CHAPTER 9 EIA FOR ALMOUT WATER DIVERSION PROJECT

9.2	Existing Environmental Conditions	9.1
9.4	Impact of Taleghan and Almout Water Diversion to Manjil Dam	9.15
93	FIA Procedure in Iran ************************************	9 51

Table 9.2.2.2 List of Flora in the Almout River Basin (Long List)

Shrubs+ Herbs

No.	Family	Scientific Name
1	Adiantaceae	Adinatumcapllus veneris
2	Alliaceae	Allium hirtifolium
3	Amary Lidaceae	Exilirion tataricum
4	Asclepiadaceae	Vincetexicum funebre
5	"	Periploca raeca
6	n	Vincetoxicum funebre
7	Asteraceae	Achilea milfefolium
8	"	Achilea tenaifolia
9	"	Achilea Sp
10	"	Achilea micrantha
11	"	Artemisia oliveriana
12	u u	Artemisia anna
13	"	Artemisia scoparia
14	и	Bidens tripartia
15	"	Callicephalus nitens
16	"	Cantaurea aucheri
17	"	Cantaurea behen
18	"	Cantaurea depressa
19	11	Cantaurea gilanica
20	"	Cantaurea virgata
21	"	Cantaurea solstitialis
22	н	Conyzanthus sguamatus
23	"	Cousinia esfandiaril
24	0	Cousinia crispa
25	н	Cousinia mnitiloba
26	п	Cousinia pichlenana
27	"	Crepia sancta
28	a	Crepis sp
29	9	Echinops sp
30	u	Echinops cephalotes
31	и	Garhadiolus angulosus
32	u	Hieracium sp

Table 9.2.2.3 List of Flora in the Almout River Basin (Long List) Shrubs+ Herbs (Cont.)

No.	Family	Scientific Name
33	Asteraceae	Jurinea sp
34	"	Leohtodona sperrimus
35	"	Dittrichia graveeolens
36	ır	Hieraium sp
37	n n	Leontodn asperrimus
38	"	Ligularia persia
39	"	Lapsana communis
40	"	Pulicaria gnaphalodes
41	"	Scorzonera ramosissima
42	"	Tanacetum pinnatum
43	"	Tanacetum polgcephalum
44	и	Tanacetum myriophyllum
45	"	Crisium sp
46	и	Crisium arvense
47	"	Crisium hygrophilum
48	"	Un muan
49	Brassicaceae	Alkann bracteosa
50	"	Anchusa iranica
51	н	Arnebia euchroma
52	и	Asperugo procumbens
53	р	Cerinthe minor
54	а	Heliotropium sp
55	н	Lappula barbata
56	**	Lappula sp
57	`"	Lithospermum-cF- officinle
58	н	Lithosper-Mum-sp
59	"	Mgosotis sp
60	,,	Nonnea persica
61	ır	Onosma microcarpa
62	n	Onosma sp -
63	Brassicaceae	Alliaria officinalis
64	"	Anchonium elichrysifolium
65	"	Arabis caucosica
66	н	Camelina rumelica
L		Carrenna tumença

Table 9.2.2.4 List of Flora in the Almout River Basin (Long List)

Shrubs+ Herbs(Cont.)

67 Brassicaceae Capsellabursa pastoris 68 " " Cardamin uliginosa 69 " Fibigia-cF-umbeilata 70 " Fibigia suffiuticosa 71 " Graellsia saxifragifolia 72 " Hesperis-cF-persica 73 " Isatis capadocica 74 " Nastuetium officinalis 75 " Neslia apiculata 76 Parlatoria rostrata 77 " Physoptychis gnophalodes 78 " Pseudocomeline glaucophylla 79 " Sisymbrium irio 80 " Sterigmostemum inconum 81 Caparidaceae Cleome iberica 82 Caprifoliaceae Lonicera nummulariifolia 83 Caryophlaceae Minidium laevigatum 84 Caparidaceae Silene chlorifolia 85 Chenopodiaceae Atriplex nitens 86 " Chenopodium botrys 87 Cistaceae Helionthemum sp 88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma cichoriiforme 90 " Componula stevenil 91 " Componula stevenil 92 " Componula sp 93 Cornaceae Corylus arcilana 94 Corylaceae Carez divulsa 95 Cyperaceae Carez divulsa 96 " Carex sp 97 " Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 " Petrocephalus-cF-plunosus 100 Elaeagnaceae Hippophae rdamondides	No.	Family	Scientific Name
69 "Fibigia-cf-umbellata 70 "Fibigia suffiuticosa 71 "Graellsia saxifragifolia 72 "Hesperis-cF-persica 173 "Isatis capadocica 74 "Nastuetium officinalis 75 "Neslia apiculata 76 Parlatoria rostrata 77 "Physoptychis gnophalodes 78 "Pseudocomeline glaucophylla 79 "Sisymbrium irio 80 "Sterigmostemum inconum 81 Caparidaceae Cleome iberica 82 Caprifoliaceae Lonicera nummularilfolia 83 Caryophllaceae Minidium laevigatum 84 Caparidaceae Silene chlorifolia 85 Chenopodiaceae Atriplex nitens 86 "Chenopodiareae Helionthemum sp 88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma cichoriiforme 90 "Componula stevenil 91 "Componula stevenil 92 "Componula sp 93 Cornaceae Corylus arcilana 94 Corylaceae Carez divulsa 96 "Carex sp 97 "Cyperus rotundus 98 Dipsacaeae Petrocephalus canus	67	Brassicaceae	Capsellabursa pastoris
70 "Fibigia suffluticosa 71 "Graellsia saxifragifolia 72 "Hesperis-cF-persica 73 "Isatis capadocica 74 "Nastuetium officinalis 75 "Neslia apiculata 76 Parlatoria rostrata 77 "Physoptychis gnophalodes 78 "Pseudocomeline glaucophylla 79 "Sisymbrium irio 80 "Sterigmostemum inconum 81 Caparidaceae Cleome iberica 82 Caprifoliaceae Lonicera nummularilfolia 83 Caryophllaceae Minidium laevigatum 84 Caparidaceae Silene chlorifolia 85 Chenopodiaceae Atriplex nitens 86 "Chenopodium botrys 87 Cistaceae Helionthemum sp 88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma eichoriiforme 90 "Componula stevenil 91 "Componula glomerata 92 "Componula sp 93 Cornaceae Corylus arcilana 94 Corylaceae Carez divulsa 96 "Carex sp 97 "Cyperus rotundus 98 Dipsacaeae Petrocephalus-cF-plumosus	68		Cardamin uliginosa
71 " Graellsia saxifragifolia 72 " Hesperis-cF-persica 73 " Isatis capadocica 74 " Nastuetium officinalis 75 " Neslia apiculata 76 Parlatoria rostrata 77 " Physoptychis gnophalodes 78 " Pseudocomeline glaucophylla 79 " Sisymbrium irio 80 " Sterigmostemum inconum 81 Caparidaceae Cleome iberica 82 Caprifoliaceae Lonicera nunmularilfolia 83 Caryophllaceae Minidium laevigatum 84 Caparidaceae Silene chlorifolia 85 Chenopodiaceae Atriplex nitens 86 " Chenopodium botrys 87 Cistaceae Helionthemum sp 88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma eichoriiforme 90 " Componula stevenil 91 " Componula stevenil 92 " Componula sp 93 Cornaceae Cornus australis 94 Corylaceae Carez divulsa 95 Cyperaceae Carez divulsa 96 " Carex sp 97 " Cyperus rotundus 98 Dipsacaeae Petrocephalus-cF-plumosus	69	и	Fibigia-cF-umbellata
72 " Hesperis-cF-persica 73 " Isatis capadocica 74 " Nastuetium officinalis 75 " Neslia apiculata 76 Parlatoria rostrata 77 " Physoptychis gnophalodes 78 " Pseudocomeline glaucophyila 79 " Sisymbrium irio 80 " Sterigmosternum inconum 81 Caparidaceae Cleome iberica 82 Caprifoliaceae Lonicera nummularilfolia 83 Caryophilaceae Minidium laevigatum 84 Caparidaceae Silene chlorifolia 85 Chenopodiaceae Atriplex nitens 86 " Chenopodium botrys 87 Cistaceae Helionthernum sp 88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma cichoriiforme 90 " Componula stevenil 91 " Componula glomerata 92 " Componula sp 93 Cornaceae Cornus australis 94 Corylaceae Corpus australis 95 Cyperaceae Carez divulsa 96 " Carex sp 97 " Cyperus rotundus 98 Dipsacaeae Petrocephalus-cF-plumosus	70	"	Fibigia suffiuticosa
73 " Isatis capadocica 74 " Nastuetium officinalis 75 " Neslia apiculata 76 Parlatoria rostrata 77 " Physoptychis gnophalodes 78 " Pseudocomeline glaucophylla 79 " Sisymbrium irio 80 " Sterigmostemum inconum 81 Caparidaceae Cleome iberica 82 Caprifoliaceae Lonicera nummularilfolia 83 Caryophllaceae Minidium laevigatum 84 Caparidaceae Silene chlorifolia 85 Chenopodiaceae Atriplex nitens 86 " Chenopodium botrys 87 Cistaceae Helionthemum sp 88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma cichoriiforme 90 " Componula stevenil 91 " Componula glomerata 92 " Componula sp 93 Cornaceae Cornus australis 94 Corylaceae Carez divulsa 95 Cyperaceae Carez divulsa 96 " Carex sp 97 " Cyperus rotundus 98 Dipsacaeae Petrocephalus-cF-plumosus	71	"	Graellsia saxifragifolia
74 "Nastuetium officinalis 75 "Neslia apiculata 76 Parlatoria rostrata 77 "Physoptychis gnophalodes 78 "Pseudocomeline glaucophyila 79 "Sisymbrium irio 80 "Sterigmostemum inconum 81 Caparidaceae Cleome iberica 82 Caprifoliaceae Lonicera nummularilfolia 83 Caryophllaceae Minidium laevigatum 84 Caparidaceae Silene chlorifolia 85 Chenopodiaceae Atriplex nitens 86 "Chenopodium botrys 87 Cistaceae Helionthemum sp 88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma cichoriiforme 90 "Componula stevenil 91 "Componula glomerata 92 "Componula sp 93 Cornaceae Cornus australis 94 Corylaceae Corylus arcllana 95 Cyperaceae Carez divulsa 96 "Carex sp 97 "Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 "Petrocephalus-cF-plumosus	72	И	Hesperis-cF-persica
75 "Neslia apiculata 76 Parlatoria rostrata 77 "Physoptychis gnophalodes 78 "Sisymbrium irio 80 "Sterigmostemum inconum 81 Caparidaceae Cieome iberica 82 Caprifoliaceae Lonicera nunmularilfolia 83 Caryophllaceae Minidium laevigatum 84 Caparidaceae Silene chlorifolia 85 Chenopodiaceae Atriplex nitens 86 "Chenopodium botrys 87 Cistaceae Helionthemum sp 88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma cichoriiforme 90 "Componula glomerata 91 "Componula glomerata 92 "Componula glomerata 93 Cornaceae Corrus australis 94 Corylaceae Corylus arcilana 95 Cyperaceae Carez divulsa 96 "Carex sp 97 "Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 "Petrocephalus-cF-plumosus	73	"	Isatis capadocica
76 Parlatoria rostrata 77 "Physoptychis gnophalodes 78 "Pseudocomeline glaucophyila 79 "Sisymbrium irio 80 "Sterigmostemum inconum 81 Caparidaceae Cleome iberica 82 Caprifoliaceae Lonicera nunmulariifolia 83 Caryophilaceae Minidium laevigatum 84 Caparidaceae Silene chlorifolia 85 Chenopodiaceae Atriplex nitens 86 "Chenopodium botrys 87 Cistaceae Helionthemum sp 88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma cichoriiforme 90 "Componula glomerata 91 "Componula glomerata 92 "Componula glomerata 92 "Componula sp 93 Cornaceae Corrus australis 94 Corylaceae Corylus arcilana 95 Cyperaceae Carez divulsa 96 "Carex sp 97 "Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 "Petrocephalus-cF-plumosus	74	н	Nastuetium officinalis
77 " Physoptychis gnophalodes 78 " Pseudocomeline glaucophyila 79 " Sisymbrium irio 80 " Sterigmostemum inconum 81 Caparidaceae Cleome iberica 82 Caprifoliaceae Lonicera nunmularilfolia 83 Caryophllaceae Minidium laevigatum 84 Caparidaceae Silene chlorifolia 85 Chenopodiaceae Atriplex nitens 86 " Chenopodium botrys 87 Cistaceae Helionthemum sp 88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma cichoriiforme 90 " Componula stevenil 91 " Componula glomerata 92 " Componula sp 93 Cornaceae Cornus australis 94 Corylaceae Corylus arcliana 95 Cyperaceae Carez divulsa 96 " Carex sp 97 " Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 " Petrocephalus-cF-plumosus	75	"	Neslia apiculata
78 " Pseudocomeline glaucophyila 79 " Sisymbrium irio 80 " Sterigmostemum inconum 81 Caparidaceae Cleome iberica 82 Caprifoliaceae Lonicera nummularilfolia 83 Caryophllaceae Minidium laevigatum 84 Caparidaceae Silene chlorifolia 85 Chenopodiaceae Atriplex nitens 86 " Chenopodium botrys 87 Cistaceae Helionthemum sp 88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma cichoriiforme 90 " Componula stevenil 91 " Componula glomerata 92 " Componula sp 93 Cornaceae Cornus australis 94 Corylaceae Corylus arcliana 95 Cyperaceae Carez divulsa 96 " Carex sp 97 " Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 " Petrocephalus-cF-plumosus	76		Parlatoria rostrata
79 "Sisymbrium irio 80 "Sterigmostemum inconum 81 Caparidaceae Cleome iberica 82 Caprifoliaceae Lonicera nummularilfolia 83 Caryophllaceae Minidium laevigatum 84 Caparidaceae Silene chlorifolia 85 Chenopodiaceae Atriplex nitens 86 "Chenopodium botrys 87 Cistaceae Helionthemum sp 88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma cichoriiforme 90 "Componula stevenil 91 "Componula glomerata 92 "Componula sp 93 Cornaceae Cornus australis 94 Corylaceae Corylus arcilana 95 Cyperaceae Carez divulsa 96 "Carex sp 97 "Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 "Petrocephalus-cF-plumosus	77	"	Physoptychis gnophalodes
80 "Sterigmostemum inconum 81	78	"	Pseudocomeline glaucophyila
81 Caparidaceae Cleome iberica 82 Caprifoliaceae Lonicera nummularilfolia 83 Caryophllaceae Minidium laevigatum 84 Caparidaceae Silene chlorifolia 85 Chenopodiaceae Atriplex nitens 86 "Chenopodium botrys 87 Cistaceae Helionthemum sp 88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma cichoriiforme 90 "Componula stevenil 91 "Componula glomerata 92 "Componula sp 93 Cornaceae Cornus australis 94 Corylaceae Corylus arcilana 95 Cyperaceae Carez divulsa 96 "Carex sp 97 "Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 "Petrocephalus-cF-plumosus	79	d	Sisymbrium irio
82 Caprifoliaceae Lonicera nunmularilfolia 83 Caryophllaceae Minidium laevigatum 84 Caparidaceae Silene chlorifolia 85 Chenopodiaceae Atriplex nitens 86 "Chenopodium botrys 87 Cistaceae Helionthemum sp 88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma cichoriiforme 90 "Componula stevenil 91 "Componula glomerata 92 "Componula sp 93 Cornaceae Cornus australis 94 Corylaceae Corylus arcilana 95 Cyperaceae Carez divulsa 96 "Carex sp 97 "Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 "Petrocephalus-cF-plumosus	80	"	Sterigmostemum inconum
83 Caryophllaceae Minidium laevigatum 84 Caparidaceae Silene chlorifolia 85 Chenopodiaceae Atriplex nitens 86 "Chenopodium botrys 87 Cistaceae Helionthemum sp 88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma cichoriiforme 90 "Componula stevenil 91 "Componula glomerata 92 "Componula sp 93 Cornaceae Cornus australis 94 Corylaceae Corylus arcllana 95 Cyperaceae Carez divulsa 96 "Carex sp 97 "Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 "Petrocephalus-cF-plunosus	81	Caparidaceae	Cleome iberica
84 Caparidaceae Silene chlorifolia 85 Chenopodiaceae Atriplex nitens 86 "Chenopodium botrys 87 Cistaceae Helionthemum sp 88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma cichoriiforme 90 "Componula stevenil 91 "Componula glomerata 92 "Componula sp 93 Cornaceae Cornus australis 94 Corylaceae Corylus arcliana 95 Cyperaceae Carez divulsa 96 "Carex sp 97 "Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 "Petrocephalus-cF-plumosus	82	· Caprifoliaceae	Lonicera nummularilfolia
85 Chenopodiaceae Atriplex nitens 86 "Chenopodium botrys 87 Cistaceae Helionthemum sp 88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma cichoriiforme 90 "Componula stevenil 91 "Componula glomerata 92 "Componula sp 93 Cornaceae Cornus australis 94 Corylaceae Corylus arcllana 95 Cyperaceae Carez divulsa 96 "Carex sp 97 "Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 "Petrocephalus-cF-plumosus	83	Caryophliaceae	Minidium laevigatum
86 "Chenopodium botrys 87 Cistaceae Helionthemum sp 88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma cichoriiforme 90 "Componula stevenil 91 "Componula glomerata 92 "Componula sp 93 Cornaceae Cornus australis 94 Corylaceae Corylus arcllana 95 Cyperaceae Carez divulsa 96 "Carex sp 97 "Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 "Petrocephalus-cF-plumosus	84	Caparidaceae	Silene chlorifolia
87 Cistaceae Helionthemum sp 88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma cichoriiforme 90 "Componula stevenil 91 "Componula glomerata 92 "Componula sp 93 Cornaceae Cornus australis 94 Corylaceae Corylus arcilana 95 Cyperaceae Carez divulsa 96 "Carex sp 97 "Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 "Petrocephalus-cF-plumosus	85	Chenopodiaceae	Atriplex nitens
88 Colchicaceae Colchicum kotschyi 89 Companulaceae Asyneuma cichoriiforme 90 "Componula stevenil 91 "Componula glomerata 92 "Componula sp 93 Cornaceae Cornus australis 94 Corylaceae Corylus arcilana 95 Cyperaceae Carez divulsa 96 "Carex sp 97 "Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 "Petrocephalus-cF-plumosus	86	"	Chenopodium botrys
89 Companulaceae Asyneuma cichoriiforme 90 "Componula stevenil 91 "Componula glomerata 92 "Componula sp 93 Cornaceae Cornus australis 94 Corylaceae Corylus arcilana 95 Cyperaceae Carez divulsa 96 "Carex sp 97 "Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 "Petrocephalus-cF-plumosus	87	Cistaceae	Helionthemum sp
90 " Componula stevenil 91 " Componula glomerata 92 " Componula sp 93 Cornaceae Cornus australis 94 Corylaceae Corylus arcllana 95 Cyperaceae Carez divulsa 96 " Carex sp 97 " Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 " Petrocephalus-cF-plunosus	88	Cotchicaceae	Colchicum kotschyi
91 " Componula steventi 92 " Componula glomerata 92 " Componula sp 93 Cornaceae Cornus australis 94 Corylaceae Corylus arcllana 95 Cyperaceae Carez divulsa 96 " Carex sp 97 " Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 " Petrocephalus-cF-plunosus	89	Companulaceae	Asyneuma cichoriiforme
92 " Componda gomerata 92 " Componda sp 93 Cornaceae Cornus australis 94 Corylaceae Corylus arcllana 95 Cyperaceae Carez divulsa 96 " Carex sp 97 " Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 " Petrocephalus-cF-plumosus	90	"	Componula stevenil
93 Cornaceae Cornus australis 94 Corylaceae Corylus arcllana 95 Cyperaceae Carez divulsa 96 " Carex sp 97 " Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 " Petrocephalus-cF-plunosus	91	"	Componula glomerata
94 Corylaceae Corylus arcilana 95 Cyperaceae Carez divulsa 96 " Carex sp 97 " Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 " Petrocephalus-cF-plumosus	92	н	Componula sp
95 Cyperaceae Carez divulsa 96 " Carex sp 97 " Cyperus rotundus 98 Dipsaceaea Petrocephalus canus 99 " Petrocephalus-cF-plumosus	93	Cornaceae	Cornus australis
96 " Carex sp 97 " Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 " Petrocephalus-cF-plunosus	94	Corylaceae	Corylus arcilana
97 " Cyperus rotundus 98 Dipsacaeae Petrocephalus canus 99 " Petrocephalus-cF-plunosus	95	Cyperaceae	Carez divulsa
98 Dipsacaeae Petrocephalus canus 99 "Petrocephalus-cF-plumosus	96	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Carex sp
99 " Petrocephalus-cF-plunosus	97	а	Cyperus rotundus
99 Petrocephalus-cr-phimosus	98	Dipsacaeae	Petrocephalus canus
100 Elaeagnaceae Hippophae rdamondides	99	и	Petrocephalus-cF-plumosus
	100	Elaeagnaceae	Hippophae rdamondides

Table 9.2.2.5 List of Flora in the Almout River Basin (Long List) Shrubs+ Herbs(Cont.)

