluster Networks, and Promotion of Cooperation

As a result of comparative analysis of clusters active in two regions, the JICA study team has found the most important factors for achieving tangible results from cluster activities were the motivation and teamwork of the working group (representing the cluster) that led the activities and good communication with outside support organizations. The working group is called differently according to regions, e.g., "Cluster Forum," the name of the region, or 'Regional Industry Development Committee.' Regardless of individual names, the working groups commonly serve as a leading party in management of cluster activities from their startup. Very active clusters are characterized by the presence of the working group that makes proactive efforts to maintain close collaboration with related outside parties. On the other hand, there are the cases where effective support cannot be provided because outside support organizations do not understand the true needs of the cluster due to poor communication between the two. The cluster support organizations, for their part, must have arrangements whereby they can receive and understand information coming from the clusters, and whereby they can take appropriate action.

Particularly important issues for cluster-support organizations are, at the time of embryo stage of a cluster, to ensure smooth communication between the cluster and outside entities, and to build a functional network, while at the same time respecting the autonomy of the members of the cluster and their representative organization.

### 7.1.2.3 Issues for Cluster Members and the Cluster Representative Organization

#### (1) Motivating Cluster Activities, and Nourishing a Sense of Belonging

Generally, successful cluster activities are driven when they provide incentive for each member company to seek the expected results. Such incentive creates motivation and enthusiasm for participation in cluster activities, which in turn fosters ownership.

On the other hand, even companies in Indonesia operating in a well-known production area lack a strong sense of ownership in terms of cluster member, partly because they hold a strong pride in their own business and products. Although it is conceivable to promote marketing activity by creating a unified logo to represent a production region, or other methods whereby cluster members can capitalize on the region's wide reputation, actual cases are limited. Bukittinggi is a classic example. Its embroidery products, sold outside of the city, bear no marking or indication of origin. Where fruits from cluster activities are not shared or there is no incentive for participation, there is little chance for member companies to have a sense of ownership.

At present, there are almost no efforts made to motivate companies operating in a cluster area to participate in cluster development activity through the sharing of incentive and nourish ownership or a sense of belonging to a cluster. Clearly, conscious efforts should be made toward the goal, ranging from a study group organized by cluster members to a collaborative project for product development, creation of a logo, study tours, and the printing of T-shirts on the occasion of a special event. Such activities are already undertaken in various clusters, but many have been led by governmental authorities, and cluster companies keep a passive attitude.

Although it is widely believed that time is required for development of ownership, it is also important to create a mechanism to raise awareness of cluster members under leadership of cluster leaders and facilitators, and develop the cluster's self-driven capability.

#### (2) Improvement of Operational Capability of Small Enterprises

For the promotion of clusters made up primarily of small enterprises, public support should be extended to the improvement of overall managerial capability of each member company, including quality control, production technology, and technology for cultivation of raw material inputs, as well as business management techniques.

The nilam cluster in Sumedang Regency is a typical example of requiring such technical assistance, which has been identified through SWOT analysis and a site visit. The distillery in the cluster is small in capacity, reflecting the low volume of output, and is quite simple, with temperature control performed manually by an operator. Further, it has no production standards, affecting oil yield. Similarly, the Bukittinggi embroidery cluster does not make progress in efforts to introduce electric sewing machines or computer-controlled embroidery machines for volume production, which is due to the lack of management knowledge on how to reinvest business profits.

Needless to say, there are some enterprises that are effectively managed. But in light of the current situation, comprehensive support is needed to improve both soft and hard technology used by cluster companies, with care to address the individual needs.

#### (3) Improvement of Marketing Capability by Capitalizing on the Agglomeration Effect

In the nilam cluster in Sumedang, the collection of market information and technical information as well as price negotiations have to be done by each enterprise or farms individually, because no network has been created. In reality, however, most enterprises and farms lack the ability to collect information and are in a weak bargaining position. The same kind of problem is seen in the Bukittinggi cluster.

With regard to market development, in general, a major problem is the lack of market development efforts paying attention to the value chain. At present market development is carried out by each company in the cluster that acts independently and there are rarely the cases where cluster companies share information obtained from their respective buyers or other sources. The market information held by each company therefore is limited, and they lack the ability to use IT for collection of marketing information. Partly related to the need for development of ownership as cluster member, it is strongly recommended to hold discussion within the cluster for the purpose of finding ways and means to improve communication within the cluster and the marketing ability of the cluster. In this connection, the roles of facilitators and outside organizations are important.

#### (4) Development of Human Resources for Leading Clusters, and Cluster Representative Organizations

The development of human resources for leading clusters, and development of organizations that represent clusters, are issues that partially overlap the issues that are also discussed in this report. These issues must be addressed from perspectives of dealing with the issues relating to recognition of the cluster and its activity by outside parties and the improvement of a mechanism to train facilitators with leadership, in addition to the issues concerning cluster members.

While leaders emerge spontaneously, they have to be fostered if they are to become good leadership. It is therefore important to create opportunities for leaders to exchange opinions and to receive advice.

## (5) Effective Implementation of Cluster Activities

To effectively implement programs for cluster development activities, it is important to understand the current state of the cluster at the beginning of the program and set special goals to be achieved at the end of the program. Then, interim evaluation should be carried out in the course of program implementation to modify or adjust actions to reflect the evaluation results, thereby to ensure the accomplishment of the goals.

In the case of the Bukittinggi cluster, where cluster activities have been implemented by means of a top-down approach, although there were planning and implementation, there was no evaluation or improvement. There is the lack of program management according to a PDCA (Plan, Do, Check, Act) cycle.

Evaluation should focus on the measurement of the program effect as to how far it has achieved the present goal for cluster development. In the Bukittinggi cluster's case, however, evaluation looked into as to whether the action program was carried out as planned, and did not go as far as to gauge the effects of the action program. Without a proper evaluation mechanism, it is difficult to achieve the program goals, even if action programs for cluster development are carried out as planned.

To summarize the above review and analysis, the JICA study team has identified nine high-priority issues for promotion of clusters in Indonesia, as follows.

- 1) Issues relating to the central and local governments
  - a) Facilitating improvement and dissemination of cluster development guidelines
  - b) Building an efficient cluster development support organization that goes beyond administrative and departmental boundaries
- 2) Issues relating to cluster-support organizations
  - a) Diffusion of the concept of cluster development, and the development of facilitators with practical skills
  - b) Building efficient inter- and intra-cluster networks, and promotion of cooperation
- 3) Issues for cluster-support organizations and the cluster representative organization
  - a) Motivation of member companies for participation in cluster activity and the fostering of a sense of ownership
  - b) Improvement of the operational capabilities of small enterprises
  - c) Improvement of marketing capability by capitalizing on the agglomeration effect
  - d) Development of human resources for leading clusters, and cluster representative organizations
  - e) Effective implementation of cluster activities

## 7.2 A Framework for Cluster Development Strategy

### 7.2.1 Organization of Cluster development Strategy and Action Program

While the cluster development approach is a new policy instrument and thus requires a variety of innovative efforts, funds and human resources available to actual support are limited. To effectively and efficiently implement policy under such conditions it is of great importance to adopt a strategic stance and concentrate available resources toward a specific direction.

Issues identified by the present study as being of high urgency and high priority for promotion of Indonesian clusters are boiled down to the overall objective, i.e., "Promotion of Creating a Favorable Environment for Promoting Clusters and of Revolution in Awareness on Stakeholders." Toward the goal, more active involvement of facilitators and stakeholders in and outside within

the cluster is critical. Also, it is imperative to grow out a situation where the leadership comes from government officials, and to ensure self-driven development of the clusters and their members.

Given the limitation of funds and human resources, the JICA study team proposes three Master Strategies and six Action Programs (AP) as shown below.

Strategy 1: Building the Framework for Cluster development, and Awareness-Raising Activity

- AP 1-1 Campaign for nationwide dissemination of good practices
- AP 1-2 Establishing cross-departmental and administrative boundaries cluster support organizations at local government level

Strategy 2: Support for and Strengthening of Cluster Activities

- AP 2-1 Training and preparation of fostering the assignment of cluster facilitators
- AP 2-2 Promotion of a shared vision and mission, and catalyzing joint activities

Strategy 3: Strengthening Capabilities of Cluster Enterprises

- AP 3-1 Support for improvement of business and management techniques
- AP 3-2 Improvement of enterprise counseling and guidance services

## 7.2.2 Relationships between the Issues, Promotion Strategy and Action Programs

In 7.1, the groups of issues related to cluster development were identified as priority issues that involve three groups of actors: (1) central and regional government organizations, (2) cluster support organizations, and (3) enterprises belonging to the clusters and their representative organizations. Strategies 1, 2 and 3 and action programs are positioned as the means to solve these issues.

Looking at the relationship among the strategies, a framework for cluster development is built up through the implementation of the action programs concerning the establishment of systems and institutions included in the first Master Strategy, and on the basis of the framework, cluster activities are invigorated according to the action programs under the second Master Strategy. Then, the action programs under the third Master Strategy achieve the bottom-up improvement of the clusters by strengthening the foundation of individual companies.

At present, cluster activities are generally not carried out or stagnated because companies in the cluster are not fully aware of how to leverage advantages of industrial agglomeration. For this reason, the cluster development needs intervention and inputs from outside. Ultimate responsibility for implementing the strategies, in a broad sense, lies with the central and regional governments. The implementing agency at the center of activities, however, varies from strategy to strategy. Under the first strategy, the central and regional governments play the central role in implementing programs directly through their exercise of authority to establish necessary systems and institutions, while the key actor for the second strategy will be support organizations and individual Indonesians specialized in providing strong support for cluster activities. It is expected that, under the third strategy, the central player will be support organizations and related individuals representing a wide range of fields, who are capable of providing support that will strengthen the enterprises and companies that make up the clusters. Specifically, principal actors are primarily the central or regional governments for the first strategy, BDI under the Ministry of Industry, facilitators and cluster organizations for the second strategy, and SHINDANSHI, BDS providers, research institutes, colleges and the like for the third strategy.

Issues related to cluster activities and the connection to the Action Programs are shown below, in Table 7.2-1.

Table 7.2-1 Relationship Between Cluster Activity Issues and the Action Programs

- ⊙ Issue to be solved by implementing the action plan
- Issue to be solved partly by implementing the action plan

Issue		Action Program					
		AP 1-1	AP 1-2	AP 2-1	AP 2-2	AP 3-1	AP 3-2
<b><u>Issues for central and regional government entities</u></b>	Help improve, disseminate cluster development guidelines			⊙			
	Build an efficient cluster development organization that is not limited by administrative district or departmental boundaries		⊙				
<b><u>Issues connected to cluster organizations</u></b>	Spread knowledge of the cluster development concept, and prepare hands-on facilitators	⊙		⊙			
	Build effective inter- and intra-cluster networks, and facilitate alliances	○			⊙		
<b><u>Issues connected to cluster enterprises and the cluster representative organizations</u></b>	Encourage motivation for participating in cluster activities, and a sense of belonging	⊙			⊙		
	Improvement of operational capabilities of micro enterprises					⊙	⊙
	Improve marketing that exploits the effects of agglomeration				○		
	Develop the human resources and representatives that will lead clusters			○	⊙		
	Implement effective cluster activities				⊙		

Source: JICA study team.



## Chapter 8 Action Programs

This chapter presents the detailed content of Action Programs discussed in Chapter 7 as a means of promoting cluster development. “Cluster Guidelines” as developed by the JICA study team are provided in section 8.3.

### 8.1 Recommendations on Strategy for Cluster Development in Indonesia

The JICA study team has formulated three Master Strategies and 6 Action Programs based on these strategies, and they are the followings;

Master Strategy 1:	Building the Framework for Cluster development, and Awareness-Raising Activity
AP 1-1	Campaign for nationwide dissemination of good practices
AP 1-2	Establishing cross-departmental and administrative boundaries cluster support organizations at local government level
Master Strategy 2:	Support for and Strengthening of Cluster Activities
AP 2-1	Training and assignment of cluster development facilitators
AP 2-2	Promotion of a shared vision and mission, and catalyzing joint activities
Master Strategy 3:	Strengthening Capabilities of Cluster Enterprises
AP 3-1	Support for improvement of business and management techniques
AP 3-2	Improvement of enterprise counseling and guidance services

### 8.2 Action Programs

#### 8.2.1 Master Strategy 1: Building the Framework for Cluster Development, and Awareness-Raising Activity

##### 8.2.1.1 AP1-1: Campaign for nationwide dissemination of good practices

###### Rationale for program proposal:

In many clusters, companies are mostly dubious about the possibility of economic development by cluster activity, serving as an impeding factor for cluster development.

However, there are successful cases of cluster development in Indonesia and neighboring countries. And these success stories were introduced by organizing the study tour in Central Java as part of the pilot project, producing positive impacts on participants. Therefore, this approach is considered to be useful for promotion of cluster activities. The action program proposed here will include not only introduction of success stories, but also benefits brought by cluster development activity, launching methods, organization of cluster stakeholders, and the method for collaboration with outside resources and organizations. Also, it is expected to encourage the exchange between clusters.

###### (1) Objective

To disseminate and firmly establish the concept of cluster development among related government officials and private persons in regions where there is potential for development of clusters, regions where clusters are in a formative stage, and regions where cluster are in a

development stage; also, to promote understanding of cluster activities, and strengthen motivation for participation.

(2) Result

Result A: The concept of a cluster becomes well known, and there is understanding regarding cluster activities. At the same time motivation to participate in activities is strengthened, and adoption of the cluster approach is encouraged among government officials and persons in the private sector who have relations with development.

(3) Implementing Agency

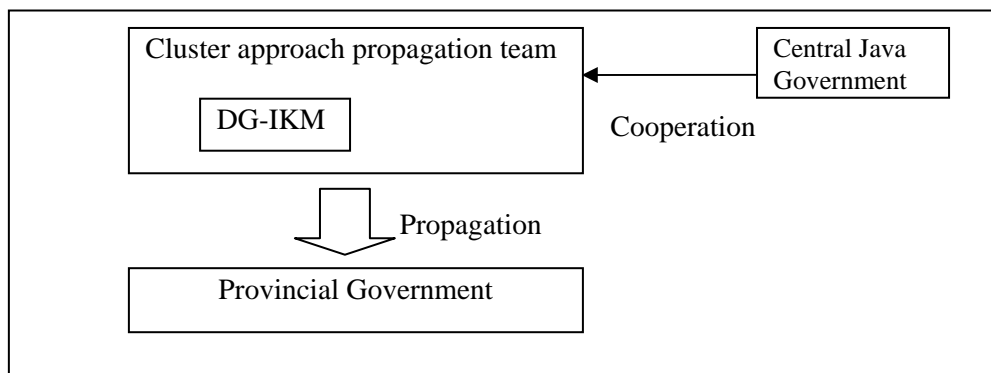
Implementing agency : MOI.  
Supporting organization : Central Java government.

(4) Activities

- A-1 Start-up of a team, primarily from the DGIKM of the MOI, that works at dissemination of the cluster approach.
- A-2 The dissemination team collects successful cases in reaction to cluster development. (The Central Java case will be taken up for case study.)
- A-3 Documents presenting the successful precedents are prepared. These materials include information about the concept of cluster development, the advantages of such promotion, how to start up, organization of stakeholders, and methods of tying up with external organizations and individuals.
- A-4 A detailed plan for implementation of campaign is made and a budget is secured.
- A-5 A popularization campaign is carried out.

(5) Organizational setup

The organizational setup for program implementation is shown in Fig. 8.2-1.



Source: JICA study team

Fig. 8.2-1 Organizational Setup for the Good Practices Dissemination Campaign

### 8.2.1.2 AP1-2: Establishing cross-departmental and administrative boundaries cluster support organizations at local government level

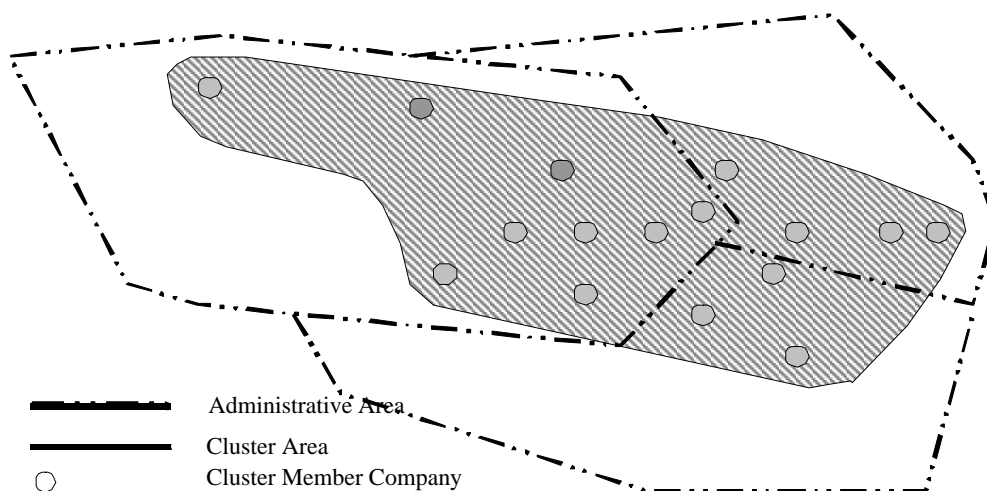
#### Rationale for the program proposal:

In Indonesia, cluster development support is carried out at local government level. In practice, however, industrial agglomeration often extends beyond administrative boundaries and its development support cannot only produce expected results if it is carried out within the present framework of the government system. To maximize effectiveness of cluster development program, therefore, a flexible mechanism to enable support not restrained by administrative boundaries needs to be established.

For the cluster to provide external economy generated from industrial agglomeration and to create synergies with other economic factors, strong networking of stakeholders throughout the cluster area is essential. Networking will be impeded if some companies belonging to a cluster are excluded from a support program because they are located in an administrative area not covered by the area-specific program. The excluded companies could move out of the cluster area or withdraw from the cluster business. Thus, the cluster's dynamism is affected (Fig.8.2-2). The administrative boundary issue includes budget allocation, e.g., a provincial government cannot provide financial assistance for companies belonging to a cluster, if they are located in an adjacent province.

At the local government level, a sector-specific cluster support system is established and operated by Dinas. This partly impedes efficient implementation of cluster development activities.

In addition, budget allocation at the local government level is made on the basis of a sector-based budget proposal submitted by each Dinas, failing to meet the development needs that involve multiple sectors and factors. As a result, there are the cases where similar programs are implemented by different Dinas offices.



Source: JICA study team

Fig. 8.2-2 Administrative area and Cluster area

By establishing an inter-departmental framework for cluster development, together with a collaboration system, development programs can provide comprehensive support covering all the business activities that constitute a value chain, thereby contributing to higher efficiency and effectiveness.

As discussed in Chapter 2, inter-departmental cluster support is already established in Central Java by using the forums (FPESD and FEDEP).

To ensure effective implementation of cluster development programs, it is recommended to establish a council at the central government level to formulate cluster development guidelines. The council will then develop a mechanism to ensure flexible support that enables regional cluster development which goes over administrative boundaries, design a mechanism to enable inter-departmental cluster development at the local government levels, secure a budget required to implement the mechanism, and indicate the guidelines to provincial governments. In response, provincial governments will establish a permanent regional cluster development committee to lead and supervise cluster development activities not restricted either by regency or city boundaries as well as divisional and departmental administrative borders.

(1) Objective

To eliminate administrative boundaries for cluster development and strengthening linkages and interactions among divisions and department within the local government.

(2) Results

Result A: Guidelines for development of regional clusters will be drafted by the central government, as well as by multiple divisions and departments by the local government.

Result B: Support arrangements on behalf of broad regional cluster development will be made by provincial governments based on the guidelines.

Result C: Based on the guidelines, an inter-departmental cluster development committee will be organized by within the local government by cutting across the border between divisions and department.

(3) Implementing Agency

Implementing agency : BAPPENAS, MOI and other ministries concerned with cluster development, provincial, regency, and municipal governments

Oversight : MOI.

Supporting organization : FPESD

(4) Activities

A-1 A Cluster Development Conference is convened by BAPPENAS, with participation of all ministries concerned with cluster development and chaired by a representative of MOI. It is desirable to have attendance of local government officials in charge of cluster development. Also, representatives of FPESD, which has achieved results in cluster support in Central Java should be invited to attend.

A-2 The Conference will draft guidelines for regional cluster development, including arrangements for support that goes beyond administrative boundaries, the division of responsibilities among ministries, budget allocations, and so forth.

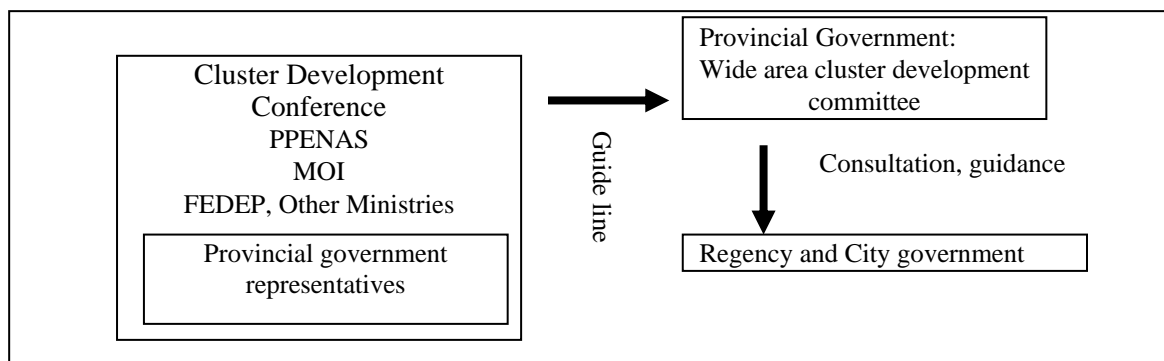
A-3 After the draft guidelines have been examined by each ministry, they are submitted to provincial governments.

B-1 On the basis of the guidelines, each provincial government organizes a permanent regional cluster development council to provide guidance and oversight for cluster development that goes beyond administrative boundaries.

- B-2 The objectives of the council, rules concerning its members, schedule for regular meetings, and budgetary arrangements are drawn up and documented.
- B-3 The council will identify the clusters in the council's province that span more than one district and are in need of support, and after conferring with local governments will begin to provide guidance.
- C-1 On the basis of the guidelines, each provincial government, under participation of BAPPEDA, is to organize a permanent and broad regional cluster development council that is to provide guidance and oversight for cluster development that goes beyond administrative district boundaries.
- C-2 The objectives of the council, rules concerning its members, schedule for regular meetings, and budgetary arrangements are drawn up and documented.
- C-3 The council will identify the clusters in the council's province that span more than one district and are in need of support, and after conferring with local governments will begin to provide guidance.

(5) Organizational setup

The organizational setup for program Organizational Setup is shown in Fig. 8.2-2.



Source: JICA study team

Fig. 8.2-3 Organizational Setup for Implementation of Cluster Development Support Programs that Goes over Administrative Boundaries

(6) Implementation timing: To begin immediately after the present JICA study is completed.

It is conceivable that discussions have already begun by FPESD with central government officials concerning creation of a scheme for supporting cluster development across administrative boundaries.

(7) Implementation period:

One year after the broad regional cluster development councils are initiated by the Council.

## 8.2.2 Master Strategy 2: Support for and Strengthening of Cluster Activities

### 8.2.2.1 AP 2-1: Training and Assignment of Cluster development Facilitators

#### Rationale for program proposal:

As pointed out earlier, most clusters in Indonesia are still in the formative stage and few have entered the growth stage. Clusters in the formative stage need the leadership to pave way for networking (called initiation<sup>1</sup>). If the cluster has no company or person who can play the leadership role, professional support must be obtained from outside stakeholders, including local government or BDS provider. A person who provides such support is called the facilitator.

