

TABLE 3 SELECTED 89 RAINFALL STATIONS AND MEAN MONTHLY RAINFALL (1/3)

			Coord	linate		· · · · · · · · · · · · · · · · · · ·			Mean	Monthly I	Rainfall i	n the 198()'s (mm)				9],
HA	Station	SHA	Lat.	Long.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul,	Aug.	Sep.	Oct.	Nov.	Dec.	Total	-
I	Dustin-Ma Junior School	1010	12°30'	7°30'	0	.0	1	5	48	89	163	226	153	2	0	0	687	
	Funtua Mairuwa Dam	1030	11°36'	7°13'	: O	3	3	24	85	97	167	251	116	29	0	0	775	
	Gusau Aerodrome	1040	12°10'	6°42'	0	0	6	12	76	99	196	222	164	9	0	0	784	
	Sokoto Aerodrome	1042	13°04'	5°13'	0	i 0	3	1	31	96	140	170	86	8	0	0.	535	
	Kalmalo	1052	13°45'	5°14'	0	0	0	2	4	38	142	117	59	- 7	0	0	369	
	Anka Dam	1082	12°07'	-5°55'	0	0	7	13	82	96	196	226	141	7	- 0	0	768	
	Yelwa	1104	10°53'	4°45'	0	0	25	25	90	110	216	219	160	25	0	.0	870	
	Kainji Dam	1113	10°10'	4°38'	0	0	8	53	132	137	163	228	190	59	0	0	970	
П	Egudu	2040	8°05′	4°50'	18	38	88	148	227	274	258	259	341	248	28	9	1,936	
	Ilorin Agba River W.W.	2040	8°29'	4°35'	6	6	67	87	132	185	117	169	214	124	2	. 6	1,115	· · ·
1	Bactia Sugar Company	2051	9°05′	4°57'	0	5	25	71	153	176	183	179	203	72	1	0	1,068	
[Shika Agric	2111	11°14'	7°33'	Q	. 0	5	28	99	138	227	257	151	41	0	0	946	1 · · · ·
1 .	Birnin Gwarl	2060	10°35'	6°34'	0	0	14	41	126	142	192	277	260	93	0	0	1,151	
1	Kontagora	2060	10°20'	5°30'	0	4	30	34	106	109	191	251	213	59	7	0	1,004	
	Ikara Town	2111	11°10'	8°05'	Ċ Ó	2	8	: 41	73	123	202	267	148	26	- 0	. 0	890	÷
ļ	Saminaka	2111	10°23'	8°48'	0	5	5	62	193	180	220	269	201	46	. 0	0	1,181	and the second second
	Kaduna South	2122	10°30'	7°26'	0	0	5	40	110	165	225	307	240	63	0	0	1,155	
	Kauru Town	2112	10°35'	8°09'	- O -	-1	7	- 31	115	171	253	320	216	60	0	0	1,174	
	Miango Kent Academy	2121	9°51'	8°43'	0	1	24	105	180	211	298	302	223	55	0	0	1,399	2
	Jebba Hydropower Station	2012	9°34'	4°30'	2	2	23	49	148	179	152	187	210	88	1	0	1,041	
	Sunti Sugar Company	2072	9°02'	5°15'	1	0	5	- 44	121	161	166	185	182	72	0	. 0	937	
1	Shiroro Gorge NEPA	2132	9°59'	6°43'	0	÷ 0	10	49	114	162	200 -	274	270	75	4	0	1,158	
	Minna Met.	2141	9°37'	6°31'	0	0	22	38	134	161	: 203	236	211	77	3	0	1,085	
	Bida Met.	2141	9°06'	6 °06'	0	0	18	57	127	157	226	218	187	76	· 0	0	1,066	and the second
1	Lapai	2150	9°05'	6°37'	÷ 0	2	17	92	107	161	206	180	178	76	1	0	1,020	1
	Kafanchan Town	2161	9°36'	8°18'	3	1	20	75	159	223	275	301	264	158	12	0	1,491	a de la contra de la
	Abuja Met.	2162	9°15'	7°00'	3	3	33	47	117	188	227	297	301	125	6	0	1,347	
Ш	Bauchi Aerodrome	3042	10°17'	9°49'	0	0	6	19	93	141	234	242	139	22	0	0	896	
	Alkaleri (UBRBDA)	3080	10°14'	10°21'	0	0	. 9	23	62	140	157	198	110	32	0	0	5 731	· ·
	Bajoga	3042	10°52'	11°27'	0	0	0	7	37	86	194	175	84	29	0	0	612	· · · · ·
	Billiri (UBRBDA)	3050	9°51'	11°13'	0	0	5	16	72	. 117	168	126	171	37	0	0	712	
	Deba (UBRBDA)	3050	10°25'	11°23'	0	0	3	16	75	113	168	185	159	36	0	0	755	
	Yola	3013	9°14'	12°28'	. 0	0	9	44	125	119	214	221	136	58	1	0	927	· ·
	Kojołi	3022	8°41'	12°28'	0	0	20	41	102	141	194	163	201	58	3	0	920	
	Tatasse (UBRBDA)	3052	9°57'	11°43'	0	0	6	12	73	115	167	190	143	37	0	0	743	
	Zing	3070	9°00'	-11°40'	0	0	6	41	118	109	177	193	184	69	0	. 0	897	
	Tumu (UBRBDA)	3080	10°03'	11°05'	0	0	8	38	63	123	165	149	115	39	0	0	700	
	Mayo Belwa	3022	9°10'	12°05'	0	0	5	53	116	153	196	242	146	67	0	0	978	
	Numan	3034	9°21'	12°02'	0	0	4	33	101	97	172	177	134	39	0	0	757	