No.	Family	Scientific Name
101	Ephedraceae	Ephedra distachya
102	n	Ephedra interrodia
103	"	Ephedra procera
104	Fumariaceae	Corydalis verticillaris
105	Genetianaceae	Centaurium minus
106	"	Gentiana pontica
107	Geraniaceae	Biebersteinia mutifida
108	"	Erodium sp
109	Hypericaceae	Hypericum lysimachioides
110	"	Hypericum sp
111	Iridaceae	Iris-cF-barnumae
112	Juncaceae	Juncus inflexus
113	Lamiaceae	Calamintha grandiflora
114	"	Clinopdium vulgaris
115	н	Dracecephalum moldavica
116	"	Eremostachys farigata
117	н	Lallemantia sp
118		Lumium album
119	"	Leonurus cardiaca
120	μ	Maorrubium asteracanicum
121	"	Melissa officinalis
122	н	Mentha longifolia
123	"	Molucella leevis
124	н	Nepeta fissia
125	ti	Nepetapogonos perma
126	"	Nepetapogonos racemosa
127	ii ii	Phlomis concellata
128	n	Phomis olivieri
129	"	Salvia ceratophylla
130	"	Salvia hypoleuca -
131	"	Salvia spinosa
132	r r	Salvia verticillata
133	"	Salvia virgata
134	и	Salvia fruticulosa

Table 9.2.2.6 List of Flora in the Almout River Basin (Long List)
Shrubs+ Herbs(Cont.)

·		C i i'm N
No.	Family	Scientific Name
135	Lamiaceae	Stachys inflata
136	"	Stachys lavandulifolia
137	"	Teucrium chamaedrys
138	"	Teucrium orientalis
139	"	Teucrium polium
140	н	Ziziphora chnopodioides
141	Liliaceae	Eremurus-cF-spectbilis
142	"	Eremurus kopetedughen
143	а	- Fritillaria kotschyana
144	"	Tulipa biflora
145	и	Tulipa montana .
146	"	Tulipa sp
147	. "	Tulipa chrgsantha
148	Linaceae	Linum album
149	"	Linum sp
150	Malvaceae	Hibiscus trionum
151	Orchidaceae	Histera orato
152	"	Unknown
153	Papaveraceae	Popaver dubium
154	Papilionaceae	Alhagi persarum
155	"	Astragalus aegobromus
156	"	Astragalus podocarpus
157	"	Astragalus strictifolius
158	н	Astragalus submites
159	"	Astragalus trachyacanthus
160	μ	Astragalus hymenostegis
161	и	Astragalus chrysostachgs
162	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Astragalus sp
163	n	Astragalus eriostylus
164	"	Cicer sp ,
165	"	Colutea buhsei
166	"	Coronilla varia
167	и	Coronilla balansae
168	ď	Clycrrhiza gelabra
169	"	Lathyrus aphaca

Table 9.2.2.7 List of Flora in the Almout River Basin (Long List)
Shrubs+ Herbs(Cont.)

No.	Family	Scientific Name	
170	Papilionaceae	Lathyrus rotundifolius	
171	"	Lathyrus sp	
172	"	Medicago polymorpha	
173	"	Onobrychis carnuta	
174		Onobrychis aracantha	
175	н	Ononis spinosa	
176	"	Pisum satirum	
177	n	Securigera securidaca	
178	"	Securigera securidaca Trifolium compestra Trifolium repens Trigonella elliptica Vicia persica Plantago lanceolata Acantolimon aspadanum Acantolimon bromifolium Acantolimin erinaceum Plumbago europaea Aegilops sp Agropyron tauri	
179	"	Trifolium repens	
180	#	Trigonella elliptica	
181	"	Vicia persica	
182	Plantaginaceae	Plantago lanceolata	
183	Plumbayinceae	Acantolimon aspadanum	
184	"	Acantolimon bromifolium	
185	#	Acantolimin erinaceum	
186	11	Plumbago europaea	
187	Poaceae	Aegilops sp	
188	н	Agropyron tauri	
189	и -	Botrichloa ischaemum	
190	н	Cynodon dactylon	
191	"	Echinaria capitata	
192	P	Eragrostis barrelieri	
193	*	Eremopoa sp	
194	. "	Melica persica	
195	ρ	Pannisetum orientalis	
196	"	Poa araratica	
197	и	Poa sinaica	
198	"	Saccharum ravennae	
199	н	Setaria viridis	
200	Podophyllaceae	Leontic armenica	
201	Polygonaceae	Polygonum avieulore	
202	"	Polygonum patulum	
203	"	Polygonum patulum	

Table 9.2.2.8 List of Flora in the Almout River Basin (Long List) Shrubs+ Herbs(Cont.)

No.	Family	Scientific Name	
204	Polygonaceae	Rumex chalepensis	
205	"	Rumex-cF-dentatus	
206		Rumex elbursensis Primulaceae Rrimula aurieulata Ranunclaceae Ranunculus-cF-trichocarpus	
207	Primulaceae	Rrimula aurieulata	
208	Ranunclaceae	Ranunculus-cF-trichocarpus	
209	rr r	Thatictram minus	
210	Typha	Typha sp	
211	r	Typha australis	
212	Urticaceae	Parietaria Judaica	
213	Valerianaceae	Valeriana sisymbrilfolia	
214	"		
215	"	Valerianella coronata	
216	я	valeriana sisymbrilfolia Valeriana-cF-amblyotis Valerianella coronata	

Table 9.2.2.9 List of Flora in the Almout River Basin (Long List)
Trees+ Herbs:

No.	Family	Scientific Name
l .	Anacardiaceae	Pistacia atlantica
2	Berberidaceae	Berberis vulgaris
3	Caprifoliaceae'	Loniceranummulariifolia
4	Comaceae	Cornus australis
5	Corylaceae	Corylus avellana
6	Cupressaceae	Juniperus excelsa
7	Juglandaceae	Juglans regia
8	Moraceae	Ficus johannis
9	Punicaceae	Punica granatum
10	Rhamnaceae	Paliurus spina-christi
11	Rosaceae	Amygdalus eburnea
12	"	Amygdalus lycioides
13	н	Crataegus melanocarpa
14	u	Crataegus microphylla
15	"	Crataegus sp
16	н	Cotoneaster nummularia
17	u	Malus orientalis
18	μ	Mespilus germanica
19	"	Prunus spinosa
20	Ulmaceae	Celtis australis

Table 9.2.2.10 List of Flora in the Almout River Basin (Long List) Medicinal herbs:

No.	Family	Scientific Name
ı	Adiantaceae	Adinatumcapillus veneris
2	Asteraceae	Artemisia oliveriana
3	Boraginaceae	Anchusa iranica
4	Brassicaceae	Nastuetium officinalis
5	Linaceae	Sisymbrium irion
6	Hypericaceae	Hypericum lysimachioides
7	#	Dracecephalum moldavica
8	"	Eremostachys larigata
9	ıt	Melissa officianlis
10	"	Salvia verticillata
11	tr	Zizipora chnopodioides
12	Liliaceae	Eremurns spectbilis
13	Linaceae	Limum album
14	Papaveraceae	Popaver dubium
15	Papilionaceae	Clycrrhiza gelabra

Table 9.2.2.11 List of Flora in the Almout River Basin (Long List) Woodlands:

Name	Location	Surface area	Type of trees	
Beidelan	Between Alamout river and Taleghan river (shirkuh)heights	400	Pistacia atlantica Juniperus excelsa Crataegus sp.	
Ailan	Atan- Talah- Balavenash- Painvenash	800-900	Juniperus excelsa	
Yalaan Asadi	Below and opposite to Aven	225	Juniperus Excetsa	
Narmelat	Between Dineh Rud and Garma Rud	150-200	Juniperus Excelsa	
Kouchenan	About Kouchenan valley	40-45	Juniperus Excelsa	
Larak	End of Aveh mountain	40	Juniperus Excelsa	
Khob Kuh	South west of pain Rouch	- 20	Juniperus Excelsa	
Arneshk & Dineh Kuh	Southern side of Beidelan	50	Juniperus Excelsa Pistacia atlántica	
	Variable .	150-200	Crataegus sp.	

Table 9.2.2.12 List of Mammal Species in the Almout Basin

Taxono	mical Hie	erarchy	Common					CITES/IUC
Family	Genus	Species	name	Range	Habitat	Size	Characters	N Categories
Felidae (Ci	at Family)			distributed almo	st worldwide e cats has Io	e, being abse	e cat family as the classification of taxonomy. This succsessful family is nt only from Antaralasia, Australasia, Madabascar and sone other island. However sted by human, and many species have been hunted until they are rare and	
	Panthera	pardus	Leopard/Pauth er	Middle East; Africa,Asia: Siberia to Korea, Sli Lanka	Desert to forest, lowland plains to mountains	Body:1.3- 1.9m Tail:1.1- 1.4m	Although it was formerly widespread, now the leopard is patchly distributed and many of its sub-species have become extinct or endangered. A strong, but elegant cat it has long body and relatively short legs. Leopards are solitary and normally hunt day or night, but in area where they are persecuted, they are nocturnal. They swim and climb well and often basking in the sun on the branch. Their sight and sense of smell are good, and their hearing is exceptionally acute. The prey includes mammals such as antelope, apes, birds, snakes, fish and domestic livestock.	EN
Bovidac	сарга	aegajius	Persian ibex	Middle East & Europeon Alps	Alps to 3,000m	Body:1.5m, Tail 1.2- 1.5m	From Roman times, different parts of these animals have been regarded as processing healing powers, and ibex were hunted the point of extinction. Today, however a few small protected herd survive in preserves. The ibex live above the tree line, only descending to upper limits of forest in the harshest winter condition. In summer, they climb up to alpine meadow, where they graze on grass and flower. The male ibex has long, back ward sweeping horns and female has short horns. Only in the winter rutting season, males rejoin the female herds. The female give birth to 1 young after a gestation of period between 5 and 6 months.	VU
Ursidac	Ursus	arctos	Big brown bear	Aresbaran area Zagros mountain Khazar forest of Iran Europe & Asia & Africa	Forest, tundra	Body:1.5- 2.5m Tail: absent	The 9 species of bear are an evolutionary offshoot of doglike ancestors and the family also includes the species panda. The bears live alone or in family groups and are active night or day, where bears have been persecuted, they are nocturnal. The diet varies to live different area but may include plant materials such as fruits, nuts, roots as well as insects, fish, small vertebrates and carrion. Females breed every 2 or 3 years and produce litters of 1 to 4 infant after a gestation of 6 months.	
Canidae	Canis	lupus	Persian/red wolf	Every region of Iran & U.S.A. & Asia region		Body:1- 1.4m, Tail:30- 48cm	One of the ancestors of the domestic dog, the Persian wolf muscular animal with a thick bushy tail. Intelligent, social animal wolves live in family group or in packs that sometimes include more than one family or other individuals besides the family. The pack members hunt together, cooperating to run down prey such as deer, caribou and wild horses, and they also eat small animals such as mice, fish and crabs. Social pack is well organized by ritualized gestures and postures. The female gives birth to 3 to 8 pups after a gestation about 60 days.	LR: lc
		aureus	golden jackal	Iran & U.S.A. & Asia				
	Vulpes	vuipes	Red fox	Europe, Asia to Japan, Indo- China, introducesd in Australia	Desert, Semi arid	Body: 37- 41cm, Tail: 19-21cm	The versatile, intelligent red fox adopts well to different conditions and has excellent senses and powers of endurance. Although sometimes it moves at all hours, it is most typical active at night. It lives alone outside the breeding season and is a skilful hunter, prey on rodents but also on rabbits, hares, birds, insects and invertebrates. Fruit and berries are eaten in autumn.	
Vespertilio nidae	Myotis	mystacinus	Whiskered bat	,	arid scrub land	Body:5- 7cm, Wingspan:1 7-19cm	Vespertilionidae (evening bat family): There are 318 species in this family, found around the world from the tropics to as far as about 68° north. Many species hibernate for 5 to 6 months to survive the winter in harsh northern latitudes. Ear sizes of these species very enormously and the body color is generally quite dull. All these bats make use of echo location for finding prey and for plotting their fright course.	Protected
	Miniopter us	schreibersi	Schreiber's bat	Whole region in Kerman Hormoz Sistan & Europe Africa & north of	gan & & Asia &			
Mustelidae	Martes	foina	Beech marten	North of Iran beside the sea Golestan Province, Europe, Asia	Farmland, Woodland	Body:18- 23cm, Tail:5-7cm	There are about 65 species in 23 genera from region of the world except Australia & Madagascar. This species is the smallest carnivore. It is most active by night, but will hunt in the daytime. 1 or 2 litters a year of 4 or 5 infant are born.	
		meles	Eurasian badger	north of Iran Gorestan Province				
Mustelidae	Lutra	lutra	European otter	west north to east region of Iran	Rivers, lakes sheitered coasts	Body:55- 80cm, Tail:30- 50cm	Although agile on land, otters have become well adopted for an aquatic life. Otter are solitary, elusive living things and now rare in much in their range. It eat fishes, frogs, water birds, voles and water creatures.	

Table 9.2.2.13 List of Mammal Species in the Almout Basin

Taxonomic	al Hierar	chy	Common			~		CITES/IUC				
Family	Genus	Species	name	Range	Habitat	Size	Characters	N Categories				
Suidae	Sus	scrofa	Wild boar	west-north of Africa, west Asia and ever region of Iran	Forest, woodland	Body:1.1- 1.3m Tail:15- 20cm	There is one family in this order, containing a single species lives in Africa. Its relationship to other animal groups is obscure. This ancestor of the domestic pig has a heavy body covered with dense, bristly hair, slim legs and long snout.					
Leporidae	Lepus	capensis	Cape/brown	All part of Iran & Africa & Europe & Asia	Open country, favinland, woodland	Body:45- 75cm, Tail:7- 11cm	depression in the ground. It feeds on leaves, buds, roots, berries, fruit, fungi and					
Microtide	Siberia and banks,				Freshwater banks, grassland	Body:14- 19cm, Tail:4- 10cm	Although competent in water, this species is less agile than the more specialized beavers and muskrats. It makes burrow in the bank of a river or stream. Grasses and other plant material are its main food. Water voles breed in summer, producing several litters of 4 to 6 young.					
	Microtus	arvalis	Common voie					***************************************				
	Cricetwus	migratoriius	Gray hamster									
Erinaccidae	Erinaceus	concolor	European hedgehog	forest of Khazar area up to Azarbayebayan & Kordestan & Teluan Province	Scrub, forest, cultivated land	Body:13- 27cm, Tail:1-5cm	One of the most familiar small animals in Iran. Its called hedgehog is from a pig like habit of rooting round for invertebrate prey in the hedgerows. The upper part of the head and the back are covered in short, banded spines. Hedgehog produce 1, sometimes 2 litters of about 5 to 6 infant each year.					
Gerbilidae	Merones	persicus	Persian jird	All region of Iran & western area of Asia	Arid scrubland	Body:10- 14cm, Tail:11- 12cm	There are 87 members of this subfamily of rodents, all of which come from central and western Asia and Africa. They are all well adopted for arid conditions and many occur only apparently in hospitable deserts.					
Muridae	Apodemus	sylvaticus	Wood mouse	Ali part of Iran except Kerman & Sistan & Asia &Europe & Africa	Forest edge	Body:8- I.3cm, Tail:7- 9,5cm	The wood mouse is one of the common Europe to Central Asia small rodent. Wood mice emerge from their nests under the roots of trees in the evening. They often forage in pairs for seeds, insects, and seasonal berries. They usually breed between April and November.					
	Soricidae Shrew Family	ur nashingti 🧸		and New Zealand the debris on the the shrew 's diet, and they have en it would be impo feces and perhap By doing so, they	d, the west Ir forest floor of Shrew are a cormous appe ssible for the sthose of oth boost their	ndies and more or on pasture ctive creature tites relative em to build u her creatures intake vitami	han 280 species of shrew, distributed throughout most of world except Australia st of south Africa. Shrews are insectivores and most lead offensive lives among land, they feed on many types of invertebrate. Carrion may also be included in with high metabolisms. Their hearts may beat more than 1,200 times/minute to their body size. Even in cold northern regions, they do not hibernate in winter, p sufficient fat reserves. Some species of shrew are reported to eat their own ins B and K and some other nutrients. Shrews rely on heavily their senses of eyes are tiny and probably a little use.					
	Crocidae	leucodon	Bicoloured White-toothed Shrew	S. Europe, S	Semiarid,	Body: 3,5- 5,5cm, Tail: 2,5-3cm	Usually regarded as the world smallest terrestrial mammals, a fully grown this species weights about 2g. How such a tiny mammal can survive is not fully understood, but it must has a constant and reliable source of food. That is one reason why it is restricted to the warner parts of the old World. Its coat is dense to prevent under heat loss from its tiny body. They eat spiders and insects almost as large as themselves including grasshoppers and cockroaches.					
4 1	musculus House mouse All over the world Fields, associated with Tail:6-human 11cm Mice eat a little feeds, but they spoil vast quantities of stored food such as grain. Wild mice are nocturnal and feed on grass seeds and plant stems and occasionally feed on insects.					Production and the second of						

Table 9.2.2.14 List of Mammal Species in the Almout Basin

Taxonomic	Faxonomical Hierarchy		Common	Range	Habitat	Size	Characters	CITES/IUC N					
Family	Genus	Species	name					Categories					
Hystricidae	Hystrix	indica	Hystrix indica	spins, derived fro Africa, part of A	on hairs, cov sia. They are	ering back, usually noc	cies in this family are all rodents, unmistakable in their appearance, with long sides and parts of the tail. Porcupine live in desert, forest and savanna regions of cturnal animals and live in burrows, which they dig or in holes or crevices. They ls, tubers and fruit and bark, and on some carrion						
Gliridae	area & Gilan Province 18cm, Tail:13- bushy tails. The largest of its family has long bushy tail and rough pads or paws which help to facilitate claming. In late summer and autumn, most d build up their body reserves fat and then hibernate during the winter. They					There are about 21 species of dormouse found in Africa, Europe, northern Asia, and Japan. These nocturnal rodents resemble short, fat squirrels and most have bushy tails. The largest of its family has long bushy tail and rough pads on its paws which help to facilitate claming. In late summer and autumn, most dormice build up their body reserves fat and then hibernate during the winter. They wake periodically to feed on the fruit and nuts that they store for winter consumption.							