The facilitator is expected to play a variety of roles according to the type of cluster and the development stage (Box 6). In particular, clusters in the formative stage are in the need for the facilitator who has coordinating capability to organize the cluster network, communication skills, and the ability to negotiate with government and other outside organizations.

#### Box 6 The Expected Role and Capacity of Facilitators

##### [1] Promotion

Promotion is required prior to and just after the formation of a cluster's representative organization. The facilitator is involved in mapping to define the overall structure of the cluster, and the formulation of a future-oriented vision and mission that encourages participation by stakeholders, i.e., support for determining the course to be followed by the cluster. Also, the facilitator is expected to provide guidance in determining the internal organization of the body that represents the cluster, to help capacity building with regard to the organizational functioning of the individuals who are to represent the cluster, to provide assistance in raising funds for cluster activities, and to negotiate for access to external support schemes, and so on.

##### [2] Coordination

Once a long-term plan has been adopted and the cluster's representative organization has been formed, the main task expected for the facilitator is to coordinate related parties and their activities for carrying out of plans in accordance with instructions from the leader. Promoting the activities and negotiating with outside parties is the work of the leader, and the facilitator collects the information needed for managing meetings of the organization and evaluation work.

##### [3] Information activity

The facilitator is responsible for collection and dissemination of information within and outside the cluster. Regarding what is to be done within the cluster, the facilitator must have the knowhow needed to keep dialogues going, to collect and organize opinions and ideas that are expressed, and convey it to cluster members in a form that can be easily understood. Information handled by the facilitator includes information regarding government support, subsidy, and loan schemes.

Facilitators are not necessarily classified to any of the three roles. Each facilitator usually plays more than one role simultaneously. In particular, the facilitator must play the coordinating role. For both promotion and information roles, a certain level of experience and knowledge is needed on the part of the facilitator, for which reason sometimes the work will be done not by one person but by a few, or by an organization. Natural capacity of the facilitator is fairness and neutrality. It is necessary to avoid appointing or using persons who are prone to favor a particular group or persons in selection of a program target, or who cannot take a neutral position. The facilitator is required to be familiar with financial and technological resources, but in the formation stage, knowledge and experience in formulating plans and building organizations is more important than expert knowledge relating to a specific industry.

Source: JICA study team

---

<sup>1</sup> The act of building the base for launching collective activity as the cluster (including the startup of a cluster working group or a cluster representative organization)

Training of facilitators is conducted by BDI, but participants are fairly limited. On the other hand, there are advisers and consultants specialized in providing support for traditional Sentra activities. They include local government employees who are expected to provide facilitation service, and other people capable of leading local projects, but their number is not sufficient to meet demand. On the other hand, there are people who are recognized as young leaders in local communities. Given a large pool of potential facilitators for cluster development, it is important to train them according to a formal curriculum that reflects the actual needs for facilitation service.

Furthermore, efforts should be made to train facilitators according to the types of clusters, e.g., those in the formative stage or in the growth stage, or areas that have potential to develop into a cluster. This would allow a facilitator to be assigned to a cluster area that needs him most.

The JICA study team has developed draft cluster guidelines as the basis of the program planning and design. They constitute a deliverable of the present Study. (Refer to 8.3 of this Chapter.)

(1) Objective

To training competent facilitators and to assign them to appropriate positions, thereby facilitating cluster development.

(2) Results

Result A: Revision of training materials including therein preparation of Cluster Guidelines

Result B: Increased participation in facilitator training programs, and progress in assigning facilitators to regions where they are most needed.

(3) Implementing Agency

Implementing agency : PUSDIKLAT, BDI.  
Oversight : MOI.  
Supporting organization : FPESD

(4) Activities

A-1 Under the leadership of PUSDIKLAT, BDI assumes the central role in the training of facilitators and through obtaining the cooperation of FPESD that has a good track record in facilitator training, while upgrading teaching materials and program design.

The upgrading of teaching materials includes addition of practical and effective methods for making use of cluster activity results to the advantage of business operations, methods of accomplishing results, communication skills in activities and other subjects that will contribute to guidance of and motivation by micro enterprises, in light of the fact that the present teaching materials emphasize cluster development theories and systems.

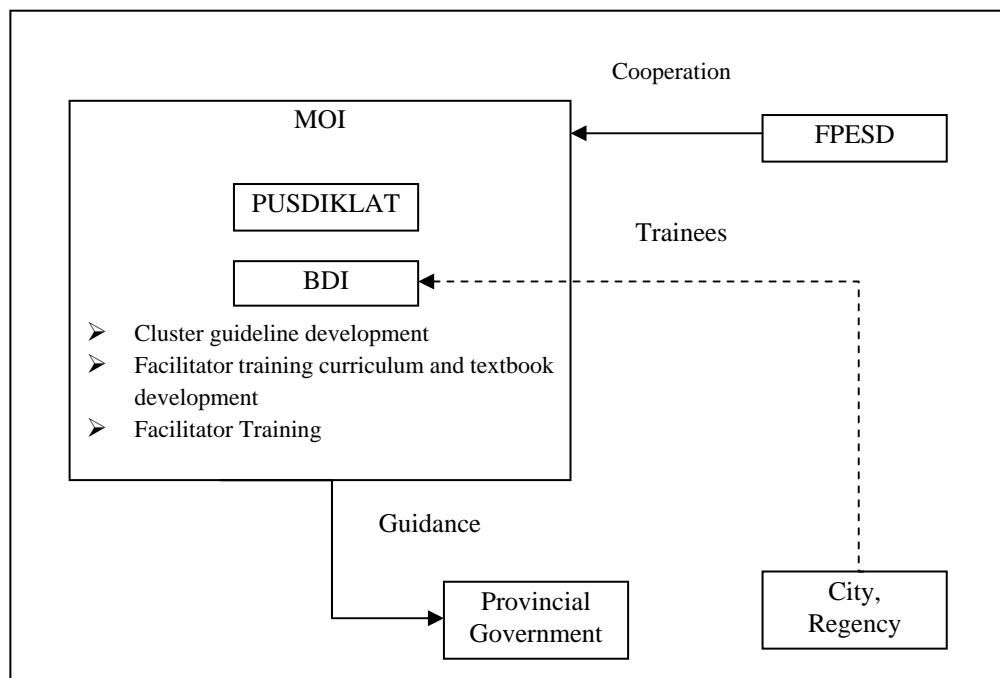
A-2 Cluster Guidelines, which reflect the present situation and requirements in Indonesia, are prepared to provide the policy for the work of cluster development as well as the work of facilitators. The guidelines are incorporated into teaching materials used for the training program.

The guidelines will be developed on the basis of the existing guidelines and JICA cluster guidelines (draft) made by the JICA study team.

- B-1 An annual program for training facilitators is prepared and announced.
- B-2 Requests to nominate trainees are made by MOI to provincial and local governments, as well as private sector organizations concerned with cluster development.
- B-3 BDI implements the annual training program.
- B-4 The names of facilitators who have successfully completed the training program are registered with PUSDIKLAT.
- B-5 Local governments and related organizations assign facilitators who have completed training to regions where they are needed.

(5) Organizational setup

The organizational setup for implementation of the above activities is presented in Fig. 8.2-4.



Source: JICA study team.

Fig. 8.2-4 Organizational Setup for Facilitator Training and Assignment

- (6) Implementation timing: To begin immediately after the present JICA study is completed.
- (7) Implementation period:

The first training program using the new materials incorporating the Guidelines will be implemented within one year and will be repeated thereafter.

8.2.2.2 AP2-2: Promotion of a shared vision and mission, and catalyzing joint activities

Rationale for program proposal:



At present, most clusters in Indonesia fail to capitalize on their comparative advantage generated by agglomeration of specific industrial activities for a variety of reasons, including the lack of motivation within the working group (representative organization) that is supposed to lead cluster activity, the absence of teamwork among cluster companies, and the lack of communication with outside support organizations.

As the prerequisite to invigoration of cluster activities, stakeholders who constitute the cluster, both inside and outside the cluster, must share a vision and mission for cluster development. In particular, in the formative stage of cluster development when collective activities have still to produce visible results, the facilitator needs to promote the sharing of the vision/mission among stakeholders through facilitation activities, while providing support for the startup and continuation of collective activities.

This action program is proposed to be implemented as a model project and will be driven by facilitators who have received training.

For cluster development activity to achieve its goal, it needs to be implemented by repeating the PDCA cycle. At present, most of cluster development activities are conducted without assessment and improvement (i.e., check and act in the PDCA cycle), making it difficult for them to achieve their goals. In particular, assessment is a key activity that affects sustainability of cluster activity, because it allows stakeholders within the cluster to get a real feel of what cluster activity has accomplished and to keep motivation alive. Thus, the action program will emphasize effective implementation of the PDCA cycle.

(1) Objective

To implement cluster activities designed to create a sense of ownership and unification among cluster members by strictly applying the PDCA cycle, with an aim to create successful cases.

(2) Results

Result A: An organization that represents the cluster will start up and a “vision” or “mission” will be jointly shared by stakeholders.

Result B: Collective activities are carried out according to the PDCA cycle, fostering a collective consciousness among the enterprises, and awareness of belonging.

(3) Implementing Agency

Implementing agency : Two clusters in the formative stage.  
Oversight : MOI; provincial, prefectural, municipal governments.  
Supporting organization : BDS providers.

(4) Activities

A-1 Under the leadership of MOI, and after discussions with the local governments, two clusters in their formative stage are selected, and post-training facilitators are assigned to the clusters.

A-2 On the basis of the Cluster Guidelines, with which facilitators have become familiar through their training, they assist in the setting up of an organization to represent the cluster. Major activities to undertaken by the representative organization, main members and their roles are summarized below.

[Activities of the representative organization]

1. Development of activity plans on the basis of the vision/mission for cluster development
2. Launching of actual cluster activities, such as business development and capacity building of individual companies, accompanied by negotiation with outside organizations
3. Expansion of membership
4. Information sharing with the cluster

[Main members]

1. Representative: Leading companies in the cluster
2. Board member: Cluster companies
3. Advisory members: Facilitators and cluster support organizations, including BAPPEDA, Dians Disperindag, other Dinas, the chamber of commerce and industry, universities, trade associations, and banks

[Roles of main members]

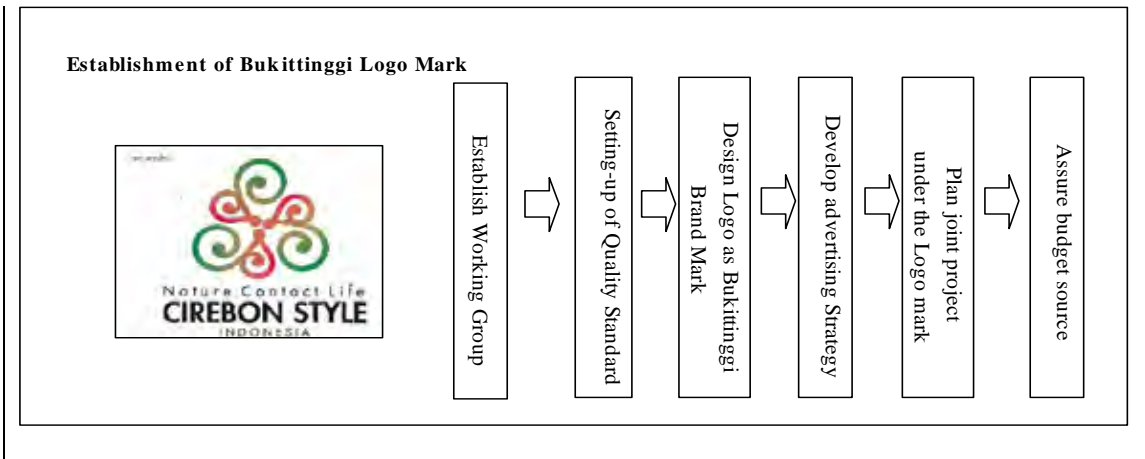
1. Representative: Steering of discussion within the cluster representative organization and negotiation with outside organizations
  2. Board member: Hearing of requests by member companies, public announcement of resolutions by the representative organization and promotion of cluster activity
  3. Advisory members
    - 3.1 Facilitator: Information support in relation to activities planned and undertaken by the representative organization, and matching with BDS and other outside support organizations
    - 3.2 Cluster support organizations: Support and advice using government programs as well as other available support programs using their own expertise
- A-3 While the facilitators and stakeholders within the cluster continue their dialogue for the purpose of promoting understanding of the cluster approach, the “vision” and “mission” are developed through a participative process.
- B-1 The basic theme for collective activities within the cluster’s representative organization is determined.
- B-2 Together with soliciting applications from cluster enterprises for participation in collective activities, the person(s) responsible for overall implementation of the activities is(are) determined on the basis of the division of labor among participating enterprises and with assistance by the facilitator.
- B-3 Strategy for the activities, activities to be carried out to achieve the objectives, and the means for judging success are confirmed and a PDM is prepared.
- B-4 The PDM is made public and the objectives are made known to the parties related to the cluster.
- B-5 A midpoint evaluation schedule and the evaluation are determined, and collective activities are begun.

- B-6 Stakeholders are invited to a meeting where interim results are evaluated, and the degrees of success with activities have achieved according to the PDM items are judged.
- B-7 Proposals for modifications, matching the issues that have been identified at the evaluation meeting, are prepared, a schedule for carrying them out is drafted, and requirements such as techniques, human resources, or additional funding, etc. are determined.
- B-8 The reform measures and launched.
- B-9 Final results of the activities are determined and a summary report is prepared.
- B-10 Results of the activities are reported at a general meeting of the representative organization, attended by representatives of the provincial government and MOI.
- B-11 In addition to making the results of activities known by means including the Internet homepage of the province, regency and city governments, the results are taken up as successful cases in the good-practice campaign and the training program for facilitators.

Note: As an example of cooperative activities, the preparation of a logo for the region is shown in Box 7.

**Box 7 Example of cooperative cluster activities: Preparation of a logo for the region**

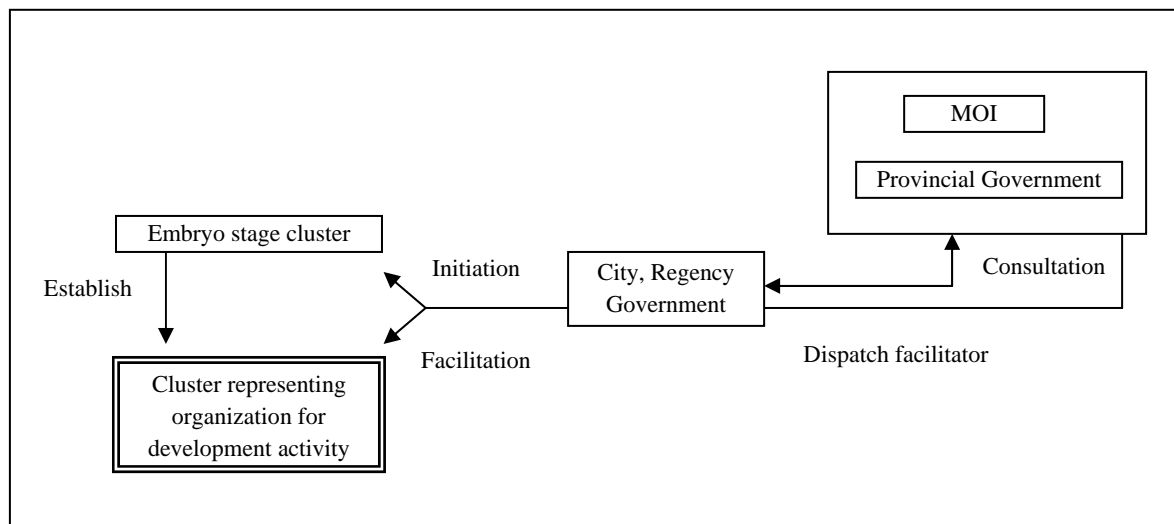
- S-1 Pick up a logo for the region as a part of cooperative cluster activities and have discussion on the mission for preparation of logos based on participatory method.
- S-2 Have a discussion at general meeting on image to express as to use cluster and make up the concept of logo
- S-3 To clarify usage standard of logo and share within the cluster
- S-4 To set up working groups such as technical, design, and public relations as the cluster representative organization
- S-5 The technical group will consider and decide the method of production technology standard by considering with not to break the image of the region.
- S-6 The design group is to make or publicly seek the draft of logo design with a central focus of designers
- S-7 To decide logo design and disseminate the information on logos to entire cluster.
- S-8 The Public Relations group will advertise the logo and seek the companies which have a willingness to use the logo. Then evaluate and approve the use of logo by taking into consideration on whether the products are meeting with the technical standard or fulfilling the usage standard of logos.
- S-9 Public Relations group will make up actual ideas how the logos will be more effectively used and how it should be used.
- S-10 To expand sales activities and send out the image of its region
- S-11 Introduce the logo using homepages of the provinces or cities.



Source: JICA study team

(5) Organizational setup

The organizational setup for implementation of these activities is shown in Fig. 8.2-5.



Source: JICA study team

Fig. 8.2-5 Organizational Setup for Implementation of Collective Activities for Promotion of a Collective “Vision” and “Mission”

(6) Implementation timing:

To begin after completion of the first facilitator training program (AP 2-1).

(7) Implementation period: One year.

8.2.3 Master Strategy 3: Strengthening Capabilities of Cluster Enterprises

8.2.3.1 AP 3-1: Support for improvement of business and management techniques

Rational for program proposal

In Indonesia, there are two types of officers at local government in charge of SME promotion, namely extension officer and SHINDANSHI, who provide corporate diagnosis and advice service for local MEs and SMEs, primarily in the fields of business operation and management.

Extension officers vary greatly in their educational background and professional skills. There is no training program for extension officers. At present, some of them are certified as SHINDANSHI by participating in the MOI's training program and continue to work as extension officer. On the other hand, there is no formal system to provide corporate diagnosis and guidance service under cooperation between the extension officer and SHINDANSHI. While there is no clearly distinction in the scope of service between the two officers, SHINDANSHI is still small in number and is rarely engaged in serving SMEs directly.

In consideration of these factors, this action program is proposed to use SHINDANSHI more effectively so as to provide corporate diagnosis and guidance service by using a combination of the locally available resources, while upgrading of capability and skills of extension officers by using the work with SHINDANSHI in the form of OJT.

Under the program, SHINDANSHI will be positioned within local government as a training instructor or advisor for extension officers, in order to develop their capacity. In addition to achieving transfer of technology from SHINDANSHI consultants to extension officers, arrangements are made to form a team by SHINDANSHI and extension officers to perform diagnoses of microenterprises and small businesses that compose the cluster.

(1) Objective

To improve business operation and management techniques of owners/managers of companies in the cluster, by means of corporate diagnoses and guidance service provided by utilizing SHINDANSHI and extension officers as local government resources.

(2) Results

Result A: Improved ability of extension officers.

Result B: Through the diagnoses and guidance provided the SHINDANSHI and extension officer teams, managerial capabilities of owners/managers of cluster companies are improved.

(3) Implementing Agency

Implementing agency : Regional chambers of commerce and industry, Dinas  
Oversight : MOI  
Supporting organization : KADINDA

(4) Activities

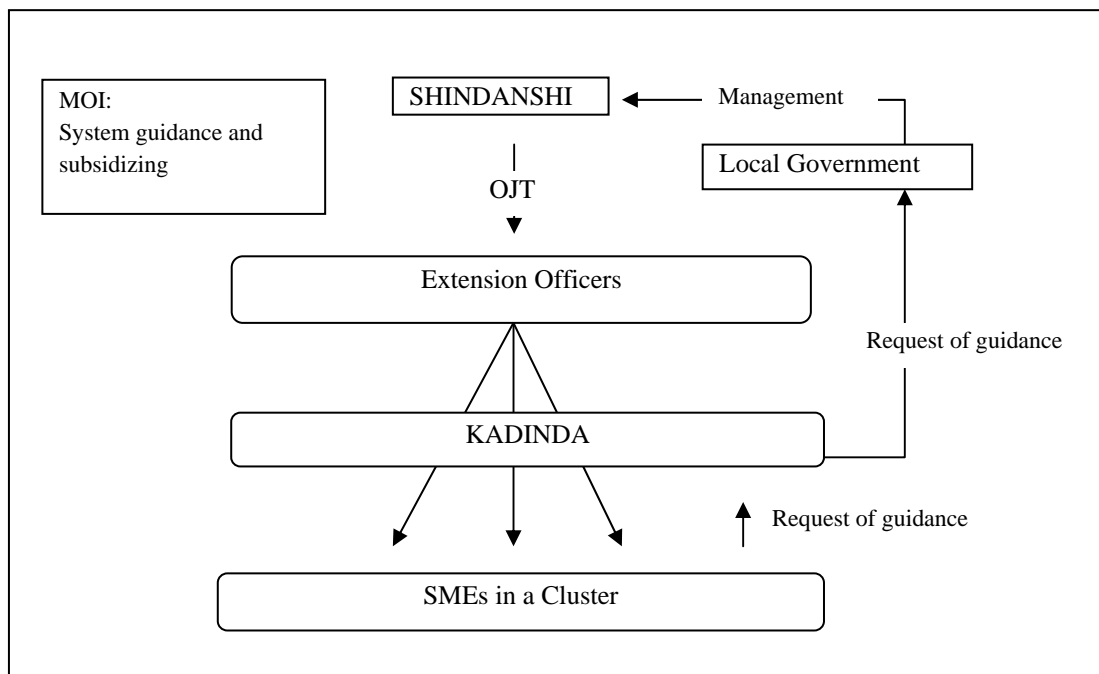
A-1 Each local government reviews the place where SHINDANSHI and extension officers have been assigned in their areas, as well as the status of their work.

A-2 Each local government plans and carries out training programs for extension officers, utilizing SHINDANSHI in their areas as instructors. The SHINDANSHI use teaching materials used for the SHINDANSHI training program to upgrade capability of extension officers.

- A-3 The SHINDANSHI and extension officers team up to develop plans for enterprise diagnoses and guidance.
- B-1 A survey is made of what enterprises in each district's area need by way of guidance, and from the survey results, the SHINDANSHI/extension officer team identifies the issues and areas to be dealt with.
- B-2 The enterprises to be visited for diagnosis and guidance are selected, and the methods to be used, the objectives, the schedules are decided through discussion with the enterprises. It is desirable to select enterprises that are prepared to seek finance from local government sources or subsidy schemes.
- B-3 Diagnoses and guidance are carried out. At the same time the SHINDANSHI provide OJT to the extension officers.

(5) Organizational setup

The organizational setup for implementation of these activities is shown in Fig. 8.2-6.



Source: JICA study team.

Fig. 8.2-6 Organizational Setup for the Support Program for Improvement of Business and Managerial Techniques (Soft Technology)

- (6) Implementation timing: To begin as soon as the present study is completed.
- (7) Implementation period: Open-ended.

### 8.2.3.2 AP 3-2 Improvement of enterprise counseling and guidance services

Rationale for program proposal:

Clusters in Indonesia are generally characterized by industrial agglomeration mainly consisting of SMEs and MEs. Naturally, the cluster can be energized by strengthening individual companies. In this connection, attention should be paid to the managing style of SMEs, which mainly depend

on capability of owners and their families, in comparison to large enterprises that employ highly specialized workers.

The improvement of counseling and guidance services for SMEs means the provision of unified, professional service covering modern forms of production and management, which leads to the strengthening of individual companies. At present, there is strong demand for SME support service rendered by SHINDANSHI and extension officers, but the former is limited in number. This action program therefore proposes the establishment of a formal mechanism to provide corporate diagnosis and counseling services in an efficient manner by using SHINDANSHI and extension officers.

Notably, SHINDANSHI and extension officers have broad knowledge and experience but most of them are by no means experts in specific fields. In particular, there are only a handful of experts in production technology. Meanwhile, Indonesia has public organizations specialized in technical support relating to specific fields. They conduct a variety of projects designed to upgrade production technology in collaboration with local large enterprises, universities and international donor organizations. They thus have experience in using foreign experts and hire experts in various fields. It is therefore proposed to establish a SME counseling desk to introduce these experts to SMEs that meet the needs for comprehensive technical assistance including production technology, together with effective use of SHINDANSHI and extension officers.

