

R&D

2004. 6.

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.	8
1.	8
2.	9
3.	10
.	12
1.	12
(1)	12
(2) DB	20
2.	28
(1)	28
(2) 가	29
(3)	29
(4)	29
.	31
1.	31
(1)	31
(2) 2002	34
(3)	37
2.	가 46
(1)	46
(2)	가 58

• •

	가	74
(3)		
(4)	.....	78
(5)	.....	79
.	.....	83
1.	.....	83
2.	.....	83
(1)	.....	83
(2)	.....	86
(3)	.....	89
(4)	.....	91
(5)		
	Bi-Ladder	93
(6)	.....	94
(7)	.....	95
3.	.....	96
(1)	.....	96
(2)	DB	98
(3)	DB	99
:	.....	101
	.....	111

• •

< -1>		.....	13
< -2>	가	(1)	15
< -3>		()	17
< -4>		()	18
< -5>		.....	19
< -6>	DB	.....	21
< -7>	DB	.....	23
< -8>	2003 DB	.....	24
< -9>	DB .	.....	25
< -10>	DB	()	26
< -11>		.....	28
< -1>		.....	32
< -2>		.....	32
< -3>		.....	33
< -4>	2002	.....	34
< -5>	2002	.....	35
< -6>	2002	.....	36
< -7>	2002	.....	37
< -8>		.....	38
< -9>		..	39
< -10>		.....	40
< -11>		.....	41
< -12>	2002	.....	42
< -13>		.....	43

• •

<	-14>	..... 44
<	-15>	..... 45
<	-16>	..... 47
<	-17> .	..... 49
<	-18>	..... 50
<	-19> .	..... 56
<	-1> .	..... 84
<	-2>	..... 85
<	-3> .	..... 88
<	-4>	..... 91
<	-5> .	가 92
<	-6>	.. 93
<	-7> (A )	..... 95
<	-8> TAMA	..... 97

• •

<	-1>	.....	14
<	-2>	.....	19
<	-1>	.....	40
<	-2>	.....	45
<	-3>	..	45
<	-4>	(n = 161)	48
<	-5>	.....	49
<	-6>	.....	50
<	-7>	.....	51
<	-8>	()	51
<	-9>	.....	52
<	-10>	.....	53
<	-11>	()	54
<	-12>	.....	55
<	-13>	.....	57
<	-14>	.....	57
<	-15>	()	58
<	-16>	()	59
<	-17>	()	59
<	-18>	()	59

• •

<	-19>	..... 60
<	-20>	..... 62
<	-21>	..... 62
<	-22> ( )	.... 62
<	-23>	() 63
<	-24>	() 63
<	-25>	() 64
<	-26>	
	()	65
<	-27>	
	()	65
<	-28>	() .. 66
<	-29>	..... 67
<	-30>	
	()	68
<	-31>	
	()	68
<	-32>	() .. 69
<	-33>	..... 70
<	-34>	... 70
<	-35>	..... 71
<	-36>	..... 72
<	-37>	가 73
<	-38>	가 73

• •

<	-39>	.	가.....	74
<	-40>		가.....	75
<	-41>		가....	76
<	-42>	.	가.....	77
<	-43>		가	77
<	-44>		.....	78
<	-45>		.....	79
<	-46>	(KBSI)	.....	80
<	-47> KBSI	DB	.....	80
<	-48> ITEP		.....	81
<	-49>		.....	82
<	-1>	DB	.....	99

< >

1.

(1)

-

(2)

, , 가(:) 가

- 가 가 가

(Pilot Survey)

(3)

(, ,)

,

- 가

Case Study

, 가 가
가

2.

(1)

291 7 2,297 (1,000)

, 가

1 1,613 가 10

가 31.8%(3,695)

(2)

1)

2) 가

2002 , 7 2,297
 가 60.5% 4 3,768

3)

3.

(1)

2002 , 7 2,297
 가 가 1 2,138
 16.8%

2002 , 45.5%(30 8,143) ,

(2) 가

가 .
 183 () 277 461
 (161
)

1)

(70 , 43.5%) (56 ,
34.8%)

,

2)

가 (59 ,
36.6%).

3)

1 ~ 4 , 가
(62 , 38.5%)

4)

,

,

4.

(1)

(2)

1)

14 (

)

2)

가

가

“

”

3)

.

,

(

1)

,

4)

.

.

5)

‡

6)

7)

(3)

1)

2) DB

가 (ITEP) “
” (KBSI) “
DB ”

3) DB

I. 1)

1.

-

-

가

가

1)

“ , .

가 , 가

- , , , ,

2.

, , 가(: 가)

- 가 가 가
(Pilot Survey).

, (가 A)

- 가 가 가
가 가

(, ,)

,

- 가 Case Study

,

가 가

가

.

- 가

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- , e-

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II

1. 2)

(1)

1)

	7 2,297 (1,000)		, 291		
-	3 1,637		43.7%		
	, 4 663		56.2%		
-		가	33.7%(2		
	4,372) 가				
		가	27.8%(2		
	124)				
	291		3		

2) 「 」 (2003) 「 」

〈표 II-1〉 기관유형별 연구장비 보유현황

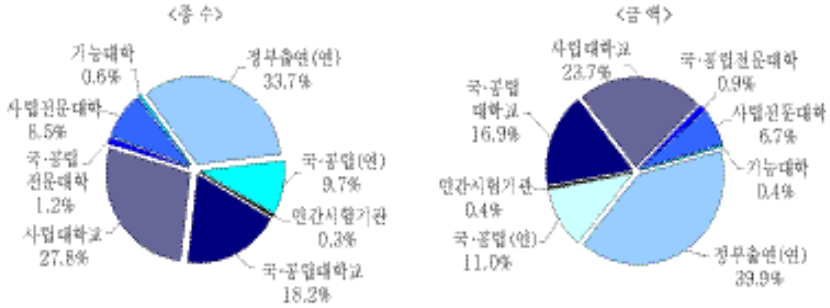
단위 : %, 천원

	대 학					연 구 관					합 계
	국·공립 대학교	사립 대학교	국·공립 전문대학	사립전문 대학	기능 대학	소 계	정부출연 (연)	국·공립 (연)	민간시험 기관	소 계	
기관수	26	65	9	76	6	182	28	77	4	109	291
종 수 (비율)	13,128 (18.2)	20,124 (27.8)	836 (1.2)	6,173 (8.5)	402 (0.6)	40,663 (56.2)	24,372 (33.7)	7,033 (9.7)	229 (0.3)	31,634 (43.7)	72,297 (100)
금 액 (비율)	511,148,470 (16.9)	717,341,310 (23.7)	26,095,038 (0.9)	212,830,855 (6.7)	13,233,009 (0.4)	1,470,639,282 (48.6)	1,207,039,038 (39.9)	334,162,682 (11.0)	12,843,822 (0.4)	1,554,035,572 (51.3)	3,024,704,854 (100)

자료 : 한국과학기술연구원, 「연구장비 구입현황 및 공동활용 실적 조사 보고서」, 2003.

< -1>

: %



, 1 5,000 51.3% ,
 1 4,700 48.6% .

- 가 39.9%
 , 23.7%(7,173)

1 가
 , 291 4,599 가
 , 가

- (3 1,634) 8.7%(2,763)가 1
 가

- 가 2,162 (가 78.2%) 가 가

< -2> 가 (1)

	1,033	227,595,75	3,566	859,819,524	4,599	1,087,415,275
·	102	18,101,811	467	105,253,247	569	123,355,058
	336	69,255,758	691	139,543,459	1,027	208,799,27
·	18	4,859,888	3	634,599	21	5,494,487
	70	14,828,375	142	25,065,914	212	39,894,289
	2	247,224	5	863,583	7	1,110,807
	528	107,293,056	1,308	271,360,802	1,836	378,653,858
()	444	109,909,50	1,718	459,795,829	2,162	569,705,419
· ()	60	10,140,378	521	123,677,466	581	133,817,84
	1	252,727	19	4,985,427	20	5,238,154
	505	120,302,69	2,258	588,458,722	2,763	708,761,417

: , 「 2003. 」

, 581 ,

20

(4 663) 4.5%(1,836)

1 가 가

1,027 , 569 ,

212

- 가

, , 1
가

- 4,599 가 가 3,566 ,
1,033 .

- ,
가 .

2)

, 가

- , , ,
가 .

(7 2,297) 43.4%가
(2002) .

- , ,
32.4% ,
16.3%, 가 12.3% .

, , , 2%

〈표 II -3〉 지역별 연구장비 보유장비 현황(중수기준)

단위 : 천원

	국내산				외국산				합계			
	천~천원	천~1억	1억 이상	소계	천~천원	천~1억	1억 이상	소계	1천~천원	천~1억	1억 이상	소계
합계	22,068	5,428	1,033	28,529	27,625	12,577	3,566	43,768	49,693	18,005	4,599	72,297
강원	566	89	19	674	1,028	348	49	1,425	1,594	437	68	2,099
경남	1,488	269	45	1,802	1,873	787	246	2,906	3,361	1,056	291	4,708
경북	2,147	519	112	2,778	2,666	1,205	345	4,216	4,813	1,724	457	6,994
광주	1,094	259	44	1,397	973	434	89	1,496	2,067	693	133	2,893
대구	309	99	16	424	764	272	106	1,142	1,073	371	122	1,566
대전	6,466	1,917	397	8,780	6,302	3,839	1,291	11,432	12,768	5,756	1,688	20,212
부산	1,700	257	29	1,986	1,915	735	186	2,836	3,615	992	215	4,822
울산	318	99	18	435	307	122	27	456	625	221	45	891
전남	555	121	3	679	561	213	32	806	1,116	334	35	1,485
전북	736	152	8	896	1,280	404	62	1,746	2,016	556	70	2,642
제주	228	34	4	266	473	191	38	702	701	225	42	968
충남	944	263	49	1,256	686	304	139	1,129	1,630	567	188	2,385
충북	324	60	16	400	378	145	30	553	702	205	46	953
서울	3,033	707	178	3,918	4,910	1,813	453	7,176	7,943	2,520	631	11,094
경기	2,160	583	95	2,838	3,509	1,765	473	5,747	5,669	2,348	568	8,585

자료: 「연구장비 DB 구축현황」, 한국과학기술연구원 내부자료.