Source: Lar Consultant

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Table 9.2.2.15 List of Birds Species in the Almout Basin

Taxon			Common	1 .	City and the second sec	CITES/IU		
Family	Genus	Species	name	Range	Habitat	Size	Characters	CN Categorie
Accipiteridae (Hawks Family)				carrion eating l Arctic and sma hawks (buzzaro	oirds. Repres Il oceanic isl I and eagles)	entative ands. Th , harrier	oniformes order and contains about 239 species of diverse predatory and occur almost all region of the world except Antarctica, northern parts of a family includes the 14 or so carrion -feeding Old World vultures, the true eagle, serpent eagle, harrier kites and fish eagle and a few of specialized tile some of larger eagle and buzzard use cliff edges. They have small clutches	
	Accipiter	gentilis	Northern Goshawk	N. America, Europe, N. Asia, Iran, Turkey, China, Japan	Forest woodland	50- 67cm, wingsp an: 120cm	These aggressive hawks are the largest birds in the genus Accpiter and are efficient killer. A goshawk is capable of killing birds as large as pheasant and grouse and mammals size of rabbits and hares. The birds are often trained for falconry. Goshawk pairs usually mate for life. The pairs roost together while nest making and a screaming duet each day before sun rise in the spring. The clutch contains from 1 to 5 eggs, usually 3, but the number is affected by the availability for suitable prey. The female incubates the clutch for 35 to 38 days. Some northern populations of goshawks migrate to south after breeding.	
	Aquila	chrysacetos	Golden Eagle	N. Africa Mexico	Moor, Mountains forest	75- 90cm	Golden eagles are probably the most numerous large eagles in the world. When hunting they soar for long times then dive to seize and kill the animals with its talons. Mammals such as hares and rabbits are the mainly prey and carrion is an important food source. Golden eagle performs spectacular height display over the nest site. Some pairs have several nests, in used rotation. The 2 eggs are usually incubated by female.	
	Buteo	buteo	Common buzzard	Europe, Africa, Middle East, China, Japan	Woodland, moorland	56cm	The buzzard is not bold hunter and spend more time perching than on the wing. Once aloft it soars well. It eats mainly small ground mammals, reptiles, insects, carrion and some ground birds. The area of the breeding territory varies from year to year according to food supplies. A nest is built on the tree or crag and female lays 2 to 6 eggs.	
Accipiteridae (Hawks Family)	Neophron	percnopterus	Egyptian	Europe, Africa, Middle East, India	Open country	60- 70cm	The Egyptian vulture is a small species. It also eats insects and other bird eggs it is one of the few creatures to use a tool. In order to break into a eggs the vulture drops rocks on it to crack it open. The parents incubate 1 or 2 eggs for about 40 days.	VÜ
	Gypaetus	barbatus	Bearded vulture	Europe, Africa, Middle East	Mountains	95- 105cm	It spends most of its day on the wing and feeds on carrion of all of sorts, including human, but defers to larger vultures at carcasses. Each breeding pair holds a large territory and the birds perform spectacular diving and swooping flight display. They nest in cliff niches or on legs and lay 1 or 2 eggs which are incubate for about 53 days.	Protected
Accipiteridae	Miluas	migrans	Black/red kite	Europe, Africa, Middle East	Woodland, open country	60- 65cm	The red kite is a large bird with long wings and a distinctive, deeply forked tail. It breeds in woodland but hunts in open country. Small animals up to the size of a weasel, birds, reptiles, frogs, fish, insects and carrion are all eaten, and red kite also kills domestic poultry. A breeding pair nests in the tree and usually 3 to 4 eggs are laid and incubate the eggs for 28 to 30 days.	IR: Ic
· ····	Aegypius	monachus	Black vulture					VU
	Hieraetus	fasciatus	Bonillis eagle valture	Europe, Africa, Middle East, India	Forest, woodland			
	Gyps	fulvus	Gfiffon	 		 		

Table 9.2.2.16 List of Birds Species in the Almout Basin

Taxon	omical Hie	erarchy	Common	Range	Habitat	Size	Characters	CITES/IU CN
Family	Genus	Species	name					Categorie
Falcon Family (Falcon Family)				female look sir	nilar, but fen	ıales usı	-time hunting birds of prey. They are found all over the world. Males and ally larger males. Many falcon have so called tomial teeth, which it is cutting onding notches in the lower bill.	
	Falcon	cherrug/tinnu nculus	herrug/tinnu Common culus kestrel		Open country, plains, cultivated land	34- 38cm	Keatrels hunt over open ground and are the hovering specialist in the hawk family. They fly some 10 to 15m above ground in order to search for prey over an area. The staple diet of kestrel consists of small animals, but they will also catch small birds, reptiles, insects. The clutch of 4 to 9 eggs is laid on a edge, in a hole in a tree in the abandoned nest of other bird. Female does the greater share of incubation, which lasts between 27n to 29 days.	
		naumanni	Lesser kestrel					
		pelegrinoides	Barbary					
		peregriuus	Peregrine falcon	Almost worldwide	Varied, open mountains	38- 51cm	The peregrine's wings are tapered and pointed and its tail is slim and short. This species is virtually without equal in the speed and precision of its flight and it can also chase prey through the air, changing direction easily. Because of its skills, it is most highly prized birds of falconry. These birds are seriously declining in numbers, partly because of poisoning through the incidental ingestion of pesticides, which reach them through the food chain	
 		tinnuculus	Saker falcon					
Falconidae								
Sylviidae	Sylvia	althaca	Lessser white throat/black cap	Europe, Africa, Middle East, China (migratory)	Woodland gardens, orchards	14cm	The male blackcap is distinguished from other Sylvia warblers by his glossy black crown and gray neck. He has a ripping song and is also accomplished mimic. It is an active, lively bird and forages in trees and bushes for insects. This species eats more fruit than any other warblers, the parents incubate the clutch of between 3 to 6 eggs for between 10 to 15 days.	Protected
	Matacilla	alba	White wagftail	Europe, Asia, N. Africa; winter south to Africa to S. Asia	River bank, steep, cultivated land	18cm	These species often roost on a tree of a forest and reed beds of plant and occasionally wade in shallow water. They take off a fast run into undulating flight and catch insects in the air. The cup-shape grassy nest is usually made in a hollow in a steep bank. The 2 or 3 times broods of 5 or 6 eggs and incubated for 2 weeks.	
Hirundinidae	Hirundo	kustica	Barn	Egypt, Middle East	Open cultivated country with building, near water	20cm	The barn swallow is absent only from very high altitudes and some oceanic island. They feed on insects, which are caught on the wings or plucked from surface of water. The female lays a clutch of 4 to 5 eggs and incubates them for about 15 days. Broth parents feed the nestling, which can fly at about 3 weeks after.	Protected
Thurdidae	Luscinios	megarhynchos	Persian nightingale	Europe, Africa, Middle East, China	Woodland, hedgerows	16cm	The nightingale sings from down to dusk or even to midnight, and its melodious song is the most characteristics feature. The breeding season begins in May, the female builds a nest of leaves on or close to the ground, amid vegetation.	Protected
	Erithacus	rubecula	Europian robbin					

Table 9.2.2.17 List of Birds Species in the Almout Basin

Taxon	omical Hie	rarchy	Common	D	TTalifac	C.	Class :	CITES/IL				
Family	Genus	Species	пате	Range	Habitat	Size	Characters	CN Categorie				
Columbidae			Order Columbiformes this order includes 2 living family - sand grouse and the pigeons and the new extinct dode family. Columbidae: Pigeon Family: The only family in this order contains 310 sp species of pigeon and dove found in most part of the world except the Atlantic and some oceanic islands. The great variety occers in Asia ar Australia, where there are extremely beautiful species. The name 'pigion' is generally used to described in large bird in family, while 'dove' is applied smaller forms, but rock dove is another species. Pigens and doves vary in size from birds about the size of a sparrow to a few almost as large as turkey. Most have dense soft plumage, rounded and compact bodies, and relatively small heads. Many pigeons and doves spend much of their lives in and around trees, eating seeds, fruit, buds and other plant materials. Pigeons and dove are strong fliers with good homing abilities.									
	Columba	livia	Rock dove/pigeo	Countries bordering Mediterranean , Europe, India and Sli Lanka		33- 36cm	This species is the ancestor of all the domestic pigeons, including the homing pigeon, and of the feral pigeons found in town almost worldwide. Rock doves generally move in pairs and small groups, altough large flocks are quite frequent. They feed on open ground, mainly on seeds, especilly cultivated grains, but also on grasses, snalls and other mollusks. The nest is flimsily made of twings and grass on a shelter ledge or in a hole in a cllif, in a building or occasionally in a tree, two eggs laid, which incubate for about 18 to 18 days.					
Columbidae	Columba	polumbus	Rock dove/pigion	Countries bordering Mediterranean , Europe, India and Sli Lanka	Sea and cliffs; fields	33- 36cm	This is ancestor of all the domestic pigeons, including the homing pigeon and of the feral pigeons found in town almost worldwide.					
	Streptopelia	turtur	European turtle	Ireland, Britain, Europe, India, Sil Lank introduced in Middle East, China, Japan	Town, village, arid scrubland	32cm	This species has enormously expanded its range over recent years by adopting to live in close associated with human in both towns and countryside. The scanty twiggy nest is made in a tree or bush or on a ledge of the building, and female lays 2 eggs which are incubated for about 14 to 16 days.	6				
		senegalensis	Laughing dove (migrately)	Europe, Africa, Asia	Forest, woodland, moors	33cm	The male cuckoo's song, the origin of its common name, pilots arrival of spring, when flies north to breed in Europe and Asia. A slim, long tail bird, it leads a solitary bird outside the breeding season and haunts trees hedges and thickets, where eats large insects, particularly hairy caterpillars. Female lays a single eggs, each in a different eggs until					
Cuculidae	Cuculus	canorus	Common	Europe, Middle East, Asia	Open country, farmland and small woods	15- 71cm	This order contains 143 species of cuckoos in 6 families Cuculidae (Old World and rears her young. cuckoos), Centropodidae (coucals), Coccyzidae (American cuckoos), Opisthocomidae (hoatzin), Crotophagidae (anis cuckoos), and Neomorphidae (roadrunners and ground cuckoos). They range between 15 to 71cm long, and most are slender bodied, with long tail and short legs. The female of many species in the family lay their eggs in the nest of another species which then incubates. In some species this habit of nest parasitism is now highly developed, and cuckoos eggs resemble those of the host species.					
Sturnidae (Starling and Mockingbird Family)				introducesd int Starling are mi- and feed on the	o other locati dium size son ground, The	on by h gbirds v y feed o	Into tribes; (1) the starling and (2) the mockingbird. Apart from species amans, all 114 species occer in the Old World with greatest diversity of Asia. with a sturdy appearance and active habits. Many starligs live in open country in almost everything, but largely on insects, larvae, earthworm, slugs, anils brates, including fruit, grain, berries and seeds.					
Sturnidae	Sturnus	vulgaris	Common starling (migrate)	Europe, Asia; introduced almost worldwide	Cultivated land	22cm	This species is one of the most familiar birds in city area and roost in large numbers on the building. Starling are adaptable birds and take to a wide variety of habitats, although deciduous woodland and built -up areas preferred in the breeding season. They feed on insects, larvae, earthworm, slugs, anils and centipedes, among other invertebrates, including fruit, grain, berries and seeds. Starlings breed in colonies and in separates in pairs. The nest is usually built in a hole in a tree or building or among rocks, and is made of stems, leaves and other plant materials. The female lays 4 to 9 eggs, which both parents incubate for 12 or 13 days. Northen populatons migrate in winter.					

Table 9.2.2.18 List of Birds Species in the Almout Basin

Тахог	omical Hie	erarchy	Common		TT-1-2	G!		CITES/IU
Family	Genus	Species	name	Range	Habitat	Size	Characters	CN Categorie
Passerinae: Sparrow Subfamily				of the World.	Sparrows are	generall	rica and Burasia to Indonesia; some species have been introduces other parts y gregarious and roost, feed and breed together. Most of 36 species are tts, though there are some woodlands habitats species.	
www.	Passer	hispaniolensis	Spanish sparrow					
		montanus	European tree					
Anatidae	Anas	platyrhynchos	Mallard (Ducks)	Throughout northern hemisphere	Almost anywhere near water	41- 61cm	The mallard is a typical dabbing duck with feeding tail-up in shallow water. The female lays her 8 to 10 eggs in a nest on the ground. The mallard duck is the ancestor of all domestic ducks except for muscovies.	
Corraciiae	Coracias	garrulus	Europian Roller (migrate)	Breed in Europe, N. Africa, S.W. Asia Winter in E. & S Africa, Middle East	Forest, woodland, open country	30ccm	Order: Coracilformes There are 9 families in this order-rollers, ground rollers, cuckoo-roller, motmots, bee-eaters and three families of kingfisher. These birds generally have large bill in proportion to their body size and bright plumage. Roller family is most of 12 species live in Africa and from Europe to Australia. Their common name originates from their tumbling aerobatic courtship displays. Robast, gregarious bird, European rollers like to perch above the ground (telephone wires are particularly favored spots) in order to watch for prey such as insects, small lizards, frogs and birds. they dart out to seize the pray and return to the perch due to feed. The nest is made in an existing hole in a tree, wall or bank. Both parents incubate the clutch of between 4 to 7 eggs for a total of 18 to 19 days. and also share the care of young.	
Corvinae: C parasise, Cu and Oriole s	rrwong			and adaptable i	birds. They o	ccur wo	hake up 4 tribes. The 117 of crows, and magpies are successful, intelligent ridwide, apart from the polar regions. All species are large with powerful and tly colored and crows are mainly block.	
	Corvus	COTAX	Common raven/Rock (migrate)	Europe, Middle east China and East Asia	Open country and farmland with of tree or woods	45ст	The glossy black raven distinguished by patch of bare skin on its face in front of eyes and shaggy. Loose feathers on its figures. It feeds brain and earthworms, which it obtains by driving its bill into the earth. Insects and invertebrates, small mammals, young birds, eggs, nuts and fruit are also included in its diet. Colonies nest at the top of tall tree, each pairs making a nest of sticks and twigs. The male feeds female while she incubates the 3 to 5 eggs for 16 to 18 days. Northern birds migrate south in winter.	
	Pica	pica	Common magpie	Europe to N. Africa , Asia to Himalayas, S.E. Asia, Alaska	Open country with tree, Woodland edge, grassland	44- 57cm	This magpie has black and white plumage and a long tail. They have habit to collect something bights in the nest and warble well. Insects, snakes, slugs and spiders are main foods, but grain, small animals, and carrion may also be taken. The large and domed nest is made in the tree of bush by a pair of parents. the male feeds the female while she incubates the 5 to 8 eggs for 17 to 18 days	
	Pyrrhocora x		Red billed chough	Scandinavia, Britain, Mediterranian regions,			. (<u>-</u> -
Phasianidae	:			(3) New World	quails. Man	y membe	birds. Their are three families in the order (1) Pheasants, (2) Guineafowl and ers of this family have been successfully introduced outside their native range. hunted for sport and eaten by human.	_
	Ammoperdi x	briseogularis	Partridge					

Table 9.2.2.19 List of Birds Species in the Almout Basin

Taxon	omical Hie	rarchy	Common	Range	Habitat	Size	Characters	CITES/IU CN
Family	Genus	Species	name	Mange	Manital	Size	CHAIACETS	Categorie
Phasianidae	Coturniu	coturniu	Common quail	Europe, Asia, Lake Bickal; winter Mediterranean coast	Grassland, farmland	18cm	One of the smallest girds in the pheasant family, the quail is a neat, rounded bird with a weakbill and legs.	
	Perdix	perdix	Common Partridge			ļ	<u> </u>	
Rallidae: Rail Family				grounded living	g birds, often pical species	found i	wood rail, gallinule and coot in this distinctive, major family. They are n or around water and marshy areas, and are well adopted for life in dence I to medium size birds 14-50cm long with moderately long legs and toes and	
Rallidae	Fulica	atra	Eurasian coot (reference; American coot)	World wide	Swamps, marshes, ponds, slow river with cover on banks	30cm	Coots are acquite feeders and dive or surfact to bottom in serch of a variety of underwater ploat and amimal foods. (For referance shows Ameracan coot)	
Sittidae	Sitta	tephranota	Eactern rock					
	Sittene	mager					•••	1
Strigidae	Owl hamily			tail birds, with	gig head and als, namely i	enormo nsects, i	the world over, except some oceanic islands. They are soft-feathered, short our eyes set in a circular facial disc. Most owls hunt at night and all feed invertebrates, birds and medium size mammals such as rabbits. They have called the aring	
	Strix	aluco	Tawmy owl	Britain, Europe, N. Africa, W & C to Korea	Woods, gardens, parks, urban areas	38cm	One of the most common European owls, it is distinguished from the long- eared and short eared owls by its lack of ear tufts and its dark eyes. It is strictly nocturnal, roosting in the tree during the day and hunting rodents, birds and insects at night. Breeding start in late March. The tawny owls nest in a hole in a tree or occasionally on the ground or an old nest another spices. Usually 2 to 4 eggs laid and female incubates the clutch for 28 to 30 days	
Syurunidae				11 *			Africa and Rurasia to Indonesia; some species introduced into other parts of ound feeder found in open habitats, though there are some wood land species.	
	Patronia	petronia	Rock sparrow	N. Africa, S.W. Europe, Balkans and C. Asia to N. China	Stony mountain slopes, ruined buildings and semi desert	14сш	Although they are not relationship with humans as the house sparrow, but it often lives near villages and dwellings. It is a gregarious bird and moves in flocks, searching for seeds, insects and berries. The nest is made a crevice in a rock, wall or building or sometimes in a tree or a rodent's burrow. The female lays a clutch of 4 to 8 eggs.	
	Patronia	brachydactyla	1 -					
Upupidae	Hoopoe Family		sparrow		er small anin	als. The	long, slightly down curved beaks used for probing the ground and crevices for are are 3 families Upupidae (hoopoe), Phoeniculidae (wood hoopoes) and	
	Pryocopus	marrtius						
	Upupa	epops	Ноорое	Europe, N. Africa, Asia	Open country with tree, forest edge, gardens, orchards	28cm	The hoopoe has pinkish to cinnamon body plumage, boldly barred wings and tails and a huge crest, which is usually held flat. It walks and run swiftly, probing the ground for worms, insects and invertebrates. The female incubates a clutch of 5 to 8 eggs for 16 to 19 days in a hole in a tree, wall or building.	
Motacillidae Family	4			oceanic islands	s. Most of the	65 spec	wagtail live in all over the world except for the extreme north and small cles are characterized by a long tail, which they wag up and down. All forms with strong claw and slender body, among the wagtails have an elongated	

Source: Lar Consultant

Reference

- 1) The Encyclopedia of Animals, The Simon & Schuster Editions Rockefeller Center (1998), ISBN 0-684-85237-3
- 2) Fauna of Iran, Eskandar Firouz, Iran University Press, (2000)
- 3) Goliestan National Park, Department of the Environment (DOE), (1999)

Table 9.2.2.32 List of Reptile Species in the Almout Basin

Family	nomical H Genus	Species	Common name	Range	Habitat	Size	Habitats Area	CITES/I CN Categori
Colubridae			:	asps are found			snakes have blunt heads and short tails. The 16 species of burrowing ast. They are secretive snakes, living in leaf litter and burrowing into	: Categori :
	Colube	najadum		the soil Africa to Middle East	Dry , sandy region	30- 250cm		!
	Coluber	jagularis	Burrowing asps	Europe, Asia	Dry, vegetative area, hilisides, woodland edge, gardens	1.9m	A slender, elongate snake, the dark -green whips snake has a rounded snout, large eyes and a long tapering tail. Usually active in the daytime, it is a ground -dwelling snake can well climb on rock and bushes. It locates its prey by sight and usually feed on lizards, frogs, mammals, and other snakes. Male compete fiercely for mates in the breeding season. The female lays 5 to 15 eggs among rock or in cracks in the soil. the young hatch in 6 to 8 weeks.	
		ravergieri	Versicolored wood snake					
	Eirenis	collaris	Ringfinger dwart					
The street was a series of the street	:	meda	Striped dwarf					
	:	punctatolineata	snake Armenian dwarf snake					0 0 0 0
	Elaphe	quatuorlineata						and the second of the second o
		Q.sauromates	Four-lined red snake					
	Malpolon	monsepessulanu	Montpellier					
	Natrix	tesselata	Grass snake	Europe, Africa, Asia, Mediterranean countries	Damp meadows, marshes, river banks	onally up to	This species swims well and spends some time in water, and one of the most common species and widespread Europe and Western Asia.	
	Psammophi	schokari	Sand snake			2m		
Boidae	S Eryx	jaculus	Javelin Sand Boa					
	<u> </u>	familiaris vermicularis	Vermiform blind					
Viperidae				viper, found all live on the grow their prey. The	l over the Old W and. A few spec most important I in front of and	orld ex ies have of these	viperinae (true vipers) and crotalinae (pit vipers). There are about 50 cept for Australia and Madagascar. Most species are short, sturdy sna become arboreal and have prehensile tail. Vipers hide and ambush at are the organs which give the snakes their common name-sensory pit ow the eyes which can detect heat and are used by these nocturnal sna	kes which nd strike ts on each
	Vipera	albicornuta	Zigzagmountain er	Europe, Middle East	Arid, sandy regions	50cm		
		ursini	Transcaucasian eriwanensis					
		lebetina	!					
		agkistrodon halys	Asatic-pit viper	Casoian Sea area, Russia, China	Steep semi arid, Coniferous forest		One of the few pit vipers found in the Old World, the manushi is found as for as 51° north, it is mainly nocturnal snake and emerges at sunset in order to hunt its prey, which consists mostly of small mammals. This viper is also called the sand viper because of its preference for sandy areas. It avoids woodland but is found in clearings, paths and often in vineyards. Its movement generally are slow, but it can strike rapidly with it fangs to kill small mammals, birds and other snakes. Most vipers hibernate throughout the winter.	
Testudinid ae	Testudo	horsfieldii	Spur-thighed Tortoise	N Africa, Europe, Middle East	Meadow, cultivated land, woodlands		This species tortoise has a moderately domed shall and a small spur in the thigh region of each front limb. They court in spring and the eggs usually 2 0r 3 in a clutch are laid in May to June and generally hatch in September to October, although this varies with the local climate. Thousand of these tortoises are collected and exported as a pets, many of which die because of the unsuitable climate and condition of their new homes.	uv

Source: Lar Consultant Reference

3) Goliestan National Park, Department of the Environment (DOE), (1999)

¹⁾ The Encyclopedia of Animals, The Simon & Schuster Editions Rockefeller Center (1998), ISBN 0-684-85237-3

²⁾ Fauna of Iran, Eskandar Firouz, Iran University Press, (2000)