Japan has a long history of counseling service for SMEs, under which experts in a variety of fields are introduced to meet the needs of SMEs and local conditions.

(1) Objective

To help solve problems confronted by microenterprises and SMEs.

(2) Results

Result A: Collection of data on SHINDANSHI, extension officers and specialists.

Result B: A section (“window”) that has a database about SHINDANSHI, extension officers and specialists in the province is established by each provincial government, to assist microenterprises and SMEs.

(3) Implementing Agency

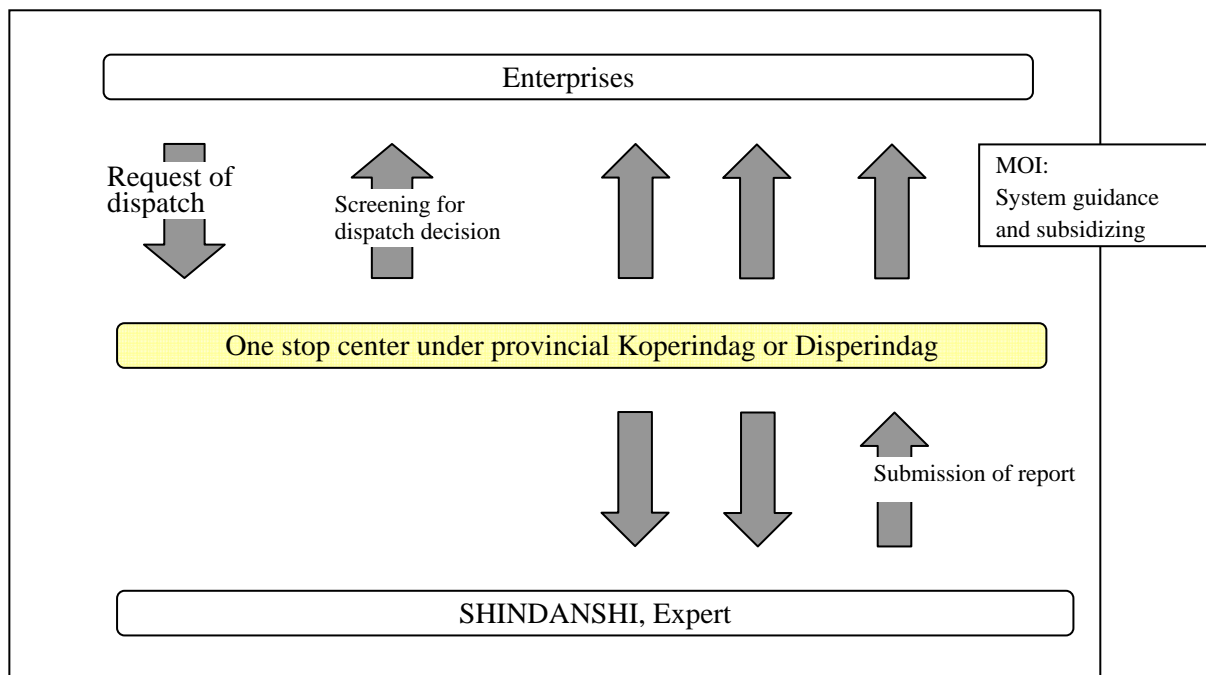
Implementing agency : Regional chambers of commerce and industry, Dinas  
Supporting entities : SMOCSME, KADINDA, universities, BDS providers, private enterprises, others  
Oversight : MOI, provincial governments

(4) Activities

A-1 An organization managing the counseling service desk is established within each provincial government.

A-2 The newly established organization explains plans for establishing the counseling desk to regency and municipal governments, and public organizations that can provide technical assistance, requests their assistance in compilation of a database of SHINDANSHI, extension officers, and specialists. It also collects and compiles information received, and manages the database.

- A-3 Collect data register and manage on expert in various field as well as SHINDANSHI, extension officers from the universities, BDS providers and public sectors who are able to accept any consultations to meet with the requirements from SMEs and micro enterprises.
- B-1 The counseling service desk is inaugurated and PR activities on its service start.
- B-2 After a request is accepted by the counseling service desk, the database is consulted to select aSHINDANSHI, an extension officer, or a specialist (including ‘hard’ specialists) suitable to meet the request, or to form and send a team of SHINDANSHI and other specialist to the requesting enterprise. The activity flow relating to the sending of personnel is shown in Fig. 8.2-7.



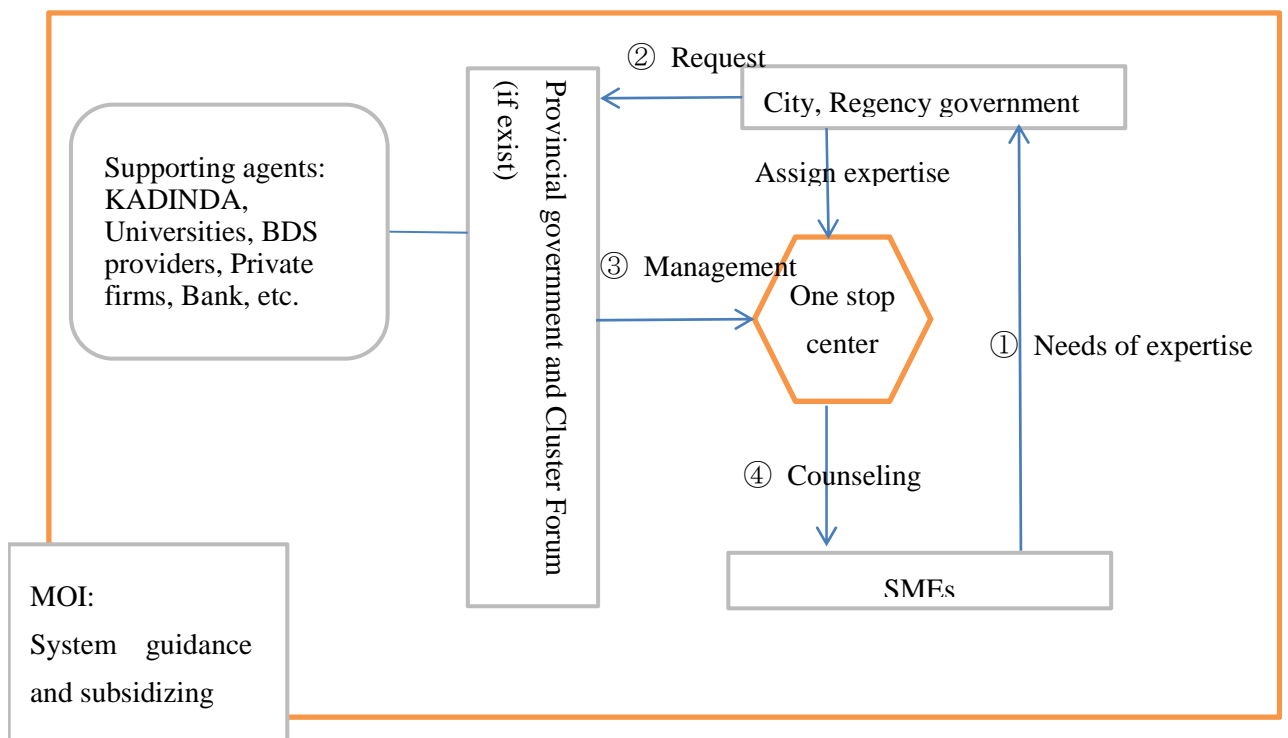
Source: JICA study team.

Fig. 8.2-7 Activity Flow for Dispatch of SHINDANSHI, Extension Officers, and Specialists

(5) Organizational setup

The organizational setup for implementation of these activities is shown in Fig. 8.2-8.





Source: JICA study team.

Fig. 8.2-8 Organizational Setup for Implementation of the Counseling Service Desk Program

(6) Implementation timing: To begin as soon as the present study is completed.

(7) Implementation period:

One year, up to opening of the “windows.” Service at the “windows” continues thereafter.

#### 8.2.4 Summary of Action Programs

Table 8.2-1 summarizes the Action Programs proposed under this study.

Table 8.2-1 Action Programs

Master Strategy	Action Program		Activity	Implementing Agency	Oversight	Implementation timing and period		
						One year from end of the survey	Two year from end of the survey	After three year from end of the survey
Master Strategy-1 Building the Framework for Cluster development, and Awareness-Raising Activity	AP1-1	Campaign for nationwide dissemination of good practices	A. Implementing a first nationwide "Good Practice" campaign	MOI	MOI	[Timeline bar with 'Continue' label]		
	AP1-2	Establishing cross-departmental and administrative boundaries cluster support organizations at local government level	A. Drafting Guidelines for development of regional clusters by multiple departments	BAPPENAS, MOI and other ministries concerned with cluster development, provincial, regency, and municipal governments	MOI	[Timeline bar]		
	B. Set-up of cluster development committee by provincial governments		[Timeline bar with 'Committee activity' label]					
Master Strategy-2 Support for and Strengthening of Cluster Activities	AP2-1	Training and assignment of cluster development facilitators	A. Improvement of facilitator training program and materials	PUSDIKLAT BDI	MOI	[Timeline bar]		
			B. Implementing a revised training program, and registration/assignment of trainees			[Timeline bar with 'Continue' label]		
	AP2-2	Promotion of a shared vision and mission, and catalyzing joint activities	A. Organization setup, and adoption of "Vision" and "Mission"	Two Embryo clusters	MOI, Provincial, Regency, and municipal governments	[Timeline bar]		
			B. Cooperative activity by applying PDCA cycle			[Timeline bar with 'Input of successful example' label]		
Master Strategy-3 Strengthening Capabilities of Cluster Enterprises	AP3-1	Support for improvement of business and management techniques	A. Implementing extension officer training program by SHINDANSHI	Provincial government Regional chambers of commerce and industry, Dinas	MOI	[Timeline bar]		
			B. Diagnosis and guidance to cluster companies by SHINDANSHI and extension officer teams			[Timeline bar]		
	AP3-2	Improvement of enterprise counseling and guidance services	A. Collection and registration of data on SHINDANSHI, extension officers and specialists	Regional chambers of commerce and industry, Dinas	MOI, Provincial governments	[Timeline bar with 'Continue' label]		
			B. Setup of a database section ("window") in provincial governments to assist microenterprises and SMEs			[Timeline bar with 'Consultation, Dispatch of consultant' label]		

Source: JICA study team

### 8.3 Draft Proposal for JICA Cluster Guidelines

In connection with drafting of the Cluster Guidelines, one of the activities in group AP 2-1, Training and Preparation of Cluster Development Facilitators, the JICA study team recommends that they be prepared on the basis of the JICA Cluster Guidelines.

The following section summarizes the policy behind the drafting of the JICA Cluster Guidelines to be proposed.

#### 8.3.1 Policy for Development of JICA Cluster Guidelines

The majority of clusters in Indonesia is still in the formative stage and have not yet established relationships among cluster enterprises and stakeholders. The proposed JICA Cluster Guidelines are designed to help these clusters and focus on the development of a framework for building a network among cluster enterprises, including methodology, which is the prerequisite to effective implementation of cluster activity. They thus emphasize less on activities that drive cluster development.

After networks have been formed among the cluster's enterprises, and motivation for participating in collective activities has been raised, then study can begin of the specific activities needed to enable the cluster to advance to the next stage of development. From the building of a network in a formative-stage cluster, to the stages of planning cluster activities and implementing them, the presence of a capable facilitator is indispensable. Policies regarding the abilities of facilitators and the content of their activities are included in the Guidelines, and the functions of facilitators are discussed in Annex-5.

In the preparation of the JICA Cluster Guidelines proposal, reference was made to the following documents which are in partial use at present in Indonesia.

- Cluster Development Guidelines (for Facilitators) prepared in 2004 by Planning Study for Reinforcement of SME Clusters in Indonesia
- Cluster Management – A Practical Guide [By GTZ; used in support of a cluster development action program in 2000 in Central Java]
- Cluster Building: A Toolkit [Prepared by Cluster Navigators Ltd. in 2001]

### 8.3.2 Organization of the JICA Cluster Guidelines

The organization of the JICA Cluster Guidelines is as follows.

-----  
Glossary (Definition of terms)

Preface

Part I Concept, Objective and Target Users

1. Objective and Target Users
2. Concept and Structure of the Guideline
3. Objective and Benefit of Cluster Development
4. Cluster Development Stakeholders

Part II Implementation of Clustering

1. Outline of Cluster Development
  2. Flowchart of Clustering
    - 2.1 STAGE 1: Preparation for Target Cluster Development
    - 2.2 STAGE 2: Initiation to Establishment of Cluster Development Framework
    - 2.3 STAGE 3: Implementation of Action Plan
-

## ANNEX-1

### Outline of Cluster in Indonesia

(Based on Sentra Database)



## ANNEX-1 Outline of Cluster in Indonesia (Based on Sentra database)

### 1 The purpose of data analysis and data source

The purpose of the Sentra analysis is to find out the status of industrial accumulations and abstract the important points in the development of small and medium industrial cluster through analyzing Sentras by province and by commodity.

The analysis based on “Regional small and medium industry Sentra Mapping” (hereinafter called “MOI Cluster Study”) compiled by the private consulting firm. This survey was sponsored by the Directorate of Small and Medium Industries of Ministry of Industry to find out the potentiality and geographic positions of SME Sentras (hereinafter called “cluster”).

The comparisons of clusters by province and by commodity are described as follows.

### 2 Outline of Clusters

Firstly, the number of cluster in the country has been increased year by year. At the same time, the number of workers increases.

Table A1-1 Number of Sentra (cluster) and workers

	2004	2005	2006	Growth rate
Number of Sentra	7,193	7,287	7,369	1.2%
Number of worker	319,480	391,566	394,830	11.7%

Source: Directorate of SMI of Ministry of Industry and Provincial Dinas of Industry and Commerce

On the other hand, the MOI Cluster Study only focused on 17 provinces (16 provinces and Yogyakarta) out of 33 provinces through out the country. The sum of regional GDP of 17 provinces accounts almost two third of National GDP. It means that the MOI Cluster Study of 17 provinces is reflected the Indonesia economy in terms of economi scale. On the other hand, only 1,784 Sentras (see Table A1-2) are recognized in MOI cluster study. This number should be larger judging from the size of 17 provices economies. The report does not give any explanation, however, it may include the number of cluster recognized by only Industry and Commerce Dinas and it may not include clusters recognized by Small and Medium Cooperative Dinas and Forestry & Firm Land Dinas.

Number of food and craft related cluster is large in the grand total of 17 provinces. On the other hand, number of business unit and worker of craft Cluster are higher that those of food Cluster. The numbers of chemical and construction cluster and textile and garment cluster are relatively small. Metal processing cluster has the highest investment value while craft cluster has the highest production value.

Table A1-2 Cluster in 17 Provinces

	Number of cluster		Business unit		Number of worker		Investment (Rp.000)		Production (Rp.000)	
Food	758	42.5%	30,918	31.5%	105,439	28.6%	183,043,637	19.5%	3,192,488,526	24.9%
Textile and Garment	112	6.3%	8,438	8.6%	37,298	10.1%	90,361,700	9.6%	2,549,554,973	19.9%
Chemical and construction materials	80	4.5%	10,995	11.2%	78,875	20.1%	66,078,389	7.0%	564,956,027	4.4%
Metal	209	11.7%	7,234	7.4%	26,675	7.2%	318,571,507	34.0%	932,773,546	7.3%
Craft	625	35.0%	40,437	41.3%	124,860	33.9%	279,367,076	29.8%	5,576,635,825	43.5%
Total	1,784	100.0%	98,022	100.0%	368,147	100.0%	937,422,309	100.0%	12,816,408,897	100.0%

Source: MOI Cluster Study

The following table shows comparison in number of business unit, worker, investment value and production value by cluster and production value by worker. The amounts of production value per worker are compared because the competitiveness of the cluster should appear the labor productivity.

Table A1-3 Cluster Indicator

	Number of cluster	Business unit/cluster	Worker/Cluster	Investment(Rp.000)/cluster	Production (Rp.000)/cluster	Production (Rp.000)/worker
Food	758	41	139	241,482	4,211,726	30,278
Textile and Garment	112	75	333	806,801	22,763,884	68,356
Chemical and construction materials	80	137	923	825,980	7,061,950	7,647
Metal	209	35	128	1,524,266	4,463,031	34,968
Craft	625	65	200	446,987	8,922,617	44,663
Total/Average	1,784	55	206	525,461	7,184,086	34,813

Source: Same as Table A1-2

The chemical and construction material cluster has the highest number of business unit and worker per cluster while the metal processing cluster has the largest investment value per cluster. The textile and garment cluster has the highest production value per cluster as well as per worker. The chemical and construction material cluster has very low production value per worker in comparison with other clusters. The table also indicates that the food cluster which has the largest in business unit has relatively low number of worker and production value. The textile and garment cluster shows low investment but high production. The craft cluster also has low investment but high production value. The chemical and construction cluster absorbs the most labor but the production value is low which may cause low incomes of workers.

The next table shows the provincial distribution of cluster. It indicates the accumulation rates are varied among provinces. Especially Bali has extremely high concentration of cluster in comparison with populated provinces in Java despite the economic scale and number of SMEs are not very high in Bali, Perhaps because Bali is the famous touristic place in the world and being the sale centers of handy craft relate to the high number of cluster.



Table A1-4 Cluster by Province

Province/ City	cluster Number	Business Unit	Worker (person)	Investment (Rp.000)	Production (Rp.000)	BU /cluster	Worker/ BU (person)	Investment BU (Rp.000)	Production /BU (Rp.000)	Production /worker (Rp.000)
BALI	714	42,921	98,193	167,929,896	1,381,165,828	60	2	3,913	32,179	14,066
JAWA TIM	184	7,226	36,265	22,050,318	1,881,755,575	39	5	3,052	260,415	51,889
SULSEL	160	8,412	25,028	11,434,698	140,795,603	53	3	1,359	16,737	5,626
JATENG	142	5,989	29,207	80,217,726	1,588,398,004	42	5	13,394	265,219	54,384
JABAR	125	14,374	114,203	104,274,269	6,059,379,145	115	8	7,254	421,551	53,058
BANTEN	97	4,110	13,427	6,668,098	463,671,890	42	3	1,622	112,816	34,533
NTB	88	4,361	15,655	13,382,367	29,405,568	50	4	3,069	6,743	1,878
SUMUT	55	5,115	9,696	46,403,560	435,008,441	93	2	9,072	85,046	44,865
DIY	52	2,305	15,700	15,157,120	549,481,395	44	7	6,576	238,387	34,999
SUMBAR	39	1,111	2,588	12,650,345	36,684,365	28	2	11,386	33,019	14,175
KALBAR	30	506	1,595	430,205	174,882,681	17	3	850	345,618	109,644
SUMSEL	24	323	1,083	177,245,513	29,314,325	13	3	548,748	90,756	27,068
SULTRA	23	221	730	271,976,900	32,103,280	10	3	1,230,665	145,264	43,977
KALSEL	17	258	3,116	6,094,318	7,318,944	15	12	23,621	28,368	2,349
NTT	16	296	817	573,853	1,722,634	19	3	1,939	5,820	2,108
SULUT	15	444	725	534,022	3,896,978	30	2	1,203	8,777	5,375
LAMPUNG	3	50	119	399,100	1,424,241	17	2	7,982	28,485	11,968
Total	1,784	98,022	368,147	937,422,308	12,816,408,897	55	4	9,563	130,750	34,813

Source: same as Table A1-2, note: BU=Business Unit

On the other hand, provinces with less clusters locate outside of Java island and less populated areas. Most clusters, which consist of micro companies, can have their market only in the neighborhood. Therefore it is difficult to form a large cluster without having populated area in its neighbor.

### 3 cluster comparison by commodity

#### 3.1 Food

Food cluster includes production of tofu, tempe, coffee, rice cracker and sugar. About 40 business units are operating in one cluster and 3 workers are working in one business unit on average. It can be categorized as accumulation of micro enterprises (according to the national statistic bureau, micro small, medium enterprise holds 1-4 workers, 5-19 workers and 20 – 99 workers respectively).

A province with the highest number of cluster is Bali, followed by East Java, South Sulawesi and Central Java. However, clusters in Bali and South Sulawesi have low production value per worker. On the other hand, clusters in West Kalimantan and North Sumatra have high production value per worker.

Table A1-5 Food Cluster

Province/City	Cluster number	Business Unit	Worker (person)	Investment (Rp.000)	Production (Rp.000)	BU/ Cluster	Worker/BU (person)	Investment/BU (Rp. 000)	Production/BU (Rp. 000)	Production/worker (Rp. 000)
BALI	169	7,632	14,900	6,484,629	78,730,359	45	2	850	10,316	5,284
JAWTIM	106	4,518	17,447	5,853,832	490,966,312	43	4	1,296	108,669	28,140
SULSEL	83	4,164	12,839	6,161,771	73,818,026	50	3	1,480	17,728	5,750
JAWTENG	77	2,319	10,787	21,777,439	282,740,430	30	5	9,391	121,923	26,211
NTB	75	2,968	11,377	9,524,787	23,761,114	40	4	3,209	8,006	2,089
JABAR	64	3,402	15,580	16,748,299	1,169,154,360	53	5	4,923	343,667	75,042
BANTEN	61	2,552	7,778	1,590,564	281,693,427	42	3	623	110,381	36,217
DIY	34	1,403	9,775	2,584,399	276,395,883	41	7	1,842	197,003	28,276
SUMBAR	28	818	1,837	5,703,771	25,705,248	29	2	6,973	31,425	13,993
KALBAR	20	290	988	328,795	173,450,448	15	3	1,134	598,105	175,557
SUMSEL	14	203	650	76,106,885	21,786,925	15	3	374,911	107,325	33,518
SUMUT	12	315	710	29,432,398	289,257,255	26	2	93,436	918,277	407,405
NTT	5	60	229	129,178	633,084	12	4	2,153	10,551	2,765
SULUT	4	132	190	107,750	989,082	33	1	816	7,493	5,206
KALSEL	3	96	238	203,740	1,345,750	32	2	2,122	14,018	5,654
SULTRA	2	30	79	249,900	703,680	15	3	8,330	23,456	8,907
LAMPUNG	1	16	35	55,500	1,357,143	16	2	3,469	84,821	38,776
Total	758	30,918	105,439	183,043,637	3,192,488,526	41	3	5,920	103,257	30,278

Source: same as Table A1-2

### 3.2 Textile and Garment

Industries such as garment, batik, shoes, embroidery and knitting are included in this category. Average number of business unit per cluster is 75. However, there is the great difference between highest concentration of business units, 75 units, and lowest concentration, 5 units. It is also true for number of worker; while the average is 4, the highest is 19 and the lowest is 2. It also shows that the main business size of textile and garment cluster in Jogjakarta and West Java is not micro but small to medium sized companies.