〈표 II -4〉 지역별 연구장비 보유정비 현황(금액 기준)

	내국산										외국산			합계
	천~천		천~1억		1억이상		소계		천~천	천~1억	1억이상	소계		
	천~천	천~1억	천~1억	1억이상	소계	소계	천~천	천~1억				1억이상		
합계	376,929,591	351,863,218	227,595,751	956,388,560	533,311,542	675,185,228	859,819,524	2,068,316,294	3,024,704,854					
강원	8,177,543	4,216,660	3,285,317	15,659,520	17,566,035	17,186,286	10,230,158	44,982,479	60,641,999					
경남	24,348,868	12,713,352	9,983,621	47,045,841	32,757,539	43,345,072	62,319,711	138,422,322	185,468,163					
경북	32,898,370	23,730,373	17,667,909	74,296,652	46,596,867	58,835,413	86,378,480	191,810,760	266,107,412					
광주	18,358,749	13,134,909	9,068,360	40,562,018	18,150,119	23,255,942	19,236,027	60,642,088	101,204,106					
대구	5,881,715	5,548,536	2,909,572	14,339,823	19,110,623	18,967,789	25,917,706	63,996,118	78,335,941					
대전	117,969,232	99,246,294	100,432,852	317,648,378	113,791,258	200,348,687	348,019,085	662,159,030	979,807,408					
부산	21,217,716	13,184,870	8,592,252	42,994,838	37,955,247	40,327,208	34,240,365	112,522,820	155,517,658					
울산	7,457,071	6,161,785	11,146,222	24,765,078	8,620,053	8,953,482	7,382,006	24,955,541	49,720,619					
전남	12,823,651	5,339,376	495,463	18,658,490	12,299,757	11,101,511	8,488,308	31,889,576	50,548,066					
전북	13,143,657	7,465,404	1,170,160	21,779,221	22,682,302	19,674,500	9,557,274	51,914,076	73,693,297					
제주	3,864,701	1,626,417	457,650	5,948,768	8,436,899	9,798,688	6,930,799	25,166,386	31,115,154					
충남	16,814,912	13,484,222	9,936,212	40,235,346	11,411,170	16,422,462	26,812,873	54,646,505	94,881,851					
충북	5,205,401	3,785,929	2,786,859	11,788,189	7,148,676	7,387,905	8,029,750	22,566,331	34,354,520					
서울	46,477,615	111,839,042	28,953,098	187,269,755	98,927,355	96,819,847	109,579,620	305,326,822	492,596,577					
경기	42,290,390	30,376,049	20,730,204	93,396,643	77,857,642	102,760,436	96,697,362	277,315,440	370,712,083					

자료 : 「연구장비 DB 구축현황」, 한국과학기술연구원 내부자료.

단위 : 천원

< -5>

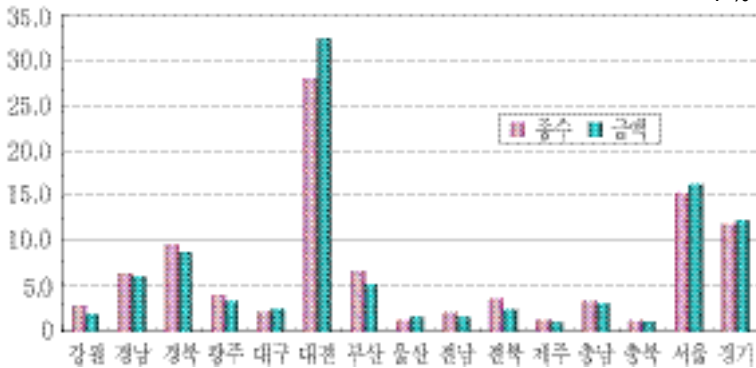
:

	72,297	100	3,024,704,854	100
	2,099	2.9	60,641,999	2.0
	4,708	6.5	185,468,163	6.1
	6,994	9.7	266,107,412	8.8
	2,893	4.0	101,204,106	3.4
	1,566	2.2	78,335,941	2.6
	20,212	28.0	979,807,408	32.4
	4,822	6.7	155,517,658	5.1
	891	1.2	49,720,619	1.7
	1,485	2.1	50,548,066	1.7
	2,642	3.7	73,693,297	2.4
	968	1.3	31,115,154	1.0
	2,385	3.3	94,881,851	3.1
	953	1.3	34,354,520	1.1
	11,094	15.3	492,596,577	16.3
	8,585	11.9	370,712,083	12.3

: 「 DB 」

< -2>

: %



(2)

DB

DB

4

, 4 14 5,418 DB

7 6,990 DB

(TRIN)

가

DB

가

< -6>

DB

		76,990	
가		1,549	
		43,582	
		23,297	
4		145,418	

: 2003

, 1,549 DB

- (infranet)

, 2 3,297 DB

- (Inno-NET) 가

(KISTI)

. 가 .

- , , ,
50 DB
.
2 3,297 DB .
- 8 ()
) 7 ()
) 가 .
, . 가
(:3 , :3,000)
,
.
DB .
,
가 .
가 DB

DB

** DB

2003 12

(KEOL) 3,000

2 3,293 , 2 300

(337).

- 가 1 1,295

48.5% ,

< -7> DB

		43	5,173	332,059,593
		80	5,376	396,172,804
		67	746	87,897,550
		190	11,295	816,129,947
		31	8,002	819,320,819
		106	3,517	340,494,416
		7	476	53,581,837
		144	11,995	1,213,397,072
		3	3	744,200
		3	3	744,200
		337	23,293	2,030,271,219

: 「 DB 」

: 2003

1 1,995 51.5%

- 가

,

가

- , 8,161

40.2% , 1 2,133

59.8%

2003

1,972 521 ,

< -8> 2003 DB

	.	20	275	37,239,882
		26	206	24,947,103
		7	40	6,249,053
		53	521	68,436,038
		22	1,255	149,259,978
	.	8	95	8,292,538
		1	129	12,525,735
		31	1,449	170,078,251
		2	2	544,200
		2	2	544,200
		86	1,972	239,058,489

: 「 DB 」 ,

1,449 .
 - 684 가
 , 1,700
 가 , 가
 . ,
 .
 - 2 3,293 가 1,849 (

< -9>

DB .

: ,

	.	154	10,821	5,019	321,238	5,173	332,059
		244	17,014	5,132	379,158	5,376	396,172
		48	4,416	698	83,481	746	87,897
		446	32,251	10,849	783,878	11,295	816,129
		1,026	92,103	6,976	727,217	8,002	819,320
	.	267	47,509	3,250	292,984	3,517	340,494
		109	8,146	367	45,435	476	53,581
		1,402	147,759	10,593	1,065,633	11,995	1,213,397
		1	200	2	544	3	744
		1	200	2	544	3	744
		1,849	180,210	21,444	1,850,063	23,293	2,030,271

: (2004), 「

」

3.6%) , 2 1,444 (92.1%) .
 - 1,800
 8.8% , 1 8,500
 91.1% .
 가
 , 2 3,293 가 가
 9,399 (40.3%), 가
 9,246 (39.7%) , 가
 3,875 (16.6%) .

< -10> DB () :

	가	가	가		
·	2,233	2,086	802	52	5,173
	2,571	1,970	787	48	5,376
	284	386	62	14	746
	5,088	4,442	1,651	114	11,295
·	2,807	3,255	1,635	305	8,002
	1,434	1,332	526	225	3,517
	70	214	63	129	476
	4,311	4,801	2,224	659	11,995
	0	3	0	0	3
	0	3	0	0	3
	9,399	9,246	3,875	773	23,293

: (2004), 「 」

**

(KEOL)

, 2 가 4.9%(1,113)
 , 10 27.4%(6,194)

1 953 가 5
 11.3%(1,237), 5 10
 65.9%(7,217), 10 22.8%(2,499)

1 1,613 가 5
 26.1%(3,031), 5 10
 42.1%(4,887), 10 31.8%(3,695)

-

3~5

5

- 가 가

가 .

- 27.4% 10 ,

< -11 >

: %

	()	()	()
	22,566 (100)	10,953 (100)	11,613 (100)
1 ~ 2	1,113 (4.9)	199 (1.8)	914 (7.9)
3 ~ 5	3,155 (14.0)	1,038 (9.5)	2,117 (18.2)
5 ~ 10	12,104 (53.6)	7,217 (65.9)	4,887 (42.1)
10	6,194 (27.4)	2,499 (22.8)	3,695 (31.8)

: 「 DB
: 1

2.

(1)

2002

「

」

43.3%가

- 28.0%(2 212),

15.3%(1

1,094)

(2) 가

2002 , 7 2,297
 가 60.5% 4 3,768 .

2002 9,523 가 53.4% 5,088
 , 1 가
 가 .

- 가

(3)

, 가

- DB

(gateway) ,

(4)

가

가 .

-

가

가

-

< -1>

: %

	()	()	()	()
	72,297 (100)	12,138 (16.8)	6,521 (9.0)	5,617 (7.8)
	40,663 (56.2)	5,990 (8.3)	3,854 (5.3)	2,136 (3.0)
	31,634 (43.8)	6,148 (8.5)	2,667 (3.7)	3,481 (4.8)

: (2004), 「

」,

< -2>

: %

	()	()	()
	72,297 (100)	6,521 (100)	5,617 (100)
·	13,128 (18.2)	1,758 (27.0)	740 (13.2)
	20,124 (27.8)	1,632 (25.0)	809 (14.4)
·	836 (1.2)	20 (0.3)	11 (0.2)
	6,173 (8.5)	347 (5.3)	551 (9.8)
	402 (0.6)	97 (1.5)	25 (0.4)
	40,663 (56.2)	3,854 (59.1)	2,136 (38.0)
()	24,372 (33.7)	1,301 (20.0)	1,705 (30.4)
· ()	7,033 (9.7)	1,359 (20.8)	1,753 (31.2)
	229 (0.3)	7 (0.1)	23 (0.4)
	31,634 (43.8)	2,667 (40.9)	3,481 (62.0)

: (2004), 「

」,

- 5,617

가 ,

3,481

62%

,

2,136 38%

2001 2 7,479

2002 6,521 2 958

- 2001 1 3,865

2002 5,617 8,248

< -3>

: %

	()			()		
	2001	2002	(/)	2001	2002	(/)
·	5,668	1,758	3,910/ 69	1,730	740	990/ 57
	13,476	1,632	11,844/88	2,595	809	1,786/ 69
·	254	20	234/ 92	26	11	15/ 58
	3,887	347	3,540/ 91	2,557	551	2,006/ 78
	224	97	127/ 57	381	25	356/ 93
	23,509	3,854	19,655/84	7,289	2,136	5,153/ 71
()	2,002	1,301	701/ 35	4,008	1,705	2,303/ 57
· ()	1,968	1,359	609/ 31	2,568	1,753	815/ 32
	0	7	7/100	0	23	23/100
	3,970	2,667	1,303/ 33	6,576	3,481	3,095/ 47
	27,479	6,521	20,958/ 76	13,865	5,617	8,248/ 59

: · ,「2002

」, 2003.

(2) 2002

2002

, 67 6,906

가

54.5%(368,763),

45.5%(30 8,143)

,

.

-

.

< -4> 2002

: %

		()		()		()
	6,521	368,763 (54.5)	5,617	308,143 (45.5)	12,138	676,906 (100)
·	1,758	59,513 (8.8)	740	8,082 (1.2)	2,498	67,595 (10.0)
	1,632	111,655 (16.5)	809	12,797 (1.9)	2,448	124,452 (18.4)
·	20	174 (0.0)	11	79 (0.0)	31	253 (0.0)
	347	5,664 (0.8)	551	14,450 (2.1)	898	20,114 (3.0)
	97	30 (0.0)	25	60 (0.0)	122	90 (0.0)
	3,854	177,036 (26.2)	2,136	35,468 (5.2)	5,990	212,504 (31.4)
()	1,301	140,878 (20.8)	1,705	93,369 (13.8)	3,006	234,247 (34.6)
· ()	1,359	50,638 (7.5)	1,753	179,129 (26.5)	3,112	229,767 (33.9)
	7	211(0.0)	23	177 (0.0)	30	388 (0.1)
	2,667	191,727 (28.3)	3,481	272,675 (40.3)	6,148	464,402 (68.6)

:

.