1	Nafada (BSADP)	3042	11°06'	11°21'	-0	0	0	Ō	5	42	78	114	146	76	10	Ō	471	
	Kumo (UBRBDA)	3050	10°05'	11°11'	0	0	- 1	29	71	138	173	152	153	15	0	Ō	732	
	Ganye	3022	8°27'	12°06'	3	0	21	34	99	167	219	253	232	65	, O		1,093	
	Duku	3042	10°50'	10°47'	0	0	0	22	56	96	141	198	116	36	Ŏ	Ŭ	665	
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[Coord	linate			,_,_,_,_,_,,_,,_,,		Mean	Monthly I	Rainfall i	n the 1980	's (mm)				
HA	Station	SHA	Lat.	Long.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
111	Garkida Manya Gindin Dorowa	3032 3140 3113	10°26' 7°15' 8°10'	12°35' 10°12' 10°03'	0 0 0	0 4 0	4 40 8	32 106 63 79	80 184 134	109 222 155 249	188 251 176 345	158 310 209 309	152 319 201 323	59 184 103 151	2 10 1 6	0 0 0	784 1,630 1,050 1,674
	Serti Bali Bibinu Baissa Donga Song	3130 3130 3008 3140 3140 3012	7°24' 7°51' 6°58' 7°14' 7°43' 9°49'	11°32' 10°57' 10°47' 10°40' 10°01' 12°45'	7 5 7 2 0	6 5 10 1 0 0	50 26 59 40 16 8	78 60 54 97 75 12	150 238 227 209 140 60	291 293 222 174 110	361 307 281 215 170	309 390 340 363 210 171 267	323 460 321 362 296 157 352	131 232 166 260 165 58 147	0 2 7 13 4 3 6	0 0 0 0 0	1,874 2,070 1,790 1,855 1,297 749 1,579
	Suntai Bakundi Gembu	3122 3140	7°41' 6°41'	10°21' 11°17'	6 12	3 11	36 124	101 161	181 184	216 207	264 279	207 274	302 305	147 191	0 29	4	1,979
IV	Ibi Lafia (LADP) Kefii (PADP) Jos University	4021 4072 4083 4030	7°52' 8°30' 8°50' 9°52'	9°43' 8°30' 7°52' 8°55'	0 0 0	1 3 7 1	14 26 37 20	44 71 49 69	141 140 132 159	117 130 136 207	209 219 204 280	189 240 245 326	204 230 233 183	81 80 84 28	0 3 4 0	0 0 0 30	1,000 1,142 1,131 1,273
V	Yonagoa Farm Port Harcourt Onitsha Nsukka University Lokoja	5050 5050 5041 5020 5011	4°55' 4°45' 6°09' 6°52' 7°48'	6°16' 6°50' 6°47' 7°24' 6°44'	28 15 5 4 4	38 39 29 11 15	174 108 78 59 33	202 153 87 73 76	262 248 220 181 144	403 294 239 186 159	403 338 306 250 209	322 296 236 238 186	465 389 306 302 212	297 211 178 164 102	79 63 25 25 25 2	30 10 7 7 0	2,703 2,164 1,716 1,500 1,142
VI	Ikeja Met. Abeokuta Ijebu Ode Sepeteri Oyo Met. Oshogbo Met. Akure Met. Ubiaja Agric Benin City Warri Met. Forcados Sheel BP	6032 6023 6040 6022 6023 6051 6080 6100 6100 6100 6100 6093	6°35' 7°15' 6°50' 8°38' 7°50' 7°47' 7°16' 6°39' 6°19' 5°31' 5°31'	3°20' 3°18' 3°55' 3°39' 3°57' 4°29' 5°13' 6°06' 5°36' 5°36' 5°44' 5°26'	10 2 9 4 6 3 5 10 13 15 45	29 25 24 14 23 26 43 27 51 53 44	69 62 81 51 60 67 111 72 95 121 146	104 111 95 80 103 113 126 92 109 167 183	186 196 211 131 137 163 187 168 190 276 327	297 211 240 148 140 192 201 160 212 346 489	153 177 201 158 175 132 165 224 272 450 699	131 114 166 148 123 148 215 189 289 392 416	199 185 219 182 212 230 234 209 327 429 592	123 106 164 87 123 198 130 110 242 324 336	57 21 28 6 28 39 29 13 46 99 98	14 5 6 3 14 8 0 0 10 39 42	1,372 1,215 1,444 1,012 1,144 1,319 1,446 1,274 1,856 2,711 3,417
VII	Calabar Aerodrome Ibesit NIFOR Oweri Met. Uyo Met. Akwete Rubber Estate Enugu Met.	7072 7054 7051 7080 7053 7032	4°58' 4°55' 5°29' 5°03' 4°52' 6°26'	8°21' 7°45' 7°02' 7°55' 7°21' 7°33'	20 32 31 43 29 6	27 37 21 21 19 9	156 154 125 126 133 57	199 130 154 158 179 106	325 363 258 277 276 228	434 286 351 252 256 207	423 265 336 305 341 241	319 325 340 263 299 260	397 307 395 302 322 296	308 239 249 208 215 167	131 71 55 75 95 16	26 8 14 21 20 0	2,765 2,217 2,329 2,051 2,184 1,593