Table A1-6 Textile and Garment Cluster

Province/City	Cluster number	Business Unit	Worker (person)	Investment (Rp.000)	Production (Rp.000)	BU/ Cluster	Worker/BU (person)	Investment/BU (Rp. 000)	Production/BU (Rp. 000)	Production/worker (Rp. 000)
BALI	18	187	389	423,485	6,748,568	10	2	2,265	36,089	17,349
JATIM	18	501	2,597	2,430,730	122,595,163	28	5	4,852	244,701	47,206
SULSEL	15	621	1,509	993,912	20,318,020	41	2	1,601	32,718	13,465
SUMUT	11	3,930	7,169	10,398,328	35,171,431	357	2	2,646	8,949	4,906
JABAR	9	1,785	17,710	48,470,075	2,212,447,490	198	10	27,154	1,239,466	124,926
JATENG	8	487	3,681	4,920,500	44,108,975	61	8	10,104	90,573	11,983
BANTEN	8	566	2,957	2,925,505	101,611,104	71	5	5,169	179,525	34,363
NTT	7	186	402	158,175	569,830	27	2	850	3,064	1,417
SULUT	5	61	159	324,257	2,019,836	12	3	5,316	33,112	12,703
DIY	4	26	505	5,212,448	3,538,550	7	19	200,479	136,098	7,007
KALBAR	3	15	74	13,105	58,862	5	5	874	3,924	795
NTB	3	54	83	56,180	212,944	18	2	1,040	3,943	2,566

SULTRA	2	14	43	14,000,000	67,200	7	3	1,000,000	4,800	1,563
SUMSEL	1	5	20	35,000	87,000	5	4	7,000	17,400	4,350
Total	112	8,438	37,298	90,361,700	2,549,554,973	75	4	10,709	302,152	68,356

Source: same as Table 3.4-2

Provinces with high number of cluster are scattered geographically; Bali, East Jawa, West Sulawesi and North Sumatra. Clusters in West Java have overwhelmingly high number of worker, investment amount, production amount and production per worker. The reason is that the textile and garment industry in this region has been developed historically and produce wide range of products from traditional wears to mass products. On the other hand, the garment industry can be established with extremely small production scale as sideline work.

### 3.3 Chemical and Building Materials

The main products of this cluster are bricks and roof tiles. There is the large difference in concentration of cluster. The small cluster has only 10 business units (South Sumatera) while large cluster has 653 units (West Java). The average number of worker per business unit is only 7.

Bali has the largest number of cluster, 36, followed by South Sulawesi and Provinces in Java where the population is high. In terms of business unit, worker and production volume, West Java is the highest. Bricks and roof tiles tend to be produced near the consuming region. Therefore, this industry has developed in the high populated area such as Java island.

Table A1-7 Chemical and Construction Material cluster

Province/City	Cluster number	Business Unit	Worker (person)	Investment (Rp.000)	Production (Rp.000)	BU/ Cluster	Worker/BU (person)	Investment/BU (Rp. 000)	Production/BU (Rp. 000)	Production /worker (Rp. 000)
BALI	36	3,655	10,512	18,826,230	58,189,687	102	3	5,151	15,921	5,536
SULSEL	9	111	382	306,729	1,482,774	12	3	2,763	13,358	3,882
JATENG	8	682	2,585	12,911,950	39,434,650	85	4	18,932	57,822	15,255
JABAR	8	5,226	51,516	24,522,480	338,274,900	653	10	4,692	64,729	6,566
JATIM	5	944	6,652	7,122,000	101,642,870	189	7	7,544	107,673	15,280
BANTEN	4	146	408	60,900	12,566,648	37	3	417	86,073	30,801
SULTRA	3	37	165	367,500	2,720,000	12	4	9,932	73,514	16,485
DIY	2	25	926	861,100	9,361,800	13	37	34,444	374,472	10,110
NTB	2	115	557	949,900	736,450	58	5	8,260	6,404	1,322
SUMSEL	1	10	75	30,000	57,200	10	8	3,000	5,720	763
SULUT	1	20	40	50,000	480,000	20	2	2,500	24,000	12,000
LAMPUNG	1	24	57	69,600	9,048	24	2	2,900	377	159
Total	80	10,995	73,875	66,078,389	564,956,027	137	7	6,010	51,383	7,647

Source: same as Table 3.4-2

### 3.4 Metal Processing

Iron work, parts manufacturing, precious metal and metal furniture belong to this cluster category. This cluster has characteristics of low concentration and small sized business: the average business unit per cluster is 35, while the average worker per business unit is 4. However, the amount of investment and production are comparatively large.

Table A1-8 Metal Processing cluster

Province/City	Cluster number	Business Unit	Worker (person)	Investment (Rp.000)	Production (Rp.000)	BU Cluster	Worker/BU (person)	Investment /BU Rp. 000)	Production /BU (Rp. 000)	Production/worker (Rp. 000)
SULSEL	44	3,079	7,103	2,882,546	40,141,383	70	2	936	13,037	5,651
JATENG	38	1,551	9,357	38,424,977	370,381,406	41	6	24,774	238,802	39,583
JABAR	30	786	3,882	8,279,885	249,097,667	26	5	10,534	316,918	64,167
BALI	28	668	1,653	1,260,014	28,378,865	24	2	1,886	42,483	17,168
BANTEN	17	158	538	2,083,438	62,002,631	9	3	13,186	392,422	115,247
SUMUT	12	194	585	142,884	1,488,836	16	3	737	7,674	2,545
SULTRA	7	47	149	161,551,000	19,134,000	7	3	3,437,255	407,106	128,416
KALBAR	7	201	533	88,305	1,373,371	29	3	439	6,833	2,577
JATIM	6	89	1,130	2,830,815	91,838,400	15	13	31,807	1,031,892	81,273
DIY	5	111	510	363,395	60,387,662	22	5	3,274	544,033	118,407
NTB	5	210	836	251,700	2,568,885	42	4	1,199	12,233	3,073
NTT	4	50	186	286,500	519,720	13	4	5,730	10,394	2,794
SUMSEL	3	24	47	100,040,428	4,830,000	8	2	4,168,351	201,250	102,766
SUMBAR	1	6	21	25,500	108,000	6	4	4,250	18,000	5,143
KALSEL	1	10	15	23,000	371,520	10	2	2,300	37,152	24,768
SULUT	1	50	130	37,120	151,200	50	3	742	3,024	To
Total	209	7,234	26,675	318,571,507	932,773,546	35	4	44,038	128,943	34,968

Source: same as Table A1-2

There are many clusters in South Sulawesi, Central Java and West Java. In terms of number of worker and production, Central Java is the highest. On the other hand, in terms of investment value, South East Sulawesi and South Sumatera are exceptionally high.

### 3.5 Handy Craft

Embroidery, knitting, rattan/bamboo craft and puppet are categorized in this cluster. Embroidery and knitting belong to the garment and textile cluster; they are distinguished by whether it is traditional and handmade. This cluster has high concentration of small sized business unit; average business unit in this cluster is 65 while the average number of worker is only 3.

There are so many clusters with small sized business in terms of worker and production value in Bali. Handy craft is traditionally popular business in Bali. As already mentioned, because Bali has been the center of handy craft sales due to being the world famous tourist site, the business environment allows many craft business in this area. Thus the craft men and craft products gathered in this place. In fact, many silver smiths moved to Bali from Java. On the other hand, West Java is the highest in terms of production value and number of business unit per cluster, while Central Java is the highest in terms of productivity.

Table A1-9 Handy Craft cluster

Province/City	Cluster number	Business Unit	Worker (person)	Investment (Rp.000)	Production (Rp.000)	BU Cluster	Worker/BU (person)	Investment/BU Rp. 000)	Production/BU (Rp. 000)	Production/worker (Rp. 000)
BALI	463	30,779	70,739	140,935,538	1,209,118,349	66	2	4,579	39,284	17,093
JATIM	49	1,174	8,439	3,812,941	1,074,712,830	24	7	3,248	915,428	127,351
SUMUT	20	676	1,232	6,429,950	109,090,919	34	2	9,512	161,377	88,548
JABAR	14	3,175	25,515	6,253,530	2,090,404,728	227	8	1,970	658,395	81,928
KALSEL	13	152	2,863	5,867,578	5,601,674	12	19	38,602	36,853	1,957
JATENG	11	950	2,797	2,182,860	851,732,543	86	3	2,298	896,561	304,516
SUMBAR	10	287	730	6,921,074	10,871,117	29	3	24,115	37,878	14,892
SULTRA	9	93	294	95,808,500	9,478,400	10	3	1,030,199	101,918	32,239
SULSEL	9	437	3,195	1,089,740	5,035,400	49	7	2,494	11,523	1,576
BANTEN	7	688	1,746	7,691	5,798,080	98	3	11	8,427	3,321
DIY	7	740	3,984	6,135,779	199,797,500	106	5	8,292	269,997	50,150
SUMSEL	5	81	291	1,033,200	2,553,200	16	4	12,756	31,521	8,774
SULUT	4	181	206	14,895	256,860	45	1	82	1,419	1,247
NTB	3	1,014	2,802	2,599,800	2,126,175	338	3	2,564	2,097	759
LAMPUNG	1	10	27	274,000	58,050	10	3	27,400	5,805	2,150
<b>Total</b>	<b>625</b>	<b>40,437</b>	<b>124,860</b>	<b>279,367,076</b>	<b>5,576,635,825</b>	<b>65</b>	<b>3</b>	<b>6,909</b>	<b>137,909</b>	<b>44,663</b>

Source: same as Table A1-2



## ANNEX-2

### Cluster Promotion in Central Java





## ANNEX-2 Cluster Promotion in Central Java

This section has a close look at the four Central Java's cases where clusters have been developed by various stakeholders for the past several years. The result of analysis learnt by the investigation are added.

### 1 Overview of Central Java's Cluster Promotion

#### 1.1 Formation of Cluster and Forum

When SME promotion program in Central Java was implemented in 2001, it was pointed out that there were redundancies among activities of provincial and regency/ city DINAS and that assistance provided by the government does not meet the needs of the private sector because of the lack of SMEs' initiative and of public-private interaction. Attention has been paid to cooperation since 2001.

In order to cope with the situation, regional development strategies were formulated and they were to concentrate on cluster promotion, to evaluate governmental policies and measures, improve SMEs' initiative, and to help clusters become independent and develop on their own. The forum of cluster supports these activities. By establishing the forum, such achievements are accomplished as the development of social capital, technological upgrading, increase in managerial knowledge, strengthening of cluster organization.

Procedures for establishing the forum are to select stakeholders, chairperson and board members, to decide organizational form and internal rules, etc. The strong commitment of stakeholders is required to promote clusters. In particular, the members of local assembly play a major role in developing clusters.

#### 1.2 Structure of Cluster Promotion (Fig. A2-1, Fig. A2-2)

As Figure A2-1 indicates, there are three layers in the structure of cluster promotion in Central Java Province. The top layer is provincial-level forum and is called FPESD. As of the end of 2009, FPESD is chaired by the head of BAPPEDA, and the members of the FPESD are provincial DINAS, BAPPEDA, APINDO, private firms, business associations, universities, NGOs, etc. The mission of FPESD is to help establish FEDEP in 35 regencies/ cities in the province, to develop clusters and BDS, etc. FPESD is a public-private partnership forum, provides advice on the direction of clusters to follow for provincial the governor and mayor, and facilitates cooperation with related institutions such as BDS.

The second layer is regency/ city-level forum, which is called FEDEP. The role of FEDEP is to devise cluster development plans, to facilitate policy on the institutional strengthening of cluster, to provide budget, to collect market information, to develop network among stakeholders, to undertake monitoring/ evaluation, etc.

When it is established, the decision of regency governor or mayor is issued, and budget and human resources are allocated to FEDEP. In Demak regency, for example, two decisions of regency governor were issued. One was to decide the articles of association and manifesto, to establish steering committee, and to allocate budget. The other was to assign the directors of FEDEP. The validity of FEDEP members is based on the decision of regency governor issued every year. In Magelang regency, FEDEP consists of steering committee, task force and working group. The members are regency governor, various functional DINAS (e.g. industry

and trade, agriculture, and education), university, business associations, etc. In Tegal regency<sup>1</sup>, the decision of regency governor is issued on the establishment of FEDEP and FRK.

The following procedure after the establishment of FEDEP is to decide a course of action to follow. It is important that private firms should have the initiative in deciding the course in discussion with other stakeholders. In Demak regency, for instance, the vision, mission and work plan are formulated through workshop for stakeholders (including banks and agricultural specialists) and focus group discussion (FGD).

DPDS of Tegal regency is active. Although there were industrial business associations before DPDS was established, the voices of local residents and industries were realized in the form of enactment of a local ordinance and construction of a productive facility. On the basis of FEDEP's advice, One Stop Service office is established and, as a result, the procedures of business registration were streamlined. A show room to exhibit local agricultural/ industrial products was also established.

The third layer is a district-level forum, which is called FRK. In Magelang regency, there are five cluster groups in FRK: tourism, snack (cassava), carving/sculpture, vegetable, and snake fruit. The size of clusters varies. For instance, there are 30 farmers on average in each small group of vegetable clusters, while there are more members in each small group of other clusters.

One of the main functions of FRK is to examine the requests of small groups of each cluster and to make a budgetary application to central and local governments. A small group of each cluster applies budget to the committee of FRK and if it is approved, the application is sent to the related DINAS (e.g. industry and trade, agriculture, and fishery).

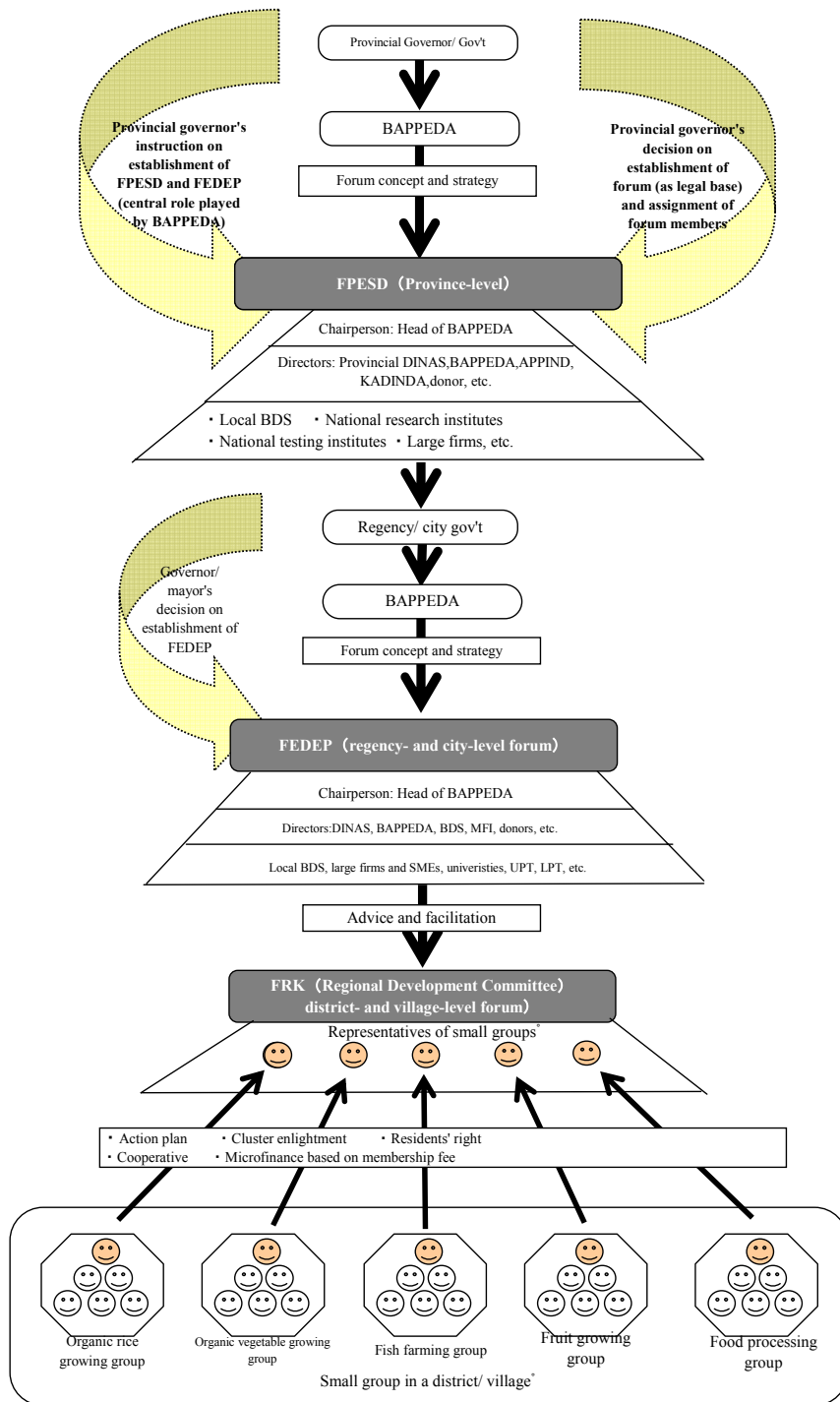
The other function is to coordinate and communicate with FEDEP. In Demak regency, a FEDEP member usually attends regular meetings of a small group. In Tegal regency, three joint meetings of FEDEP, in which all FRKs participated, had been assembled before May 2009.

The outputs of the institutionalization of forum are as follows;

- The overlap of program can be reduced between similar programs;
- The voices of the private sector can be accepted more smoothly and the views and ideas of cluster members can also be composed more smoothly.
- Efficiency improved because private firms take the initiative in activities of programs.
- The scope of support service has broadened, which is provided for cluster members.
- Easier to access to financial services and public institutions.

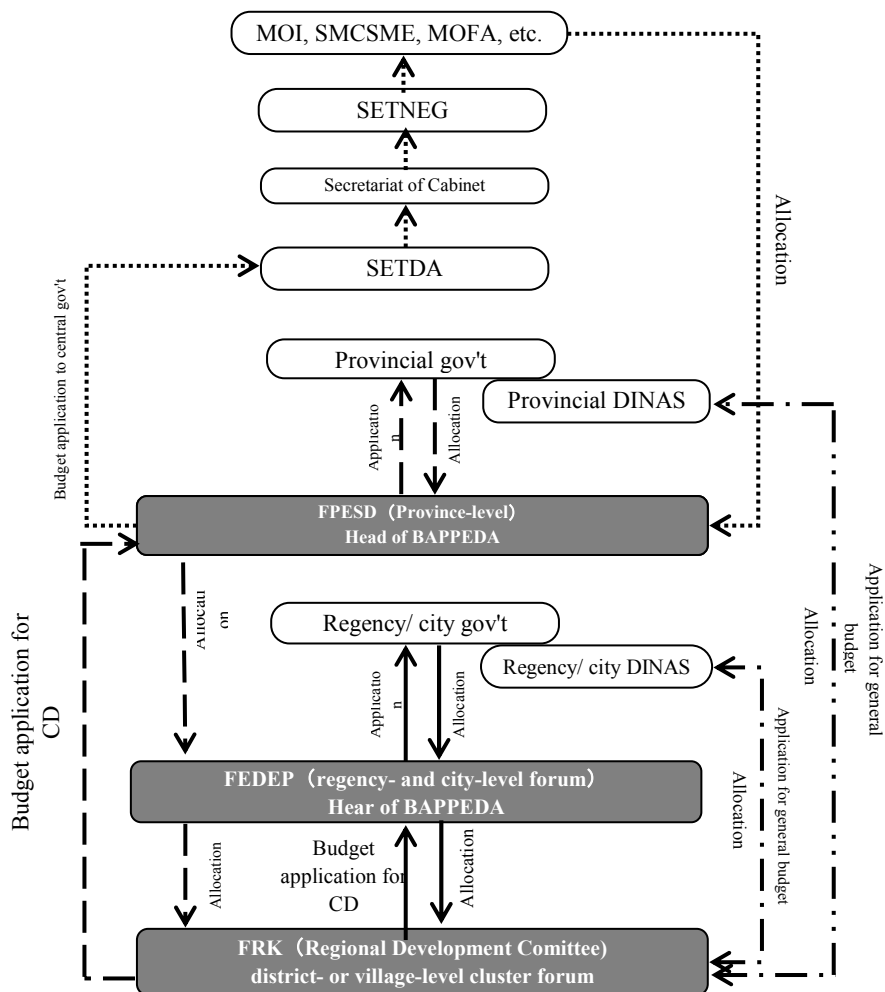
---

<sup>1</sup> As of May 2009, there are five FRKs in the FEDEP.



Source: JICA Study Team

FigA2-1 Structure of Cluster Promotion in Central Java Province



Source: JICA Study Team

FigA2-2 Flow Chart of Budget Application in Central Java Province

The key success factors of Central Java's three-layered forum are summarized as follows.

### 1.3 Important Factors of Regional Promotion through Clustering

The activities of the cluster forum seem to affect greatly on the cluster promotion, based on the study of the advanced cases in Central Java. The importance factors in the forum such as availability of a leader, participation of stakeholders and the role of BAPPEDA are discussed as follows.

First of all, the leader of a cluster and/or a small group is of importance. It is no exaggeration that the success or failure of a cluster depends upon whether or not the leader actively takes the initiative in the activities. In Tegal regency, as mentioned above, its FEDEP played a major role in enacting a local ordinance and it has several other important achievements. This is partly because the chairperson of FEDEP was a former member of regency assembly and is politically powerful.

In Magelang regency, the chairperson of FEDEP is a member of KADIN and vice chairperson is that of BAPPEDA. They argue that, ideally, the private sector should take the initiative in the

various activities of FEDEP. In Serenan district, Klaten regency, and Purbalingga regency, some people serve as a leader of the cluster who are respectful among stakeholders as well as among the cluster and /or a small group.

In the second place, it is important to involve as many stakeholders as possible and to cooperate with them. In Magelang regency, a wide variety of stakeholders, such as university, industries, and government, are involved in its FEDEP. Working Groups are established, when necessary, in the field of agriculture, SME promotion, tourism, and investment climate, etc. FEDEP of Tegal regency cooperates with education institutions such as University of Indonesia and UNDIP.

When it comes to financing, Bank Rakyat Indonesia (BRI) provides cooperatives with a special credit scheme that does not require collateral. In Demak regency, BRI is a member of FEDEP and it bears a part of cost of some programs. In Tegal regency, FEDEP is cooperation with large-sized firms such as Komatsu, United Tractor, and subsidiaries of the Astra group. Several member firms of the FEDEP took orders for parts/ components (e.g. welding and press) from Komatsu and United Tractor, and others participated in training courses on management and welding organized by United Tractor and the Astra group.

In the wake of the 2008 global financial crisis, FEDEP of Tegal regency has sought to cooperate with state-owned railway company and the munitions industry in order to secure the demand. However, this kind of activity, which provides assistance for micro and small firms in provinces and other rural areas, should be viewed as part of corporate social responsibility (CSR) or philanthropic work rather than BDS. There are private as well as public BDS providers, and BDS includes a broad range of services such as marketing, finance, improvement of a species of fruits, and quality improvement of food products.

Thirdly, BAPPEDA plays a key role in institutional coordination. The Industry and Trade DINAS is expected to have the initiative. However, the Industry and Trade DINAS could face the difficulty if it would not cooperate with other functional DINAS (e.g. agriculture and education) and stakeholders. One of the main roles of BAPPEDA is inter-ministerial coordination and organizational arrangement. In Purbalingga regency, BAPPEDA plays more active part in coordination after there was a personnel change at top management level in 2009.

## 2. Case Study of Cluster Promotion in Central Java

### 2.1 The outline of four model clusters

In this section, the key success factors to promote the cluster are examined through the cases in Central Java where it is considered as the advanced area for the cluster promotion. Four clusters are selected as models in cooperation with FEDEP that has developed the cluster from the beginning.

- Furniture Cluster of Serenan District, Klaten Regency (Pilot project site of the previous Cluster Study)
- Water Pump Cluster of Ceper District, Klaten Regency
- Roof Tile Cluster in Kebumen Regency (Pilot project site of the previous Cluster Study)
- Automobile Muffler making Cluster in Purbalingga Regency

The status of these four clusters is summarized in the following Table AN2-1.