, 「2002

↓ 2003.

21 2,504 가 ,
 17 7,036 , 3 5,468
 , 46
 4,402 가 19 1,727
 , 27 2,675

가

< -5>

2002

		1,758	59,513	505,907	44,966	740,857
		1,632	111,655	299,872	58,909	1,008,186
		20	174	80	3,780	0
		347	5,664	12,927	5,049	2,962
		97	30	21	785	0
		3,854	177,036	818,807	113,489	1,725,005
	()	1,301	140,878	158,365	17,200	7,505,740
	()	1,359	50,638	115,661	8,476	168,653
		7	211	2,227	7	0
		2,667	191,727	276,253	25,683	7,674,393
		6,521	368,763	1,095,061	139,172	9,399,398

: , 「2002」 ↓ 2003.

-

. . .

가 14 878 (

20.8%) 가 ,

(11 1,655 16.5%),

(5 9,513 8.8%) .

5.2%

40.3%

< -6> 2002

	.	740	8,082	43,891	26,207	891,679	
		809	12,797	48,398	7,030	1,176,388	
	.	11	79	93	79	0	
		551	14,450	354,602	11,852	1,163,574	
		25	60	364	318	11,475	
		2,136	35,468	447,348	45,486	3,243,113	
	()	1,698	93,369	197,607	33,057	13,644,835	
	.	()	1,753	179,129	491,416	173,828	7,234,922
			23	177	291	125	44,856
			3,474	272,675	689,314	207,010	20,924,613
		5,617	308,143	1,136,662	252,496	24,167,726	

: . ,「2002 ↓ 2003.

< -7> 2002

: %

						()	()		
	8,082	12,797	79	14,450	60	93,369	179,129	177	308,143
	2.6	4.2	0	4.7	0	30.3	58.1	0.1	100

: , 「2002 ↓ 2003.

(27 2,675)

- 가
 26.5%(17 9,129) ,
 (9 3,369 13.8%),
 (1 4,450 2.1%)

58.1%(17 9,129) , () 30.3%(9
 3,369) , 4.7%(1 4,450)

(3)

1)

3 5,468 가 43.2%
 , 16.5%
 1,329 3.8%

< -8>

: %

	()	()	()	()	()
	24,153 (7.8)	7,319 (2.4)	253,855 (82.4)	22,816 (7.4)	308,143 (100)
	5,829 (16.5)	1,329 (3.8)	15,301 (43.2)	13,009 (36.6)	35,468 (100)
	18,324 (6.7)	5,990 (2.2)	238,554 (87.5)	9,807 (3.6)	272,675 (100)

: (2004), 「
), .

- 27 2,675 가 23
8,554 87.5% ,
6.7%, 2.2% .

- 가

2)

23 4,247 가
, 60.1%(14 878),
39.9%(9 3,369) .

-

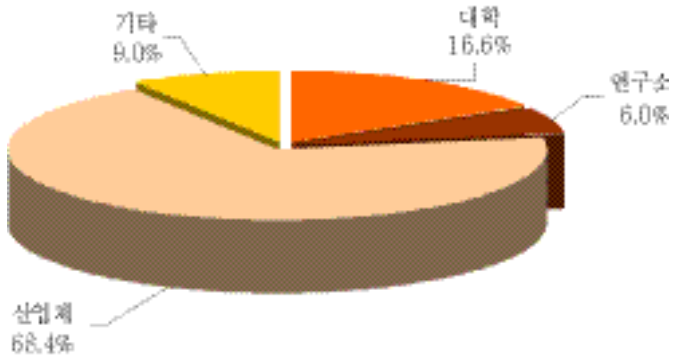
< -10>

: %

	()	()	()	()	()
2002	15,516 (16.6)	5,570 (6.0)	63,830 (68.4)	8,433 (9.0)	93,369 (100)
2001	16,454 (23.9)	3,559 (5.2)	45,894 (66.5)	3,088 (4.4)	68,995 (100)

: . , 「2002 ↓ 2003.

< -1>



< -11>

: %

		2001	2002	(/)	
		993	1,233	240/24	
		831	322	509/ 61	
		13,422	13,176	246/ 2	
		95	90	5/ 5	
		118	0	118/ 100	
		11,954	14,036	2,082/17	
		325	3,766	3,441/1,059	
		221	415	194/88	
		4,910	8,134	3,224/66	
		72	9	63/ 88	
		1,355	2,802	1,447/107	
		0	0	0	
		581	181	400/ 69	
		25	7	18/ 72	
		20,092	34,024	10,932/54	
991		67	924/ 93		
413		477	64/15		
18		30	12/67		
358		129	229/ 64		
2,177		4,479	2,302/106		
		0	16	16/100	
		0	0	0	
		0	0	0	
		0	0	0	
		0	0	0	
		0	0	0	
		0	0	0	
		0	0	0	
		0	0	0	
		9,553	9,968	415/4	
		0	0	0	
		489	8	481/ 98	
		0	0	0	
			68,993	93,369	24,376/35

:

,「2002

, 2003.

< -12> 2002

: %

		351	117	723	42	1,233
		84	19	219	0	322
		9,308	139	2,333	1,396	13,176
		87	3	0	0	90
		0	0	0	0	0
		1,551	52	12,424	9	14,036
		199	381	3,186	0	3,766
		10	0	405	0	415
		22	48	7,974	90	8,134
		1	1	6	1	9
		569	383	1,773	77	2,802
		0	0	0	0	0
		6	3	168	4	181
		0	0	4	3	7
		206	1,461	25,932	6,425	34,024
		14	3	42	8	67
		23	20	164	270	477
		1	4	25	0	30
		12	53	61	3	129
		283	1,229	2,925	42	4,479
		2	11	3	0	16
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		2,785	1,642	5,478	63	9,968
		0	0	0	0	0
		2	1	5	0	8
		0	0	0	0	0
		15,516	5,570	63,850	8,433	93,369

:

, 2002

, 2003.

(366)

가 .

**

25

26 .

4 5,420 .

81.8%(3 7,142),

18.2%(8,278) .

가 .

< -14>

: %

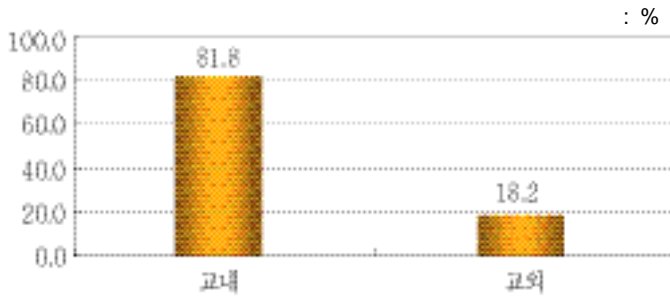
		()	()	()
2002	26	37,142 (81.8)	8,278 (18.2)	45,420 (100)
2001	26	35,341 (79.4)	9,179 (20.6)	44,520 (100)

:

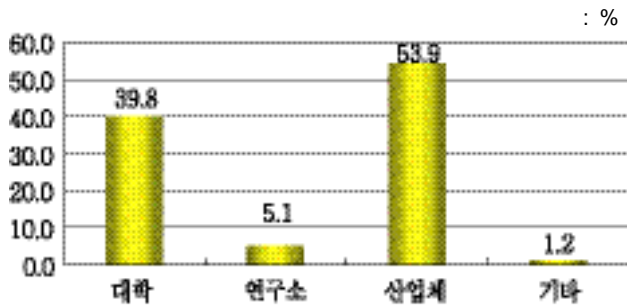
, 「

」, 2003.

< -2>



< -3>



< -15>

: %

	()	()	()	()	()
2002	3,291 (39.8)	423 (5.1)	4,464 (53.9)	100 (1.2)	8,278 (100)
2001	5,294 (57.7)	569 (6.2)	3,147 (34.3)	169 (1.8)	9,179 (100)

: , 「, 2003.

53.9%(4,464),
39.8%(3,291), 5.1%(423), 1.2%(100
) 가 .

2. 가

(1)

1)

**

가 가
183 () 277 461

가

(face to face interview)

, e-

2004 2 8 2004 4 8

**

183 , ()
) 277 461 . 2003
 가
 461 , 161
 - 88 (54.7%),
 () 73 (45.3%) .
 - 26 (16.1%) , 135 (83.9%) .
 . 88 9.1%(8)
 , () 73 18
 (24.7%) .

< -16>

			%		%		%	
		161	26	16.1	97	60.2	38	23.6
	/	88	8	9.1	50	56.8	30	34.1
		73	18	24.7	47	64.4	8	11
		26	26	100	0	0	0	0
	/	135	0	0	97	71.9	38	28.1

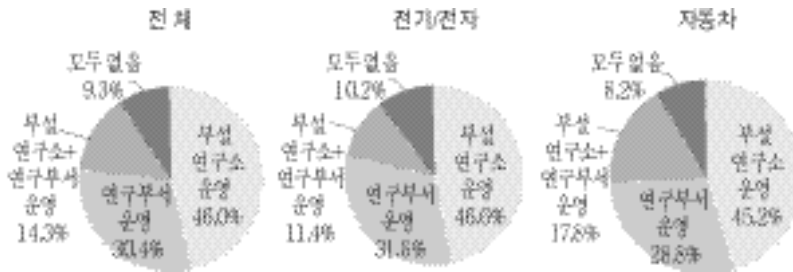
: (KIET) , 2004. 3.

< -17>

						+				
			%		%		%		%	
		161	74	46.0	49	30.4	23	14.3	15	9.3
	/	88	41	46.6	28	31.8	10	11.4	9	10.2
		73	33	45.2	21	28.8	13	17.8	6	8.2
		26	10	38.5	11	42.3	5	19.2	0	0
	/	135	64	47.4	38	28.1	18	13.3	15	11.1

: (KIET), 2004. 3.