Table 9.4.3.1 Inflow into the Manjil Dam

		,	·- ·····		(w/o Tale	ghan/Alm	out Water	Diversion)				
Year	Mehr	Aban	Azar	Dey	Bah.	Esf.	Far.	Ord.	Kho.	Tir	Mor.	Sha.	Annum
69-70	240.02	483.41	297.56	365.99	365,99	529.68	800.31	700.13	177.04	76,33	51.16	54.37	4,141.99
70-71	82.68	115.34	184.03	189.73	180.66	388.62	708,70	990.74	405.24	115.17	63.21	35.89	3,460.01
71-72	66.10	112.75	169,52	164,59	171.59	351.03	1,922.02	2,221.20	1,196,44	302.66	124.01	92.14	6,894.05
72-73	105.24	225.24	248.57	207.88	278,90	802,79	919,49	941.73	394.53	133.38	67.50	63.75	4,389.00
73-74	105.49	133,49	160.70	180.40	181.70	624.65	2,427.97	987.26	272.66	178.65	109.81	142,22	5,505.00
74-75	112.75	127.27	186,36	184.55	183.25	358.80	858.43	1,160.02	385.42	96.15	40,44	48.48	3,741.92
75-76	80,09	91.50	131.93	196.73	223.17	220.49	1,376.97	1,377.77	635,58	146.51	46.87	66.42	4,594.03
76-77	76.72	145.41	152.41	160.70	235,35	464.79	680.31	536.75	733.35	63.21	34.82	28.12	3,311.94
77-78	61.69	223.95	238.20	241.57	324.26	523.17	804.59	580.14	296.23	115.71	25,71	21.16	3,456.38
78-79	32,66	139.19	323.48	290.04	433,90	443.24	1,281.61	873,69	422.92	136.06	49.55	32.94	4,459.28
79-80	59.88	113.01	116,12	141.00	163.04	256.32	1,987.37	795.75	226.32	75.80	36.96	26.78	3,998.35
80-81	67.65	204.51	182.74	221.88	290.82	643.19	1,405.36	1,451.69	673.89	282.57	76,87	50.09	5,551.26
81-82	126,75	167,70	185.07	187.66	249.87	285.89	1,022.08	956.19	259.00	64.28	26.25	27.59	3,558.33
82-83	246.24	266.46	363.14	358.99	322,44	488,34	1,346.43	1,500.71	831.38	114.10	39.10	48.21	5,925.54
83-84	85,80	138.41	232.24	198.55	250,91	309.94	596.48	1,032.26	463,36	105.80	41.25	35,35	3,490.35
84-85	84.76	211.25	413.42	390.36	575.16	464.79	2,133.08	1,275.45	449,44	178,92	51.43	40.71	6,268,77
85-86	88.91	159.93	231.72	231.72	245.46	324.98	914.94	1,049.13	474.34	116.24	32.94	38.30	3,908.61
86-87	75.43	179.37	253.50	230.43	255.31	475.81	835,66	907.98	267.04	76.33	46.34	28.39	3,631.59
87-88	116.38	569.46	249.09	386.47	421.98	1,162.35	1,919.88	2,015.76	569.16	259.54	106.06	87.32	7,863.45
88-89	130.90	200.62	214.36	203.21	202.18	642,69	1,077.52	421.85	125,88	39.91	23.03	43.93	3,326.08
89-90	51.84	136.60	174.70	180.40	202.44	456.52	878.25	678.17	165.53	61.60	40.98	37.23	3,064.26
90-91	55.21	114.31	157.85	172.63	206.06	351.79	1,318.04	519.88	114.90	53.03	29.19	32.14	3,125.03
91-92	61.95	116.12	213.84	172.37	206.06	323.72	1,481,96	2,341,73	1,274.65	375.24	88.39	82.76	6,738.79
92-93	122,34	170,29	239,76	241.06	273.20	484.58	1,121,71	1,129,48	526.04	124.55	59.46	65.35	4,557.82
93-94	82.68	365.47	593.31	827.37	600.31	960.90	1,803.90	1,382.32	479.17	193.65	55.98	87.32	7,432.38
94-95	157.08	533.17	840,33	407.98	450.49	574.78	981.90	1,369.73	769.77	228.74	63.75	53.84	6,431.56
95-96	114.05	182.22	193.62	211.77	273.20	368.07	1,577.58	1,620.43	505.15	143.56	91.33	55.71	5,336.69
96-97	112.49	194,40	211.77	207.62	211.25	242.29	501.40	560.32	229.54	89.99	17.81		2,597.28
97-98	44.32	153.96	151.37	151.63	232.50	556.74	1,626.86	916.82	275.34	72.85	51.43	31.61	4,265.43
Average	98.21	206.03	252.09	251.91	283.15	485.55	1,252.10	1.113.62	468.94	138.64	54.88		4,656.04
Maximum	246.24	569.46	840.33	827.37	600.31	1,162,35	2,427.97	2,341.73	1,274.65	375.24	124.01	142.22	
Minimum	32,66	91.50	116.12	141.00	163,04	220,49	501.40	421.85	114.90	39.91	17.81		7,863.45
							721.10	741.03	117.30	37.71	17.01	15.40	2,597.28

Table 9.4.3.2 Manjil Dam Storage at the End of Month

	(w/o Taleghan/Almout Water Diversion, Demand=3,644.1MCM, Effective Storage=1,133MCM)												
Year	Mehr	Aban	Azar	Dey	Bah.	Esf.	Гаг.	Ord.	Kho.	Tir	Mor.	Sha.	Annum
69-70	419.12	856.73	1,109.89	1,133.00	1,133.00	1,133.00	1,133.00	1,099.13	472.67	0.00	0.00	0.00	
70-71	35.18	104.72	244,35	389.18	454.74	618.76	1,034.76	1,133.00	734.74	142.01	0.00	0.00	
71-72	18.60	85.55	210.67	330.36	386,85	513.28	1,133.00	1,133.00	1,133.00	727.76	396.57	360.21	
72-73	417.95	597.39	801.56	964.54	1,128.34	1,133.00	1,133.00	1,133.00	724.03	149.51	0.00	0.00	
73-74	57.99	145.68	261.98	397.48	464.08	864.13	1,133.00	1,133.00	602.16	72.91	0.00	13.72	
74-75	78.97	160.44	302,40	442.05	510.20	644.40	1,133.00	1,133.00	714.92	103.17	0,00	0.00	
75-76	32,59	78.29	165.82	317.65	425.72	421.61	1,133.00	1,133.00	965.08	403.69	0,00	0.00	
76-77	29.22	128.83	236.84	352,64	472.89	713.08	1,100.69	903,44	833.29	188.60	0.00	0.00	
77-78	14,19	192.34	386.14	582.81	791.97	1,090.54	1,133,00	979.14	471.87	0.00	0.00	0.00	
78-79	0,00	93.39	372.47	617.61	936.41	1,133.00	1,133.00	1,133.00	752.42	180.58	0.00	0.00	
79-80	12.38	79.59	151.31	247.41	295.35	327.07	1,133.00	1,133.00	555.82	0.00	0.00	0.00	
80-81	20,15	178.86	317.20	494.18	669.90	1,088.49	1,133.00	1,133.00	1,003.39	578.06	199.73	121.32	
81-82	200.57	322.47	463.14	605,90	740.67	801.96	1,133.00	1,133.00	588.50	0.00	00,0	0,00	
82-83	198.74	419.40	738.14	1,052.23	1,133.00	1,133.00	1,133.00	1,133.00	1,133.00	539.20	123.10	42.81	
83-84	81.11	173.72	361,56	515.21	651.02	736.36	1,040.14	1,133.00	792.86	190.76	0.00	0.00	
84-85	37.26	202.71	571.73	917.19	1,133.00	1,133.00	1,133.00	1,133.00	778.94	249.96	0.00	0.00	
85-86	41.41	155.54	342.86	529.68	660.04	760.42	1,133.00	1,133.00	803.84	212.18	0.00	0.00	
86-87	27.93	161.50	370.60	556.13	696.34	947.55	1,133.00	1,133.00	596.54	0.00	0.00	0.00	
87-88	68.88	592.54	797.23	1,133.00	1,133.00	1,133.00	1,133.00	1,133.00	898.66	450.30	101.16	59.98	
88-89	143,38	298.20	468.16	626,47	713.55	1,131.64	1,133.00	820,85	143.23	0.00	0.00	0.00	
89-90	4.34	95.14	225.44	360.94	448.28	680.20	1,133.00	1,077.17	439.20	0.00	0.00	0.00	
90-91	7.71	76.22	189.67	317.40	408.36	535.55	1,133.00	918.88	230.28	0.00	0.00	0.00	
91-92	14.45	84.77	254.21	381.68	472.64	571.76	1,133.00	1,133.00	1,133.00	800.34	433.53	387.79	
92-93	462,63	587.12	782.48	978.64	1,133.00	1,133.00	1,133.00	1,133.00	855.54	272,19	0.00	0.00	
93-94	35.18	354.85	903.76	1,133.00	1,133.00	1,133.00	1,133.00	1,133.00	808.67	294,42	0.00	0.00	
94-95	109.58	596.95	1,133.00	1,133.00	1,133.00	1,133.00	1,133.00	1,133.00	1,099.27	620.11	228.66	154.00	
95-96	220,55	356.97	506.19	673.06	831.16	974,63	1,133.00	1,133.00	834.65	270.31	0.00	0.00	
96-97	64.99	213,59	380.96	543.68	639.83	657.52	866,22	692,54	118.58	0.00	0,00	0.00	
97-98	0.00	108,16	215.13	321.86	439.26	771.40	1,133.00	1,133.00	604.84	0.00	0.00	0.00	
Average	98.45	258.68	457.41	622.34	729.95	863.70	1,116.10	1,083.35	718.03	222,28	51.13	39.30	
Maximum	462.63	856,73	1,133.00	1,133.00	1,133.00	1,133.00	1,133.00	1,133.00	1,133.00	800.34	433.53	387.79	
Minimum	0.00	76.22	151.31	247.41	295.35	327.07	866.22	692.54	118.58	0.00	0.00	0.00	
1411111111111111	0.00	, 0.22	151,51	2017.71	2,5.55	227.01	000,00		0.00	v.o 0 ;	0.00	2.00	

Table 9.4.3.3 Outflow from the Manjii Dam

Year	Mehr	Aban	Azar	Dey	Bah.	Esf.	Far.	Ord.	Kho.	Tir	Mor.	Sha.	Annum
69-70	47.50	45.80	44.40	44.90	115.10	224.60	292.70	734.00	803.50	549.00	51.16	54.37	3,007.03
70-71	47.50	45.80	44.40	44.90	115.10	224.60	292.70	734.00	803.50	707.90	205.22	35.89	3,301.51
71-72	47,50	45.80	44,40	44.90	115.10	224,60	292.70	734.00	803.50	707.90	455.20	128.50	3,644.10
72-73	47,50	45.80	44,40	44.90	115.10	224.60	292.70	734.00	803.50	707.90	217.01	63.75	3,341.16
73-74	47.50	45.80	44.40	44.90	115.10	224.60	292.70	734.00	803,50	707.90	182,72	128.50	3,371.62
74-75	47,50	45,80	44.40	44.90	115.10	224.60	292.70	734.00	803.50	707.90	143.61	48.48	3,252.49
75-76	47.50	45.80	44.40	44.90	115.10	224.60	292,70	734.00	803.50	707.90	450.56	66.42	3,577.38
76-77	47.50	45.80	44.40	44.90	115.10	224.60	292.70	734.00	803.50	707.90	223.42	28.12	3,311.94
77-78	47.50	45.80	44,40	44.90	115.10	224.60	292.70	734,00	803.50	587.58	25.71	21.16	2,986.95
78-79	32.66	45.80	44.40	44.90	115.10	224.60	292.70	734.00	803.50	707.90	230.13	32.94	3,308.63
79-80	47.50	45,80	44.40	44.90	115,10	224.60	292.70	734.00	803.50	631.62	36.96	26.78	3,047.86
80-81	47.50	45,80	44.40	44.90	115.10	224.60	292,70	734.00	803.50	707.90	455.20	128.50	3,644.10
81-82	47.50	45.80	44.40	44.90	115.10	224.60	292.70	734,00	803,50	652.78	26.25	27.59	3,059.12
82-83	47.50	45.80	44.40	44.90	115.10	224.60	292,70	734.00	803.50	707.90	455.20	128.50	3,644.10
83-84	47.50	45.80	44.40	44.90	115.10	224.60	292.70	734.00	803.50	707.90	232.01	35.35	3,327.76
84-85	47,50	45.80	44.40	44.90	115.10	224.60	292.70	734.00	803,50	707.90	301.39	40.71	3,402.50
85-86	47.50	45.80	44.40	44.90	115.10	224,60	292,70	734,00	803,50	707.90	245.12	38.30	3,343.82
86-87	47,50	45.80	44.40	44.90	115.10	224.60	292.70	734.00	803.50	672.87	46.34	28.39	3,100.10
87-88	47.50	45.80	44.40	44.90	115.10	224.60	292,70	734.00	803,50	707.90	455,20	128.50	3,644.10
88-89	47.50	45.80	44.40	44.90	115.10	224.60	292.70	734.00	803.50	183.14	23.03	43.93	2,602.60
89-90	47.50	45.80	44.40	44.90	115.10	224.60	292.70	734.00	803.50	500.80	40.98	37.23	2,931.51
90-91	47.50	45,80	44.40	44.90	115.10	224.60	292.70	734.00	803.50	283.31	29.19	32.14	2,697.14
91-92	47.50	45.80	44.40	44.90	115.10	224.60	292,70	734.00	803,50	707.90	455.20	128.50	3,644.10
92-93	47.50	45.80	44.40	44.90	115.10	224.60	292.70	734.00	803.50	707.90	331.65	65,35	3,457.40
93-94	47.50	45.80	44.40	44.90	115.10	224.60	292,70	734.00	803.50	707.90	350.40	87.32	3,498.12
94-95	47.50	45.80	44.40	44,90	115.10	224.60	292.70	734.00	803,50	707.90	455.20	128.50	3,644.10
95-96	47.50	45.80	44,40	44.90	115.10	224.60	292,70	734.00	803.50	707.90	361.64	55.71	3,477.75
96-97	47.50	45.80	44.40	44.90	115.10	224.60	292.70	734.00	803.50	208,57	17.81	18.40	2,597.28
97-98	44.32	45,80	44,40	44.90	115.10	224.60	292,70	734.00	803.50	677.69	51.43	31.61	3,110.05
Average	46.88	45.80	44.40	44.90	115.10	224.60	292,70	734.00	803.50	634.40	226.03	62.74	3,275.05
Maximum	47.50	45.80	44.40	44.90	115.10	224.60	292.70	734.00	803.50	707.90	455,20	128.50	3,644.10
Minimum	32.66	45.80	44.40	44.90	115,10	224.60	292.70	734.00	803.50	183.14	17.81	18.40	2,597.28

Table 9.4.3.4 Spillage from the Manjil Dam
(w/o Taleghan/Almout Water Diversion, Demand=3,644.1MCM, Effective Storage=1,133MCM)

Year	Mehr	Aban	Azar	Dey	Bah.	Esf.	Far.	Ord.	Kho.	Tir	Mor.	Sha.	Annum
69-70	0.00	0.00	0.00	297.98	250,89	305.08	507.61	0.00	0.00	0.00	0,00	0.00	1,361.56
70-71	0.00	0.00	0.00	0,00	0.00	0.00	0.00	158.50	0.00	0.00	0,00	0.00	158.50
71-72	0.00	0.00	0.00	0,00	0.00	0.00	1,009.60	1,487.20	392.94	0.00	0.00	0.00	2,889.74
72-73	0.00	0,00	0.00	0.00	0,00	573.53	626.79	207,73	0.00	0.00	0.00	0.00	1,408.05
73-74	0.00	0.00	0.00	0,00	0.00	0.00	1,866.40	253.26	0.00	0.00	0.00	0.00	2,119.66
74-75	0.00	0.00	0.00	0.00	0,00	0.00	77.13	426.02	0.00	0.00	0.00	0.00	503.15
75 - 76	0.00	0.00	0.00	0.00	0.00	0.00	372.88	643 <i>,</i> 77	0,00	0.00	0.00	0.00	1,016.65
76-77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0,00	0.00	0.00
77-78	0.00	0.00	0.00	0.00	0.00	0.00	469.43	0.00	0.00	0.00	0.00	0.00	469,43
78-79	0.00	0.00	0.00	0.00	0.00	22.05	988.91	139.69	0.00	0.00	0.00	0.00	1,150.65
79-80	0.00	0.00	0.00	0,00	0.00	0.00	888,74	61.75	0.00	0.00	0.00	0.00	950.49
80-81	0.00	0.00	0.00	0.00	0,00	0.00	1,068.15	717.69	0.00	0,00	0.00	0.00	1,785.84
81-82	0.00	0,00	0.00	0.00	0.00	0.00	398.34	222.19	0,00	0.00	0.00	0.00	620,53
82-83	0,00	0.00	0.00	0.00	126.57	263.74	1,053.73	766.71	27.88	0.00	0.00	0.00	2,238.63
83-84	0.00	0.00	0.00	0.00	0.00	0.00	0,00	205.40	0.00	0.00	0.00	0.00	205.40
84-85	0.00	0.00	0.00	0.00	244.25	240.19	1,840.38	541.45	0.00	0.00	0.00	0.00	2,866.27
85-86	0,00	0.00	0.00	0.00	0.00	0.00	249.66	315.13	0.00	0.00	0.00	0.00	564.79
86-87	0.00	0.00	0.00	0.00	0.00	0.00	357.51	173.98	0.00	0.00	0.00	0.00	531.49
87-88	0.00	0.00	0.00	5.80	306.88	937.75	1,627.18	1,281.76	0.00	0.00	0.00	0.00	4,159.37
88-89	0.00	0.00	0,00	0.00	0.00	0.00	783,46	0.00	0.00	0.00	0.00	0.00	783.46
89-90	0.00	0.00	0.00	0.00	0.00	0.00	132.75	0.00	0.00	0.00	0.00	0.00	132.75
90-91	0.00	0.00	0.00	0.00	0.00	0.00	427.89	0.00	0.00	0.00	0.00	0,00	427.89
91-92	0,00	0.00	0.00	0.00	0.00	0.00	628.02	1,607.73	471.15	0.00	0.00	0.00	2,706.90
92-93	0.00	0.00	0.00	0.00	3.74	259.98	829.01	395.48	0.00	0.00	0.00	0.00	1,488.21
93-94	0.00	0.00	0,00	553.23	485.21	736.30	1,511.20	648,32	0.00	0.00	0,00	0.00	3,934.26
94-95	0,00	0.00	259.88	363.08	335.39	350.18	689.20	635,73	0.00	0.00	0.00	0.00	2,633,46
95-96	0.00	0.00	0.00	0.00	0.00	0.00	1,126.51	886.43	0.00	0.00	0.00	0.00	2,012,94
96-97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0,00	0.00	0.00	0.00	0.00
97-98	0.00	0.00	0.00	0,00	0.00	0.00	972.56	182,82	0.00	0.00	0.00	0,00	1,155.38
Average	0.00	0.00	8.96	42.07	60.45	127.20	707,00	412.37	30.76	0,00	0.00	0.00	1,388.81
Maximum	0.00	0.00	259.88	553.23	485.21	937.75	1,866.40	1,607.73	471,15	0.00	0.00	0.00	4,159.37
Minimum	0.00	0.00	0.00	0,00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 9.4.3.5 Shortage of Water at the Manjil Dam (w/o Taleghan/Almout Water Diversion, Demand=3,644.1MCM, Effective Storage=1,133MCM)

		_	CENAID AII	HOUL TIME		on, Demar			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		······································		
Year	Mehr	Aban	Azar	Dey	Bah.	Esf.	Far.	Ord.	Kho.	Tir	Mor.	Sha.	Annum
69-70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	158.90	404.04	74.13	637.07
70-71	0.00	0.00	0.00	0.00	0,00	0.00	0,00	0.00	0,00	0.00	249,98	92.61	342,59
71-72	0.00	0.00	0.00	0.00	0,00	0.00	0,00	0.00	0.00	0.00	0.00	0.00	0.00
72-73	0.00	0.00	0.00	0.00	0,00	0.00	0.00	0,00	0,00	0.00	238.19	64,75	302.94
73-74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	272.48	0.00	272.48
74-75	0.00	0.00	0,00	0.00	0,00	0.00	0,00	0.00	0.00	0.00	311.59	80.02	391.61
75-76	0.00	0.00	0.00	0.00	0,00	0.00	0.00	0.00	0.00	0.00	4.64	62.08	66.72
76-77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	231.78	100.38	332,16
77-78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	120.32	429.49	107.34	657.15
78-79	14.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	225.07	95.56	335.47
79-80	0.00	0.00	0.00	0,00	0.00	0.00	0.00	0.00	0.00	76.28	418.24	101.72	596.24
80-81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0,00	0.00	0.00	0.00	0.00
81-82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	55,12	428.95	100.91	584.98
82-83	0.00	0.00	0.00	0.00	0,00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83-84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0,00	0.00	0.00	223.19	93,15	316.34
84-85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	153.81	87.79	241.60
85-86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0,00	210.08	90.20	300.28
86-87	0,00	0.00	0.00	0.00	0,00	0.00	0.00	0.00	0.00	35,03	408.86	100.11	544.00
87-88	0.00	0.00	0.00	0.00	0,00	0.00	0.00	0.00	0.00	0,00	0.00	0.00	0.00
88-89	0.00	0.00	0.00	0.00	0,00	0.00	0.00	0.00	0.00	524.76	432.17	84.57	1,041.50
89-90	0.00	0.00	0.00	0.00	0.00	0.00	0,00	0,00	0.00	207.10	414.22	91.27	712.59
90-91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	424.59	426.01	96.36	946.96
91-92	0.00	0,00	0,00	0,00	0.00	0.00	0.00	0.00	0.00	0,00	0.00	0.00	0.00
92-93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	123.55	63.15	186.70
93-94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0,00	0.00	104.80	41.18	145.98
94-95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95-96	0.00	0.00	0.00	0.00	0,00	0.00	0.00	0.00	0,00	0,00	93.56	72.79	166.35
96-97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	499.33	437.39	110.10	1,046.82
97-98	3.18	0.00	0.00	0.00	-0,00	0.00	0.00	0.00	0.00	30.21	403.77	96.89	534.05
Average	0.62	0.00	0.00	0.00	0.00	0,00	0.00	0.00	0.00	73.50	229.17	65.76	369.05
Maximum	14,84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	524.76	437,39	110.10	1,046.82
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0,00	0,00	0.00	0.00	0.00	0.00	0.00