Table AN2-1 Outline of 4 Clusters in Central Java Province

	Relevance to National and Local Policies	Main Activities of Cluster	Main Activities of Cooperative	Facilitator (*Note)	Existence of coordinator	Social Capital		Evaluation
						Situation of Cooperation with FEDEP and DINAS	Situation of Cooperation within the Private Sector	
Serenan District, Klaten Regency (Furniture)	Furniture is one of the prioritized products of Province but is not that of Klaten Regency.	[Composition of Cluster] Cluster has 400 members and consists of 10 small groups. [Market & Products] Main products are chair, table, etc. [Others] There are related industries within cluster but raw materials are procured from outside.	About 50% of cluster members belong to cooperative. Cooperative makes bulk purchase of raw materials.	B+	Yes	There is no cooperation with FEDEP of Klaten regency. 80% of FEDEP members are private and 20% public sectors.	There is cooperation with other cluster and AMINDO of Solo city.	Facilitator undertakes evaluation and report the result to donors, privates banks and other stakeholders.
Ceper District, Klaten Regency (Water pump)	This cluster is relevant to the 2005 NIDP and the 2007 Local Industry Promotion Core Competence Road Map.	[Composition of Cluster] Members are 6 private firms, MOI, DINAS of province and regency and, regency's polytechnic, and banks. WG is represented by head of polytechnic. [Market & Products] Plastic case of water pump is supplied for Panasonic of West Java.	In Ceper district, there is industrial cooperative, which generates electricity from coal and provides it for members at lower cost.	C	No	There is no cooperation with FEDEP of Klaten regency but close cooperation with MOI and DINAS.	There is close cooperation within cluster but communication through facilitator is poor.	MOI and province- & regency-level DINAS undertake evaluation every 3 months and final evaluation every December.
Kebumen Regency (Roof tile)	There is a regency ordinance which is a constraint on collecting raw materials of roof tile.	[Composition of Cluster] Cluster has 22 members, while there are over 100 independent manufacturers outside cluster. [Market & Products] Study tour to West Java is conducted to learn good practices. [Others] Ordinance prohibits cluster from collecting raw materials. The cluster requests assistance from government in other forms.	About 50% of cluster members belong to cooperative. Since there is no facilitator, cooperative serves as its substitution.	D (no facilitator)	No	There is no cooperation with FEDEP of Kebumen regency but is cooperation with regency DINAS.	There is close cooperation within cluster but no cooperation with independent firms.	Internal evaluation is undertaken in the cluster. The result is reported to regency DINAS.
Purbalingga Regency (Automotive exhaust)	This cluster is relevant to the 2005 National Industrial Development Policy and the 2007 Local Industry Promotion Core Competence Road Map.	[Composition of Cluster] There are 124 members and 4 small groups. Cluster makes a bulk purchase of raw materials. [Others] Technical support is provided one another between groups.	There are 5 cooperatives in the regency and about 50% of cluster members belong to them.	A	Yes	There is cooperation with FEDEP and DINAS of regency. FEDEP supports cluster since the new head came into office.	There is close cooperation within cluster.	MOI and province- & regency-level DINAS undertake evaluation every 3 months and final evaluation in December.

\*Note: A: very active, B: active, C: poor, D: very poor

Source: JICA Study Team

## 2.2 Success factors, challenges, lessons in model clusters

The factors of success, challenges and lessons in these four clusters are discussed as follows.

### (1) Furniture Cluster of Serenan District, Klaten Regency

#### Key Success Factors

- Cooperative makes a bulk purchase of raw materials by using membership fee and compulsory savings as a financial resource.
- Facilitator, a professor of a local university in the region, plays an active role in financing by developing network with foreign donors, banks and firms.
- A coordinator plays a role in coordinating interests and views within cluster, as well as with the outside. The coordinator is a religiously respectable person and is also the mental mainstay of the cluster. Unlike facilitator, the coordinator does not contact BDS on him or her own initiative.
- There is close cooperation with Serenan cluster and neighboring furniture cluster of Blakan district (Sukoharjo regency) in a bulk purchase of raw materials and in supply of products for each other.

#### Challenges

- No assistance is provided because this cluster is not prioritized by FEDEP of Klaten regency.
- Cluster members have the intention to enhance capacity to export by them in order to increase profit, although their products are currently exported through exporters.

#### Lessons Learnt

- The case of Serenan illustrates that clusters can be promoted to some extent if a facilitator and a coordinator work well even though no or little assistance is provided by local governments.
- It is advisable that the cluster should consist of several small groups if there are a large number of member firms in it. A role of coordinator is also important, who is in the position to coordinate view and interests between these small groups.
- It is desirable that a neutral person, who is not a member of the cluster, should become a facilitator. For example, a university professor is appropriate to such a position. Given that a cluster member becomes a facilitator, it is difficult for him or her to take a neutral attitude towards the conflict of interests and views.

### (2) Water Pump Cluster of Ceper District, Klaten Regency

#### Key Success Factors

- This cluster receives assistance in line with the 2005 National Industrial Development Policy and the 2007 Local Industry Promotion Core Competence Road Map.
- The value chain is established with a smaller number of members, and water pump factory of Panasonic is at the core of the value chain.
- Private firms in Ceper district are so active and motivated that they can supply other products for Panasonic.

#### Challenges

- One of the members became the facilitator of cluster and he is not in good communication with other members of cluster and with stakeholders including customer.

#### Lessons Learnt

- It is desirable that a neutral person, who is not a member of the cluster, should become a facilitator. For example, professors of university may be appropriate to such a position.

#### (3) Roof Tile Cluster in Kebumen Regency

##### Key Success Factors

- Although the activities of cooperative are not so active, cooperative plays a substituting role of a facilitator.

##### Challenges

- Not only are cluster activities irrelevant to national- and local-level policies, but also there is no facilitator. This is because the importance of the facilitator is not fully understood in the cluster.
- DINAS cannot provide adequate assistance for clusters because its head does not fully understand the significance of industrial promotion.

#### Lessons Learnt

- Clusters get into difficulties when there is no facilitator in the cluster and are no assistance provided by the government. The case of Kebumen regency is a negative exemplum that can be a positive example to others.
- Cooperative plays a major role in promoting cluster in Kebumen regency, for instance, by providing it with financial assistance.
- It is necessary to give lectures or training course to the head and other staff of DINAS and of FEDEP in order to facilitate understanding among them about the importance of cluster.

#### (4) Automobile Muffler making Cluster in Purbalingga Regency

##### Key Success Factors

- The share of the private sector is approximately 50% in the total members of FGD and of FEDEP meeting and the views of the private sector can be reflected in the decision-making. Consequently, the private sector as a whole is so motivated that they can commit themselves to the cluster promotion.
- Facilitator of Purbalingga regency is highly motivated and plays an active role in promoting the cluster. He was certified as a BDS by the regency government in 2008.
- BAPPEDA began to play a pivotal role among FEDEP members since new head of BAPPEDA took office in late 2009.
- In Purbalingga, a cooperative stands side by side with a cluster. The cooperative functions by furnishing members of cluster with a loan at a lower interest rate, which is based upon compulsory savings of members.
- The regency-level governmental agency, which is in charge of industrial development, is the Industry, Trade and Cooperative DINAS. This DINAS has functions of “Cooperative” as well as “Industry and Trade,” while it normally has only two functions: namely, “Industry and Trade.” It appears that the functional integration has quickened the process of decision-making and of implementation.
- The coordinator plays a major role in coordinating interests and views within the cluster as well as between cluster and its stakeholders.
- When FEDEP of the regency organized an exhibition in 2009, a member of cluster found an opportunity to meet a buyer who came from other province and he could supply their product for Daihatsu, one of the Japanese major automakers. Nevertheless, this was not a continuous transaction but a spot one.



## Challenges

- Despite a major role of facilitators in promoting clusters, the condition or environment under which they can get paid or receive a reward is not necessarily favorable.
- Although facilitators have a central role to play in financing, such role should be taken by other stakeholders as well. In order to reduce the over-reliance on them, it is necessary to facilitate information sharing among stakeholders.

## Lessons Learnt

- Facilitators find external resources such as financing through daily networking. It is advisable to provide them with opportunities to strengthen or expand the network, such as business meeting with bank and other related industries.
- The role of facilitator and BDS is important. The condition or environment under which they can get paid or receive a reward should be improved in order to support them financially.
- It is advisable that training courses or lectures on good practices of local-level cluster should be provided for the head and other staff of BAPPEDA, so that they can understand the importance of FEDEP.
- Since there are a large number of firms in a cluster, it consists of several small groups. The role of coordinator is important, who coordinates interests and views between small groups.

## 2.3 Summary of Four Clusters

### Current Status of Four Clusters

When it comes to the relevance to central- and local-level policies, three (3) clusters except Kebumen are relevant to them. The clusters of Serenan, Ceper and Kebumen cooperate with the Industry and Trade DINAS, and cluster of Purbalingga work with both FEDEP and the Industry, Trade and Cooperative DINAS.

As for the composition of cluster, in case that a cluster has more than 100 member firms such as Purbalingga regency, there are several small groups in the cluster. These small groups make a bulk purchase and provide specific technical support for one another.

Cooperatives are active except for Ceper's. In case of Kebumen, especially, since there is no facilitator, the cooperative negotiates with banks and local government, etc. as a substitute.

The success or failure of cluster promotion depends on whether or not a facilitator and a coordinator are active. In Serenan district and Purbalingga regency, both facilitator and coordinator work effectively. Cooperation is close and active between the public and the private sectors as well as within the private sector.

Project evaluation is undertaken in every cluster, and it aims to report to regency governor. The result is released on the newspapers every year. Especially in Ceper district and Purbalingga regency, the mid-term evaluation is conducted every 3 months and the final evaluation every December.

### Key Success Factors

As a result of the case studies in Central Java Province conducted in December 2009 and of discussions with RDC, one of the related organizations of FPESD, the key success factors are as follows. In particular, RDC pointed to the importance of the first three of the following points.

- 1) Motivation to further develop business in which their cluster is engaged (Motivation of stakeholders);
- 2) The leader who is called a "coordinator" has a central role to play. It is desirable that the coordinator should be a religious leader or be religiously respected by other members of

- cluster in consideration of socio-cultural environment in Indonesia. (Religious Leadership);
- 3) Active commitment of facilitator is required. (Facilitator's capability and commitment);
  - 4) It is desirable that the industrial sectors (e.g. furniture), in which the cluster is engaged, should be prioritized by local government (including FPESD/ FEDEP). For example, in case of Kebumen, little public assistance is provided for the cluster because the roof tile sector is not prioritized by the regency government. In order to address this sort of situation, it is necessary to request continuous assistance through DINAS and/ or through regency assembly members (Policy priority or relevance).
  - 5) Cooperative exists side by side with cluster and provides cluster with financial assistance (financial assistance provided by cooperative); and
  - 6) Head of BAPPEDA understands the important role of FEDEP, and BAPPEDA provides various assistance to FEDEP and clusters. Importantly, the share of the private sector in members of FEDEP and FGD should be approximately 40% to 50% or more, although this percentage depends on industrial sectors (Support of BAPPEDA and secure cluster initiative).

## Appendix-1

Questionnaire for Review on the Previous Study,  
“The Study on Strengthening Capacity of SME Clusters  
In Indonesia, 2001 to 2004”



**Questionnaire for  
Review on the Previous Study, "The Study on Strengthening Capacity of SME Clusters in Indonesia, 2001 to 2004"**

The purpose of this questionnaire survey is outcome and input assessment on the Study on Strengthening Capacity of SME Clusters in Indonesia conducted from 2001 to 2004. Your cooperation would be highly appreciated.

**A. Profile of respondent**

Name : \_\_\_\_\_

Organization : \_\_\_\_\_

Position : \_\_\_\_\_

Province : \_\_\_\_\_

Address : \_\_\_\_\_

No. of Tel and Fax : \_\_\_\_\_

Date of response : \_\_\_\_\_

**B. Proposed action plans in the previous study**

In the previous study, concrete actions for cluster strengthening and SME strengthening were proposed. Please answer the implementation status of each action plan by your organization.

**B-1. Action Plans for Strengthening Capacity of SME Clusters**

	(i) Was the action conducted by you (your institution) after the pilot project?	(ii) If it was not conducted, what was the reason for?	(iii) If it was conducted, what was the output?	(iv) If there was no output, what was the reason for?
1. Provincial Cluster Forum Formation	<input type="checkbox"/> Yes, it was conducted. ↳ go to (iii) <input type="checkbox"/> No, it was not conducted. ↳ go to (ii)	<input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget <input type="checkbox"/> There was no active leader <input type="checkbox"/> Difficult to call motivated stakeholders <input type="checkbox"/> Difficult to collaborate with Central Government <input type="checkbox"/> Others Please identify:  <input type="checkbox"/> We didn't know about the proposed action program ✓go to Q2	<input type="checkbox"/> Cluster which has potential of growth was identified <input type="checkbox"/> Proposed programs by local forum were discussed <input type="checkbox"/> Programs were designed with budget <input type="checkbox"/> Collaboration with stakeholders was achieved <input type="checkbox"/> There was other action Please identify:  <input type="checkbox"/> Even though taking above actions, there was no growth of clusters	<input type="checkbox"/> There was no output at this moment <input type="checkbox"/> Difficult to arrange budget <input type="checkbox"/> There was no active leader <input type="checkbox"/> Difficult to call motivated stakeholders <input type="checkbox"/> Difficult to collaborate with stakeholders <input type="checkbox"/> Others Please identify:  ✓go to Q2
2. Local Cluster Forum Formation	<input type="checkbox"/> Yes, it was conducted. ↳ go to (iii) <input type="checkbox"/> No, it was not conducted. ↳ go to (ii)	<input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget <input type="checkbox"/> There was no active leader <input type="checkbox"/> Difficult to call motivated stakeholders <input type="checkbox"/> Difficult to collaborate with Central Government <input type="checkbox"/> Others Please identify:  <input type="checkbox"/> We didn't know about the proposed action program ✓go to Q3	<input type="checkbox"/> Cluster programs were proposed to the provincial forum <input type="checkbox"/> Programs were designed with budget <input type="checkbox"/> Collaboration with stakeholders was achieved <input type="checkbox"/> Stakeholders acquired related knowledge of cluster development by guidance <input type="checkbox"/> There was other action Please identify:  <input type="checkbox"/> Even though taking above actions, there was no growth of clusters	<input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget <input type="checkbox"/> There was no capable facilitator <input type="checkbox"/> Difficult to call motivated stakeholders <input type="checkbox"/> Difficult to call collaboration with provincial government <input type="checkbox"/> Others Please identify:  ✓go to Q3

Appendix-1

<p>3. Capacity Building of Cluster Facilitator</p>	<p><input type="checkbox"/> Yes, it was conducted. ↳ go to (iii) <input type="checkbox"/> No, it was not conducted. ↳ go to (ii)</p>	<p><input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget <input type="checkbox"/> There was no active leader <input type="checkbox"/> Difficult to call motivated candidates <input type="checkbox"/> Difficult to collaborate with Central Government <input type="checkbox"/> Others Please identify:  <input type="checkbox"/> We didn't know about the proposed action program</p> <p>✓go to Q4</p>	<p><input type="checkbox"/> Cluster facilitator was active <input type="checkbox"/> Cluster profile was reported <input type="checkbox"/> Formation and PR of group were achieved <input type="checkbox"/> Problem and needs analysis was conducted <input type="checkbox"/> Cluster strategy was designed <input type="checkbox"/> There was other facilitation  Please specify:  <input type="checkbox"/> Even though taking above actions, capacity of facilitators was not strengthened  <input type="checkbox"/> Even though capacity of facilitators was strengthened, there was no growth of clusters</p>	<p><input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget <input type="checkbox"/> Centre for Development of SMEs did not well functioned. <input type="checkbox"/> Facilitator didn't have enough knowledge and experiences <input type="checkbox"/> Others Please identify:  ✓go to Q4</p>
<p>4. Enhancing Social Capital in Cluster</p>	<p><input type="checkbox"/> Yes, it was conducted. ↳ go to (iii) <input type="checkbox"/> No, it was not conducted. ↳ go to (ii)</p>	<p><input type="checkbox"/> There was no active leader <input type="checkbox"/> Difficult to arrange budget <input type="checkbox"/> There was no sympathetic among stakeholders <input type="checkbox"/> Others Please identify:  <input type="checkbox"/> We didn't know about the proposed action program</p> <p>✓go to Q5</p>	<p><input type="checkbox"/> Information seminar was hold <input type="checkbox"/> Regular meeting was hold <input type="checkbox"/> Joint action was achieved  <input type="checkbox"/> There was other action Please identify:  <input type="checkbox"/> Even though taking above actions, social capital in clusters was not strengthened  <input type="checkbox"/> Even though social capital was strengthened, there was no growth of clusters</p>	<p><input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget <input type="checkbox"/> There was no capable facilitator <input type="checkbox"/> Difficult to design programs to encourage SMEs <input type="checkbox"/> Others Please identify:  ✓go to Q5</p>
<p>5. Enhancing Entrepreneurship in Cluster</p>	<p><input type="checkbox"/> Yes, it was conducted. ↳ go to (iii) <input type="checkbox"/> No, it was not conducted. ↳ go to (ii)</p>	<p><input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget <input type="checkbox"/> There was no capable facilitators <input type="checkbox"/> Difficult to propose programs which meet to SMEs' needs <input type="checkbox"/> Others Please identify:  <input type="checkbox"/> We didn't know about the proposed action program</p> <p>✓go to Q6</p>	<p><input type="checkbox"/> Study tours was conducted <input type="checkbox"/> Exhibition was hold <input type="checkbox"/> Matching with buyers was achieved <input type="checkbox"/> There was other action Please identify:  <input type="checkbox"/> Even though taking above actions, entrepreneurship in cluster was not enhanced  <input type="checkbox"/> Even though taking above actions, there was no growth of clusters</p>	<p><input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget <input type="checkbox"/> Centre for Development of SMEs did not well functioned. <input type="checkbox"/> There was no capable facilitators <input type="checkbox"/> Difficult to find motivated SMEs <input type="checkbox"/> Others Please identify:  ✓go to Q6</p>

**B-2: Action Plans for Cluster and SME Strengthening**

	(i) Was the action conducted by you (your institution) after the pilot project?	(ii) If it was not conducted, what was the reason for?	(iii) If it was conducted, what was the output?	(iv) If there was no output, what was the reason for?
6. Manufacturer's Directory	<input type="checkbox"/> Yes, it was conducted. ↳ go to (iii) <input type="checkbox"/> No, it was not conducted. ↳ go to (ii)	<input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget <input type="checkbox"/> Difficult to collaborate with stakeholders <input type="checkbox"/> Others Please identify:  <input type="checkbox"/> We didn't know about the proposed action program  ✓go to Q7	<input type="checkbox"/> Related data was collected <input type="checkbox"/> Manufacturer's directory was developed <input type="checkbox"/> There was other action Please identify:  <input type="checkbox"/> Even though taking above actions, there was no growth of clusters	<input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget <input type="checkbox"/> Difficult to call collaboration by stakeholders <input type="checkbox"/> The content did not meet to the needs <input type="checkbox"/> Others Please identify:  ✓go to Q7
7. Open Information System	<input type="checkbox"/> Yes, it was conducted. ↳ go to (iii) <input type="checkbox"/> No, it was not conducted. ↳ go to (ii)	<input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget <input type="checkbox"/> Difficult to collaborate with stakeholders <input type="checkbox"/> Others Please identify:  <input type="checkbox"/> We didn't know about the proposed action program  ✓go to Q8	<input type="checkbox"/> Related information was advertised by TV, newspaper <input type="checkbox"/> Information seminar was hold  <input type="checkbox"/> Information was provided through Centre for Development of SMEs <input type="checkbox"/> There was other action Please identify:  <input type="checkbox"/> Even though taking above actions, there was no growth of clusters	<input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget <input type="checkbox"/> Centre for Development of SMEs did not well functioned. <input type="checkbox"/> Others Please identify:  ✓go to Q8
8. Capacity Building of Centre for Development of SMEs	<input type="checkbox"/> Yes, it was conducted. ↳ go to (iii) <input type="checkbox"/> No, it was not conducted. ↳ go to (ii)	<input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget  <input type="checkbox"/> Others Please identify:  <input type="checkbox"/> We didn't know about the proposed action program  ✓go to Q9	<input type="checkbox"/> Training for staff of CD-SMEs was conducted <input type="checkbox"/> Advisory service for cluster was started <input type="checkbox"/> KKMB service was provided  <input type="checkbox"/> Operation system was established <input type="checkbox"/> There was other action Please identify:  <input type="checkbox"/> Even though taking above actions, the Centre was not strengthened  <input type="checkbox"/> Even though the Centre was strengthened, there was not growth of clusters	<input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget <input type="checkbox"/> Others Please identify:  ✓go to Q9

Appendix-1

<p>9. BDS as Financial Intermediary</p>	<p><input type="checkbox"/> Yes, it was conducted. ↳ go to (iii) <input type="checkbox"/> No, it was not conducted. ↳ go to (ii)</p>	<p><input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget <input type="checkbox"/> There was no sympathetic among financial institutions <input type="checkbox"/> Others Please identify:  <input type="checkbox"/> We didn't know about the proposed action program</p> <p>✓go to Q10</p>	<p><input type="checkbox"/> KKMB program was reviewed <input type="checkbox"/> KKMB program was institutionalized <input type="checkbox"/> Training to foster financial consultants was conducted  <input type="checkbox"/> Certificate system for financial consultant was developed <input type="checkbox"/> There was other action Please identify:  <input type="checkbox"/> Even though taking above actions, financial BDS was not strengthened <input type="checkbox"/> Even though financial BDS was strengthened, there was no growth of clusters</p>	<p><input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget <input type="checkbox"/> Difficult to collaborate with financial institutions <input type="checkbox"/> Financial programs for SMEs did not work well <input type="checkbox"/> Others Please identify:</p> <p>✓go to Q10</p>
<p>10. Machinery Renovation Program</p>	<p><input type="checkbox"/> Yes, it was conducted. ↳ go to (iii) <input type="checkbox"/> No, it was not conducted. ↳ go to (ii)</p>	<p><input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget  <input type="checkbox"/> Others Please identify:  <input type="checkbox"/> We didn't know about the proposed action program</p> <p>✓go to Q11</p>	<p><input type="checkbox"/> Scheme for provision machinery for SMEs was discussed  <input type="checkbox"/> Guideline of machinery renovation program was designed <input type="checkbox"/> Machinery renovation program was applied  <input type="checkbox"/> Even though taking above actions, there was no growth of clusters</p>	<p><input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget  <input type="checkbox"/> Others Please identify:</p> <p>✓go to Q11</p>
<p>11. Technical Drawing Lesson in SMU</p>	<p><input type="checkbox"/> Yes, it was conducted. ↳ go to (iii) <input type="checkbox"/> No, it was not conducted. ↳ go to (ii)</p>	<p><input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget  <input type="checkbox"/> Difficult to collaborate with stakeholders <input type="checkbox"/> Others Please identify:  <input type="checkbox"/> We didn't know about the proposed action program</p> <p>✓go to Q12</p>	<p><input type="checkbox"/> Addition new curriculum to SMU was discussed with stakeholders  <input type="checkbox"/> Program for strengthening design skill at SMU was conducted <input type="checkbox"/> There was other action Please identify:  <input type="checkbox"/> Even though taking above actions, there was no growth of clusters</p>	<p><input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget  <input type="checkbox"/> Difficult to collaborate with stakeholders <input type="checkbox"/> Others Please identify:</p> <p>✓go to Q12</p>
<p>12. Short Term Training Courses</p>	<p><input type="checkbox"/> Yes, it was conducted. ↳ go to (iii) <input type="checkbox"/> No, it was not conducted. ↳ go to (ii)</p>	<p><input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget  <input type="checkbox"/> Centre for Development of SMEs did not well functioned. <input type="checkbox"/> There was no capable facilitator <input type="checkbox"/> There was not motivated SMEs <input type="checkbox"/> Others Please identify:  <input type="checkbox"/> We didn't know about the proposed action program</p> <p>✓go to "entire output of the action programs"</p>	<p><input type="checkbox"/> Model course was designed by central government <input type="checkbox"/> Model course was conducted at province and regency <input type="checkbox"/> Number of trained SMEs was increased <input type="checkbox"/> Skills of SMEs were upgraded  <input type="checkbox"/> There was other action Please identify:  <input type="checkbox"/> Even though taking above actions, there was no growth of clusters</p>	<p><input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget  <input type="checkbox"/> Centre for Development of SMEs did not well functioned. <input type="checkbox"/> There was no capable facilitator <input type="checkbox"/> There was not motivated SMEs <input type="checkbox"/> Others Please identify:</p> <p>✓go to "entire output of the action programs"</p>



Appendix-1

Entire Output of the Action Programs

	(i) Is there any change?	(ii) What is the output for SMEs?
Is there any change in cluster SMEs as a result of applying above actions?	<input type="checkbox"/> Cluster SMEs have been strengthened <input type="checkbox"/> No particular change	<input type="checkbox"/> Conducting joint projects proactively (please indicate: <input type="checkbox"/> Adopting new skills <input type="checkbox"/> Upgrading existing skills <input type="checkbox"/> Upgrading management skills <input type="checkbox"/> Become aggressive for collaboration among cluster SMEs <input type="checkbox"/> Challenging to a new market <input type="checkbox"/> Increase of external investment <input type="checkbox"/> Specialization of skills <input type="checkbox"/> There is other change Please indicate:

**C. Proposed Action Plans for 10 Sample Clusters**

In the previous study, cluster action plans for 10 sample clusters which selected by MOI were proposed.