< -5>



3)

, 가

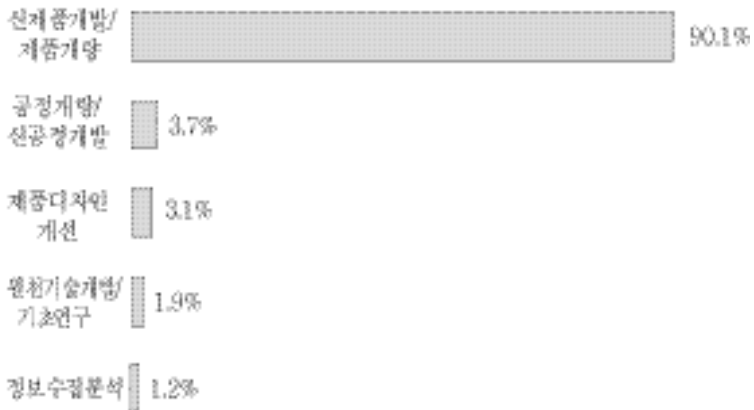
- 145 (90.1%)

< -18>

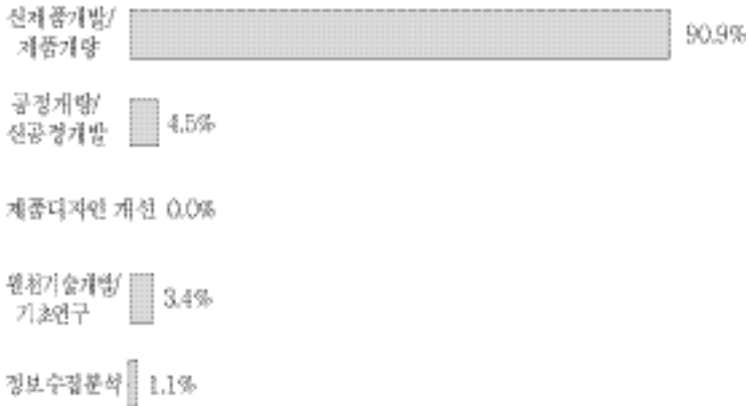
		/		/		/		/		/		
			%		%		%		%		%	
		161	145	90.1	6	3.7	5	3.1	3	1.9	2	1.2
	/	88	80	90.9	4	4.5	0	0	3	3.4	1	1.1
		73	65	89	2	2.7	5	6.8	0	0	1	1.4
		26	24	92.3	0	0	2	7.7	0	0	0	0
	/	135	121	89.6	6	4.4	3	2.2	3	2.2	2	1.5

: (KIET), 2004. 3.

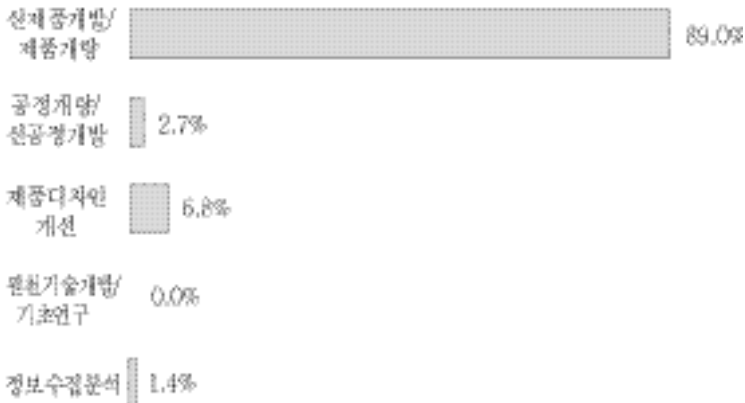
< -6>



< -7>

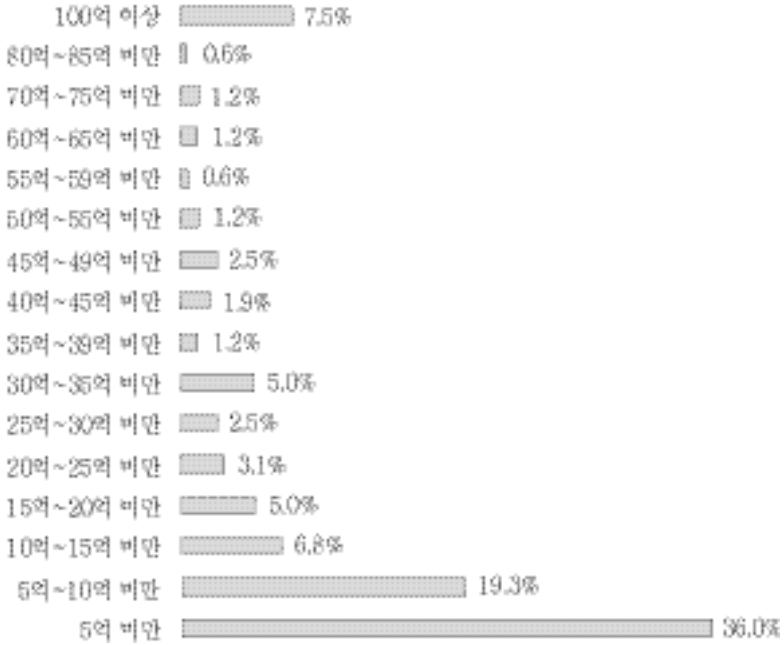


< -8> ()



4)

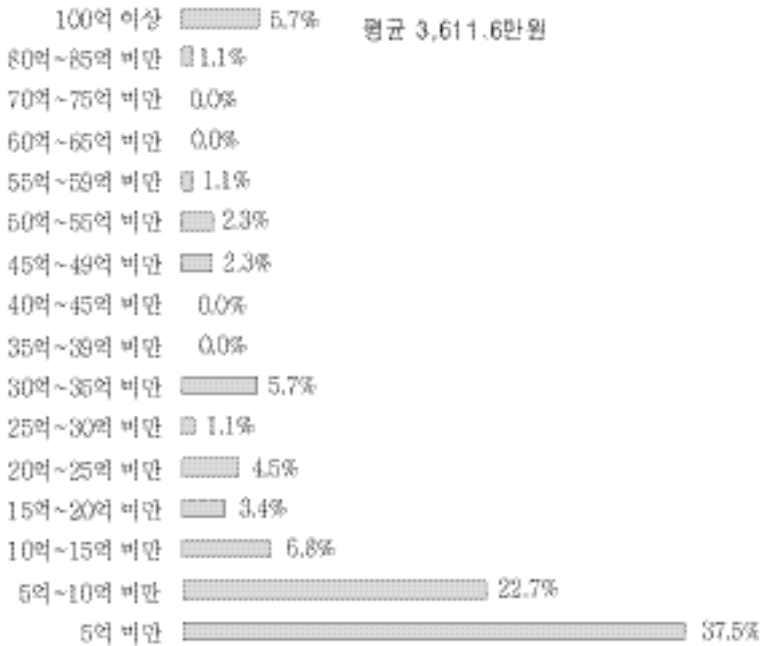
< -9>



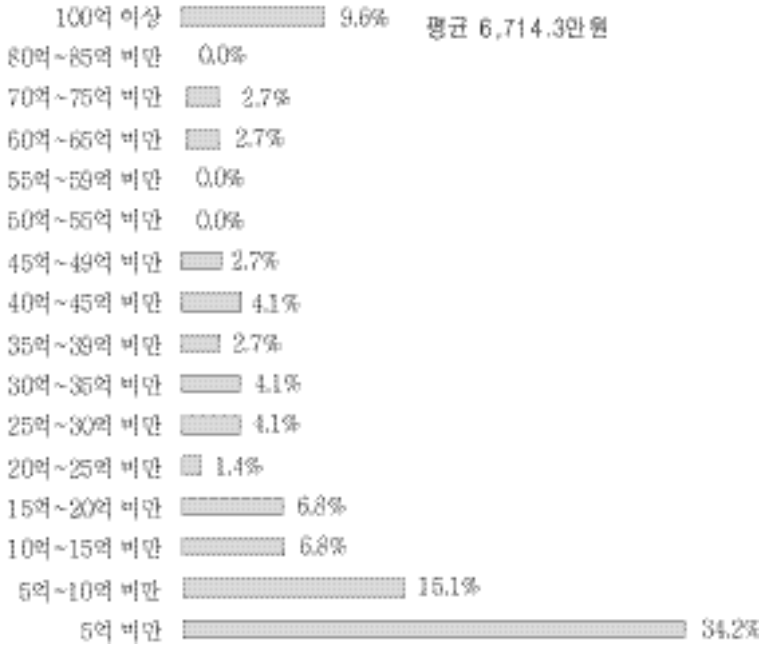
) 가 ,
 5 10
 19.3%(31) .
 - 100
 7.5% ,
 LG ,

3,611	, 5	37.5%(33
)	, 5	22.7%(20
)		
()		6,714
-	5	34.2%
(25)	, 5	10
(11)		15.1%

< -10>



< -11> ()



161 0.7%

, () 0.3%. 1.1%

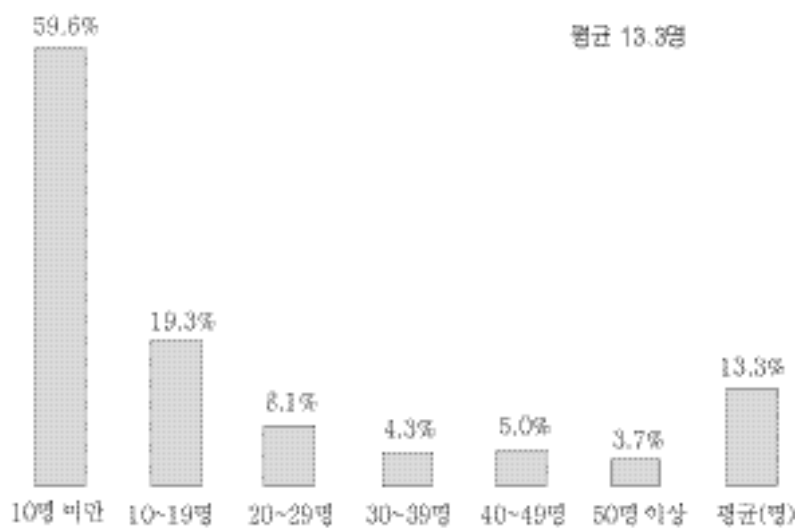
- , 161

5% 41%(66)

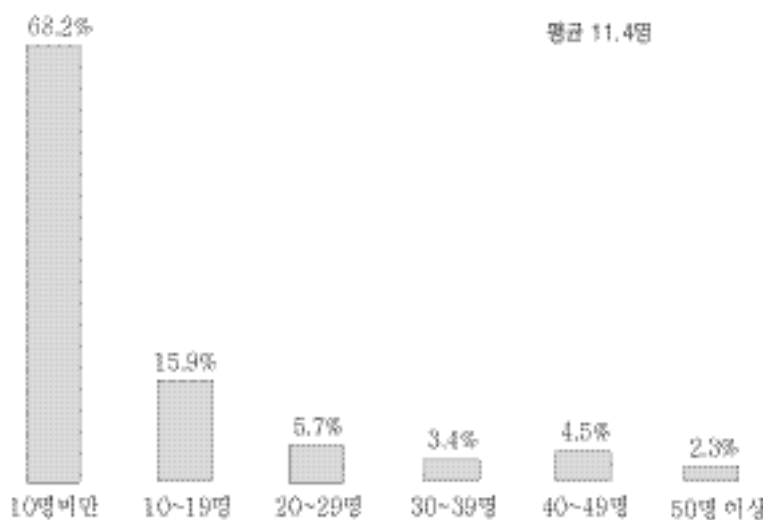
, 5% 9%

27.3%(44)