Table 9.4.3.6(1) Manjil Dam Operation (w/o Taleghan/Almout Diversion Plan, DM=3,644.1MCM, ES=1,133MCM)

(Unit: MCM)

				3					(OILIR. INIC.INI.)	17.		
Year	Month	Manjul Inflow	I aleghan Dam Inflow Outflo	Outflow	Runoff	Inflow	Man	Manjil Dam Operation	Spillage	Shortage	Year	Mont
02-69	Mehr	240.02	0	0	0	0	419.12	47.50		000	73-74	Meh
	Aban	483.41	0	0	0	0	856.73	45.80	000	000		Abar
	Azar	297.56	0	0	0	0	1,109,89		000	000	••	Azar
	Dey	365.99	0	0	0	0	1,133.00		7	000		Dev
	Bah.	365.99	0	0	0	Ó	1,133.00		<u> </u>	000		Bah
	Esf.	529.68	0	0	0	0	1,133.00	224.60	305.08	0.00		Esf
	Far,	800.31	0	0	0	0	1,133.00	292.70	507.61	00.00		Far.
	Ord.	700.13	0	0	0	0	1,099.13	734.00	00.0	0.00		Ord
	Kho.	177.04	0	0	0	0	472.67	803.50	00.0	00'0		Kho
	ä	76.33	0	0	0	0	00.00	549.00	00.0	158.90	••••••	Tir
	Mor.	\$1.16	0	0	0	0	0.00	51.16	00.0	404.04		Mor
	Sha.	54.37	0	0	0	0	00.00	54.37	00.0	74.13		Sha
	tot	4,141.99	0	0	0	0	8,489.54	3,007.03	1,361.56	637.07		tot
70-71	Mehr	82.68	0	0	0	0	35.18	47.50	00.0	000	74-75	Meh
	Aban	115.34	0	0	0	0	104.72	45.80	00.0	0.00		Abar
	Azar	184.03	0	0	0	0	244.35	44.40	00.00	0.00	·	Azar
	Dey	189.73	0	0	ō	0	389.18	44.90	00.0	00.00		Dey
	Bah	180.66	0	0	0	0	454.74	115.10	00.00	0.00		Bah.
	Est	388.62	0	0	0	0	618.76	224.60	00'0	00'0		Esf
	Far.	708.70	0	0	0	0	1,034.76	292.70	00.0	00.00		Far
-	O.E.	990.74	0	0	0	0	1,133.00	734.00	158.50	00.00		Ord
	Kho.	405,24	0	0	0	0	734.74	803.50	00.0	00'0		Kho
-	Ξ,	115.17	0	0	0	0	142.01	707.90	00.0	00.00		Ė
	Mor.	03.21	5 6	0	0	0	0.00	205.22	00.00	249.98		Mor
	tot.	3 460 01	0	> <	2 0	5 6	0.00	35.89	0.00	92.61		Sha
71-72	Mehr	66.10	, 0	0	5 6	5 6	18 60	15.106.6	158.50	342.59	75.76	Meh.
	Aban	112.75	0	0	C	0	85.55	45.80	0.00	0.00	2	Abar
	Azar	169 52	0) 0	ē	0	210.67	00.CF	900	0,00		Ayer
	Dey	164.59	0	0	ō	0	330.36	44.90	8	0.00		Dev
	Bah.	171.59	0	0	0	0	386.85	115.10	0.00	000		Bah
	Esf	351.03	0	0	0	0	513.28	224.60	0.00	0.00		Esf
	Far.	1,922.02	0	0	0	0	1,133.00	292.70	1,009.60	0.00	· · · · ·	Far
	Ord	2,221.20	0	0	0	0	1,133.00	734.00	1,487.20	0.00		Ord
	Kho i	1,196.44	0	ō	0	0	1,133.00	803.50	392.94	00.00		Kho
		302.66	0	0	0	0	727.76	707.90	00.0	0.00		ij
	IMOI.	10,451	0 0	0	5 6	5 6	396.57	455.20	0.00	00.0		Mor
	2	41.77	0	5 0	5 0	5 6	360.21	128.50	00.00	0.00		Sha
72-73	Mehr	105 24	9	0		10	417.05	3,044.10	7,889.74	0.00	76-77	Mg Mg
	Aban	225.24	0	0	Ö	0	597.39	45.80	000	8 8	:	Abar
	Azar	248.57	0	0	ō	0	801.56	44.40	000	000		Azaı
	Dey	207.88	0	0	0	0	964.54	44.90	00'0	0.00		Dey
	Bah.	278.90	0	0	0	0	1,128.34	115.10	00.0	0.00		Bah
	Esf	802.79	0	٥	0	0	1,133.00	224.60	573.53	00.0		Esf
	Far.	919.49	0	0	0	0	1,133.00	292.70	629.79	0.00		Far.
	Ord	941.73	0	0	0	0	1,133.00	734.00	207.73	0.00		Ord
	Kho.	394.53	5 6	0	0	0	724.03	803.50	00.0	0.00		Z E
	Mor	80,001	5 0	5 0	⇒ c	5 0	149.51	707.90	000	0.00		<u> </u>
	Sha	63.75	0 0	5 0		5 6	0.00	107.17	00.0	238.19		Mor
	Į.	4 389 00	5 0	0	5 6		0.00	2 3 4 1 1 5	000	04.75		NIA.
						<u> </u>	2000	27.17.10	1,400.00	302.24		

		Manjil	Taleghan Dam	Dam	Almout		Mani	Manjil Dam Operation	ration	
Year	Month	Inflow	Inflow	Outflow	Runoff	Inflow	Storage	Outflow	Spillage	Shortage
73-74	Mehr	105.49	0	0	0	0	57.99	47.50	000	000
	Aban	133.49	0	0	0	0	145.68	45.80	00'0	0.00
	Azar	160.70	0	0	0 ::	0	261.98	44 40	0.00	00.0
	Dey	180.40	0	0	0	0	397.48	44 90	000	000
	Bah.	181.70	0	0	0	0	464.08	115.10	00.0	00.0
	Esf.	624.65	0	0	0	0	864.13	224 60	000	000
	Far.	2,427.97	0	0	0	0	1,133.00	292 70	1.866.40	000
	Ord	987.26	0	0	0	0	1,133.00	734 00	253 26	000
	Kho.	272.66	0	0	0	0	602.16	803 50	000	000
	Tir	178.65	0	0	0	0	72.91	707 90	000	000
	Mor.	109.81	0	C	C	, c	000	182 77	000	277 48
	Sha	142.22	c		5 0	0	11 77	128 50	3 6	00.70
	1904	22.27	0	5 0		0		00.021		00.00
7	nor .	00.000.00	0	5	0	→	5,146.13	3,371,62	2,119.66	272.48
14-13	Menr	112.75	Э	0	0	0	78.97	47.50	0.00	0.00
	Aban	127.27	0	0	0	0	160.44	45.80	0.00	0.00
	Azar	186.36	0	0	0	0	302.40	44.40	0.00	00'0
	Dey	184.55	0	0	0	0	442.05	44 90	00'0	0.00
	Bah,	183,25	0	0	0	0	510.20	115.10	0.00	0.00
	Esf.	358.80	0	0	0	0	644.40	224 60	0.00	00.0
	Far.	858.43	0	0	0	0	1,133.00	292 70	77.13	0.00
	Ord.	1,160.02	0	0	0	0	1,133.00	734.00	426.02	0.00
	Kho.	385.42	0	0	0	0	714.92	803.50	0.00	0.00
	ī	96.15	0	0	0	0	103.17	707.90	0.00	0.00
	Mor.	40.44	0	0	0	0	0.00	143.61	0.00	311.59
	Sha.	48.48	0	0	0	0	00.0	48.48	0.00	80.02
	tot	3,741.92	0	0	0	0	5,222.55	3,252.49	503.15	391.61
75-76	Mehr	80.09	0	0	0	0	32.59	47.50	00'0	0.00
	Aban	91.50	0	0	0	0	78.29	45.80	0.00	0.00
	Azar	131.93	0	0	0	0	165.82	44.40	0.00	0.00
	Dey	196.73	0	0	0	0	317.65	44.90	0.00	0.00
	Bah.	223.17	ō	0	0	0	425.72	115.10	00'0	00.0
	Esf.	220.49	0	0	0	0	421.61	224.60	0.00	00.00
	Far.	1,376.97	Ö	0	0	0	1,133.00	292.70	372.88	00'0
	Ord	1,377.77	0	Ó	0	0	1,133.00	734.00	643.77	0.00
	Kho.	635.58	0	0	0	0	965.08	803.50	0.00	0.00
	Ţ	146.51	0	0	Ö	0	403.69	707.90	0.00	0.00
	Mor.	46.87	0	0	0	0	0.00	450.56	0.00	4.64
	Sha	66.42	0	0	0	0	0.00	66.42	0.00	62.08
	ξ	4,594.03	0	0	0	0	5,076.45	3,577.38	1,016.65	66.72
76-77	Mehr	76.72	0	0	0	0	29.22	47.50	0.00	00'0
	Aban	145.41	0	0	0	0	128.83	45.80	0.00	0.00
	Azar	152.41	0	0	8	0	236.84	44.40	0.00	0.0
	Dey	160.70	0	0	0	0	352.64	4.90	0.00	0.00
	Hah.	235.35	0	0	0	0	472.89	115.10	0.00	0.00
	FSF	464.79	0	0		0	713.08	224.60	0.00	0.00
	Far	680.31	0	0	0	0	1,100.69	292.70	0.00	0.00
	S E	536.75	0	0	0	0	903.44	734.00	0.00	0.00
	K.	/33.35	0	0	0	0	833.29	803.50	0.00	0.00
		63.21	0	0	0	0	188.60	707.90	0.00	0.00
	Mor.	34.82	0	0 (5	0 0	00.0	223.42	0.00	231.78
	Sala.	2311.07	5 6	5 0	5 0	5 6	0.00	28.12	0.00	100.38
	TINE.	3,011.71	3	7	7	7	4,939.32	3,311.94	0.00	352.10

Table 9.4.3.6(3) Manjil Dam Operation (w/o Taleghan/Almout Diversion Plan, DM=3,644.1MCM, ES=1,133MCM)

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۱	Inflor	-	<u> </u>																						1						L																		1
Monda	Inflow	126.75	167.70	185.07	187.66	249.87	285.89	1,022.08	956.19	259.00	64.28	26.25	27.59	3,558.33	246.24	266.46	363.14	358,99	322.44	488.34	1,346.43	1,500.71	831.38	114.10	39.10	48.21	5,925.54	20.00	138.41	198 55	250.91	309.94	596.48	1,032.26	463.36	105.80	41.25	3.490.35	84.76	211.25	413.42	390.36	\$75.16	464.79	2,133.08	1,275.45	449.44	178.92	51.43
	Month	Mehr	Aban	Azar	Dey	Bah.	Esf	Far.	Ord.	Kho.	Tir	Mor.	Sha	totl	Mehr	Aban	Azar	Dey	Bah.	Esf	Far.	Ord	Kho.	1	Mor.	Sha.	tot	Melli	Aban	Dev	Bah	Esf.	Far.	Ord.	Kho.	Tit.	MIOI.	tot	Mehr	Aban	Azar	Dey	Bah.	Esf	Far.	Ord.	Kho.	į,	Mor.
	Year	81-82													82-83		,							1-	1-		10 50	P0C0										'	84-85		,								
	Shortage	0.00	0.00	00.00	00.00	0.00	0.00	0.00	0.00	0.00	120.32	429.49	107.34	657.15	14.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	225.07	95.56	335.47	000	00.0	000	0.00	0.00	0.00	0.00	0.00	76.28	418.24	596 24	0.00	00.0	00.0	00'0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(Unit: MCM)	llage	1_	00.0	0.00	00'0	00.00	0.00	469.43	0.00	0.00	0.00	0.00	0.00	469.43	0.00	0.00	00.0	9.0	0.00	.22.05	16.886	139,69	000	000	00.0	0.00	1,150.65	8.0	800	000	000	00.0	888.74	61.75	0.00	00.00	3.5	950.49	000	0.00	0.00	0.00	00'0	0.00	1,068.15	717.69	0.00	0.00	00'0
(Unit	Outflow	╌	45.80	44.40	44.90	115.10	224.60	292.70	734.00	803.50	587.58	25.71	21.16	2,986.95	32.66	45.80	44.40	44.90	115.10	224.60	292.70	734.00	803.50	06/0/	230.13	32.94	3,308.63	45.00	45.80	4 90	115.10	224.60	292.70	734.00	803.50	631.62	36.70	3 047 86	47.50	45.80	44.40	44.90	115.10	224.60	292.70	734.00	803.50	207.90	455.20
Maniil	Storage	14.19	192.34	386.14	582.81	791.97	1,090.54	1,133.00	979.14	471.87	00'0	0.00	0.00	5,642.00	0.00	93.39	372.47	19.719	936.41	1,133.00	1,133.00	1,133.00	752.42	180.38	30.0	000	0,351.88	20.50	15121	247.41	295.35	327.07	1,133.00	1,133.00	555.82	000	3 6	3.934.93	20.15	178.86	317.20	494.18	06.699	1,088.49	1,133.00	1,133.00	1,003.39	578.06	199.73
	Inflow	0	0	0	0	0	0	0	0	0	0	0	0	٥	0	0	0	0	0	0	0	0	0 0	0 0	5 0	5	5 0	5 2	2	0	0	0	0	0	0	5 0		0	0	0	0	0	0	0	0	0	0	0	>
Almont	Runoff	0	0	0	0	0	0	ō	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	5	5 0		5 0	5 6	5 0	0	0	0	0	٥	0	5 0	2 0	0	0	0	0	0	0	0	0	0	0	0	0
me U a	Outflow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5 0	0	٥١٥	٥		5 6	0	0	0	0	0	0	0 0	2 6	0		0	0	0	0	0	0				5
Taleohan Dam	Inflow	0	0	0 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	5 6	O	Ď (٥١٥			0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	٥		٥
Maniil	Inflow	69.19	223.95	238.20	241.57	324,26	523.17	804.59	580.14	296.23	115.71	25.71	21.16	3,456.38	32.66	139.19	323.48	290.04	433.90	443.24	1,281.61	873.69	422.92	136.06	49.55	52.94	4,459.28	117.00	115.01	141.00	163.04	256.32	1,987.37	795.75	226.32	75.80	30.90	3.998.35	67.65	204.51	182.74	221.88	290.82	643.19	1,405.36	1,451.69	673.89	282.57	/9.9/
	Month	Mehr	Aban	Azar	Dey	Bah.	Esf	Far.	Ord.	Kho,	Tir	Mor.	Sha.	tot	Mehr	Aban	Azar	Dey	Bah.	Esf.	Far.	je O	Kho	± ;	Mor.	Sha.	tott	ALCH	ADARI	Dev	Bah	Est	Far.	Org.	Kho.	± 5	MOI.	to:	Mehr	Aban	Azar	Dey	Bah.	Esf.	Far.	Ord	Kho.	Tir	Mor.
	Year	77-78			•								•		78-79												00 00	20.67											18-08										

Table 9.4.3.6(4) Manjil Dum Operation (w/o Taleghan/Almout Diversion Plan, DM=3,644.1MCM, ES=1,133MCM)
(Unit: MCM)

		Manjii	Lalegh	Laleghan Dam	Amout		Manj	Manjil Dam Operation	ration	
Year	Month	Inflow	Inflow	Outflow	Runoff	Inflow	Storage	Outflow	Spillage	Shortage
78-18	Mehr	126.75	0	0	0	0	200,57	47.50	00.0	0.00
	Aban	167.70	0	0	0	0	322.47	45.80	00.00	00.00
	Azar	185.07	0	0	0	0	463.14	44.40	00.00	0.00
	Dey	187.66	0	0	0	0	605.90	44.90	00.00	00.0
	Bah	249.87	0	0	0	0	740.67	115.10	00.00	00.00
	Esf.	285.89	0	0	0	0	801.96	224.60	00.00	0.00
	Far.	1,022.08	0	0	0	0	1,133.00	292.70	398.34	0.00
	Ord.	956.19	0	0	0	0	1,133.00	734.00	222,19	00.00
	Kilo.	259.00	0	0	0	0	588.50	803.50	0.00	0.00
	北	64.28	0	0	O	0	00'0	652.78	0.00	55.12
	Mor.	26.25	0	0	0	0	0.00	26.25	00'0	428.95
	Sha	27.59	0	0	0	0	00'0	27.59	00'0	100.91
	tot	3,558.33	0	0	0	0	5,989,21	3,059.12	620.53	584.98
82-83	Mehr	246.24	0	0	0	0	198.74	47.50	00.0	0.00
	Aban	266.46	0	0	0	0	419.40	45.80	00'0	00'0
	Azar	363.14	0	0	0	0	738.14	44.40	00'0	00.0
	Dey	358.99	0	0	0	0	1,052.23	44.90	0.00	0.00
	Bah	322.44	0	0	0	0	1,133.00	115.10	126.57	00'0
	Est.	488.34	0	0	0	0	1,133.00	224.60	263.74	0.00
	Far.	1,346.43	0	0	0	0	1,133.00	292.70	1,053.73	00'0
	O.d	1,500.71	0	0	0	0	1,133,00	734.00	766,71	0.00
	Kho.	831.38	0	0	0	0	1,133.00	803.50	27.88	0.00
	Ī	114.10	0	0	0	0	539,20	707.90	00.0	0.00
	Mor.	39.10	0	0	0	0	123.10	455.20	0.00	0.00
	Sha.	48.21	0	0	0	0	42.81	128.50	00.0	0.00
	tot	5,925.54	0	0	0	0	8,778.62	3,644.10	2,238.63	0.00
83-84	Mehr	85.80	0	0	0	0	81.11	47.50	00:0	0.00
	Aban	138.41	0	0	0	0	173.72	45.80	0.00	0.00
	Azar	232.24	0	0	0	0	361.56	44.40	0.00	00'0
	Dey	198.55	0	0	0	0	515.21	44.90	0.00	0.00
	Bah	250.91	0	0	0	0	651.02	115.10	0.00	0.00
	Esf.	309.94	0	0	0	0	736.36	224.60	00:00	00'0
	Far.	\$96.48	0	0	0	0	1,040.14	292.70	00.00	00.0
	Ö	1,032.26	0	0	0	0.	1,133.00	734.00	205.40	0.00
	Kho.	463.36	0	0	0	0	792.86	803.50	00.00	00.00
	ii.	105.80	0	0	0	0	190.76	707.90	00'0	0.00
	Mor.	41.25	0	0	0	0	00.0	232.01	00.00	223.19
	Sha.	35.35	0	0	0	0	00.0	35.35	0.00	93.15
	E E	3,490.35	0	0	0	0	5,675.74	3,327.76	205.40	316.34
84-85	Mehr	84.76	0	0	0	0	37.26	47.50	0.00	00.00
	Aban	211.25	0	0	0	0	202.71	45.80	0.00	0.00
	Azar	413.42	0	0	0	0	571.73	44.40	00'0	0.00
	Dey	390.36	0	0	0	0	917.19	44.90	0.00	0.00
	Bah	575.16	0	0	0	0	1,133.00	115,10	244.25	00.00
	Esf.	464.79	0	0	0	0	1,133.00	224.60	240.19	00.00
	Far.	2,133.08	0	0	0	0	1,133.00	292.70	1,840.38	0.00
	Ord	1,275.45	0	0	0	0	1,133.00	734.00	541.45	00.0
	Kho.	449.44	0	0	0	0	778.94	803.50	00.00	00.0
	Τŗ	178.92	0	0	0	0	249.96	707.90	00'0	0.00
	Mor.	51.43	0	0	0	0	00:0	301.39	00'0	153.81
	Sha.	40.71	0	0	0	0	0.00	40.71	00'0	87.79
	Ţ	6.268 77	0	0	0	0	7,289.79	3.402.50	786677	2416

Table 9.4.3.6(5) Manjil Dam Operation (w/o Taleghan/Almont Diversion Plan, DM=3,644.1MCM, ES=1,133MCM)
(Unit: MCM)