10 Sample Clusters: Tofu-Tempe Cluster (Mampang/Bukashi), Essential Oil Cluster (Garut), Gambier Cluster (50 Kota), Rattan Cluster (Amuntai), Wooden Furniture Cluster (Serenan-Klaten), Brick & Roof-tile Cluster (Kebumen), Farm tool (Tanjung Batu), Metal & Machinery Cluster (T

	(i) Was the action conducted by you (your institution) after the pilot project?	(ii) Please indicate conducted actions	(iii) If it was conducted, what was the output?	(iv) If there was no output, what was the reason for?
Cluster Action Plans  * please refer attached document to see detail of the action plans	<input type="checkbox"/> Yes, it was conducted.  <input type="checkbox"/> No, it was not conducted.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> Cluster was activated <input type="checkbox"/> Capability to support cluster and SMEs by government was strengthened <input type="checkbox"/> There was other output Please indicate:  <input type="checkbox"/> Even though taking actions, there was no growth of clusters	<input type="checkbox"/> It took time too much to generate output <input type="checkbox"/> Difficult to arrange budget <input type="checkbox"/> Centre for Development of SMEs did not well functioned. <input type="checkbox"/> There was no capable facilitator <input type="checkbox"/> There was not motivated SMEs <input type="checkbox"/> Others Please identify:  <input type="checkbox"/> We didn't know about the proposed action program

**D. Please fill in your comment or request for:**

*The previous study*

*The current cooperation*

Thank you for your cooperation !



## Appendix-2

### Kota Bukittinggi Region BDS List



## Teknologi dan Skill

Sektor	Nama	Alamat / Telepon / E-mail	Contact Person / Bagian yang dihubungi	pertanian / hollikultura	mesin / facility	Informasi / telekomunikasi	ISO / QC	Pengerjaan logam/ welding	Die, molding plastik	pengolahan makanan/ kesehatan/ kimia	tekstil. Konveksi	listrik, elektronik	kerajinan/ aksesori perhiasan	Lainnya	Swasta
Institute Pemerintah	UPTD Dinas Koperindag Bukittinggi	Jl Dr A Rifai No 17A Bukittinggi Telp: 0752-21061	Tati Yasmarni								○				
	BDI Padang	Jl. Bungo Pasang Tabing Padang. Telp. 0751-7051879.	Bp. Drs. S. Salingkat.	○			○				○				
	Klinik Bisnis Dinas Koperindag Bukittinggi	JL Perwira No 184 Bukittinggi Telp: 0752-21486 - 21254	Ashari				○								
	Klinik Bisnis Dinas Koperindag Sumbar	Jl Jend Sudirman No 47 Padang Telp : 0751-22086, 21829, 22589 Fax: 0751-37192 Jl Khatib Sulaiman No 11 Padang Telp : 0751-443200 Fax: 0751-7052701	Ridonald Syahril				○								
	Shindanshi Dinas Bukittinggi	Jl Dr A Rifai No 17A Bukittinggi Telp: 0752-21061	Yeyen Anggreani			○	○								
	Shindanshi Dinas Sumbar	Jl Jend Sudirman No 47 Padang Telp : 0751-22086, 21829, 22589 Fax: 0751-37192 Jl Khatib Sulaiman No 11 Padang Telp : 0751-443200 Fax: 0751-7052701	Ridonald Syahril			○	○								
	BARISTAND (Balai Riset dan Standarisasi) Industri Padang	Balai Riset dan Standardisasi Industri Padang Komplek LIK Ulu Gadut, Padang 274 Telp. 0751-72201 Fax. 0751-71320 Email : sekretariat@baristand-padang.or.id		○							○				
	UPTD Silungkang										○				
	UPTD Logam Sungai Puar				○			○	○						
Andalas University	Kampus Unand Limau Manis, Padang 25163 0751-72497, 72564, 71181 Fax: 0751-72566, 71508 website: www.unand.ac.id	Dr Bambang Istijono		○	○		○			○	○			National	
Institut Teknologi Padang	Jl Gajah Mada Kandis Nanggolo Padang Telp: 0751-7055202 Fax: 0751-444842 email: info@itp.ac.id website : itp.ac.id			○	○		○	○			○			Private	

Sektor	Nama	Alamat / Telepon / E-mail	Contact Person / Bagian yang dihubungi	pertanian / holtikultura	mesin / facility	Informasi / telekomunikasi	ISO / QC	Pengerjaan logam/ welding	Die, molding plastik	pengolahan makanan/ kesehatan/ kimia	tekstil. Konveksi	listrik, elektronik	kerajinan/ aksesori perhiasan	Lainnya	Swasta
Institusi penelitian dan akademis	Universitas Bung Hatta	Kampus I: Jl. Sumatra Ulak Karang, Padang, 25133 Telp. +62-751-7051678, +62-751-7052096 Fax. +62-751-55475  Kampus III: Jl. Gajah Mada, Gunung Pangilun, Padang - Sumatra Barat, 25143 Telp. +62-751-7051341, +62-751-7054257  email : <a href="mailto:humas@bung-hatta.info">humas@bung-hatta.info</a> website : <a href="http://bung-hatta.info">http://bung-hatta.info</a>			○		○	○				○			Private
	Univeritas Ekasakti Padang	Jl Veteran Dalam No 26B, Padang 25131 website : <a href="http://www.univ-ekasakti-pdg.ac.id">www.univ-ekasakti-pdg.ac.id</a>			○			○				○			Privarte
	Muhammadiyah University Sumatera Barat	Jl Pasir Kandang No 4 Koto Tengah, Padang 25172 telp: 0751-481645 fax : 0751-482274			○		○	○				○			Private
	Universitas Negeri Padang (Padang State University)	Jl Prof Dr Hamka , Air Tawar, Padang 25131 Telp : 0751-7053902 Fax : 0751-7055628 email : <a href="mailto:info@unp.ac.id">info@unp.ac.id</a> website: <a href="http://www.unp.ac.id/index2.php">www.unp.ac.id/index2.php</a>					○		○	○	○	○	○		Public
	SMK 2 Padang	Jl Dr Sutomo No 5 Padang Telp/ Fax: 0751-21930 website : <a href="http://www.smk2padang.sch.id">www.smk2padang.sch.id</a>					○				○		○		
Institusi swasta	BDS Tri Arga	Jl Kehakiman I No 277 Belakang Balok, Bukittinggi, 26136 Telp: 0752-33544 Fax : 0752-33544 email: <a href="mailto:bds-triarga@telkom.net">bds-triarga@telkom.net</a>	Yetti Murni SE								○				Universities , Private consultants, etc.
	DEKRANASDA	Jl Dr A Rifai No 17A Bukittinggi Telp: 0752-21061	Tati Yasmarni								○				

## Appendix-3

### Sumedan Bandung Region BDS List





Name of Agent	Address	Region	Propinsi	Expertise	Post code	Phone	Fax	Email	Email	Tahun berdiri	Badan hukum	person in charge	Jumlah staff	Nomor Handphone				
BDSP (No Name BDS1) (No Name BDS2) 3 C (Consumer Care Consultants)	Jl. Ir H Juanda No 25 Jl Sawunggaling 14 Jl. Pasteur No. 29	Sanggung Mojokerto Bandung	Kalimantan Barat Jawa Timur Jawa Barat		40171	022 - 4266552 0526-23450 / 081586018748	022 - 4266600	picons@bdg.centrin.net.id		2004		Suprpto Heru ST Kholiq Asyuri Bernadeta Susilo	3	081586018748				
ADAROPAMA	Jl. PHM Noor 95 Pembataan	Tanjung	Kalimantan Barat				0526-22845	lpb_adaropama@yahoo.com				Amar Abdillah Ir. Mohammad Suprpto (Direktur) dan M. Yudhi Kusurno (Manajer)	12					
Advantic Consulting	Jl. Badak Singa No. 19	Bandung	Jawa Barat		40116	022 - 2530717	022 - 2507907	info@advantic.co.id		2003								
Ahlius Sufa Al Amwal Institute Al Furqon Al Huda Anugrah	Jl Situbondo 133 Bataan Kec Tenggarong Jl. Cibaduyut Lama No. 76 Pondok Pesantren Al-Furqon Desa P.1 Mardiharjo Kec. Purwodadi Jl. A. Roni No. 76 Kelurahan Pasar Kec. Taruntung Ds. Raja Hutagalung Harean.	Bondowoso Bandung Lubuk Linggau Musi Rawas Prabumulih	Jawa Timur Jawa Barat Sumatera Selatan Sumatera Selatan			(022) 5414879 08153890938						Drs. Ahmad Wahyudin Marsudi Suryadi Lukman S.Sos						
APPU	Jl. Raya Johanness Hutabarat No.1	Tapanuli Utara	Sumatera Utara			063320961						Bonar L Tobing						
ARIH PERSADA Arinda Anung Jeram Asosiasi Petani Kopi	Jl. Karya No. 51 Sidikalang Jl. Sukarno Hatta No.201 Payakumbuh Jl. Aluh Idul No 66 Kandangan Jl. Raya Johanes -Taruntung Jl. Raya Cipadung No. 105 Kampus IAIN	Dairi Payakumbuh Hulu Sungai Selatan Taruntung	Sumatera Utara Sumatera Barat Kalimantan Selatan Sumatera Utara			95371, 90154						Drs. Naik Angkat H. Endra Niadi Jahormat Hutasoit						
ASPEK DKM Jawa Barat Baji Pa'mai Balai Latihan Koperasi dan Pengusaha Kecil & Menengah	SGD Fakultas Dakwah Jl Seruni No 61 Jl. Tukad Yeh Penet	Bandung Bantaeng Denpasar	Jawa Barat Sulawesi Selatan Bali			(022) 7810788												
BDS AGRO MITRA SALARAS BDS Asmindo BDS Bestari	Jl. Bali Pamuji No.24 Jl. Raya Tahunan Km. 4 No. 16, Pekeng Bumi Pusaka Kompleks Cinere Blok C No. 24 Cinere	Makassar Jepara Depok	Sulawesi Selatan Jawa Tengah Jawa Barat		90134	0411-5053072 (021) 70764367, 7537514	0411-5053072 0411-7535417, 7537514	bd_sams@yahoo.com		2004		Mursalim Nina Aprinina Triastuti	8					
BDS FEDEP Jepara	Jl. Mantingan - Ngabul Gg. Pemanahan No. 9 Sukodono Tahunan	Jepara	Jawa Tengah			0291 - 3307452		fedep_jpr@telkom.net		2002		Adhy Setiyawan	3					
BDS Forum Riset Ekonomi dan Sosial Humani (BDS FRESH) BDS Ijtihad BDS Kopinkra BDS Kospemindo BDS Marendeng BDS Nurul Iman	Jl. Margonda Raya No. 45 Rt. 02/11, Pancoran Mas Jl. Dr Selabudi 68 Jl. Kehakiman I No. 270, Belakang Balok Jl. Angrek Raya Blok E2 No. 24 Jl. AP Pettarani III No. 5 Jl. K.H. Abdurrahman No. 4 Rt. 03/01,	Depok Pancoran Mas Brebes Bukit Tinggi Makassar Makassar Depok	Jawa Barat Jawa Tengah Sumatera Barat Sulawesi Selatan Sulawesi Selatan Jawa Barat			(021) 77205703 ... - 671603	(021) 77205703 ... - 673410					Muhammad Ronny RM Bahrlul Ulum, SE	5					
BDS Per Balwira PT BDS Surya Buana BDS Tri Arga Bukit Tinggi Berkat Bahari BIKRI	Jl. Tukad Yeh Penet 23 Jl. Pahlawan No. 142 Jl. Kehakiman I No. 277 Blik - Balok Jl. A Monohatu No 198 Madidid Weru Bitung Jl. KH. Ahmad Dahlan No. 113	Denpasar Kebumen Bukittinggi Bitung Barat Samarinda	Bali Jawa Tengah Sumatera Barat Sulawesi Utara Kalimantan Timur		54316	0287 - 381669 0752 - 33544	0287 - 383525 0752 - 33544	bd_s.triarga@telkom.net		1989 2002		Asep Bayuri I.B. Suardita Tuti Nur Rahmah, S.sos Dirwan A Darwis	4 7					
Bina Anak Bangsa Bina Insan Mandiri (BIM) Bina Mitra Usaha Bina Swadaya Klaten Bina Warga	Pancoran Mas Jl. Kusuma Bangsa 16/A Jl. Terusan Buahbatu No. 167 Jl. Sunan Drajad No. 14 Sumber Jl. Gondojuli 5 Jl. Veteran No 8 Rt 13 Kel Hilir Sper Dusun Selatam	Sampang Bandung Cirebon Klaten Barito Selatan	Jawa Timur Jawa Barat Jawa Barat Jawa Tengah Kalimantan Tengah			(022) 7503709, (0231) 320502 0272-327691	(022) 7503709, 7310642	bim@bdg.centrin.net.id buswil klaten@yahoo.com		1997		Budi S. Purnomo MM I Made Sarka	6					
Birem Jaya BMT Assyafiyah BP2 UKMK Caraka Jaya CD FORES Cipta Karya Abadi. PT (egg-design) CV. Adhikara CV. Alisis Furniture CV. Angeline Parikesit CV. Anugrah CV. Bina Mitra Sejahtera CV. Bunga Harimau CV. Harkat Tamita Consultant CV. Jasa Utama CV. Kawan Kita CV. Lugu Simeulue CV. Pro Tiga Perdana CV. Usaha Jasa CV. Wisma Karma CV. Wulan	Jl. Iskandar Muda No. 19 Ds. Langsa Jl. Gaseia No 126 Kota gajah Jl Melur I No 1 Ds Tanjung Bulan Dusun I Kec Buay Madang Jl. Dr Tazar No 41 Jl. Samiaji Raya No. 5 Jl Manyar Indah VII/6 Jl. Raya Pitameh Rt. II No.49 B Kec. Perum Griya Tegat Wangi Asri 6-55, Sesetan Jl. Desa Paya Gambar Dsn. II Kec. B.Kuis Dsn. Tegalenga Serrit Kab. Buleleng; Jl. Cok Abung Tresna 49 Ds Tampak Siring Kec Tampak Siring Jl. Cut Meulia No. 1 Pulo Ara Bireun Jl Sebangkok Rt 17 No 25 Jl. Terangan Biang Pidie No. 71 Ds. Lugu Kec. Simeulue Timur Jl. Tukad Yeh Aya 6 No. 8 Panjer Jl Pratu M Amin No 325 Jl. Padma gg VII A No. 7 Jl. Teuku Umar No.35 Kel. Sekip Hilir Rengat Intragiri Hulu	Aceh Besar Lampung Tengah Jakarta Utara Ogan Komering Ulu Buluran Bogor Surabaya Padang Denpasar Deit Serdang Buleleng Bali Bali NAD Kalimantan Timur NAD NAD Denpasar Kalianda Denpasar Indragiri Hulu Sorong Jakarta Pusat Jakarta	NAD Lampung Tengah Jakarta Sumatera Selatan Jambi Jawa Barat Jawa Timur Sumatera Barat Bali Sumatera Utara Bali Bali Kalimantan Timur NAD NAD Denpasar Lampung Bali Sumatera Utara Papua Jakarta		(0641) 425750	0725 - 48060								1999		Muhammad Faisal SP Ir. Kusnanto		
De Mono Yayasan Pendidikan Ketrampilan Kewiraswastan Detro Consulting, PT Dharman Riksa Nusantara DIMAS Doama Consultan Ekatama Kompetensi EMLIMA FE Universitas Flores Fishes Jr Forum Masyarakat Dinamis (FORMAD) Forum Pengembangan Bisnis UKM FPP Kab Sukabumi	Jl. KM Sukri 71 Jl. Makmur No. 12 Moch. Toha Villa Kenail Permai Blok 1-3 No 2 Jl. Utama No. 5 P Ara Bireun Universitas Parahyangan No. 30 Jl. Merdeka Jl. Raya Desa Sugihan Kec Rambang Jl Soekarno Hatta No 6 - 8 Jl. Sarijadi Flat Blok I Lt 1 No. 10 Jl. Bangau III No 31 Rt 15 Kel Tambaksari Kec Jambi Selatan Jl. Teratai III No. 54 Rancaekek Jl Pelabuhan II Km 10 Pasir Nalang	Jepara Bandung Simp III Sipin Bireun Bandung Muara Enim Ende Bandung Jambi Selatan Jambi Bandung Sukabumi	Jawa Tengah Jawa Barat Jambi NAD Jawa Barat Sumatera Selatan NTT Jawa Barat Jambi Jawa Barat Jawa Barat		40111	(0644) 323198 (022) 4209050	(022) 4209050	bano@home.unpar.ac.id		2003 2000		Drs. R. Umar Kusumah Afrizal Zakaria, SE Ak Banowati Talim	5 6					
					40116	022 - 2008313	(022) 2034046022 -	donyzulkamaen@yahoo.com		2003		Dony Zulkamaen	5					
					36138	0741 - 54860	0741 - 53435			2000		Ir. Hermansyah	6					
					40394	(022) 7792125	(022) 7792125					Agung Setiarso						

FSS Purwakarta GAPEMASDA Gemohing Gempur	Jl Raya Ciganea No 5 Jl. Syafrudin No. 12 DK Jl Rainha Rosari No 79 Laranluka Jl Siliwangi No 38 Ds Cibuat Kec Cisaat Jl. Abd Mutilib De Narang No 41	Purwakarta Sambas Flores Timur Sukabumi	Jawa Barat Kalimantan Barat NTT Jawa Barat		0561-733442	gapemasda@yahoo.com	2000	Yudi Mulyadi	6	08195602523
Gerbang Suisel	Sungquminaso Jl. A Muthalib Db Narrang No 41 Pacinongan Sungquminasa	Gowa	Sulawesi Selatan					Rajul Islam Mubarak S Kom Mpd		
GRADIA	Sari Kel Panimbang Jl. Sarimanha Raya No. 69 A Blok 7 Sarijadi Jl. Dipenogoro No.158 Gunungsitoli	Pandeglang	Banten							
Heksa Solusi Informasi Ikatan Wanita Melati Yayasan Melati INDES (Institute for Development & Economic Studies)	Jl. Bengawan Solo 93 Lumajang Jl. Gunung Sahari III No. 7 Jl. Kebon Pedes No. 24	Bandung Nias	Jawa Barat Sumatera Utara	40151	022 - 70776562 063921616	022 - 2013836 ridhanafi@yahoo.com	1999	Ridha Hanafi, ST Drs. Asa'aro Laia, M.Pd	10	
Induk Koperasi Kredit Indonesia Industri Consultan Odjahan Pane (ICOP) Inkubator Bisnis dan Teknologi Politeknik Negeri Medan	Kampus USU Jl. Almamater No. 1 Jl. Ganesha No. 15 Jl. Ikan Tongkol Blok B no 9	Jakarta Pusat Bogor Medan	Jakarta Jawa Barat Sumatera Utara	16162	(021) 4214970 (0251) 338340	(021) 4246527 (0251) 501143 cucoindo@indo.net.id		Fauzan Mutaqqien A. Elias Odjahan Pane		
INKUBATOR Bisnis ITB Institut Management Lampung Institute for Business & Technology Indonesia (IBTI)	Jl. Guru Hamzah No. 9 Tarok Dipo Bumi Daya Plaza Building, 16th Floor, Jl. Imam Bonoi No. 61	Bandung Bandar Lampung Bukit Tinggi	Jawa Barat Lampung Sumatera Barat	40132	022 2501006	022 2534163	2001	Rizal CH		
Inti Solusi Mandiri (ISM)	Iman Bonoi No. 61 Jl. Selawarga Palahon No. 31	Jakarta Pusat	Jakarta	10130	(021) 398833773	(021) 398833774	sigitsuryopramono@hotmail.com	Sigit Suryopramono		
ISEC - Institute for Economic Society Jati Agung Java Quality Centre JAYASARI	Jl. Karimun Jawa No 28 Jl. Terusan Candi Kalasan Jl. Perintis Kemerdekaan No. 115 A Binjai	Tasikmalaya Banyuwangi Malang	Jawa Barat Jawa Timur Jawa Timur Sumatera Utara			0618827249		Wahyu Widodo		
Kantor Akuntan Publik SND KAP - Ketut Mularta RM & Rekan Karunia Indah Lestari	Jl. G. Muria no. 2 Jl. Drupadi 25 X Renon Jl. Jend Sudirman Ruko Pasar Baru Blok F - 6	Denpasar Denpasar Balikpapan	Bali Denpasar Kalimantan Timur							
Karya Bahari	Jl Sultan Alimudin Rt 27 Rw 9 ds Sungai Kerban Selli	Samarinda Ilir	Kalimantan Timur							
Karya Usaha Mandiri KJA Andika Jabar KJUB Isur Aiku	Jl. Jend Sudirman No 70 Manna Jl. Pasirluyu Selatan No. 5 Jl. Yos Sudarso Timika	Bangkulu Selatan Bandung	Bengkulu Jawa Barat		(022) 5201006					
KKB Jambi KKB Mitra Bina Karya KKB UMMY	Jl. Jend. A. Yani No. 11 Telawaipura Jl. Yos Sudarso No 3 Jl. Jend Sudirman No. 8	Muaro Jambi Palangkaraya Solok	Jambi Kalimantan Tengah Sumatera Barat		0741-60804	0741-61740		Tri Haryono, SH		
Klinik Pengembangan Usaha Bali Klinik Usaha Kecil dan Koperasi – IAI	Jl. Saga gg. Gandamayua Desa Mengimtam Jl. Sisingamangaraja No. 59 Kebayoran Baru Kompleks Taman Kebon Jeruk Blok A1 No. 25, Jl. Meruya Hilir	Denpasar Jakarta Selatan Jakarta Barat	Bali Jakarta Jakarta		0361-242447	kayun_budi@yahoo.com		I Wayan Budihartha	2	085237141741
KOMMIT PROSPERINDO	Jl. Angkasa Blok B No. 7, Kemayoran Ds Modoyog Kec Modoyog Penampungan Kec. Ampek Angkek Jl. Suryalaya Barat I No. 7	Jakarta Pusat Ds Modoyog Kec Modoyog Agam Bandung	Jakarta Sulawesi Utara Sumatera Barat	11630	021 - 5869651 (021) 4243900,	021 - 5869651 (021) 4243900	yeast@indo.net.id	Hendri Hartopo Riyadi E. Prayitno	2004	
Konsultan Ritel Anda (KRA) Kop Konsumen Kaili Putih Kop. PSBP KOPAGRO	Jl. Raya Sukakerta Panumbangan No. 422 Jl Parangtritis Km 6,5 Sewon Jl. Kopersai Keude Aceh Lhokseumawe	Jakarta Pusat Ciamis Bantul	Jakarta Sulawesi Utara Sumatera Barat Jawa Barat Yogyakarta		(0752) 28054 (022) 7302423 (0265) 454463			Dra. Nelly Izmi H. Hermanto Drs. Bagdja Saputra		
Koperasi Bina Tani Sukakarta Koperasi Isi Mantas Koperasi Jasa Konsultasi PER Balee Pakat Harakat	RA Kosasih No. 246 Jl. Yos Sudarso Blak Numfor Jl. Kehakiman 1 No.227 Bukit Tinggi	Sukabumi	Jawa Barat		(0266) 221477	(0266) 225152		TS Sani, SE Harya Nakula Ms		
Koperasi Murata Kopinka Sulaman dan Konveksi KOPINKRA Sulaman	Jl. Panorama No. 9 Jl Raya Leilem Kec Sondree Jl. Gunung Sahari No 8	Bukit Tinggi Minahasa Pontianak	Papua Sumatera Barat Sumatera Barat Kalimantan Barat		0752-33544			Dirwan A. Darwis		
KSU Anugrah KSU Bangun Ekonomi KSU Pesisir Sejahtera	Jl. Raya Sago Painan No.2 Sago Kec. IV Kec. Banjaran	Pesisir Selatan Majalengka	Sumatera Barat Jawa Barat		(0756) 21504, 21032 0233 - 319609, 022 - 4240310			Ir. Wisman Ir. Yeni Rohayani	1	
KUD Balebat KUD Harapan Sape KUD Olat Ojong KUD Talawi	Jl Pelabuhan Sape Ds Naru Kec Sape Jl. Dr Sutomo o 6 Desa Talawi Hilir Kec. Talawi Kota Jl. Bukit Cangan No. 51	Bima Sumbawa Barat Sawah Lunto Bukit Tinggi	NTB NTB Sumatera Barat Sumatera Barat							
Lab. Manajemen Fak. Ekonomi - LMF	Jl. Cemandiri No. 6 Gd. Jur. Tanah Fak. Pertanian UNAND Limau Manis	Bandung	Jawa Barat	40116	(022) 4239954	(022) 4239954			1	
LAMPULIH	Padang	Sumatera Barat						Dr Ir Yusirwan R MS		
LAPANB Budaya LAPI ITB	Jl Rotan Semambu Blok III F No 22 Juanda 8 Jl. Dayang Sumbi No. 7 Jl Sutoyo S No 128	Samarinda Bandung	Kalimantan Timur Jawa Barat		(022) 2502533	0511 - 64563	0511 - 365449	Abdul Syukur Gani	1999	
LBMA STIE Nasional Banjarmasin Lemb. Inkubator Tek& Bisnis. UNSYIAH Lemb. Konsultasi Manajemen Usaha Lembaga Ekonomi Terpadu Anak Negeri (LESTARI)	Jl. Pascul bareno No. 43 Jl. Sentosa No. 30 Takengon Jl. Raya Mungka Tengah Payakumbuh Km.14 Kec. Mundka	Banjarmasin Banda Aceh Aceh Tengah	NAD NAD NAD		(0643) 22775	(0752) 97473, 97239		Rustam Efendi, SE Mercon Zulman, SE Drh. Harmen	8	
Lembaga Inkubator Teknologi & Bisnis Univ. Svnh Kuala Banda Aceh Lembaga Kajian dan Pengembangan Potensi Ummat (LKP2U)	Jl. T. Nyak Arief No. 331 Teulingke Banda Aceh Jl. Sadanamulya No. 3B	Banda Aceh Mediun	NAD Jawa Timur		(0651) 54142 - 52156			Rustam Efendi, SE M Econ Kunto Setyono, SE		
Lembaga Konsultan UKM dan Koperasi (LEKUINDO)	Wisma Fajar Building, 3rd Floor Block C No. 46, Jl. Pintu Air Senayan	Jakarta Pusat	Jakarta		(021) 5709754, 5710052	(021) 5709754	lkp2u_mdn@telkom.net	Sigit Priyanto	1993	
Lembaga Pendidikan Keterampilan Prima Ayu Lembaga Pendidikan Perkoperasian Dewan Koperasi Indonesia Wilayah Sumatera Utara (LAPENKOP DEKOPIN)	Jl. Wahid Kasim No. 73 Limo Cinere Balatkop Building, Jl. Jend Gatot Subroto Km. 8,5 Gang Koperasi No. 1	Depok	Jawa Barat	16575	(021) 7546486	(021) 7532782	usialimasatu@yahoo.com	H. H. Massie		
Lembaga Penelitian Pengembangan Masyarakat Bali	Jl. Manukrawa II No. 3	Denpasar	Bali		0361-421852	0361-421852				
Lembaga Pengembangan Akuntansi dan Manajemen (LPAM-STIE) Malang Lembaga Pengembangan Teknologi Pedesaan (LPTP) Manado	Jl. Terusan Kalasan Blimbing Jl. Minanga No. 15 Malalayang I	Malang Manado	Jawa Timur Sulawesi Utara							