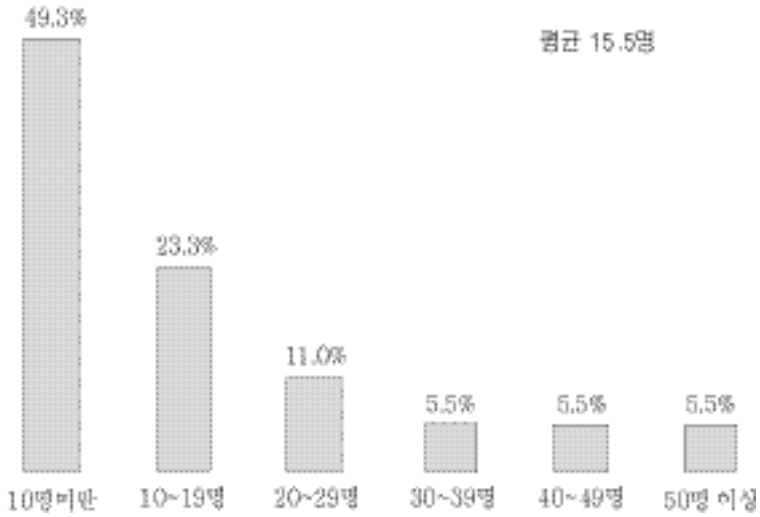
< -13>



< -14>



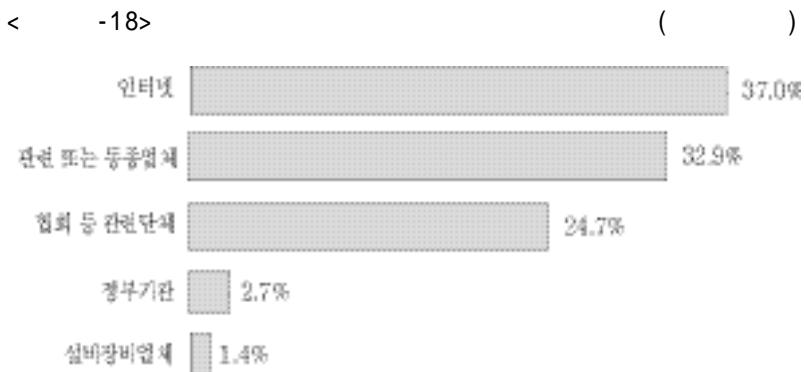
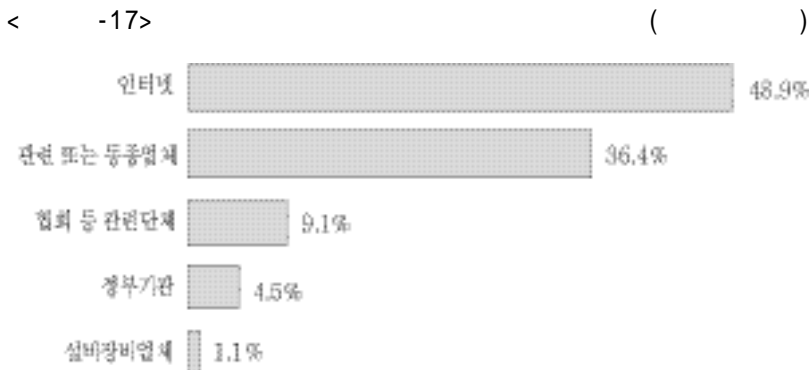
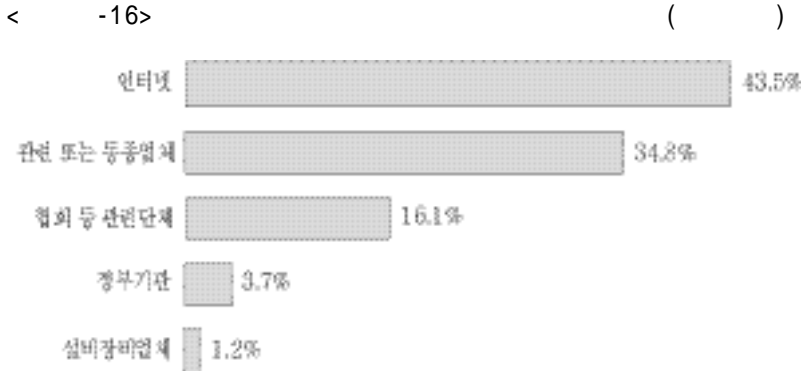
< -15> ()



(2) 가

1)

, (70
, 43.5%) (56 , 34.8%)



2)

가

가

102

63.4%

,

가

55

34.2%

-

가

4

-

가

,

가

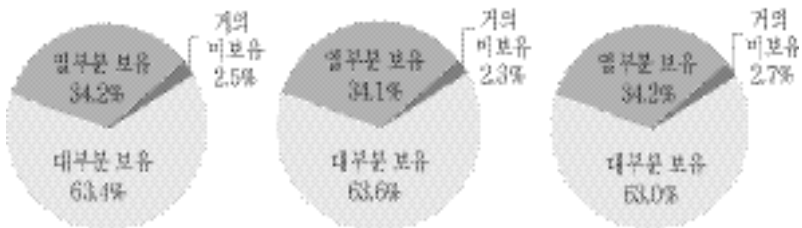
-

< -19>

전 체

전기/ 전자

자동차



3)

(161)

가 가

(59 , 36.6%).

- 가

(47 , 29.2%),

(33

, 20.5%)

- , ,

()

가 가 ,

가 가

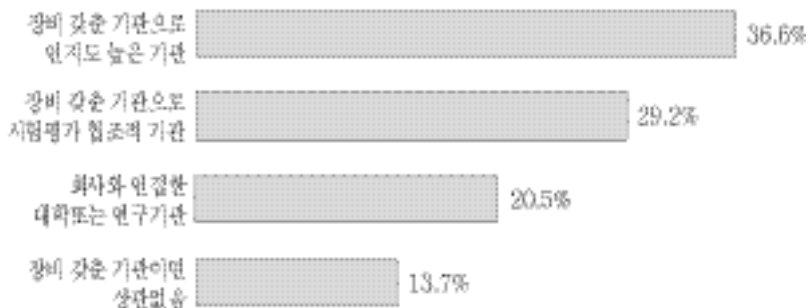
(161),

- (32.9%),

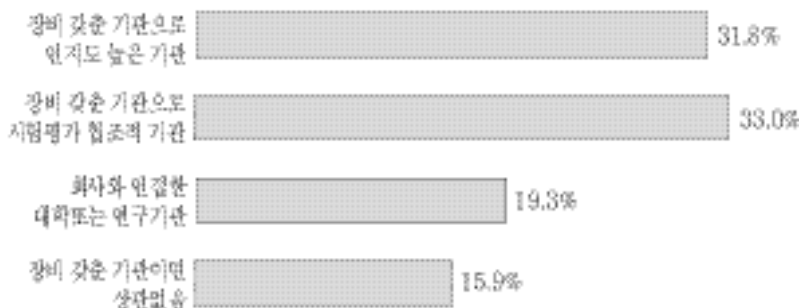
(21.5%),

(17.7%)

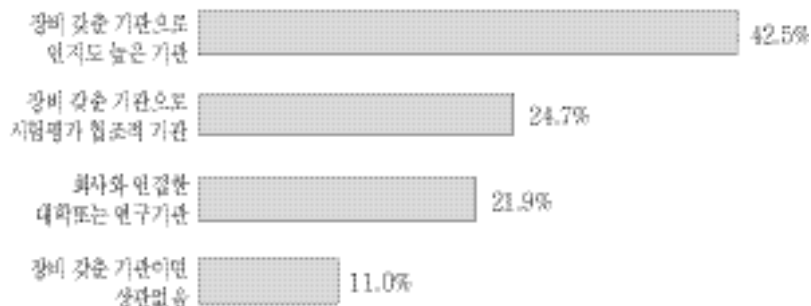
< -20>



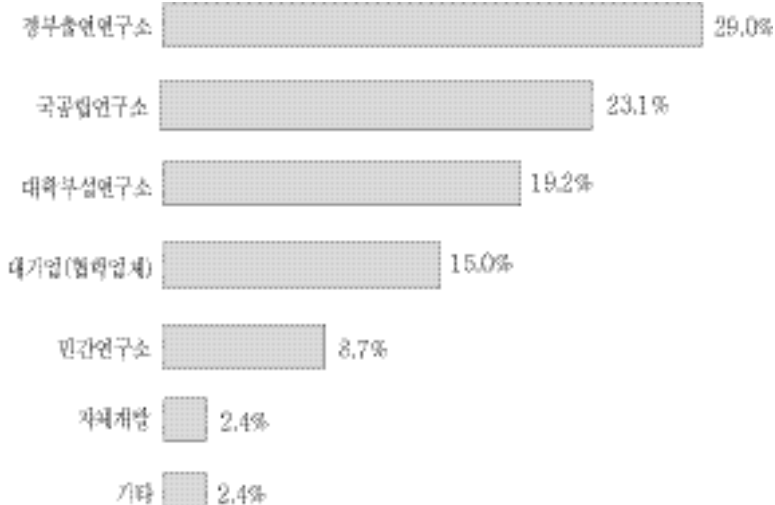
< -21>



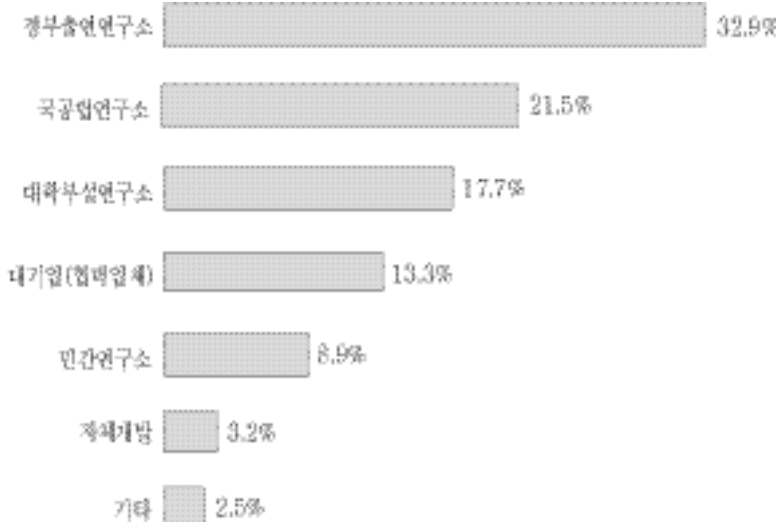
< -22> ()



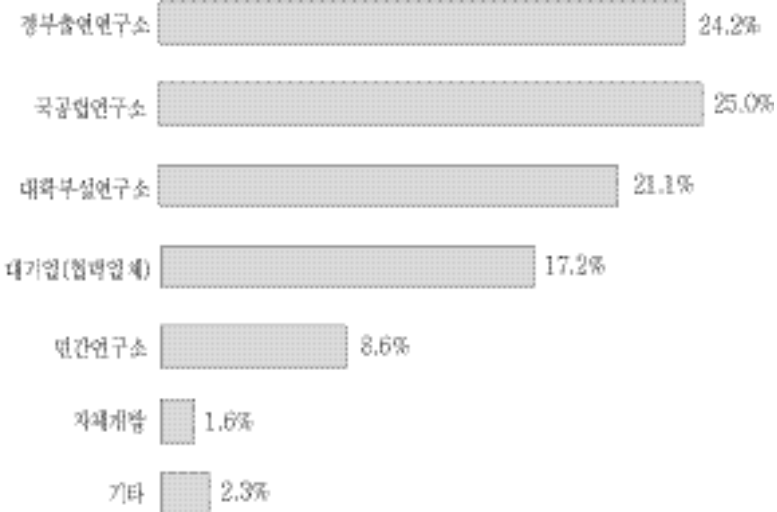
< -23> ()