	139,93 0 139,93 0 139,93 0 131,72 0 0 149,44 0 0 1,049,13 0 0 0 0 0 0 0 0 0	139,93 0 0 231,72 0 0 231,72 0 0 245,46 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	139,93 0 139,93 0 139,93 0 131,72 0 0 149,49 0 0 1,049,13 0 0 0 0 0 0 0 0 0	139,93 0 139,93 0 139,93 0 131,72 0 0 1,049,13 0 0 1,049,13 0 0 0 0 0 0 0 0 0	139,93 0 139,93 0 139,93 0 131,72 0 0 149,91 0 0 1,049,13 0 0 0 0 0 0 0 0 0
231.72 0 245.46 0 0 914.94 0 0 914.94 0 0 914.94 0 0 914.94 0 0 914.94 0 0 914.94 0 0 914.94 0 0 914.94 0 0 917.94 0 917.94 0 0 917.94 0 0 917.94 0 0 917.94 0 0 917.94 0 0 917.94 0 917.94 0 0 917.94 0 0 917.94 0 0 917.94 0 0 917.94 0 0 917.94 0	231.72 0 231.72 0 245.46 0 914.94 0 1,049.13 0 474.34 0 1,624 0 3,294 0 3,508.61 0 255.31 0 475.81 0 255.31 0 475.81 0 255.31 0 475.81 0 255.31 0 475.81 0 255.31 0 475.81 0 256.46 0 267.04 0 267.04 0 116.38 0 267.04 0 267.04 0 16.38 0 267.04 0 267.04 0 16.38 0 267.04 0 267.04 0 267.04 0 267.04 0 267.04 0 267.04 0 267.04 0 269.46	231.72 0 23.1.72 0 245.46 0 0 914.94 0 0 914.94 0 0 914.94 0 0 914.94 0 0 914.94 0 0 914.94 0 0 917.94 0 917.94 0 0 917.94 0 0 917.94 0 0 917.94 0 0 917.94 0 0 917.94 0 917.94 0 0 917.94 0 917	231.72 0 231.72 0 245.46 0 0 914.94 0 0 914.94 0 0 914.94 0 0 914.94 0 0 914.94 0 0 914.94 0 0 917.95 0 0 917.75 0 0 917.75 0 0 917.75 0 0 917.75 0 0 917.75 0 0 917.75 0 0 917.75 0 0 917.75 0 0 917.75 0 0 917.75 0 0 917.75 0 0 917.75 0 0 917.75 0 91	231.72 0 231.72 0 231.72 0 234.546 0 9 9 9 14.94 0 9 9 14.94 0 9 9 14.94 0 9 9 14.94 0 9 9 14.94 0 9 9 14.94 0 9 9 14.94 0 9 9 19.94 0 9 9 19.94 0 9 9 19.94 0 9 9 19.94 0 9 9 19.94 0 9 9 19.94 0 9 9 19.94 0	231.72 0 231.72 0 245.46 0 3245.8 0 914.94 0 116.24 0 116.24 0 32.94 0 32.98 61 0 32.98 61 0 32.93 60 0 253.31 0 475.81 0 255.31 0 475.81 0 255.31 0 475.81 0 255.31 0 475.81 0 267.04 0 267.04 0 46.34 0 249.09 0 3,631.59 0 1,162.35 0 2,915.76 0 569.16 0 206.06 0 207.18 0 202.18 0 421.85 0 421.85 0
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3,631.59 0 116.38 0 569.46 0 269.49 0 386.47 0 421.98 0 1,162.35 0 2,015.76 0 569.16 0 259.54 0 106.06 0 87.32 0 1,863.45 0 200.62 0 214.36 0 203.21 0	3,631.59 0 116.38 0 569.46 0 269.49 0 386.47 0 421.98 0 1,162.35 0 2,015.76 0 569.16 0 259.54 0 106.06 0 87.32 0 106.06 0 230.34 0 214.36 0 203.21 0 202.18 0	3,631.59 0 116.38 0 569.46 0 249.09 0 386.47 0 421.98 0 1,162.35 0 1,919.88 0 2,015.76 0 569.16 0 259.54 0 106.06 0 7,863.45 0 130.90 0 200.62 0 203.21 0 642.69 0	3,631.59 0 116.38 0 559.46 0 249.09 0 386.47 0 421.98 0 1,162.35 0 1,919.88 0 2,015.76 0 569.16 0 259.54 0 106.06 0 87.32 0 130.90 0 200.62 0 201.33 0 202.18 0 642.69 0 1,977.52 0	3,631.59 0 116.38 0 569.46 0 249.09 0 386.47 0 421.98 0 1,162.35 0 1,919.88 0 2,015.76 0 569.16 0 259.54 0 106.06 0 87.32 0 130.90 0 20.62 0 214.36 0 202.18 0 642.69 0 421.85 0	3,631.59 0 116.38 0 569.46 0 249.09 0 386.47 0 43.62.35 0 1,162.35 0 1,919.88 0 2,015.76 0 569.16 0 259.54 0 106.06 0 87.32 0 130.90 0 200.62 0 201.33 0 202.18 0 642.69 0 421.85 0 125.88 0
16.38	16.38	16.38	16.38	16.38	16.38
249.09 0 0 386.47 0 0 421.98 0 0 1,162.35 0 0 1,919.88 0 0 2,015.76 0 0 569.16 0 0 259.54 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 130.90 0 0 200.62 0 0 203.21 0 0	249.09 0 0 386.47 0 0 421.98 0 0 1,162.35 0 0 1,919.88 0 0 2,015.76 0 0 569.16 0 0 259.54 0 0 106.06 0 0 87.32 0 0 130.90 0 0 200.62 0 0 2014.36 0 0 202.18 0 0	249.09 0 0 386.47 0 0 421.98 0 0 1,162.35 0 0 1,919.88 0 0 2,015.76 0 0 569.16 0 0 259.54 0 0 106.06 0 0 87.32 0 0 130.90 0 0 214.36 0 0 200.62 0 0 202.18 0 0 642.69 0 0	249.09 0 0 386.47 0 0 421.98 0 0 1,162.35 0 0 1,919.88 0 0 2,015.76 0 0 569.16 0 0 259.54 0 0 106.06 0 0 87.32 0 0 130.90 0 0 200.62 0 0 2014.36 0 0 642.69 0 0 1,977.52 0 0	249.09 386.47 0 386.47 0 0 386.47 0 0 0 1,162.35 0 0 0 2,015.76 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	249.09 0 0 386.47 0 0 421.98 0 0 1,162.35 0 0 1,919.88 0 0 2,015.76 0 0 259.54 0 0 106.66 0 0 87.32 0 0 130.90 0 0 200.62 0 0 201.436 0 0 642.69 0 0 421.85 0 0 421.85 0 0
386.47 0 0 421.98 0 0 1,162.35 0 0 1,919.88 0 0 2,015.76 0 0 569.16 0 0 239.54 0 0 106.06 0 0 7,863.45 0 0 200.02 0 0 214.36 0 0 203.21 0 0	386.47 0 0 421.98 0 0 1,162.35 0 0 1,919.88 0 0 2,015.76 0 0 569.16 0 0 259.54 0 0 106.06 0 0 7,863.45 0 0 200.62 0 0 200.62 0 0 203.21 0 0 202.18 0 0	386.47 0 0 421.98 0 0 1,162.35 0 0 1,919.88 0 0 2,015.76 0 0 569.16 0 0 259.54 0 0 106.06 0 0 87.32 0 0 130.90 0 0 200.62 0 0 203.21 0 0 642.69 0 0	386.47 0 0 421.98 0 0 1,162.35 0 0 1,919.88 0 0 2,015.76 0 0 569.16 0 0 259.54 0 0 106.06 0 0 87.32 0 0 130.90 0 0 200.62 0 0 2014.36 0 0 202.18 0 0 642.69 0 0 1,977.52 0 0	386.47 0 0 421.98 0 0 1,162.35 0 0 1,919.88 0 0 2,015.76 0 0 569.16 0 0 259.54 0 0 106.06 0 0 87.32 0 0 130.90 0 0 200.62 0 0 203.21 0 0 202.18 0 0 642.69 0 0 1,077.52 0 0	386.47 0 0 421.98 0 0 1,162.35 0 0 1,919.88 0 0 2,015.76 0 0 269.16 0 0 259.54 0 0 106.66 0 0 87.32 0 0 130.90 0 0 200.62 0 0 201.33 0 0 642.69 0 0 421.85 0 0 125.88 0 0
421.98 0 0 1,162.35 0 0 1,919.88 0 0 2,015.76 0 0 569.16 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 130.90 0 0 200.62 0 0 203.21 0 0	421.98 0 0 1,162.35 0 0 1,919.88 0 0 2,015.76 0 0 569.16 0 0 106.06 0 0 7,863.45 0 0 130.90 0 0 200.62 0 0 203.21 0 0 202.18 0 0	421.98 0 0 1,162.35 0 0 1,919.88 0 0 2,915.76 0 0 2,915.76 0 0 259.54 0 0 106.06 0 0 87.32 0 0 130.90 0 0 214.36 0 0 20.62 0 0 202.18 0 0 642.69 0 0	421.98 0 0 1,162.35 0 0 1,919.88 0 0 2,015.76 0 0 2,915.76 0 0 2,59.54 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 130.90 0 0 214.36 0 0 202.18 0 0 642.69 0 0 1,077.52 0 0	421.98 0 0 1,162.35 0 0 1,192.88 0 0 2,015.76 0 0 2,015.76 0 0 259.54 0 0 106.06 0 0 87.32 0 0 130.90 0 0 200.62 0 0 203.21 0 0 202.18 0 0 442.69 0 0 421.85 0 0	421.98 0 0 1,162.35 0 0 1,919.88 0 0 2,915.76 0 0 2,69.16 0 0 259.54 0 0 106.06 0 0 87.32 0 0 130.90 0 0 200.62 0 0 203.21 0 0 202.18 0 0 642.69 0 0 421.85 0 0 125.88 0 0
1,162.35 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1,102.33 0 0 1,919.88 0 0 2,015.76 0 0 569.16 0 0 239.54 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 200.62 0 0 214.36 0 0 202.18 0 0	1,102.33 0 0 1,919.88 0 0 2,015.76 0 0 569.16 0 0 239.54 0 0 106.06 0 0 87.32 0 0 130.50 0 0 200.62 0 0 214.36 0 0 202.18 0 0 642.69 0 0	1,102,135 0 0 0 0 0 0 0 0 0	1,102,135 0 0 0 0 0 0 0 0 0	1,102,13 0 0 1,919,88 0 0 2,015,76 0 0 569,16 0 0 259,54 0 0 106,06 0 0 7,863,45 0 0 130,90 0 0 200,62 0 0 203,21 0 0 202,18 0 0 642,69 0 0 421,85 0 0 125,88 0 0
2,015.76 0 0 569.16 0 0 259.54 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 7,863.45 0 0 214.36 0 0 203.21 0 0	2,015.76 0 569.16 0 259.34 0 106.06 0 87.32 0 7,863.45 0 0 0 200.62 0 203.21 0 202.18 0	2,015.76 0 0 569.16 0 0 259.34 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 130.90 0 0 214.36 0 0 202.18 0 0 642.69 0 0	2,015.76 0 0 569.16 0 0 259.34 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 210.62 0 0 214.36 0 0 202.18 0 0 642.69 0 0 1,977.52 0 0	2,015.76 0 0 569.16 0 0 259.54 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 130.90 0 0 200.62 0 0 201.31 0 0 202.18 0 0 421.85 0 0 421.85 0 0	2,015.76 0 0 569.16 0 0 239.54 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 130.90 0 0 200.62 0 0 203.21 0 0 642.69 0 0 421.85 0 0 125.88 0 0 125.88 0 0
569.16 0 0 259.34 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 130.90 0 0 214.36 0 0 203.21 0 0	569.16 0 0 259.34 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 200.62 0 0 214.36 0 0 203.21 0 0 202.18 0 0	569.16 0 0 259.34 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 200.62 0 0 214.36 0 0 202.18 0 0 642.69 0 0	569.16 0 0 259.34 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 200.62 0 0 214.36 0 0 202.18 0 0 642.69 0 0 1,077.52 0 0	569.16 0 0 239.34 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 130.90 0 0 20.62 0 0 20.13.5 0 0 202.18 0 0 642.69 0 0 421.85 0 0	569.16 0 0 239.54 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 130.90 0 0 200.62 0 0 203.21 0 0 202.18 0 0 642.69 0 0 421.85 0 0 125.88 0 0
259.54 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 130.90 0 0 206.62 0 0 214.36 0 0 203.21 0 0	259.54 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 200.62 0 0 214.36 0 0 203.21 0 0 202.18 0 0	259.54 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 200.62 0 0 214.36 0 0 203.21 0 0 642.69 0 0	259.54 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 200.62 0 0 214.36 0 0 202.18 0 0 642.69 0 0 1,977.52 0 0	259.54 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 130.90 0 0 20.62 0 0 20.13.5 0 0 202.18 0 0 642.69 0 0 421.85 0 0	259.54 0 0 106.06 0 0 87.32 0 0 7,863.45 0 0 130.90 0 0 20.62 0 0 203.21 0 0 202.18 0 0 642.69 0 0 421.85 0 0 125.88 0 0
106,006 0 0 0 0 0 0 0 0 0	106,06 0 0 0 0 0 0 0 0 0	106,06 0 0 87,32 0 0 7,863,45 0 0 206,62 0 0 214,36 0 0 203,21 0 0 202,18 0 0 642,69 0 0	106.06 0 0 87.32 0 0 7,863.45 0 0 200.62 0 0 214.36 0 0 202.18 0 0 642.69 0 0 1,977.52 0 0	106 06 0 0 87.32 0 0 7,863.45 0 0 200.62 0 0 214.36 0 0 202.18 0 0 642.69 0 0 1,077.52 0 0 421.85 0 0	106 06 0 0 87.32 0 0 7,863.45 0 0 200.62 0 0 214.36 0 0 203.21 0 0 642.69 0 0 421.85 0 0 125.88 0 0
87.32 0 0 7,863.45 0 0 130.90 0 0 200.62 0 0 214.36 0 0	87.32 0 0 7,863.45 0 0 130.90 0 0 200.62 0 0 214.36 0 0 203.21 0 0 202.18 0 0	87.32 0 0 7,863.45 0 0 130.90 0 0 200.62 0 0 214.36 0 0 203.21 0 0 642.69 0 0	87.32 0 0 7,863.45 0 0 130.90 0 0 200.62 0 0 214.36 0 0 202.18 0 0 642.69 0 0 1,077.52 0 0	87.32 0 0 7,863.45 0 0 130.90 0 0 200.62 0 0 214.36 0 0 202.18 0 0 642.69 0 0 1,077.52 0 0 421.85 0 0	87.32 0 0 7,863.45 0 0 130.90 0 0 200.62 0 0 214.36 0 0 203.21 0 0 642.69 0 0 1,077.52 0 0 421.85 0 0 125.88 0 0
7,803.43 0 0 0 130.90 200.62 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7,803.43 0 0 0 130.90 200.62 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7,803.43 0 0 130.90 0 0 200.62 0 0 214.36 0 0 203.21 0 0 202.18 0 0 642.69 0 0	7,803.45 0 0 200.62 0 0 214.36 0 0 203.21 0 0 202.18 0 0 642.69 0 0 1,977.52 0 0	7,803.45 0 0 130.90 0 0 200.62 0 0 214.35 0 0 203.21 0 0 642.69 0 0 1,077.52 0 0 421.85 0 0	7,803.45 0 0 130.90 0 0 200.62 0 0 214.35 0 0 203.21 0 0 642.69 0 0 1,077.52 0 0 421.85 0 0 125.88 0 0
200.02 214.36 203.21 0 0	200.02 214.36 203.21 202.18 0 0	200.02 214.36 203.21 202.18 642.69 0	200.02 214.36 203.21 202.18 642.69 0 1,077.52 0 0	200.02 214.36 203.21 202.18 642.69 1,077.52 0 0 0	200.02 214.36 203.21 202.18 642.69 1,077.52 642.69 0 0 1,077.52 0 0 0 0 0 0 1,077.52 0 0 0 0 0 0 0 0 0 0 1,077.52 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
203.21 0 0 0	214.36 0 0 203.21 0 0 202.18 0 0	214.36 0 0 203.21 0 0 202.18 0 0 642.69 0 0	214.36 0 0 203.21 0 0 202.18 0 0 642.69 0 0 1,077.52 0 0	214.36 0 0 203.21 0 0 202.18 0 0 642.69 0 0 1,077.52 0 0 421.85 0 0	214.35 0 0 203.21 0 0 202.18 0 0 642.69 0 0 1,077.52 0 0 421.85 0 0 125.88 0 0
203.21 0 0	202.18 0 0	203.21 0 0 202.18 0 0 642.69 0 0	203.21 0 0 202.18 0 0 642.69 0 0 1,077.52 0 0	203.21 0 0 202.18 0 0 642.69 0 0 1,077.52 0 0 421.85 0 0	203.21 0 0 202.18 0 0 642.69 0 0 1,077.52 0 0 421.85 0 0 125.88 0 0
	202.18 0 0	202.18 0 0 642.69 0 0	202.18 0 0 642.69 0 0 1,077.52 0 0	202.18 0 0 642.69 0 0 1,077.52 0 0 421.85 0 0	202.18 0 0 642.69 0 0 1,077.52 0 0 421.85 0 0 125.88 0 0
642.69 0 0 1,077.52 0 0 421.85 0 0 125.88 0 0 139.91 0 0	1,077.52 0 0 0 4211.85 0 0 0 125.88 0 0 0	421.85 0 0 125.88 0 0 139.91 0 0	125.88 0 0 1 39.91 0 0	39.91 0 0	-
642.69 0 0 1,077.52 0 0 421.85 0 0 1.25.88 0 0 1.39.91 0 0 2.33.03 0 0	1,077.52 0 0 0 421.85 0 0 0 125.88 0 0 0 23.991 0 0	421.85 0 0 125.88 0 0 23.99 0 0	125.88 0 0 - 39.91 0 0 23.03 0 0	23.03 0 0	23.03 0 0

Table 9.4.3.6(6) Manjil Dam Operation (w/o Taleghan/Almout Diversion Plan, DM=3,644.1MCM, ES=1,133MCM) (Unit: MCM)

E E	Operation				1	Į.	ſ				4	(Unit: MCM)	A)
3	Spillage	Shortage	Year	Month	Manju	Inflow	Talegnan Dam	Almout	Inflow	Manj	Manjii Dam Operation	Spillage	Chartage
9 8	0.00		89-90	Mehr	51.84	0	0	1_	0	1_	47.50	000	0.00
2 :	0.00			Aban	136,60	0	0	0			45.80	000	000
2 8	0.00		_	Azar	174.70	0	0	0	0		44.40	000	000
3 2	3 8			Dey	180.40	0	0	0	0	!	44.90	000	00.0
2 5	00.0	000		Bah.	202.44	0	0	0	0	448.28	115.10	0.00	0.00
3 6	240.66	_		Esf.	456.52	0	0	0	Ö	680.20	224.60	00.0	0.00
18	315 13			Far.	878.25	0	0	0	0	1,133.00	292.70	132.75	0.00
9 9	21.515	-		Ord.	678.17	0	0	0	0	1,077.17	734.00	0.00	00.0
3 8	000	00.00		Kho.	165.53	0	0	0	0	439.20	803.50	0.00	0.00
2 2	000	Ġ		Tir	61.60	0	0	0	0	0.00	500.80	00.0	207.10
7 6	3 8			Mor.	40.98	0	0	0	0	0.00	40.98	0.00	414.22
2 8	00.0	20.20		Sha.	37.23	0	0	0	0	0.00	37.23	000	91.27
2 5	204.73	300.28		totl	3,064.26	0	0	0	0	4,4	2,931,51	132.75	712.59
2 8	8.0		16-06	Mehr	55,21	0	0	0	0		47.50	000	000
2	0.00			Aban	114,31	0	0	0	0		45.80	000	000
9 8	0.00			Azar	157.85	0	0	0	0	_	44.40	000	000
2 5	0.00			Dey	172.63	0	0	0	0		44.90	0.00	00.0
2 9	0.00			Bah.	206.06	0	0	0	0		115.10	000	00.00
3 8	00.0			Est.	351.79	0	0	0	0	535.55	224.60	00.00	0.00
18	12.75			Far,	1,318.04	0	0	0	0	ľ	292.70	427.89	00.0
3 5	1/3.98			Ord.	519.88	0	0	0	0	918.88	734.00	00.0	0.00
2 5	300			Kho.	114.90	0	0	0	0	230.28	803.50	000	000
3 5	000	35.03		Tir	53.03	0	0	0	0	0.00	283.31	0.00	424.59
. 6	3 8	1		Mor.	29.19	0	0	0	0	0.00	29.19	0.00	426.01
3 5	521.40	544.00		Sha.	32.14	0	0	0	0	0.00	32.14	0.00	96.36
2 5	2 2	90.5		tot	3,125.03	0	0	0	0	3,817.07	2,697.14	427.89	946.96
2	8 8	3 8	91-92	Mehr	61.95	0	0	0	0	14.45	47.50	0.00	00.0
3 8	800	800		Aban	116.12	0	0	0	0		45.80	0.00	0.00
8	8 8	800		Azar	213.84	0	0	0	0	254.21	44.40	00'0	0.00
9	306 88	0.00		Dey	172.37	0	0	0	0		44.90	00.00	0.00
: 18	937.75	000		Bah.	206.06	0	0	0	٥		115.10	0.00	00.00
18	1 627 18	000		Esf.	323.72	0	0	0	0		224.60	0.00	00.00
8	1 281 76			Far.	1,481.96	0	0	0	٥	1,133.00	292.70	628.02	00'0
99	000			o i	2,341.73	0	0	0	0		734.00	1,607.73	0.00
96	000	00'0		K.30.	1,274.65	0	0	0	0	-	803.50	471.15	00.0
20	000	0.00		Ħ,	375.24	0	0	0	٥		707.90	0.00	00.0
50	000	0000		Mor.	88.39	0	0	0	0		455.20	00.0	00.0
2	4 159 37	000		Sha.	82.76	0	0	0	0	_1	128.50	0.00	0.00
Š	00.0	00.0		ള	6,738.79	0	٥	٥		ام	3,644.10	2,706.90	0.00
80	00.0		92-93	Mehr	122.34	0	0	٥١	0		47.50	0.00	0.00
6	000	00.00		Aban	170.29	0	0	0	0		45.80	0.00	0.00
8	00.0	00.0		Azar	239.76	0	0	0	0		44.40	0.00	00.00
2	00.0	0.00		Dey	241.06	0	0	0			44.90	0.00	00.00
9	000	0.00		Ban.	273.20	n	0	٥			115.10	3.74	0.00
2	783 46	0.00		Fist	484.58	0	0	0			224.60	259.98	00.00
8	00.0	0000		rar.	1,121.71	0	0	0		_ !	292.70	829.01	0.00
50	00.00	000		S ;	1,129.48	0	0	0	-	-1	734.00	395.48	0.00
4	00.0	524,76		K Bo	526.04	0	0	0	0		803.50	0.00	0.00
03	00.00	432.17			124.55	0	0	0		7	707.90	0.00	0.00
93	00.0	84.57		Mor.	39.40	Ö					331.65	0.00	123.55
8	783.46	1,041.50		Sha,	65.55	2 0	٥	3		- 1	65.35	0.00	63.15
1				Tot	4,557.82	ō	٦	2	°	8,470.60	3,457.40	1,488.21	186.70
												۱	