MMS Consulting	Jl. Cisangkuy 48	Bandung	Jawa Barat	40114	022 - 70116800	022 - 7101262	mmsconsult@bdg.centrin.net.id	2004	Hardi Susanto	4
Molanihu	Jl. Jend Sudirman No 90 Kel Hutuo Limboto	Medan	Gorontalo						Apni Ismail S Sos	
Multi Dinamika Consultant Indonesian, PT	Griya Riatur Jl. T. Amir Hamzah No. 17 - F	Medan	Sumatera Utara							
MULTITEK	Jl. Thamrin-Lokitasari Ag-A11	Denpasar	Bali	429264						
Mutiara	Jl. Medan - Lubuk Pakam Km. 21	Lubuk Pakam	Sumatera Utara						Ir. Agus Salimasyah	
OPTIMA Human Resource Consulting	Jl. Let. UD Sibagio Pav. 11	Bandung	Jawa Barat					2003	Banowati	7
Overseas Business Management (OBM)	Rukan Mangga Dua Elok Blok C No. 17 Jl. Manqqa Dua Abdad	Jakarta Pusat	Jakarta		021 - 6285769	021 - 6250684	overseas@dnet.net.id	2000	Drs. Yahya Sentosa	
P4K UNJA	Jl. Raden Mather No.16 Kampus UNJA Pasar Jantbi	Tebu	Jambi						M. Surya Hidayat, SE, ME	
P4M Madura	Jl. Cokro Atmojo IX/21 Pangkasan	Madura	Jawa Timur		0324-323851	0324-323851			Agus Kasianto	081330179414
Paku Surya Negara	Jl. Dewi Sartika No 30	Kel Ilir Kota	Kalimantan Barat							
PARAMITRA Jatim	Jl. Raya Mojorejo No. 98, Batu	Malang	Jawa Timur		0345 - 594792	0345 - 594792	paramitra@indo.net.id	1986	Imam Hambali	6
PD Mawarni	Jl. Dr Soetomo No 10 Maumere Kec Alok	Sikka	NTT		0813					
Pelita Indah	Ds Toulimambot Kec Kakas	Minahasa	Sulawesi Utara							
Pengabdian Putra Bangsa	Jl. Jend Sudirman No 124 Blambangan Umpu	Jl. Bahari Pulo Sarok Singkil	Way Kanan							
PER "Sepakat Sehat"	Ds. Meunasah Bakhtu Jl. Kereta Api Lama KM.12.5	Aceh	NAD		0812690517				Amsaridan SE	
PER Beurata	Jl. Banda Aceh - Medan Km. 85 Lambaro	Aceh Besar	NAD		(0651) 70084				Drs. Arifin	
PER Beusama	Jl Soekarno-Hatta No 45 Rt 1/3	Bima	NTB						Makmu Syaudara	
PER Bima	Jl. T Ben Mahmud No. 86 Tapaktuan	Aceh Selatan	NAD		(0656) 21047				Rahmad Kurnia MS	
PER Bina Sejahtera	Jl Soekarno-Hatta No 5	Dompu	NTB							
PER Dompu	Jl. Ciliwung V/2	Blitar	Jawa Timur							
PER Kota Blitar	Jl KH Ahmad Dahlan No 31 Pancor Selong	Lombok Timur	NTB							
PER Lombok Timur	Jl Raya Madiun No 5	Ponorogo	Jawa Timur							
PER Master Ponorogo	Jl. Penglateh Lhoksukon	Aceh Utara	Sumatera Utara							
PER Pakat Rakan	Jl. Gajah Mada No 79 Leneng Praya	Lombok Tengah	NTB						Taufik Ismail Juhan	
PER Praya	Jl. Residen Amaludin 33 Lahat	Lahat	Sumatera Selatan						Drs. Sumartono	
PER Serefo Indah	Jl. Jend Sudirman Amlapura	Tanjung Jabung Barat	Bali	80813	0742-21460				Heru Rnatldi, SE	
PER Tanah Aron	Jl. Letkol Pol. Drs. Toegino Kula Tungkal	Aceh Besar	NAD						Fadly H Suhut	
PER Tanjung Jabung Barat	Jl. Kota Nelayan No. 5 Pasar Kreung Raya	Madura	Jawa Timur							
PER Unit Jasa Pelayanan Bisnis Pinto	Wisma Putera Madura Lt 1 Jl Mayjen Sungkono No 20 Bangkalan	Klaten	Jawa Tengah							
Perbangkalan	Jl. Klaten Jatinom Km 3, Kwaren - Ngawen	Klaten	Jawa Tengah							
Persepsi	Bulan, Wonosari PO. Box 35 Delanggu	Klaten	Jawa Tengah	57471	0272 - 555652	0272 - 555652	gus_susilo@yahoo.com	2000	Agus Susilo, S. Hut	7
Pesantren Wirusaha Agrobisnis	Jl. Umul Thalib No.k2/24	Pontianak	Kalimantan Barat		0561-739616		pijarmaspro@yahoo.com	2001	Drs. Maladi Noor, MA	08158069374
Abdurrahman bin Auf PIJARMASPRO	Jl. Raya Yasmin No 31 Rt 26 Rw 8	Bekasi	Jawa Barat		(021) 88365406					
PILAR Jambi	Gd Islamic Center Jl Sultan Thaha No 58	Bekasi	Jawa Barat							
PINBUK Jambi	Gedung Juang 45, Jl. Sultan Hasanudin 05	Bekasi	Jawa Barat							
PINBUK Kab. Bekasi	Tambun	Komp. Griya Randik Blok B.5 No.20 KKKkel.	Musi Banyasin		07149-322307				H. Alex Noerdin	
PINBUK Kab. Muba	Kaywara Kec. Sekayu	Gd. Islamic Centre Jl. Kutamaya No. 25	Sumedang		0261 207533				H. Asep Sudrajat, SH	
PINBUK Kab. Sumedang	Jl Sulawesi Rt. 16 No. 1 (Pasar Lama)	Banjarmasin	Kalimantan Selatan		0511 - 54082	0511 - 54082	pinbuk_kalsel@yahoo.com	1995	Drs. H. Agus Salim Matondang, M.M	7
PINBUK Kalimantan Selatan	Ds Purwokerto Rt 3/VII Ngadiluwih	Kediri	Jawa Timur							
PINBUK Kediri	Jl. Ki Ageng Gribig No. 28	Klaten	Jawa Tengah							
PINBUK Klaten	Jl. H Hasan Basri Perumnas II Blok B/82	Kota Baru	Kalimantan Selatan		063425477					
PINBUK Kota Baru	Jl. Merdeka No.31	Padang Sidimpeuan	Sumatera Utara							
PINBUK Kota Padang Sidimpeuan	Jl. Kartini 16	Jawa Timur	Jawa Timur	63217					Drs. Fachrudin Hasibuan	
PINBUK Ngawi	Jl. A Yani No 3 Selagelas Cakranegara	Mataram	NTB							
PINBUK NTB	Jl. Imama Bonjol No 35 Pinkang	Pinrang	Sulawesi Selatan							
PINBUK Pinrang	Jl. AKBP Cek Agus No. 24 Rt 3 Kenten Golf	Palembang	Sumatera Selatan		(0265) 327568					
PINBUK Sumsel	Jl. Ir. H. Juanda (Komp. Perkantoran)	Tasikmalaya	Jawa Barat							
PINBUK Tasikmalaya	Perumahan Melati Indah I/B 14 Kec Kepanjen Kidul	Blitar	Jawa Timur						Endang Ahmad Yani	
PLKMI Blitar	Jl. Ipda Tut Harsono No 27	Yogyakarta	Yogyakarta							
Politeknik Pesantren YDHI	Jl. Kanayakan No. 21 Dago	Bandung	Jawa Barat	40135	(022) 2505130	(022) 2502649	polman@melsa.net.id		Haris Sayoko	
Polman BDS	Jl. Prof. A Masjid Ibrahim	Sabang	NAD						Sayed Djamiluddin	
Pos Ekonomi Rakyat Sabang	Jl. Sumatra 12 A	Bandung	Jawa Barat	40114	0370-624725	0370-624725	ppkp_kblombok		Dedi Hilman Lindrawati	0817361188
Power Omzet	Jl. Pemuda No.20 Mataram	Mataram	NTB							
PPKP NTB	Jl. Teuku Umar No. 34	Denpasar	Bali							
Prima Atha Konsultama	Taman Kedoya Baru Complex Blok D9 No. 11	Jakarta Barat	Jakarta	11520	021 - 5800635	021 - 5800635	yandhim@hotmail.com	2004	Yandhi Mathovani	3
Professional Marketing Consultant (PMC)	Jl Pantelia No 17	Pamekasan	Jawa Timur							
PSPM	Jl. Imam Bonjol 145	Denpasar	Bali							
PT. Dimata Sora Jayate	Jl. Syailendra No. 20 Medan	Medan	Sumatera Utara						Ir Syamsul Qamar	
PT. Kreasi Cipta Konsultan	Jl. Tuhjuh Belas Agustus No 4	Kupang	NTT							
PT. Kupang Mahdani Bahari	Kampung Tengah Peninggahan Kec. Junjung Sirih	Solo	Sumatera Barat						Syafri Bagindo	
PT. Pembangunan Nagari Peninggahan	Jl. Buahbatu No. 213	Bandung	Jawa Barat		(022) 7302121	(022) 7302121	profex_intl@yahoo.com		Moshamad Luqman	
PT. Profex	Tata Plaza Building, 3rd Floor, Blok B No. 24	Medan	Sumatera Utara							
PT. Prolink Consultant Indonesia	Jl. Kapt. Muslim	Jombang	Jawa Timur							
PT. Setya Kangro Fisheries	Jl. Brawajaya No 47	Jakarta Pusat	Jakarta	10150	021 - 3860041	021 - 3860043	tsjk1@indosat.net.id		Hendro Sugianto MBA	4
PT. Sistem Solusi Andalalan Mitra (Total	Jl. Kyai Caringin Blok A No. 16 B	Jakarta Selatan	Jakarta							
PT. Total Bisnis Consulting	Jl. Kalibata Tengah No. 8-A	Bandung	Jawa Barat		022 2512277	(022) 7798179			Drs. H. Muhammad Mochtar Lilis	
PT. Vitraha Consindotama	Jl. Cikutra Barat No. 135	Sumedang	Jawa Barat							
PUKM - IKOPIN	Jl. Jatnangor IKOPIN	Mataram	Jawa Barat	83116						
Pusat Koperasi Pondok Pesantren NTB	Jl Kertanegara V/I Kekalik Motang Karang	Mataram	NTB							
Pusat Layanan Agribisnis dan Pengembangan Usaha - PLAP	Jl. Asia Afrika 141 - 149 Gd. Graha Bumiputera	Bandung	Jawa Barat	40254	022 - 4267126	022 - 4267126	piaparlia@bdg.centrin.net.id	1988	TB. Aria S. Djoemhana	5
Pusat Layanan Terpadu Pengemasan Global (PLPG)	Jl. Ciremai Ujung No. 202, Banjarjati	Bogor	Jawa Barat							
Pusat Pelayanan UKM	Jl. Ikan Saleh No.88 Pangkal Pinang	Pangkal Pinang	Bangka Belitung						So'ib Mansyur	
Pusat Pendidikan dan Pelatihan Prima	Jl. Jend Gatot Subroto No. 247	Medan	Sumatera Utara							
Pusat Pendidikan IWAPI	Jl. Kalipasir No. 38 Cikini	Jakarta Pusat	Jakarta							
Pusat Studi Lp Wanita Unsri	Kantor Perwakilan Gedung KPA UNSRI	Palembang	Sumatera Selatan		0711-580608				Eva Lidya	
PUSKAPED	Ds Ongko Kec Campalagian Jl Racing entra A	Polmas	Sulawesi Selatan							
PUSKOP NTB	Jl Kertanegara V/1 Kekalik Motong Karang	Mataram	NTB		0370-633331				M Saifudin Zuhri	

Quantum - Career Development Centre (Q-Raffi Sehati	Jl. WR Supratman No. 88	Bandung	Jawa Barat	40122					MMI Ahyani
Rencong Aceh Semesta	Jl. Melur No. 9 Klsaran	Langsa	Sumatera Utara		0812 6400336				M. Fadli Usaman, SH,
Riwani Globe	Jl. Syiah Kuala No. 34 Gampong Mutia	Semarang	NAD		813361669123		31 Mei 2000		Syamsul Bahri, SE
SDP CGTU Jayaboyo	Imam Bonjol No. 154-160	Kediri	Jawa Tengah						Rini Wahyurini
Sebimbing Sekundang	Jl. Letjen Sutuyo III/26	Kediri	Jawa Timur		0354-689918			bdsdpcgtujb@yahoo.com	08123282123
Sekar Arum	Jl. Dr M Hatta No 586 Batu Raja	Ogan Komerling Ulu	Sumatera Selatan						
Sekolah Tinggi Ilmu Pertanian (STIPER)	Jl. Dr Supicpto Talkandang Timur Rt 2 Rw 2	Situbondo	Jawa Timur		0717-95434				Muntoro, SP
Society Empowerment and Development Institute (SCEDEI)	Jl. Diponegoro No.1	Bangka	Bangka Belitung		0751-24469, 35667				
SSA Mutu Unggul, PT (SSA Consulting)	Jl. M. Syaefai No. 15-17 Kel. Pasar Baru	Padang Panjang	Sumatera Barat						
STAI Al Wasiliyah Barabai	Padang Panjang Barat	BRI II Building Center Park CP 009A, Jl. Jend. Sudirman Kav. 44-46	Jakarta Pusat	10210	(021) 2512412	(021) 2512412		ptssa@indo.net.id	Ir. Bayu Sutanto MM, MBA
STIA Madina	Jl. Keramat Majang Kec Barabai	Hulu sungai Tengah	Kalimantan Selatan		0517 - 41529	0517-42093	2001		KH. Husaini, LC
STIE Al Wasiliyah	Jl. Wileum Iskandar No. 11 Dalam Undang	Mandailing Natal	Sumatera Utara						Samad, SE
STIE AL-Washliyah	Payabungau	Jl. Diponegoro No. 16 Sibolga	Sumatera Utara						Ali Hasmi Nasution SE
STIE Kerinci	Jl. Diponegoro No.66	Jl. Jend Sudirman No. 39 Sungai Penuh	Sumatera Utara		063122375				Ali Hasmi Nasution, SE
STIE Lembah Dempo	Jl. H. Sidik Adim No. 98 Air Laga Pagaralam	Pagar Alam	Sumatera Selatan		0730-624708				Drs. H.A.M. Effendi Sangkim, Msi
STIE Pasundan	Jl. Turangga 37 - 41	Bandung	Jawa Barat						BBBbambang Karyadi, SP,
STIE Sakti Alam Kerinci	Jl. Jend. Sudirman No.89 Sungai Penuh	Kerinci	Jambi		0748-324284				
STIE Yasmi Cirebon	Jl. Tuparev/Islamic Center No 1 - 3	Cirebon	Jawa Barat						
STIM Amanat	Jl. Let Murod No. 55 Km 55	Talang Ratu	Sumatera Selatan						
Sub Terminal Agribisnis	Jl. Jend Sudirman No 185	Curup	Bengkulu						
Sukses Bersama	Jl. Simaraga (Nasrani) Lrg. Paramartha No. 2	Rt.23 Pipa Rija Kenten	Sumatera Selatan		0711-819801				Herman Rusul, SE, A.MK
Surya Bhakti	Jl. Ranoitole No 1 Kolonodale	Morowali	Sulawesi Tengah						Ys Tempali
Sutasoma	Jl. Sawung Galing No 14	Mojokerto	Jawa Timur			(0271) 721767	(0271) 726444		
Suwastama	Jl. Selalabui No. 110	Solo	Jawa Tengah						
SWAKERTA	Jl. Dr Wahidin Sudirohusodo	Sintang	Kalimantan Barat						
Syarikat Dagang Islam Indonesia	Jl. Arifin Ahmad No. 9 Lemeran Kaye Arang	Banda Aceh	NAD		91312/ 91417				Ir. Hasbi Armas
Tanoh Pusaka	Jl. T. Hamzah Bendahara Kec. Tanah Jambu	Aceh Utara	NAD		(0265) 311356				Azhari ST
TIASA/Yayasan Perisai Biru	Jl. Pasar Rel No. 26	Sasikmalaya	Jawa Barat						Moch. Alex Djatnika
Ti Dharma Nusantara	Jl. Masjid Agung No 14	Tasikmalaya	Jawa Barat		0717-94227				Lidia Syaifullena
Ti Gama Indo Consult	Jl. Mayor Safrin Rahman No. 137 A Sungalliat	Beilitung	Bangka Belitung						
Tunas Mandiri	Jl. Raya Ciqgur No 67	Kuningan	Jawa Barat						Darwena
UD Sempurna Baru	Jl. Sultan Syahrir No. 16 Kel. Tanjung Pauh	Fakultas Ekonomi UI Building B, 1st Floor,	Sumatera Barat						
Unit Jasa Pemasihat Keuangan	Prog. D3 Akuntansi Fakultas Ekonomi UI Jl. Maroonda Rava	Depok	Jawa Barat	16424	(021) 7863424	(021) 7874408			Zuliani Dalimunthe
Universitas Borobudur	Jl. Raya Kalimantan No 1	Jakarta Timur	Jakarta						Dr Ir H Sunar MS
Universitas Ratu Samban UNMUH	Jl. Jend sudirman No 85 Arga Makmur	Bengkulu Utara	Bengkulu						
Usaha Ganda	Jl. Mojopahit 666 B	Sidoarjo	Jawa Timur						
Wahana Bahari Sejahtera	Jl. Protokol No. 30 Tanjung Beringin	Dairi	Sumatera Utara						Wesly Silalahi
Wahana Bakti Persada	Jl. Kelapa Sawit Blok C No. 72, Stabat	Langkat	Sumatera Utara		0618910476				Ridwan Muzhriзал
Wahana Karya	Jl. Panglima Batu Timur No 24 Rt 1	Banjar Baru	Kalimantan Selatan						
Wahana Sejahtera	Jl. Saliam 3 No. 19 Rt. 05/06	Jakarta Barat	Jakarta	11540	(021) 5491016			mana_yuli@yahoo.com	Ir. Priyatna Agus
Widyadhana	Jl. Kelapa Sawit Blok C No. 72 Stabat	Langkat	Sumatera Utara						Ridwan Muzhriзал
WPU Malang	Jl. Solo - Wonogiri Km. 18	Solo	Jawa Tengah		0271 - 7020812	0271 - 591786		widyadhana-bdc@plasa.com	Harnanto Wibowo
YABIMA	Jl. Cikural No. 7	Malang	Jawa Timur						
Yaktamil	Jl Masjid No 500 Baureno	Bojonegoro	Jawa Timur						
YAPSEM	Panobasan Lombang Kec.	Padangsidimpeuan Barat	Sumatera Utara						Parmohonan Harahap
Yasmindo	Jl. Desa Turi No 1 Turi	Lamongan	Jawa Timur						
Yaspen Anak Cacat	Jl. Unip Sumoharjo Km 4	Ujungpandang	Sulawesi Selatan						
YASTI - Yayasan Tarbiyah Islamiyah	Padang Bitungan Kec. Nan Sabaris	Padang Pariaman	Sumatera Barat						Drs. Fuadi
Yayasan Adi Citra Cendekia	Jl. Veteran No. 66 Cisaat	Sukabumi	Jawa Barat		0266 230677, 228202-				Samsizar
Yayasan Al Islam	Perum Gunung Sari Indah S-30	Surabaya	Jawa Timur						
Yayasan Alfa Omega	Jl PM Noor Tanjung Desa Kambilim Kec	Tabalong	Kalimantan Selatan						
Yayasan Bagan Prima Husada	Jl Tim-tim Km 13 Tarus	Kupang	NTT						
Yayasan BAPERLU	Rt.03/02 Dusun Sagai Desa Bagan Laguh	Kec. Bumut	Sumatera Utara		0761492193				Andripul
Yayasan Bersama	Jl. H Gasan Utara No 33	Palopo	Sulawesi Selatan						
Yayasan Bina Kayu	Jl. Cokroaminotot No 25 Lk I Kel Karama	Manado	Sulawesi Utara						
Yayasan Bina Mandiri Persada	Jl. H Saberan Effendi No 102/3 Amuntai	Hulu Sungai Utara	Kalimantan Selatan						
Yayasan Bina Masyarakat Madani (BIMMA)	Jl. Tiga Panah Suka No.1 Kec. Tiga Panah	KARO	Sumatera Utara		062820903				Sehate Br. Tarigan
Yayasan Bina Sejahtera Jogja	Jl. Suryalaya Barat I No. 7	Bandung	Jawa Barat						H. Hermanto
Yayasan Bina Sejahtera Lampung	Widoyakarta Senbrodo WB 2/35 Rt 22/5	Widoyakarta	Yogyakarta						
Yayasan Bina Setia	Jl. KH. A Dahlan No. 14	Metro	Lampung		0725 - 41240	0725 - 50433	1999		Rahmanul Hakim, SH
Yayasan Bina Swadaya	Jl rava Pulau Bendu Gg Stehar No 213	Ds. Siuluuan	Kalimantan Barat						4
Yayasan Bina Swadaya Boyolali	Jl. Raya Salatiga - Solo Km14/49 Mekarsari,	Boyolali	Sumatera Utara						Nasrun Siregar
Yayasan Bina Swadaya Klaten	Kaliqentona Ampel	Klaten	Jawa Tengah						
Yayasan Cinta Desa	Jl. Gondosuli 5	Simalungun	Jawa Tengah						Ir. Ramulak Sinaga
Yayasan dekranasda	Jl. Singamangaraja No. 432 Pematang	Siak	Sumatera Utara		(0764) 20379				Dra. Hj. Hafrita Dara Arwin
Yayasan Desa Mandiri	Jl. Kartini Siak sri Indrapura	Sumatera Utara	Yogyakarta						
Yayasan Dumai	Jl. Gatot Kaca No 7	Dumai	Sumatera Utara		076536704				Ahmad Joy Marzainur
Yayasan El - Aviev	Jl. Jend. Sudirman No.256 Dumai	Pandeglang	Banten	4221	0253 - 203489		2001		Hidayat Mustofa
Yayasan Gerakan Pedagang Ekonomi Rakyat	Kaduheio	Jl. Peringgane No. 27 Kutacane	Aceh Besar		(0629) 21668				6
Yayasan Gitan Indonesia	Desa Pandai Sikek Kec. X Kota Tanah Datar	Lampung Utara	Sumatera Barat						Sasap Al Saturnan
Yayasan Glori	Jl. Dirgantara No 8 Buting Semuli Raya	Batam	Lampung		(0778) 321447, 322012				Feri Dalvi SE
Yayasan Hizbul Nutakallim	Komp. Cipta Prima Blok C2 No.09 Kel. Tiban	Asri Kec. Sekupang	Sumatera Utara						Saefudin
Yayasan INDES	Jl. Bengawan Solo No 93/125	Lumajang	Jawa Timur						
Yayasan jantung Mekar	Ds Jantur Utama Kec Muara Muntai	Kutai Kartanegara	Kalimantan Timur						
Yayasan Kaffah	Jl. Bukit Lebar No. 69 Lk II Maja Sari	Prabumulih	Sumatera Selatan						