< -24> ()



< -25> ()



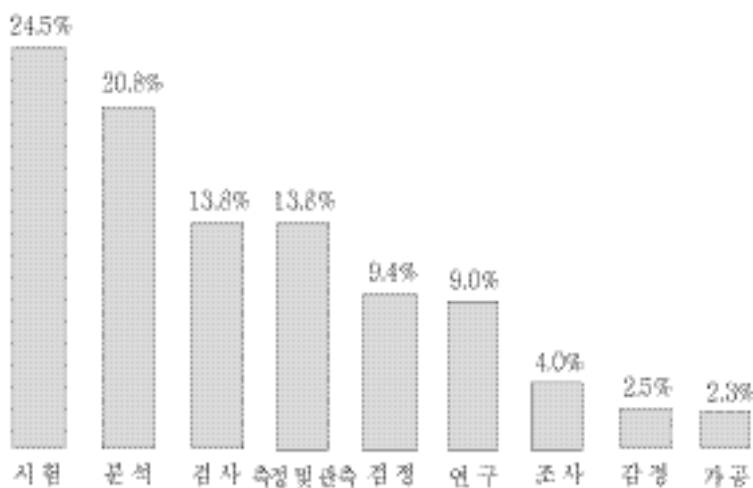
, () (25%),
(24.2%), (21.1%)

4)

, 가 ,
- 22.3%
가 , (22%),
(14.5%), (14.2%)

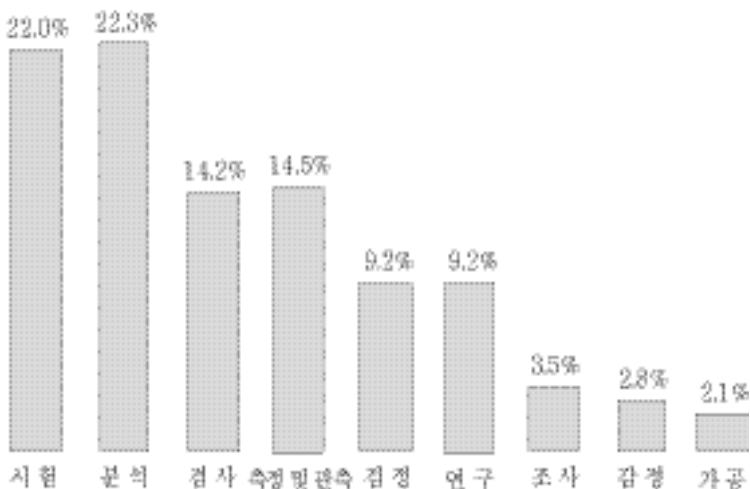
< -26>

()



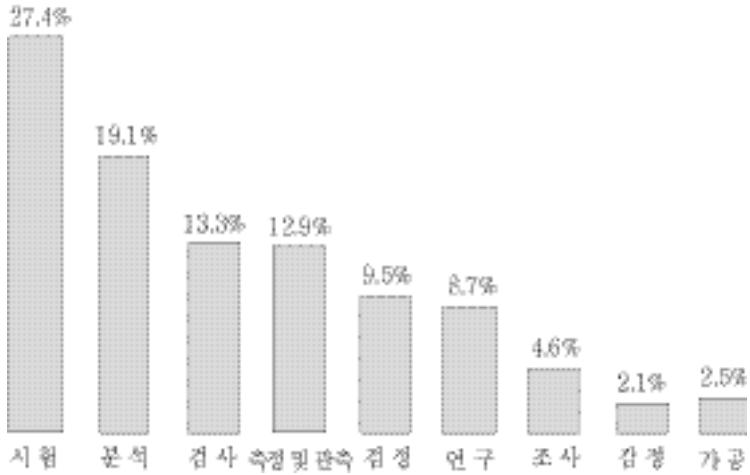
< -27>

()



< -28>

()



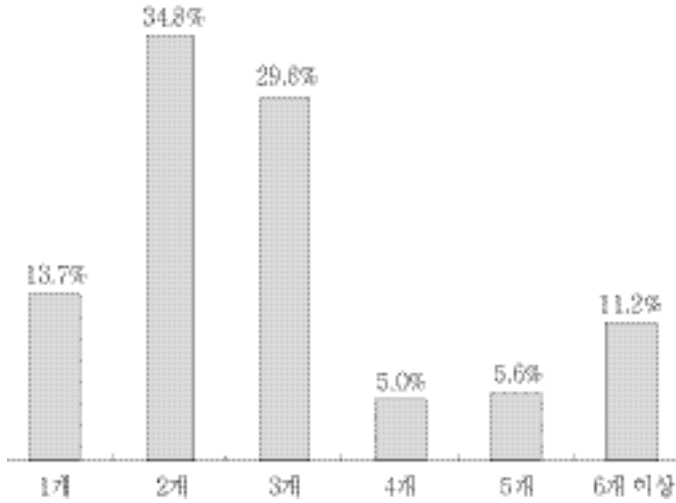
- () (27.4%) 가
, (19.1%), (13.3%),
(12.9%) .

5)

,
, 2
34.8%(56), 3 29.8%(48
, 1 13.7%(22)
.

- 6 11.2%(18

< -29>



)

6)

, 가

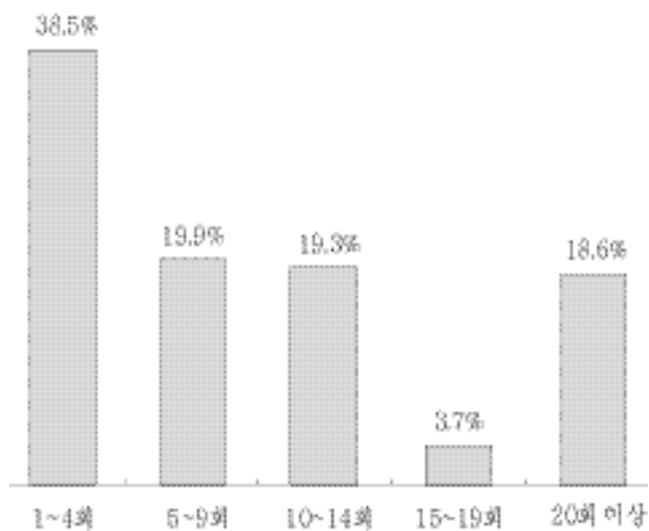
1 ~ 4 (62
, 38.5%), 5 ~ 9 가 19.9%(32

)

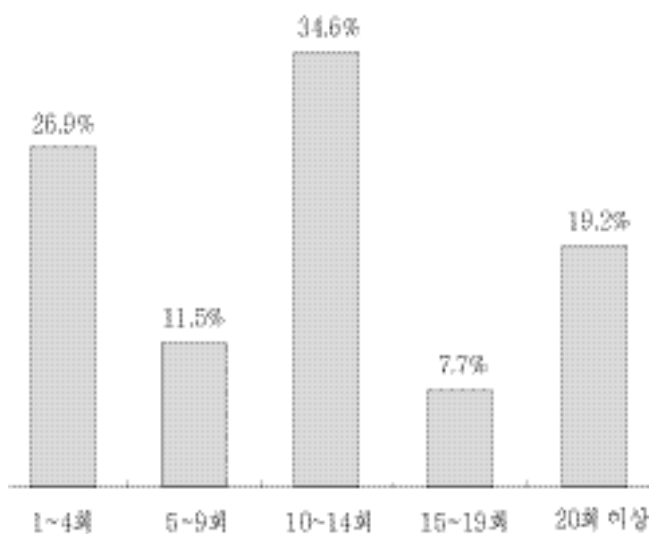
- 20 18.6%(30)

가

< -30> ()

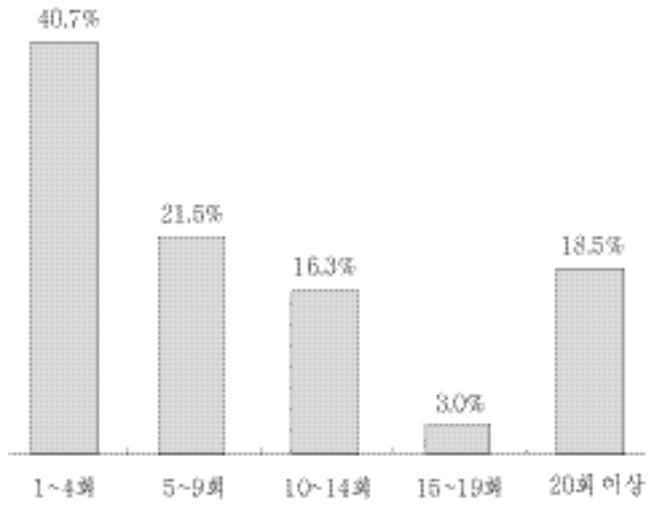


< -31> ()



< -32>

()



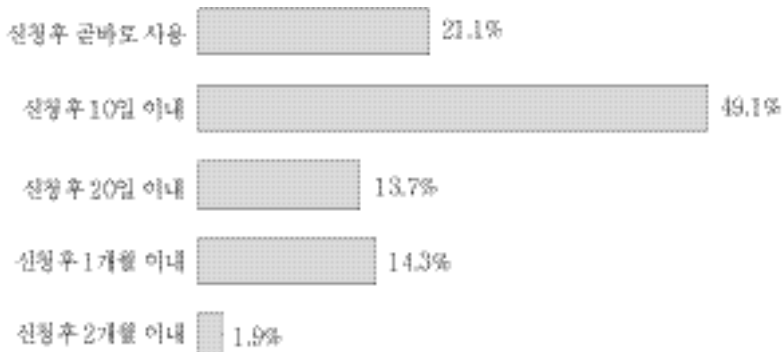
가

7)

, ,
10

70.2%(113)

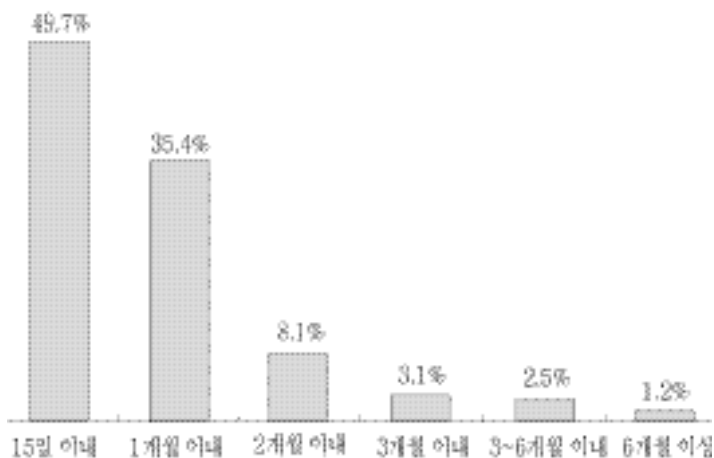
< -33>



8)