Table 9.4.3.6(7) Manjil Dam Operation (w/o Taleghan/Almont Diversion Plan, DM=3,644.1MCM, ES=1,133MCM)
(Unit: MCM)

3MCM) MCM)	(F)		Tab	te 9.4.3.6(8)	Table 9.4.3.6(8) Manjii Dam Operation (w/o Taleghan/Almout Diversion Plan, DM=3,644.1MCM, ES=1.133MCM) (Unit: MCM)	m Operatios	n (w/o Taleg	han/Almout	Diversion Pi	an, DM=3,6	44.1MCM, E	S=1,133MCN (Unit: MCM)	M)
					Manjii	Taleghan Dam	ın Dam	Afmout		Manji	Manjil Dam Operation	ation	
96	Shortage		Year	Month	Inflow	Inflow	Outflow	Runoff	Inflow	Storage	Outflow	Spillage	Shortage
00	0.00	-16	97-98	Mehr	44.32	0	0	0	0	0.00	44.32	00'0	3.18
8	0.00			Aban	153,96	0	0	0	0	108.16	45.80	00'0	00.0
8	0.00			Azar	151.37	0	0	0	0	215.13	44.40	00.0	00.00
23	0.00	-		Dey	151.63	0	0	0	0	321.86	44.90	00.00	00'0
21	0.00			Bah.	232.50	0	0	0	0	439.26	115.10	00'0	00.0
.30	0.00			Esf	556.74	0	0	Ö	0	771.40	224.60	00.0	00.00
20	0.00		·	Far.	1,626.86	0	0	0	0	1,133.00	292.70	972.56	00'0
32	0.00			Ö	916.82	0	0	0	0	1,133.00	734.00	182.82	00.0
8	0.00	<u> </u>		Kho.	275.34	0	0	0	0	604.84	803.50	00.00	00.00
00	0.00			Tir	72.85	0	0	0	0	0.00	617.69	00'0	30.21
8	104.80			Mor.	51.43	0	0	0	0	00'0	51.43	00'0	403.77
9	41.18			Sha.	31.61	0	0	0	0	0.00	31.61	00'0	68.96
56	145.98			tot	4,265.43	0	0	0	0	4,726.65	4,726.65 3,110.05	1,155.38	534.05

		Monit	Tolochon Dam	Dam.	Almount		1			
Year	Month	Inflow	Inflow	Outflow	Runoff	Inflow	Storage	Outflow	Spillage	Shortage
93-94	Mehr	82.68	0	0	0	0	35.18	47.50	00'0	000
	Aban	365.47	0	0	0	0	354.85	45.80	00'0	000
	Azar	593.31	0	0	0	0	903 76	44 40	000	000
	Dev	827.37	0	0	0	0	1.133.00	44 90	553 23	000
	Bah.	600.31	0	0	0	0	1,133.00	115.10	485.21	900
	Esf	960.90	0	0	0	0	1,133.00	224.60	736.30	000
	Far.	1,803.90	0	0	0	0	1,133.00	<u> </u>	1.511.20	0.00
	Ord	1,382.32	0	0	0	0	1,133.00	L	648.32	00.0
	Kho.	479.17	0	0	0	0	808.67	803.50	000	000
	ij	193.65	0	0	0	0	294.42	707.90	000	00.0
	Mor.	55.98	0	0	0	0	0.00	350.40	00'0	104.80
	Sha.	87.32	0	0	0	0	00.0	87.32	0.00	41 18
	tot	7.432.38	0	0	0		8 061 88	3 498 12	3 034 26	145.09
94-95	Mehr	157.08	0	0	0	0	109 58	47.50	000	000
	Aban	533.17	0	0	0	0	596 95	45.80	8 6	000
	Azar	840.33	0	0	0	0	1.133.00		259 88	000
	Ď.	407.98	0	0	0	0	1,133.00		363.08	900
	Bah.	450.49	0	0	0	0	1,133,00		335,39	000
	Esf	574.78	0	0	0	0	1,133.00	224.60	350.18	00'0
	Far.	981.90	0	0	0	0	1,133.00	<u> </u>	689.20	00.0
	Ord.	1,369.73	0	0	0	0	1,133.00		635.73	00.0
	Kho.	71.697	0	0	0	0	1,099.27	803.50	00.0	00.0
	Tir	228.74	0	0	0	0	620.11	707.90	00'0	00.0
	Mor.	63.75	0	0	0	0	228.66	455.20	00.0	00.0
	Sha.	53.84	0	0	0	0	154.00	128.50	00.0	0.00
	tot	6,431.56	0	0	0	0	9,606.57	3,644.10	2,633.46	00.0
95-96	Mehr	114.05	0	0	0	0		47.50	00.0	0.00
	Aban	182.22	0	0	0	0	356.97	45.80	00'0	00.00
	Azar	193.62	٥	0	0	0	506.19	44.40	0.00	0.00
	Dey	211.77	0	0	0	0	673.06	44.90	00'0	00.00
	Bah.	273.20	0	0	0	0	831.16	115.10	00.00	0.00
	Est.	368.07	0	0	0	0	974.63	224.60	0.00	00'0
	Far.	1,577.58	0	0	0	0	1,133.00	292.70	1,126.51	0.00
	Ord.	1,620.43	0	0	0	0	1,133.00	734.00	886.43	0.00
	Kbo.	505.15	ō	0	0	0	834.65	803.50	0.00	00'0
	ä	143.56	0	0	0	0	270.31	707.90	00'0	00.0
	Mor.	91.33	0	0	0	0	0.00	361.64	00'0	93.56
	Sha.	55.71	0	0	0	0	. [55.71	0.00	72.79
	tot	5,336.69	0	0	0	0	6,933.52	3,477.75	2,012.94	166,35
26-97	Mehr	112.49	ō	0	0	0	64.99	47.50	00'0	00'0
	Aban	194.40	0	0	0	0	213.59	45.80	00'0	00.00
	Azar	211.77	0	0	0	٥		44.40	00.00	00.00
	Dey	207.62	0	0	0	0		44.90	0.00	00'0
	Bah.	211.25	0	0	0	0	639.83	115.10	00.00	00'0
	Esf.	242.29	0	0	0	0	657.52	224.60	00.00	00.0
	Far.	501.40	0	0	0	0	866.22	292.70	00.00	00.0
	Ord.	560.32	0	0	0	0	692.54	734.00	0.00	0.00
	Kho.	229.54	0	0	0	0	118.58	803.50	00.0	00.0
	Ţ	66 68	0	0	0	0	00'0	208.57	00.0	499,33
	Mor	17.81	0	0	0	0	00.0	17.81	0.0	437.39
	Sha	18.40	0	0	0	0		18.40	00.0	110.10
	ğ	2,597.28	ō	0	0	o	4,177,91	2,597.28	0.00	1,046.82

Table 9.4.4.1 Inflow into the Manjil Dam (with Taleghan/Almout Water Diversion)

					with 1 ale	gnan/Aun	out Water	Diversion		•	·····		, , , , , , , , , , , , , , , , , , ,
Year	Mehr	Aban	Azar	Dey	Bah.	Esf.	Far.	Ord.	Kho.	Tir	Mor.	Sha.	Annum
69-70	201.83	427.07	266.85	338.78	338.83	496.91	703.00	611.99	90.16	39.08	27.75	38.08	3,580.33
70-71	66.80	100.02	166.88	171.61	163.12	350.97	616.74	778.96	249.12	54.41	35.09	18.59	2,772.31
71-72	37.78	91.26	143.93	146.41	153.56	320.15	1,805.75	2,001.45	1,005.87	204.88	79.06	66.39	6,056.49
72-73	83.25	190.97	223.61	183.91	250.82	742.89	834.54	758.82	269.37	75.31	39,01	41.23	3,693.73
73-74	89.80	114.88	142.43	165.35	166.68	587.22	2,323.56	854.21	160.60	128.35	89.62	114.97	4,937.67
74-75	92.64	112.33	172.41	170.09	170.72	332.59	733.00	956.01	228.49	37.95	11.14	30,41	3,047.78
75-76	59.97	71.09	109.08	174.43	200.84	195.90	1,265.04	1,192.99	476.95	71.32	9.76	44.70	3,872.07
76-77	63.17	130.15	137.33	145.34	211.93	431.25	632.04	452,63	617.35	28.27	17.26	15.80	2,882.52
77-78	52.33	201.51	216.03	213,22	302,15	470,06	639.06	412.38	204.19	91.46	13.77	6.22	2,822.38
78-79	25.60	117.23	294.17	261.44	397.55	401.66	1,139.64	729.17	275.44	61.00	24.73	20.25	3,747.88
79-80	49.82	100.53	106.95	123.61	147.50	233.21	1,810.23	662.31	145.97	45.98	18.71	17.05	3,461.87
80-81	55.80	180.75	166.40	203.93	268.45	604.59	1,279.03	1,255.68	528.70	194.18	59.61	35.20	4,832.32
81-82	113,17	155.32	172.10	176.45	236.21	266.47	923.71	812.63	196.78	46.98	16.38	17.93	3,134.13
82-83	220.62	242.10	341.98	340.56	303.05	456.39	1,276.25	1,363.04	742.60	84.91	22.06	34.50	5,428.06
83-84	75.04	126.73	210.90	180.43	226.80	277.49	521.74	930,76	365.62	63.52	19.85	21.77	3,020.65
84-85	65.28	190.53	378.50	362.01	535.72	426.86	1,991.50	1,133.06	351.46	134.19	38.97	27.41	5,635.49
85-86	79.24	149.92	216,35	214.88	227.34	292,39	858,91	924.69	375.59	72.34	16.23	32.83	3,460.71
86-87	62.74	167.56	238.68	202.68	226.29	430,45	714.52	697.85	143.66	20.95	20.10	16.00	2,941.48
87-88	93.60	515.51	216.02	347.16	385.62	1,108.03	1,783.75	1,854.07	519.46	195,42	81,06	68.05	7,167.75
88-89	116.11	187,40	198.25	183.06	181.39	607.71	996,50	367.26	85.45	21.23	10.33	35.69	2,990.38
89-90	43.58	126.93	160.95	164.10	185.06	422.46	816.53	580.77	118.20	35.55	27.39	27.19	2,708.71
90-91	45.49	99.83	150.31	158.87	190.91	328.09	1,231.36	465,64	85,40	32.42	18.78	24.29	2,831.39
91-92	53.76	108.50	202.24	158,71	193.32	297.46	1,390.43	2,165.74	1,049.88	255.45	51.38	67.96	5,994.83
92-93	107.53	158.34	225.49	224.62	255.13	456.96	1,048.20	1,060.41	430.96	82,35	33,11	53.82	4,136,92
93-94	72.19	330.98	556.58	791.32	581,38	925.43	1,704.10	1,220.52	404.02	131.86	24.61	62.88	6,805.87
94-95	144.27	474.45	753.18	379.58	437.45	552.55	912.33	1,318.78	728.67	170.90	38.65	39.14	5,949.95
95-96	101.78	167.58	182.46	199,37	257.58	342.17	1,467.52	1,426.92	448.46	106.02	74,75	44.08	4,818.69
96-97	99.33	181.63	205.38	193.72	197.55	229.22	463.93	467,17	172.10	59.24	7.13	10.58	2,286.98
97-98	36.81	144.95	143,46	139.34	212.44	520.56	1,501.71	757.68	187.67	34.90	34.77	21.29	3,735.58
Average	83,08	185.04	231.00	231.55	262.25	452.00	1,151.19	972.88	367,52	88.98	33.14	36.36	4,095.00
Maximum	220.62	515.51	753.18	791.32	581.38	1,108.03	2,323.56	2,165.74	1,049.88	255.45	89.62	114.97	7,167.75
Minimum	25.60	71.09	106.95	123.61	147.50	195.90	463.93	367,26	85.40	20.95	7.13	6.22	2,286.98
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Table 9.4.4.2 Manjil Dam Storage at the End of Month

		(matela Ta	Joshow / A l		4.4.2 IVIS	-	-			orage=1,13	2234(****		
Year	Mehr	Aban	Azar	Dev	Bah,	Esf.	Far.	Ord.	Kho.	orage=1,1. Tir	Mor.	Sha.	Annum
69-70	154.33	535,60	758.05	1,051,93	1,133.00	1.133.00	1,133.00	1.010.99	297.65	0,00	0.00	0.00	Amun
70-71	19.30	73.53	196.01	322.72	370.74	497.10	821.14	866.10	311.72	0.00	0.00	0.00	
71-72	0.00	45.46	144.99	246,50	284.96	380.51	1,133.00	1,133.00	1,133.00	629.98	253.84	191.73	
									598.87	0.00	0,00	0,00	
72-73	227.48	372.65	551.86	690.87	826.59	1,133.00	1,133.00	1,133.00					
73-74	42.30	111.39	209,42	329.87	381.44	744.06	1,133.00	1,133.00	490.10	0,00	0,00	0,00	
74-75	45.14	111.68	239.69	364.88	420.50	528.49	968.79	1,133.00	557.99	0.00	0.00	0.00	
75-76	12.47	37.76	102.44	231.97	317.71	289.01	1,133.00	1,133.00	806.45	169.86	0.00	0.00	
76-77	15.67	100.02	192.95	293.38	390.21	596.86	936,20	654.83	468.68	0.00	0.00	0.00	
77-78	4.83	160.54	332.17	500.49	687.54	933.00	1,133.00	811.38	212.07	0.00	0,00	0.00	
78-79	0.00	71.43	321.20	537.74	820.19	997.25	1,133.00	1,128.17	600.11	0.00	0,00	0.00	
79-80	2.32	57.06	119.61	198.32	230.72	239.33	1,133.00	1,061.31	403,77	0.00	0.00	0.00	
80-81	8.30	143.25	265.26	424.29	577.64	957.63	1,133.00	1,133.00	858.20	344.48	0.00	0.00	
81-82	65.67	175.19	302,89	434.44	555,55	597.42	1,133.00	1,133.00	526.28	0.00	0.00	0.00	
82-83	173.12	369.42	666.99	962.65	1,133.00	1,133.00	1,133.00	1,133.00	1,072.10	449.11	15.97	0,00	
83-84	27,54	108.47	274.97	410.49	522.20	575.09	804.13	1,000.88	563.00	0.00	0.00	0.00	
84-85	17.78	162.51	496.61	813.72	1,133.00	1,133.00	1,133.00	1,133.00	680.96	107.26	0.00	0.00	
85-86	31.74	135.86	307.81	477.79	590.03	657.82	1,133.00	1,133.00	705.09	69.53	0.00	0.00	
86-87	15.24	137.00	331.28	489.06	600,25	806.10	1,133.00	1,096.85	437.01	0.00	0.00	0.00	
87-88	46.10	515.81	687.43	989.69	1,133.00	1,133.00	1,133.00	1,133.00	848.96	336.48	0.00	0.00	
88-89	68.61	210.21	364,06	502.22	568.51	951.62	1,133.00	766.26	48,21	0.00	0.00	0.00	
89-90	0.00	81.13	197.68	316.88	386.84	584.70	1,108.52	955.30	270.00	0.00	0.00	0.00	
90-91	0.00	54.03	159.94	273.91	349.73	453.22	1,133.00	864.64	146.54	0.00	0.00	0.00	
91-92	6,26	68.96	226.80	340.61	418.83	491.69	1,133.00	1,133.00	1,133.00	680.55	276.74	216.20	
92-93	276.22	388.77	569.86	749.58	889,61	1,121.98	1,133,00	1,133.00	760.46	134,91	0.00	0.00	
93-94	24.69	309.86	822,05	1,133.00	1,133.00	1,133.00	1,133.00	1,133.00	733,52	157.48	0.00	0.00	
94-95	96.77	525.42	1,133.00	1,133.00	1,133.00	1,133.00	1,133.00	1,133.00	1,058.17	521.17	104.62	15.26	
95-96	69.54	191.33	329.38	483.85	626.33	743.90	1,133.00	1,133.00	777.96	176.09	0.00	0.00	
96-97	51.83	187.66	348,63	497.45	579.90	584.52	755,75	488.91	0.00	0.00	0.00	0.00	
97-98	0,00	99,15	198,20	292,64	389.98	685.94	1,133,00	1,133.00	517,17	0.00	0.00	0,00	
Average	51.84	191.07	374.18	534.27	640.83	770.63	1,084.60	1,033.33	586.79	130.24	22.45	14.59	-
Maximum	276,22	535,60	1,133.00	1,133.00	1,133.00	1,133.00	1,133.00	1,133.00	1,133.00	680.55	276,74	216,20	
Minimum	0,00	37.76	102.44	198.32	230.72	239.33	755.75	488.91	0.00	0.00	0.00	0.00	
										3.22	2.00	2.00 1	

Table 9.4.4.3 Outflow from the Manjil Dam (with Taleghan/Almout Water Diversion, Demand=3,644.1MCM, Effective Storage=1,133MCM)

Year

90-91

91-92

92-93

93-94

94-95

95-96

96-97

97-98

Average

Maximun

Minimum

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Mehr Dey Bah Esf. Far. Ord. Kho. Sha Aban Azar Tir Mor. Annum 47.50 44,40 734.00 69-70 45.80 44.90 115.10 224.60 292.70 803.50 336.73 27.75 38.08 2,755.06 70-71 47.50 44.90 224,60 292,70 366.13 45.80 44.40 115.10 734.00 803.50 35.09 18.59 2.772.31 71-72 37.78 44.90 128.50 45.80 44.40 115.10 224.60 292.70 734,00 803.50 707.90 455.20 3,634,38 72-73 47,50 45.80 44.40 44.90 115.10 224.60 292.70 734.00 803.50 674,17 39,01 41.23 3,106.91 73-74 47,50 45.80 44,40 44.90 115.10 224,60 292.70 734,00 803.50 114.97 3,175.54 618,45 89.62 74-75 47,50 224.60 292.70 734.00 45.80 44.40 44.90 115.10 803.50 595.94 11.14 30.41 2,989.99 75-76 47.50 45.80 44 40 44.90 115.10 224.60 292.70 734.00 803,50 707.90 179.63 44.70 3,284.73 76-77 47,50 45,80 44.40 44.90 115.10 292,70 224.60 734.00 803.50 496.94 17.26 15.80 2,882,50 77-78 47.50 45.80 44,40 44.90 115.10 224.60 292,70 734.00 803,50 303,54 13.77 6.22 2,676.03 78-79 25.60 44.40 45.80 44.90 292.70 20.25 3,036.70 115.10 224.60 734.00 803.50 661.12 24,73 79-80 47.50 45.80 44,40 44,90 115.10 224.60 292.70 734,00 803.50 449,75 18.71 17.05 2,838.01 80-81 47.50 45.80 44.40 44.90 115.10 224.60 292.70 734.00 803.50 707.90 404.10 35.20 3,499.70 81-82 47.50 45,80 44,40 44.90 115.10 224.60 292.70 734.00 803.50 573.26 16.38 17.93 2,960.07 82-83 47.50 45.80 44 40 44 90 115 10 224.60 292.70 734.00 803.50 707.90 455,20 50.47 3,566,07 83-84 47.50 45.80 44.40 44.90 115.10 224.60 292,70 734.00 803.50 626.52 19.85 21.77 3,020.64 84-85 47.50 45.80 44,40 44.90 115.10 224.60 292.70 734.00 803.50 707,90 3,234.04 146.23 27.41 47.50 85-86 45.80 44,40 44,90 115.10 224.60 292.70 734.00 707.90 803.50 85.76 32.83 3.178.99 86-87 47.50 45.80 44 40 44.90 115,10 224,60 292,70 734,00 803,50 457.95 20.10 16.00 2,846.55 87-88 47.50 45.80 44,40 44.90 115.10 292.70 734.00 224.60 803.50 707.90 417.54 68.05 3,545.99 88-89 47.50 45.80 44.40 44.90 115.10 224.60 292,70 734,00 803,50 69,44 10.33 35.69 2.467.96 89-90 43.58 45.80 44.90 44.40 292.70 115.10 224.60 734 00 803 50 305.55 27 39 27 19 2.708.71