Yayasan kesenian Bintang Utara	Kp. Sekera Kel. Tanjung Uban Utara Kec. Bintang Utara	Kepulauan Riau	Sumatera Utara						Sahat Simanjuntak
Yayasan Laksana Samudra	Jl. HOS Cokroaminoto Bengkulu No.01	Bengkalis	Sumatera Utara	(0761) 43818, 22836, 22993					Ramses Firdaus
Yayasan Marendeng	Jl. Jurusan Makassar Makale	Tator	Sulawesi Selatan						
Yayasan Marga Tiong Hoa Indonesia	Jl. Plantar I No.33	Tanjung Pinang	Sumatera Utara						Boby Jayanto
Yayasan Masjid Kampus Attaqwa	Jl Lap. Daksinopati Barat No 1 Rawamangun	Jakarta Timur	Jakarta						
Yayasan Matahari Tapin Mandiri	Jl. A Yani No 8 rt 5/11 Rantau	Tapin Selatan	Kalimantan Selatan						
Yayasan Mattikorasi	Jl. H Kalla No 5 Panaikang	Makassar	Sulawesi Selatan	90231					
Yayasan Mekar	Dusun VI Desa Danau Sijabut Kec. Air Batu	Asahan	Sumatera Utara						
Yayasan Mitra Bina Usaha (YMBU)	Jl. Vinolia No. 5 Rw 05	Malang	Jawa Timur		0341 - 7065300	0341 - 7065300	ymbu@malang.wasantara.net.id	1997	Mugianto Drs. Petir Pujianto, MSE
Yayasan Patriot	Jl. Kebahagiaan Utara 14 Blok A No 347	Makassar	Sulawesi Selatan						5
Yayasan Peduli Kemiskinan	Jl Raya Pasar Semudun Blok F 1 Kel Sungai Kunvit	Pontianak	Kalimantan Barat						
Yayasan Pelangi Kasih Calincing (YPKC)	LBC Blok AH-35, Cogreg Parung	Bogor	Jawa Barat	16330	(0251) 542893	(0251) 542893	hartoyo@yahoo.com		Drs. R. Hartoyo
Yayasan Pelestarian Budaya dan Lingkungan Hidup	Jl. Sisingamangaraja No. 146 Kel. Balige I Kec. Balige	Toba Samosir	Sumatera Utara						Johanes Hasiholan Manullana
Yayasan Pena	Jl. AMD Gg. Mawar (Simpang Mangga) Rantau Prapat	Labuan Batu	Sumatera Utara	0624352066					Ir. Adi Prawira
Yayasan Pena Rantau Prapat	Jl. Gatot Subroto No. 61 N	Rantau Prapat	Sumatera Utara	(0624) 24013					Ir. Adi Prawira
Yayasan Pend Muhammadiyah Sinjai	Jl. Jend Sudirman No 9	Sinjai	Sulawesi Selatan						
Yayasan Pendidikan Islam Raudhatul Hikmah	Desa Krueng Dholi Kec. Pidie	Aceh	NAD						Tgk Fakri Husin
Yayasan Pendidikan Tujuh Belas	Jl Tentara Pelajar No 24	Pidie	NAD	0653822255					Yusril Yusuf
Yayasan Rahmah	Ds. Mesjid, Pante Raja, Kec. Pante Raja	Cianjur	Jawa Barat	43211	(0263) 260737	(0263) 263615			Tansyah Abdul Kadir
Yayasan Riyadhul Amanah	Jl. Taifur Yusuf No. 29	Pasuruan	Jawa Timur						
Yayasan Sembang Diri	Jl Raya Warung Dowo No 70 Rt. 3/Rw 3 Pejantrek	Sanggau Ledo	Kalimantan Barat						
Yayasan Sosial Kalimantan Membangun	Jl. Basuki Rahmat Gg subur	Kutai Kertanegara	Kalimantan Timur						
Yayasan Surya	Jl. danau Aji 73-74 Kel Melayu Kec	Bandung	Jawa Barat	022 2789311					
Yayasan Swadamas Jayagiri	Jl. Jayagiri No. 66 Lembang	Boyalali	Jawa Tengah	0276 - 325770	0276 - 325770		lesman@indo.net.id		Yoyon Bahtiar Irianto, MPd Eko Budhi Dharmanto
Yayasan Tani Lestari Mandiri	Jl. Regulo No. 79 B. Pulisen	Pangkalan Kerinci	Riau						
Yayasan Tani Pelawan	Jl. Putri Rani No. 10	Aceh Tenggara	NAD	(0629) 5223056				21 Januari 2002	Drs. Glora Sebayang
Yayasan Tata Integra Wirausaha	Jl. Kutacane Blang Kejeran No. 88 Kutacane	Wajo	Sulawesi Selatan						
Yayasan Wajo Prima	Jl. Batam No 24 Sengkang	Bengkulu	Bengkulu						
YBEM	Jl. Indra Giri No 20 Padang Harapan	Muara Enim	Sumatera Selatan	0734-421270					Eem Ibrahim, BSC
YLPK Karya Utama	Jl. Letnan M. Zen No. 265 Muara Enim	Pangkeb	Sulawesi Selatan						
YPMI - SAMAKA	Jl Keindahan V Blok AA No 272 Tamalampa	Rokan Hulu	Sumatera Utara	(0761) 38550					Alfian Komaldi
YPT3D POLI FERA	Sawahlunto	Garut	Jawa Barat						
Zulfaa Agri Utama	Jl Raya Wanaraja No 367								

## Appendix-4

Answers at Embroidery Cluster Forum





Appendix-4

Respondent	Q1 Do you think that the forums established in this action plan came to incorporate more private participation and industrial comprehensiveness compared to the existing organizations?		
	Answer	Response	Ratio
Both Forums	Yes	6	75.0%
	No	2	25.0%
	Total	8	100.0%
Respondent	Q2 For those who answered "No" in Q1, what should be done for the forums established in the action plan to incorporate more private participation and more industrial comprehensiveness? Please describe below.		
	Description		
Both Forums	Participation from private companies other than the taskforce members should have been secured. Forum members lacked commitment to performance of work.		
Respondent	Q3 For those who answered "Yes" in Q1, do you think that the forums that incorporate more private participation and more industrial comprehensiveness will contribute to making embroidery products produced in Bukittinggi become more competitive and reputable in the world markets?		
	Answer	Response	Ratio
Both Forums	Yes	6	75.0%
	No	2	25.0%
	Total	8	100.0%
Respondent	Q4 For those who answered "No" in Q3, what is the reason? Please describe below.		
	Description		
Both Forums	Specialty of the embroidery products in Bukittinggi has not been established yet. The stakeholders do not understand what should be done by both the forums.		
Respondent	Q5 Were the dispatch period and ability of RDC assistants appropriate to implement this action plan?		
	Answer	Response	Ratio
Both Forums	Appropriate	6	75.0%
	Not appropriate	1	12.5%
	Not sure to answer	1	12.5%
	Total	8	100.0%
Respondent	Q6 For those who answered "Not appropriate" in Q5, what was not appropriate? Please describe below.		
	Description		
Both Forums	A lack of capability to establish the cluster forum		
Respondent	Q7 Do you think that the embroidery cluster forum will continue its activities in the future?		
	Answer	Response	Ratio
Embroidery Cluster Forum	Will continue	4	100.0%
	Will not continue	0	0.0%
	Not sure to answer	0	0.0%
	Total	4	100.0%
Respondent	Q8 For those who answered "Will not continue" or "Not sure to answer" in Q7, what is the reason? Please describe below.		
	Description		
-	-		
Respondent	Q9 What are the promoting factors and inhibiting factors for the embroidery cluster forum to continue its activities in the future? Please describe below.		
	Description		
Embroidery Cluster Forum	Promoting Factor	A sense of unity between embroidery companies and sewing workers. Information, communication, opinions, and mutual discussion are sufficient amongst the forum members.	
	Inhibiting Factor	A lack of sense of unity among forum members. Information, communication, opinions, and mutual discussion are not sufficient amongst the forum members.	
Respondent	Q10 Do you think that the embroidery cluster forum has capability to continue their activities on its own?		
	Answer	Response	Ratio
Embroidery Cluster Forum	Yes	1	25.0%
	No	3	75.0%
	Total	4	100.0%
Respondent	Q11 For those who answered "No" in Q10, what lacks in the capability? Please describe below.		
	Description		
Embroidery Cluster Forum	Capability to manage the organization. There need be guidance, cooperation and information provision from the government. Almost all the necessary factors.		
Respondent	Q12 Do you think that the local economic development forum will continue its activities in the future?		
	Answer	Response	Ratio

Appendix-4

Local Economic Development Forum	Will continue		4	100.0%
	Will not continue		0	0.0%
	Not sure to answer		0	0.0%
	Total		4	100.0%
Respondent	Q13	For those who answered "Will not continue" or "Not sure to answer" in Q12, what is the reason? Please describe below.		
-	-	Description		
Respondent	Q14	What are the promoting factors and inhibiting factors for the local economic development forum to continue its activities in the future? Please describe below.		
-	-	Description		
Local Economic Development Forum	Promoting Factor	The city government extends its support and commitment to the forums on a sustainable basis.		
		There are sufficient manpower and resources for continuation of the forums.		
	Inhibiting Factor	Motivation of the board members of the forums is low.		
		Limited budget. The forums do not have experience as they were established newly.		
Respondent	Q15	Do you think that the local economic development forum has capability to continue their activities on its own?		
-	-	Answer	Response	Ratio
Local Economic Development Forum	Yes		1	25.0%
	No		3	75.0%
	Total		4	100.0%
Respondent	Q16	For those who answered "No" in Q15, what lacks in the capability? Please describe below.		
-	-	Description		
Local Economic Development Forum	There is not participation from the powerful companies.			
	Capability to become completely self-reliant (the government supports are necessary).			
Respondent	Q17	What are the promoting and inhibiting factors for embroidery products produced in Bukittinggi to become more competitive and reputable in the world markets? Please describe below.		
-	-	Description		
Local Economic Development Forum	Promoting Factor	Support in access to finance and market expansion.		
		High motivation of the stakeholders.		
		Securement of human resources and markets.		
	Inhibiting Factor	Design development capability is low.		
		Private companies do not challenge the new things.		
		Products in similar kinds are coming into the markets from outside.		

## Appendix-5

### Answers from Design Trainees



Q1 Did you obtain capability to develop designs in consonance with the market needs through the training program?		
Answer	Response	Ratio
Obtained very much	5	33.3%
Obtained	10	66.7%
No change	0	0.0%
Total	15	100.0%
Q2 For those who answered "No change" in Q1, what should be done for you to obtain capability to develop designs in consonance with the market needs through the training program? Please describe below.		
Description		
Q3 For those who answered "Obtained very much" or "Obtained" in Q1, do you think that your product will become competitive and reputable in the world market in 3 to 5 years.?		
Answer	Response	Ratio
Yes	14	93.3%
No	1	6.7%
Total	15	100.0%
Q4 For those who answered "No" in Q3, what is the reason? Please describe below.		
Description		
There is a lack of financial resources to improve the product quality.		
There is no customer in the markets for high-quality products.		
Q5 Were the dispatch period and ability of design experts appropriate to implement the training program?		
Answer	Response	Ratio
Appropriate	13	86.7%
Not appropriate	0	0.0%
Not sure to answer	2	13.3%
Total	15	100.0%
Q6 For those who answered "Not appropriate" in Q5, what was not appropriate? Please describe below.		
Description		
-		
Q7 The JICA Study Team has been conducting the activities to support the embroidery cluster in Bukittinggi for about six months now. Did you know about the activities?		
Answer	Response	Ratio
Knew very well	4	26.7%
Knew a little	11	73.3%
Knew little	0	0.0%
Did not know	0	0.0%
合計	15	100.0%



## Appendix-6 (1)

Answers from Model Firms





Q1 Did you see any positive effects from 5S activities in this action plan?			
Answer		Response	Ratio
Did		7	100.0%
Did not		0	0.0%
Total		7	100.0%
Q2 For those who answered "Did not" in Q1, what is the reason? Please describe below.			
Description			
-			
Q3 For those who answered "Did" in Q1, what effects did you see? Please describe below.			
Description			
It became easier to find necessary raw materials. Unnecessary things was disposed of.			
It became possible to exhibit the products beautifully.			
Work efficiency increased (two answers)			
It became possible to manage the finished products.			
The products became clean. Black spots due to stains in the sewing machine disappeared.			
A way of thinking about the production factors changed. A discipline of the workers was improved.			
It became possible to reduce raw material costs.			
The number of necessary workers in charge of cleaning the production site became low.			
Q4 Was teaching capability for 5S techniques of SME trainers in Koperindag in charge of your company enhanced?			
Answer		Response	Ratio
Enhanced highly		2	28.6%
Enhanced		2	28.6%
No change		3	42.9%
Total		7	100.0%
Q5 Were the dispatch period and ability of a JICA Study Team expert (technology/SME consulting) appropriate to implement the training program?			
Answer		Response	Ratio
Appropriate		6	85.7%
Not appropriate		1	14.3%
Not sure to answer		0	0.0%
Total		7	100.0%
Q6 For those who answered "Not appropriate" in Q5, what was not appropriate? Please describe below.			
Description			
-			
Q7 Is the SME trainer of Koperindag who took charge of your company in this training program appropriate to extend the guidance for 5S techniques to SMEs?			
Answer		Response	Ratio
Appropriate		5	71.4%
Not appropriate		2	28.6%
Not sure to answer		0	0.0%
Total		7	100.0%
Q8 For those who answered "Not appropriate" in Q7, what is not appropriate? Please describe below.			
Description			
Lack of understanding about real situation in actual production sites.			
Lack of knowledge about 5S.			
Q9 Will you continue 5S activities in the future?			
Answer		Response	Ratio
Will continue		7	100.0%
Will not continue		0	0.0%
Total		7	100.0%
Q10 For those who answered "Will not continue" in Q9, what is the reason? Please describe below. .			
Description			
-			
Q11 For those who answered "Will continue" in Q9, do you want to receive SME trainers from the government for continuation of the 5S activities?			
Answer		Response	Ratio
Yes		5	71.4%
No		2	28.6%
Total		7	100.0%
Q12 For those who answered "No" in Q11, what is the reason? Please describe below.			
Description			
SME trainers from the Koperindag are not very helpful/do not bring in a big effect.			
It is possible to implement 5S activities by itself.			



## Appendix-6 (2)

Answers from 5S Trainees



Q1 Was your teaching capability for 5S techniques enhanced by the training program?				
Answer		Response	Ratio	
Enhanced highly		3	33.3%	
Enhanced		6	66.7%	
No change		0	0.0%	
Total		9	100.0%	
Q2 For those who answered "No change" in Q1, what should have been done in the program for you to enhance your teaching capability for 5S techniques? Please describe below.				
Description				
Q3 For those who answered "Enhanced highly" or "Enhanced" in Q1, do you think that your enhanced capability for 5S techniques will contribute to making embroidery products produced in Bukittinggi become more competitive and reputable in the world markets?				
Answer		Response	Ratio	
Yes		8	88.9%	
No		1	11.1%	
Total		9	100.0%	
Q4 For those who answered "No" in Q3, what is the reason? Please describe below.				
Description				
Because the training programs on quality development and business management to become ready for the era for open market have not come with the 5S training program. Only 5S is not enough.				
Q5 What were the promoting factors and inhibiting factors for your teaching capability to be enhanced in the training program? Please describe below.				
Description				
Promoting Factor	Response from the SME in charge was good. Motivation of the SME in charge was high.			
	There was enough budget for the activities. There was sufficient knowledge of 5S beforehand.			
	The relationship with the SME in charge was good.			
	5S activities suit well the culture of West Sumatra			
	There was a commitment from the Koperindag to the activities.			
Inhibiting Factor	Guidance activities are routine work.			
	The activities were not planned very well by the Koperindag.			
	It was difficult to change the mindset of the SME in charge.			
	Training was not sufficient.			
	Application ability in the actual production site was not sufficient.			
	The degree of the discipline of the SME in charge was low.			
Q6 Model enterprises were selected in such a way that brief explanation of the action plan was made to the companies which attended the workshop, and then all the companies which applied for the participation were accepted. Do you think that this selection process was made properly and fairly?	Compensation and budget for the guidance activities were not sufficient.			
	It was difficult to adjust the schedule with the routine work and to coordinate the schedule of the SME in charge.			
	Answer		Response	Ratio
	Properly and fairly		6	66.7%
	Properly but not fairly		3	33.3%
	Not properly but fairly		0	0.0%
Neither properly nor fairly		0	0.0%	
Total		9	100.0%	
Q7 For those who answered other than "Properly and fairly" in Q6, what is the reason? Please describe below.				
Description				
SME trainers should have checked the applicants beforehand.				
There were many companies which were not invited to the workshop.				
Applications should have been accepted from non-embroidery companies as well.				
The training program should have been performed not only in the model enterprises, but also in other companies too.				
Q8 Does this action plan produce beneficiaries in the cluster other than participants in it?				
Answer		Response	Ratio	
Yes		7	77.8%	
No		0	0.0%	
Not sure to answer		2	22.2%	
Total		9	100.0%	
Q9 For those who answered "Yes" in Q8, who are they? Please describe below.				
Description				
Consumers				
Companies other than the model enterprises in the action plan (assuming that 5S technique guidance activities are continued). Companies close to the model enterprises.				
Government agencies				
Banks, Financial institutions				
Distributors				

Q10 Were the dispatch period and ability of a JICA Study Team expert (technology/SME consulting) appropriate to implement this training program?			
Answer		Response	Ratio
Appropriate		6	66.7%
Not appropriate		2	22.2%
Not sure to answer		1	11.1%
Total		9	100.0%
Q11 For those who answered "Not appropriate" in Q10, what was not appropriate? Please describe below.			
Description			
Explanation about 5S activities was not sufficient. More details were necessary.			
Training by using the samples were only a few.			
Training in the actual production site was not sufficient.			
Q12 Do you think that the Koperindag will continue guidance activities on 5S techniques for SMEs after completion of this action plan?			
Answer		Response	Ratio
Will continue		8	88.9%
Will not continue		0	0.0%
Not sure to answer		1	11.1%
Total		9	100.0%
Q13 For those who answered "Will not continue" or "Not sure to answer" in Q12, what is the reason? Please describe below.			
Description			
The Koperindag has not announced the next plan.			
Q14 For those who answered "Will not continue" or "Not sure to answer" in Q12, will you continue the guidance activities for 5S techniques for the SMEs in charge on your own, even if the Koperindag will not?			
Answer		Response	Ratio
Will continue		1	100.0%
Will not continue		0	0.0%
Not sure to answer		0	0.0%
Total		1	100.0%
Q15 For those who answered "Will not continue" or "Not sure to answer" in Q14, what is the respond? Please describe below.			
Description			
The Koperindag has not announced the next plan.			
Q16 What are promoting and inhibiting factors for the Koperindag to continue guidance activities on 5S techniques for SMEs on a sustainable basis in the future?			
Description			
Promoting Factor	The SME in charge shows good response.		
	The Koperindag and chairperson of it extend support and commitment to the activities.		
	There are SME trainers who want to improve their own capabilities.		
	SME trainers have enough knowledge about 5S.		
	There is a 5S training program for SME trainers.		
	High capability was obtained by this training program.		
	SMEs show needs for this activities.		
Inhibiting Factor	SME trainers have motivation and responsibility.		
	Plan for the activities is imperfect.		
	There are SME trainers who do their job for compensation.		
	Knowledge of SME trainers about 5S is not sufficient.		
	SMEs do not perform 5S activities continuously (SME trainers should perform continuous and regular guidance, monitoring and evaluation)		
	There is a time constraint.		
	Budget for the activities is not approved.		
Plan for the continuation is not announced yet.			