1

< -34>



85.1%(137)

9)

가 e-

86

53.4%

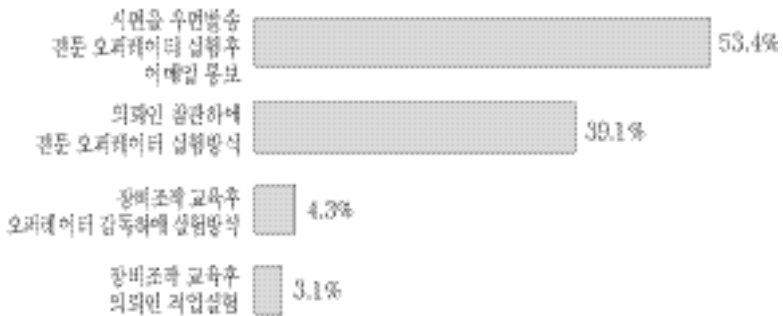
가

63

, 39.1%

7.4%

< -35>



< -36>



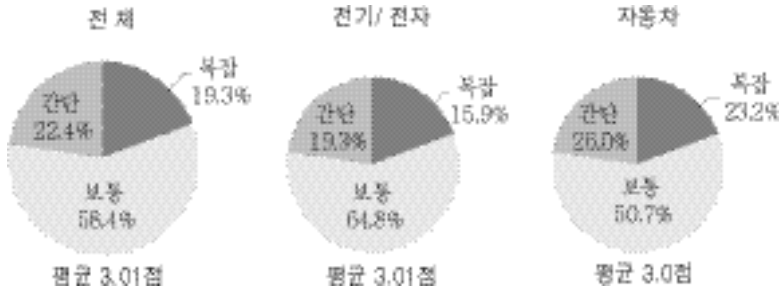
10)

가

	가	94
-	가	58.4%
	36	22.4%
-	가	31
		19.3%

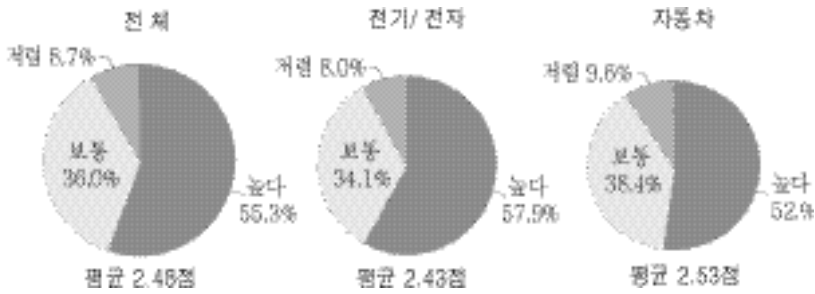
< -37>

가



< -38>

가

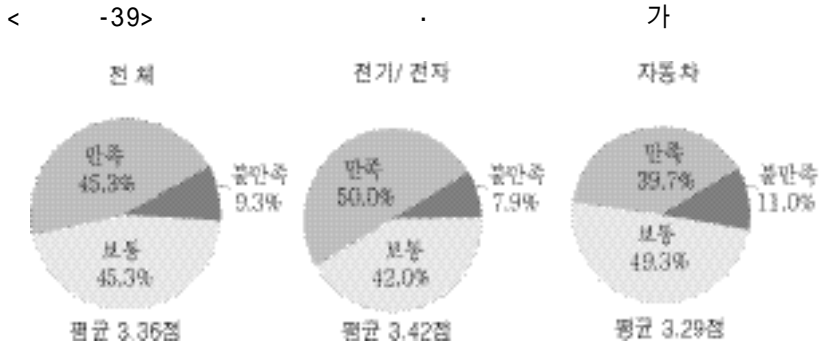


89

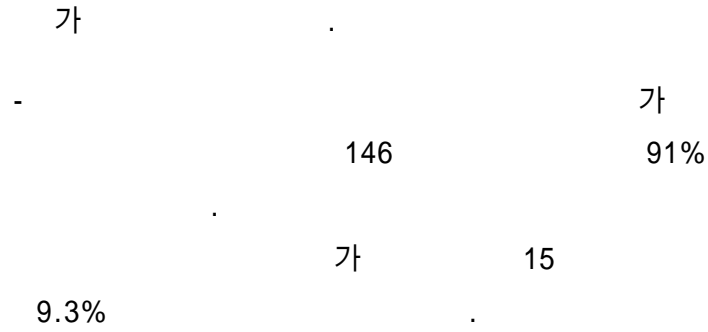
55.3%

14

8.7%



11) 가



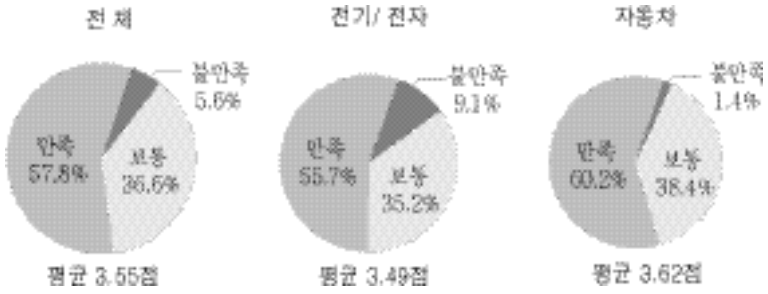
(3) 가

1) 가

가 ,

< -40>

가



가

가 152

94%

9

5.6%

2)

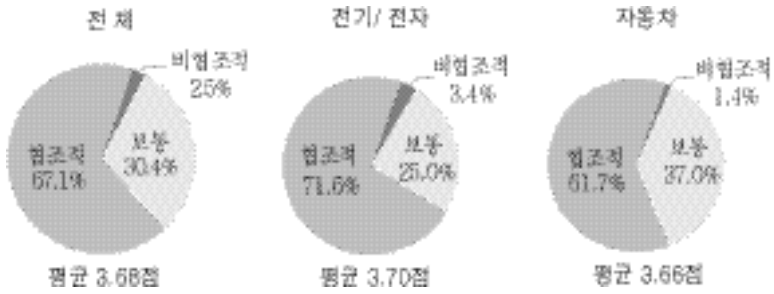
가

108

67%

< -41>

가



49

30.4%

4

3)

69

42.9%

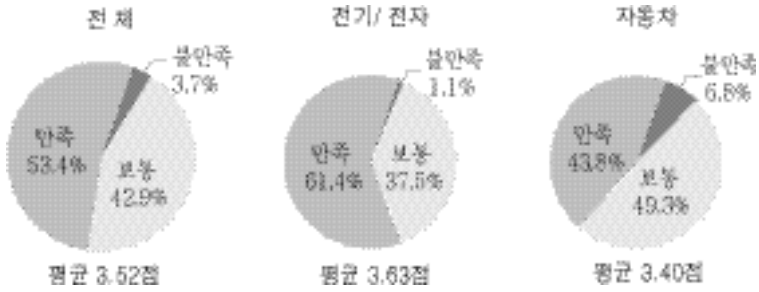
86

53.4%

6

< -42>

가



3.7%

가

가

158

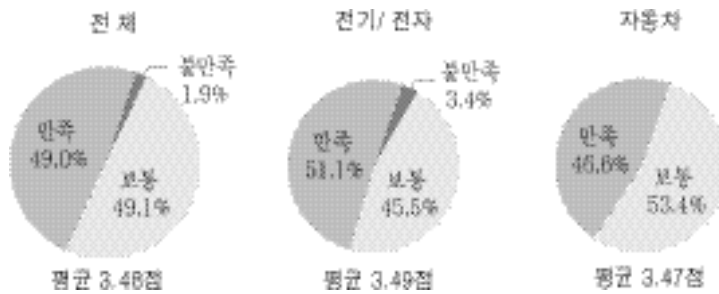
98%

(

79

< -43>

가



49.1%, 78 48.4%).

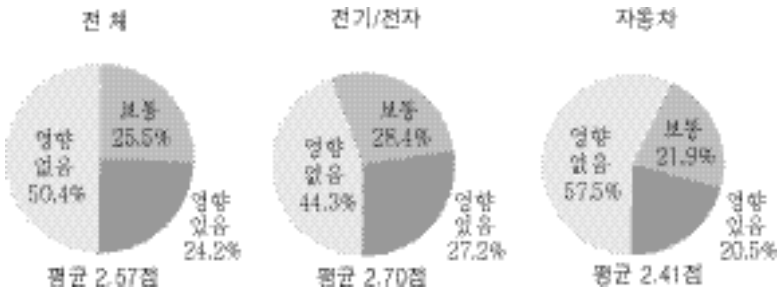
- 3 ,

(4)

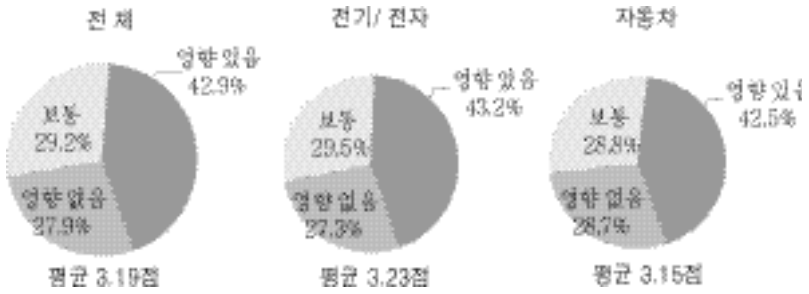
81

50.3%
39 24.2% (25.5%
41)
).

< -44>



< -45>



45 (28%)

69 (42.9%)

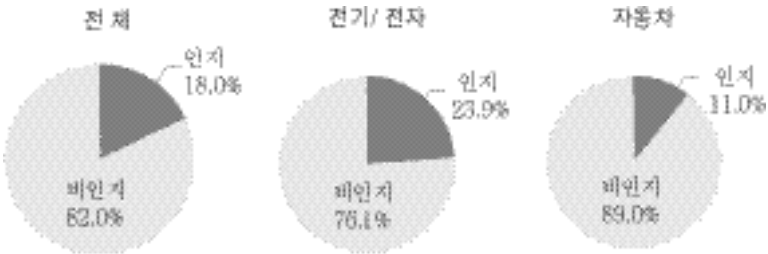
가

(5)

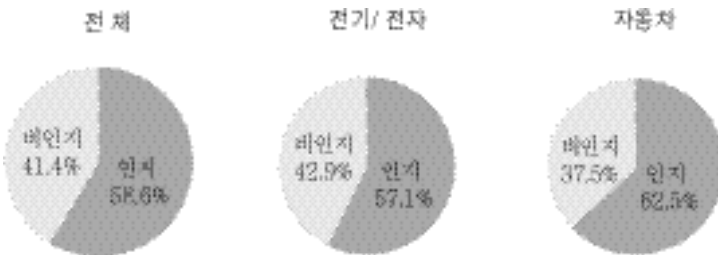
132 DB 82%
가

DB 가 17
(58.6%)

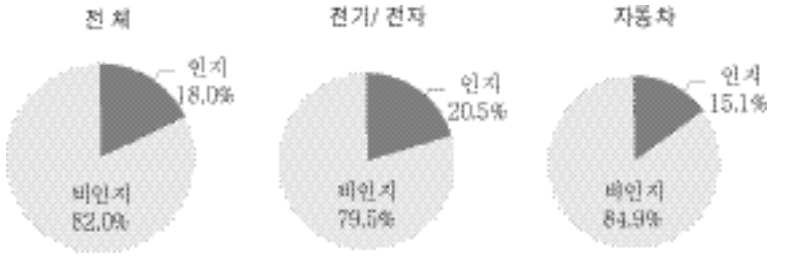
< -46> (KBSI)



< -47> KBSI DB



< -48> ITEP



가

가 (ITEP)

가

132

82%

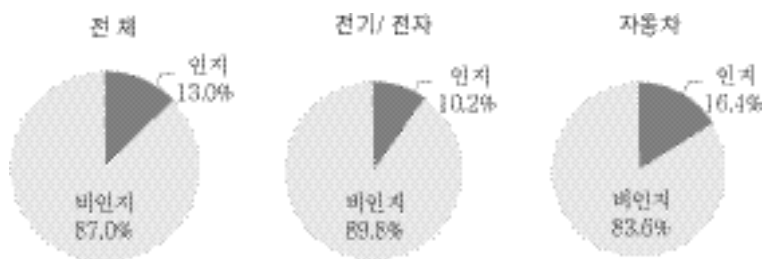
가

140

87%

DB

< -49>



e-

IV.