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455.20

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7.13

34.77

140.92

455.20

7.13

24.29

128.50

53.82

62.88

128.50

44.08

10.58

44,22

2,572,52

3,644.10

3,282,24

3,305.37

3,644.10

3.355.32

2,286,97

3,076.60

21.29 2,949.94

128.50 3,644.10

6.22 2,286.97

Table 9.4.4.4 Spillage from the Manjil Dam

(with Taleghan/Almout Water Diversion, Demand=3,644.1MCM, Effective Storage=1,133MCM) Year Mehr Dev Bah Esf Far Ord. Kho Ађап Azar Tir Mor Sha Annum 69-70 0.00 0.00 0.00 0.00 142.66 272.31 410.30 0.00 0.00 0.00 0.00 0.00 825,27 70-71 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 71-72 0.00 0.00 760.56 1.267.45 0.00 0.00 0.00 0.00 202.37 0.00 0.00 0.00 2 230 38 72 - 730.00 0.000.00 0.00 0.00 211.88 541.84 24.82 0.00 0.00 0.00 0.00 778.54 73-74 0.00 0.00 0.00 0.00 0.00 0.00 ,641.92 120,21 0.00 0.00 0.00 0.00 1,762,13 74-75 0.00 0.00 0.00 0.00 0.00 0.00 0.00 57.80 0,00 57.80 0,00 0.00 0.00 75-76 0.00 0.00 0.00 0.00 0.00 0.00 128.35 458.99 0.00 0.00 0.00 0.00 587.34 76-77 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 77-78 0.00 0.00 0.00 0.00 0.00 0.00 146.36 0.00 0.00 0.00 0,00 0,00 146.36 78-79 0.00 0.00 0.00 0.00 0.00 0.00 711.20 0.00 0.00 0.00 0.000.00 711 20 79-80 0.00 0.00 0.00 0.00 0.00 0.00 623.86 0.00 0.00 0.00 0.00 0.00 623.86 80-81 0,00 0,00 0.00 0.00 0.00 0.00 810.96 521.68 0.00 0,00 0.00 0.00 1,332.64 81-82 0,00 0.00 0.00 0.00 0.00 0.00 95.43 78,63 0.00 0.00 0.00 0.00 174.06 983,55 82-83 0.00 0.00 17.60 1,861.98 0.00 0.00 231.79 629.04 0.00 0.00 0.00 0.00 83-84 0.00 0.00 0.00 0.000.00 0.00 0.00 0.00 0.00 0.00 0,00 0.00 0.00 84-85 0.00 0.00 0.00 0.00 101.35 202.26 698.80 399.06 0,00 0.00 0.00 2,401.47 0.00 85-86 0,00 0.00 0.00 0.00 0.00 0.00 91,03 190,69 0.00 0,00 0.00 0.00 281,72 86-87 0.00 0.00 0.00 0.00 0.00 0.00 94.92 0.00 0.00 0.00 0.00 94.92 0.00 87-88 0.00 0.00 0.00 0.00 127.21 883.43 1.491.05 1.120.07 0.00 0.00 0.00 0.00 3,621.76 88-89 0.00 0.00 0.00 0.00 0.00 0.00 522.42 0.00 0.00 0.00 0,00 0.00 522.42 89-90 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 90-91 0.00 0.00 0.00 0.00 0.00 0.00 258.88 0.00 0.00 0.000.00 0.00 258 88 91-92 0.00 0.00 0.00 0.00 0.00 0.00 456,42 1.431.74 246.38 0.00 0.00 0.00 2,134.54 92-93 0.00 0.00 0.00 0.00 0.00 0.00 744,48 326.41 0.00 0,00 0.00 0.00 1,070.89 93-94 0.00 0.00 0.00 435.47 466.28 700.83 1,411.40 486.52 0.00 0.00 0.00 0.00 3,500.50 94-95 0.00 0.00 101.20 334.68 322.35 327.95 619.63 584.78 0.00 0.00 0.00 0.00 2,290.59 95-96 0.00 0.00 0.00 0,00 0,00 0.00 785.71 692.92 0.00 0.00 0.00 0,00 1,478.63 96-97 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 97-98 0.00 0.00 0.00 0.00 0,00 0.00 761.95 23.68 0.00 0.00 0.00 0.00 785.63 3.49 0.00 0.00 26.56 Average 40.60 97.60 544.52 290.15 15.47 0.00 0.00 0.00 1,018.40 3,621.76 Maximum 0.00 0.00 101.20 435.47 466,28 883.43 1,698.80 1,431.74 246.38 0.00 0,00 0.00 0.00 Minimum 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0,00 0.00 0.00 0.00

Table 9.4.4.5 Shortage of Water at the Manjil Dam

(with Taleghan/Almout Water Diversion, Demand=3,644.1MCM, Effective Storage=1,133MCM) Year Mehr Bah. Esf. Aban Azar Dev Far. Ord. Kho. Tir Mor. Sha Annum 69-70 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.000.00371 17 427.45 90.42 889.04 70-71 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 341.77 420.11 109.91 871.79 0.00 0.00 0.00 71-72 9,72 0.00 0,00 0,00 0,00 0.00 0,00 0.00 0.00 9.72 72-73 0.00 0.00 0.00 0,00 0.00 0.00 0.00 0.00 0.00 33.73 416.19 87.27 537.19 73-74 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 89.45 365.58 13.53 468.56 74-75 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 111.96 444.06 98.09 654.11 75-76 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 275.57 83.80 359.37 76-77 0,00 0.00 0.00 0.00 210.96 437.94 112.70 761.60 0,00 0.00 0.00 0.00 0.00 77-78 0,00 0.00 0.00 0.00 00.0 0.00 0,00 0.00 0.00 404.36 441.43 122.28 968.07 78-79 21.90 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 46.78 430.47 108.25 607.40 79-80 0.00 0,00 0,00 0.00 0.00 0.00 0.00 0.00 0.00 258.15 436.49 111.45 806.09 144.40 80-81 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 51.10 93.30 81-82 0,00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 134.64 438.82 110.57 684.03 0.00 0.00 82-83 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 78.03 78.03 0.00 0.00 0.00 0.00 81.38 435.35 623.46 83-84 0.00 0.00 0.00 0.00 0.00 106.73 84-85 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 308,97 101.09 410,06 85-86 0.00 0,00 0.00 0.00 0.00 0.00 0.00 0.00 0,00 0.00 369.44 95.67 465.11 86-87 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0,00 249,95 435,10 112,50 797,55 87-88 0.00 0,00 0.00 0.00 0.000.00 0.00 0.00 0.00 0.00 37.66 60.45 98.11 88-89 0,00 0,00 0,00 0,00 0,00 0.00 0.00 0,00 0.00 638.46 444.87 92.81 1,176.14 89-90 3.92 0.00 0,00 0.00 0,00 0.00 0.00 0.00 0.00 402.35 427.81 935.39 101.31 90-91 2.01 0.00 0,00 0.00 0.00 0.00 0,00 0,00 0.00 528.94 436.42 104.21 1,071.58 91-92 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 92-93 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 287.18 74.68 361.86 93-94 0.00 0.00 0.00 0.00 0.00 0,00 0.00 0.00 0.00 0.00 273.11 65.62 338,73 94-95 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 95-96 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 204.36 84.42 288,78 0.00 96-97 0.00 0.00 0.00 0.00 0.00 0.00 0.00 142,48 648.66 448,07 117.92 1,357.13 97-98 10,69 0,00 0.00 0.00 0,00 0,00 0,00 0.00 155.83 420.43 107.21 694.16 0,00 Average 1.66 0.00 0.00 0.00 0.00 0.00 0.00 0.00 4.91 162.36 314.28 84.28 567.50 21.90 0.00 0.00 0.00 0.00 0.00 0.00 0.00 142,48 648.66 448.07 122.28 1,357.13 Maximum Minimum 0,00 0.00 0.00 0,00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

Table 9.44.6(1) Manjil Dam Operation (with Taleghan/Almout Diversion Plan, DM=3,644.1MCM, ES=1,333MCM) (Unit: MCM)

Table 9.4.4.6(2) Manjil Dam Operation (with Taleghan/Almout Diversion Plan, DM=3,644.1MCM, ES=1,133MCM)

89.45

365.58 13.53 468.56

0.0 0.0

		Manjil	Taleg	Taleghan Dam	Almout		Z	Maniil Dam Operation	Peration				Menti	1.1						(Unit: MCM)	
Year	Month	Inflow	Inflow	Outflow	Runoff	Inflow	Storage	e Outflow	Spillage	Shortage	Year	Month	tvianju h luftouv	Talegn	Talegnan Dam	Almout	1.0	Manji	Ψ.		
69-70	Mehr	240,02	24.65		19.18	İ		13 47.50			73-74	╁	+	+-		0 18	WOINI 80 8	Morage 42.20		-	흜
	Aban	483.41	39.14		24.88		7 535.60		0.00	0.00		Aban	-			10.37	114 88	111 20	47.50	000	İ
	Azar	297.56	18.04	ŀ	17.63					00'0		Azar		L		10.01	142.43	209.42	45.8U	900	İ
	Deg	365.99	16.46		15.03		_ [4				Dey	180.40	L.	0	8.58	165.35	329.87	44 90	8 6	ļ
	Esan.	500.99	26.CI	0	19.55	338.83	1,133.00	+	_i			Bah	181.70	9.15		8.22	166.68	381.44	115.10	8 8	
	Far	800.31	77.03		31 34			00.427	157/2 0	00.0		Est	624.65	1		19.15	587.22	744.06	224.60	00.0	-
	Ö	700.13	69.12		29 19	19		_		ļ.,		Far.	2,427.97	1	7 10	41.94	2323.56	1,133.00	292.70	1,641.92	
	Kho	177.04	65.18		32.41			\perp			_	D. C.	+			59.84	854.21	1,133.00	734.00	120.21	
	Ę	76.33	24.92		17.63			╀		2		Nag.	272.06			47.62	160.6	490.10	803.50	0.00	ì
	Mor	51.16		0	12.86			1		L		Mor	1/0.03		5 6	23.09	128.35	0.00	618.45	0.00	
	Sha	54.37		0	9,11			L		\perp		Short Short	109.81		0	11.33	89.62	0.00	89.62	0.00	
	ţ	4,141.99	3943	0	242.95	3		64	25			, SIIA	77.74	1	0 (14.33	114.97	0.00		0.00	
70-71	Mehr	82.68	9.15	0	9.33		8 19.30	1	1	L	74.75	+	+	1		263.66	4937.68	4,574.58		1,762.13	4
	Aban	115.34	8.77	0	9.07	_	-	4			_		\perp			12.86	92.64	45.14	47 50	0.00	
	Azar	184.03	98'6		10.11	166.88	Ĺ					Azar	+	2.47		8.7	172.41	111.68	45.80	00'0	- 1
	Dey	189.73	11.09	0	9.85	171.61		L				iet	+			CI'/	172.41	239.69	44.40	0.00	
	Bah.	180.66	10.27	0	10.11	163.12		115.10				Bar	183.25	17.6		7.41	170.09	364.88	44.90	0.00	İ
	Esf	388.62	24.3	0	18 92	350.97		L				1 2 2	7.001			6.38	170.72	420.50	115.10	0.00	
··· · · ·	Far	708.70		0	35,35			ļ			,-	Far	220,000			12.03	332.59	528.49	224.60	0.00	
	ō	990.74	167.79	0	68.03			0 734.00				- F	1 150 00	-	0	57.05	733	968.79	292.70	0.00	
	Kho	405.24	L		53.03			1_				2 2	1,100.02	<u> </u>	5	102.58	956.01	1,133.00	734.00	57.80	
	Ē	115.17	42.11	0	26.96			<u> </u>		m		i i	303,42		5 6	96.90	228.49	557.99	803.50	00.0	
	Mor.	63.21	16.79	0	15.8			ļ.,		L.		Mor	20.13		5 0	25.53	37.95	0.00	595.94	0.0	
	Sha.	35.89	10.4	0	20.0			<u> </u>		\perp		Ch.	40.44		0	17.3	11.14	0.00	11.14	0.00	4
	tot	3,460.01	500.03	0	276.2	7	3.4	6					40.40	_	5 (9.29		-	30.41	0.00	•
71-72	Mehr	66.10	18.13		14.41		┿			1	75.76	+	1	1	0	330.5		-4	2,989.99	57.80	9
	Aban	112.75	13.23		11.59		L	, 4			-	Abon	+		0	13.53	59.97	12.47	47.50	0.00	
	Azar	169.52	16.14	0	13.32		L	4				Ager	91.50		5	14.49	71.09	37.76	45.80	0.00	
	Dev	164.59	10.86		10.21		L	_					131.93		5 0	16.28	109.08	102.44	44.40	0.00	
	Bah.	171.59	10.89	0	96.6			L				2 2	120.73		0	15.09	174.43	231.97	44.90	0.00	
	Est	351.03	20.36		14.98			1				Dan	223.17	\perp	0	14.05	200.84	317.71	115.10	0.00	
	Far	1,922.02	84.12		47.22		-	4	7,			EST L	220.49		0	15.22		289.01	224.60	0.00	
	Ord.	2,221.20			87.99		\vdash	_	-	_		3	1,5/0,9/	00.07	ə ;	52.76		1,133.00	292.70	128.35	
	Kho	1,196.44			103.15	Γ_	 -	_	1			X Kh	635 58	110.33	> 0	95.74	1192.99	1, 133.00	734.00	458.99	
	Ţ	302.66	89.94	32.41	58.11	``		L.				Ë	146.51	58.14	5 6	25.00	21.25	360.45	803.50	0.00	
	Mor.	124.01	29.13		22.44		ł	45				Mor.	46.87		5 0	20.7	97.6	00.00	170 62	2000	١
:_	Sha	92.14	16.01		13.69	Ĺ			-			Sha	66.42		0	13.1	44.7	000	44 70	00.00	3
7.7	TOT!	0,874.03	020.38	8	407.09	6036.49	<u>^</u>		2,2	_		tot	4,594.03	466.69	0	361.84	+_	+-	3.284.73	587 33	"
(1-7)	Ahan	103.64	20.27		2 2		84.122	4	8 8		76-77	Mehr	76.72		0	5.18	63.17		47.50	000	1
	Avar	748 57	15.7		13 04		\perp	43.80		00.0		Aban	145.41	11.09	0	6.14	130.15	100.02	45.80	0.00	Ì
) Pé	207 88	14 49		13.25							Azar	152.41	11.68	0	5.18	137.33	192.95	44.40	0.00	Ì
	Bah	278.90	16.7		15.86			1				S to	160.70		0	6.48	145.34	293.38	44.90	0.00	
	Esf	802.79	35.87		33 54		1-	-	6			Dall	233.33		0	18.25	211.93	390.21	115.10	0.00	
	Far	919.49	62.15		33.64		1	07 090	<u> </u>				404.79	15.52	0	14.8	431.25	596.86	224.60	0.00	
_	Ord	941.73	130.9		76.04		ŀ	\perp				2	080.51	58.29	0	15.45	632.04	936.20	292.70	0.00	!
	K.ho	394.53	109.16	27.7	63.96		F	1				Kho Cit	722 25	00.35	5 6	34.82	452.63	654.83	734.00	0.00	ſ
	Ę	133,38	39.62	0	26.54		1 0.00	ļ.		(*1		į	63.21	24.43	5 6	15.21	56.710	408.08	803.50	0.00	į.
	Mor.	67.50	17.79		15.05		0.00	_		Ľ		Mor	34.82		0 0	17.0	17.07	0.00	496.94	0.00	5
	Sha,	63.75	13.76	Ì	12.27		t			_		Sha.	28.12	6.85	0	7.55	15.8	8 6	15.00	00.0	2:
	tot	4,389.00	492.03	27.79	331.98	3693.74	4 6,667.32	3,106.92	2 778.55	537.18		tof	3,311,94	300.95	0	186 41			09.51	0.00	=
		:													,	100.71		-	7,882.50	00.0	9,

0000

0.00

8

359.37

00.00

0.00

437.94

761.60

275.57

444.06 98.09

654.11

Table 9.4.4.6(3) Manjil Dam Operation (with Tateghan/Almout Diversion Plan, DM≈3,644.1MCM, ES=1,133MCM) Unit: MCM)

Table 9.4.4.6(4) Manjil Dam Operation (with Takghan/Almout Diversion Plan, DM=3,644.1MCM, ES=1,133MCM)

Unit: MCM

Spillage

44.40

292.70 734.00

> 1,133.00 526.28 0.00 000

812.63 196.78 46.98

555.55

597.42 1,133.00

Manjil Dam Operation Outflow

8.37 9.98 19.88 69.64 69.64 42.05 22.55 16.5 112.13 272 272 272 9.05 9.05 13.79 14.54 29.73 49.55 13.61 15.79 11.77 46.6 31.62 20.95 Almout Runoff Taleghan Dam Inflow Outflow 15.79 12.32 17.52 49.78 88.43 32.86 8.52 121.93 15.7 11.91 420.38 10.18 11.5 16.93 11.53 14.2 16.46 25.83 94.83 59.6 517.04 185.07 285.89 167.70 249.87 956.19 26.25 266.46 363,14 1,346.43 259,00 64.28 27.59 3,558.33 246.24 322,44 114.10 39,10 5,925.54 85.80 198,55 596.48 463.36 105.80 211.25 390,36 575.16 488.34 831.38 309.94 1,032.26 41.25 3,490.35 84.76 2,133.08 358.99 138.41 35,35 413.42 464.79 449.44 48.2 250.91 6,268.77 1,500.7 40.71 Aban Azar Dey Bah Esf Far. totl Mehr Aban Sha. totl Mehr Aban Azar Dey Bah. Esf. Far. Azar Dey Bah, Esf. Far. Aban Kho. Sha Ord Kho. Mor. Kho. Tir Mehr Azar Dey Esf. Fa Fa Tir. Mor. Sha <u>to</u> Year 81-82 82-83 83-84 84-85 436.49 111.45 806.09 144.40 8 8 8 430.47 258.15 122.28 968.08 21.90 0.00 404.36 441.43 0.00 0.00 0.00 0.00 0.00 46.78 0.00 623.86 0.00 0.00 0.00 0.00 0.00 810.96 521.68 0.00 0.00 0.00 0.00 711.20 1,332.64 0.00 00.00 0.00 146,36 0.00 711.20 0.0 Outflow Spillage Manjil Dam Operation 292.70 4832.34 5,845.05 3,499.70 292.70. 734.00 45.80 44.90 2,676.02 292.70 734.00 803.50 661.12 24.73 3,036.69 47.50 44.90 115.10 224.60 803.50 449.75 734.00 803.50 303.54 13.77 44.90 224.60 6 22 45 80 224 60 2,838.01 1,133.00 577.64 143.25 265.26 424.29 0.00 2.32 198.32 230.72 800 \$37.74 820.19 0.00 19.611 000 3,445,45 811.38 0.00 71.43 321.20 1,128.17 0.00 5.609.11 239.33 1,061.31 403.77 933.00 4,775,02 997.25 1,133.00 0,00 600.11 133.00 180.75 166.4 203.93 604.59 261.44 397.55 401.66 1139.64 729.17 275.44 24.73 3747.89 49.82 106.95 1810.23 662.31 45.98 18.71 3461.87 1279.03 91.46 25.6 123.61 147.5 233.21 145.97 294.17 2822.38 374.61 9.54 8.24 53.84 20.09 18.48 20.35 27.48 11,85 15,13 13.2 Almout Taleghan Dam Inflow Outflow 12.64 9.83 14.72 99.25 72.24 30.71 15.98 108.19 122.02 118.29 523.6 11.27 15.2 10.53 88 82 32.95 14.43 11.22 15.99 20.87 51.93 22.74 8.61 391.44 11.53 15.87 1,405.36 256.32 75.80 36.96 182.74 221.88 290.82 643.19 673.89 50.09 5,551.26 3,456.38 139.19 323.48 290.04 4,459.28 163.04 ,987.37 795.75 226,32 204.51 1,451.69 523.17 804.59 433.90 116.12 238.20 580.14 21.16 443.24 873.69 422.92 49.55 32.94 26.78 . 998.35 241 57 324.26 296 23 115.71 113.01 Manjil Inflow Aban Aban Azar Dey Far. ਨ 6 Mo. ם Mehr Azar Dey Bah. Esf. Far. Kho. Spa Mehr tot Esf. Azar Dey Bah. Far. Ord. Kho. Ord Azar Dey Bah. Esf. Ord. Sha 79-80 80-81 Year 77-78 78-79

0.00

000 1,861 98

15.97

22.06 34.5 5428.05

45.80

27.54 108.47

75.04 126.73 210.9 180.43 226.8

44.40 44 90

274.97

410.49

3,566.07

8,241.37

224.60 734.00

522.20 575.09 804.13 1,000.88

803.50 626.52

521.74 930.76 365.62 63.52

0.00

707.90 455.20

449.11

1363.04 742.6 84.91

106.73

3,020,63

4,286.77

3020.63

0.00

19.85

0.00 0.00

45.80

162,51 496,61

190.53 378.5

101.35 202.26 1,698.80

1,133.00

535.72 362.01

813.72

399.06

0.00 2,401.47

6,810.84

5635.5

134.64 110.57

16.38

16.38

573.26

0.00

2,960.07

1,923.43

3134,13

00.0 0.00

44.40 44.90 115.10

220.62 173.12 242.1 369.42 341.98 666.99 340.56 962.65 303.05 1,133.00 456.39 1,133.00

45.80

231.79 983.55 629.04

224.60 292.70 734.00 803.50

1,133.00

9.26