1.

-

-

2.

(1)

가

가

가

가

< -1>

		28 (.)
		42 (.)
		10 ()
		17 ()
		11 ()
		5 ()
		9 ()
		10 ()
		19 ()
		16 ()
		17 ()

가

14 (

)

< -2>

(研究開発に係る情報化の促進)

第13條 國は、研究開発の効率的な推進を図るため、科學技術に関する情報處理の高度化、科學技術に関するデータベースの充實、研究開発機關等間の情報ネットワークの構築等研究開発に係る情報化の促進に必要な施策を講ずるものとする。

(研究開発に係る交流の促進)

第14條 國は、研究開発機關又は研究者等相互間の交流により研究者等の多様な知識の融合等を図ることが新たな研究開発の進展をもたらす源泉となるものであり、また、その交流が研究開発の効率的な推進にとって不可欠なものであることにかんがみ、研究者等の交流、研究開発機關による共同研究開発、研究開発機關の研究施設等の共同利用等研究開発に係る交流の促進に必要な施策を講ずるものとする。

(研究開発に係る資金の効果的使用)

第15條 國は、研究開発の円滑な推進を図るため、研究開発の展開に応じて研究開発に係る資金を効果的に使用できるようにする等その活用に必要な施策を講ずるものとする。

(研究開発の成果の公開等)

第16條 國は、研究開発の成果の活用を図るため、研究開発の成果の公開、研究開発に関する情報の提供等その普及に必要な施策及びその適切な實用化の促進等に必要な施策を講ずるものとする。

(2)

8) (7
(6 7)
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7 (

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6 2

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가

12

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가 가 ,

가 “ ”

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< -3>

		7 ()
		8 ()
		6 ()
		7 ()
		12 ()
		9 ()
		14 ()
		5 ()
		7 ()
		14 ()
		12 ()
		21 ()
		23 ()
		18 ()
		10 ()
		22 ()
		13 ()

30%()

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가

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가 가

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(3)

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가

가

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가

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(2004 3 31)

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가 (ITEP)

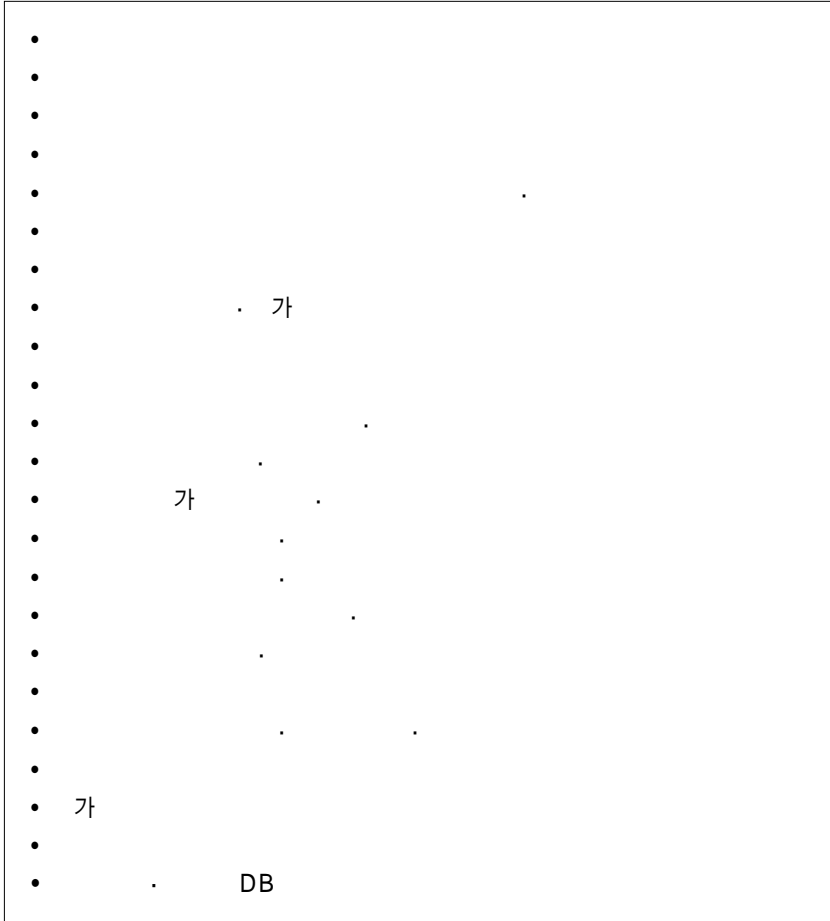
가

-

1)

(

< -4>



(4)

< -5> 가 : , , %

	()	()	(/) * 100
(A)	8,769	203,936	4.3%
(B)	4,179	863,017	0.5%
B/A (/)	0.48	4.23	

: 가 (ITEP) , 2003. 11.
: 가 3,000 .

- 2002 3 .
131 (3,000)
(4,139 ; 3,000)
3.2%

- . 87 6,900
(2,039 3,600) 4.3%

- 2002 3 ,
4,179
(86 3,017) 0.5% † .

(5)

Bi-Ladder

- 32.4% () 가
 , 28.6%
 61%

< -6 >

Track 1		32.4%		DB
		28.6%	16.3%, 12.3%	
Track 2 A		24.3%	5.1%, 6.1%, 1.7%, 2.6%, 8.8%	DB
()	(12.9%)	(5.1%, 6.1%, 1.7%)		
Track 2 B		11.7%	3.4%, 1.7%, 2.4% 3.1%, 1.1%	
()	(7.5%)	(3.4%, 1.7%, 2.4%)		(Track 2B)
		3.0%	2.0%, 1.0%	

: 1) 가

Track 1, 2

2) 2003 (43.2%),

(25.6%) 가

- , , 12.9%
 , , 7.5%

,
Bi-Ladder

- . (11.4%) ()
24.3% ()
) 11.7% 1/2

(6)

‡

-

< -7> (A)

	가		
a	5 9,000		2003 4 (4)
b	4 9,000		2002 2003 5 (3 , 2)
c	6,000		2002 2003 10 (9 , 1)
d	6,000	가	2002 2003 3 (3)

: 1)

2)

가

가

3)

(7)

-

가

,

가

15 20%

3.

(1)

,

- 1

- 가
가

가 (TAMA)
가 .

- TAMA , 가
가

“ TAMA Virtual
Laboratory System ” .

-

가

가

가

TAMA

가

(< -8>).

< -8> TAMA

	東洋大學	118	, , ,
	創価大學	9	,
	富士電機(株) 東京 製作所	24	
	横河電機(株)	11	
	STAC 電子(株)	8	
	昭和電線(株)	21	,
	生薬發酵研究所	5	,
	가	4	가
	(財)機械振興協會技術研究所	8	가
	TAMA 中小企業振興	41	, , ,
	10	249	

: (社)TAMA産業活性化協會, 「平成14年度 年報」, 2003. 6.

: 2002

- 富士電機(株) 東京 製作所
24
가 .

- ,
가 가
가
가 .
가
(:
가)

(2) DB

DB

DB

- 가 () 가 .
가 (ITEP) “
” (KBSI) “

DB

”

R & D

(3) DB

161

KIET

(KBSI)

DB

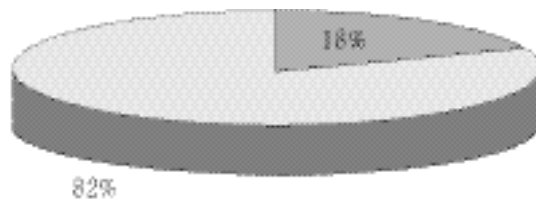
29

가 132

82%

< -1>

DB



: (KIET) , 2004. 3.

: 161 (KBSI)

가 (ITEP) DB

- 가 (ITEP)

“ ” 가 “

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18%

DB

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1.	_____
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3.	(2003 12)		
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6. 가 ?
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7. ,
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8. 가 ?
[1 : _____, 2 : _____]

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9. 가 ?

1 2 3 4
5 6

10. 가 ?

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15 19 20

11. ,
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12. , 가
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14. 가

?(1가)

15.

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	operato가 , e-mail operato가 , operator
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16. _____
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17. _____
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18. 가 _____ .
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18-1. (18) 가
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_____ :

III 「 」 .

19. 가 가
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20.

가

가

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가	

IV.

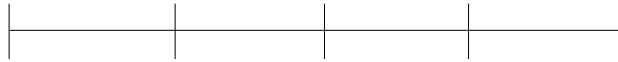
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21. 가

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21-1. (21 _____)

가

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22. _____ , _____
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22-1. (22)
 가 ?

_____ :

23. 가 _____
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23-1. (23)
 가 ?

_____ :

24. _____ , 가 ?



24-1. (24)
가 ?

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V. 「 」 .

25. 2003 가
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26.

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27.

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- VI. 「 」 .
28. “ (KBSI)”
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(29 30) (30)
29. “ (KBSI)”
DB
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30. “ 가 (ITEP) ‘
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31. “ ” ?

32.

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VII

33.

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(2004), 「 2003 . 」.

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(2003), 「

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(2003), 「 .

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(社)TAMA産業活性化協會(2003), 「平成14年度 年報」.

日本内閣府 編(2003), 「科學技術政策 Report 2003」.

Issue Paper 2004-158

R & D

發行處：產業研究院(特別市 東大門區 清涼里洞 206-9)

發行人：吳 相 奉

登錄：1983年 7月 7日 第6-0001號 / 電話：3299-3114

印刷：2004年 6月 9日 / 發行：2004年 6月 11日

印刷處：平康企劃印刷

ISBN 89-90789-49-4 93320

購讀問議： (3299-3151)

內容 無斷轉載 譯載 禁 .

普及價 5,000