TABLE 3 SELECTED 89 RAINFALL STATIONS AND MEAN MONTHLY RAINFALL (2/3)

IA	Stat	ion	SHA	Coord	linate					Mean	Monthly I	tainfall in	n the 1980	r's (mm)	-			
	Utat			Lat.	Long.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
	Flagore Agric Kano Met. Nguru Met. Ningi (BSADP) Jama'are Agric Potiskum Met. Marguba Vet. Maiduguri Met. Bama Agric		8041 8024 8082 8052 8052 8102 8134 8133 8142	10°45' 12°03' 12°53' 11°03' 11°42' 11°42' 11°42' 11°51' 11°51' 11°32'	8°50' 8°32' 10°28' 9°34' 9°56' 11°02' 12°35' 13°00' 13°42'	0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0	7 0 2 2 4 0 2 1 0	17 8 4 9 11 24 8 7 2	113 41 5 37 48 40 33 23 20	120 93 41 118 69 89 49 59 61	231 182 90 174 134 184 134 137 109	274 241 137 262 191 199 158 139 167	137 96 52 131 84 84 54 84 98	17 22 2 9 20 14 0 5 22	0 0 0 0 0 0 0 0 1	0 0 0 0 0 0 0 0	916 68 333 74 56 63 433 455 486
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TABLE 4 YEARLY RAINFALL AT SELECTED 89 STATIONS (1/3)

Note: - : Not Available * : Intermittent

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HA	Rainfall Station	SHA	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
1	Dutsin-Ma Jnr. School	1010	*	741	-		-	1,069		*	935	782	*	705	645	440	*	665	625	-	776	-
	Funtua Mairuwa Dam	1030	-	-		· -		-	-	865	987	1,597	824	777	1,037	677	633	985	701	597	848	672
	Gusau Acrodrome	1040	833	809	741	722	852	866	885	766	1,013	1,097	896	787	711	846	675	856	814	686	· -	
	Sokoto Aerodrome	1042	634	483	609	390	476	-	874	812	690	600	661	586	568	621	466	435	475	323	697	525
	Kalmalo	1052		-	-	· •		455	· -	282	531	378	522	299	297	324	457	321	368	c -	•	
	Anka Dam	1082	811	789	726	703	831	843	862	746	1,097	1,077	873	756	691	824	656	807	-	-		l: - [
	Yelwa	1104	981	991	928	811	1,077	974	872	864	884	1,014	882	896	1,073	584	971	792	1,009	746		
	Kainji Dam	1113	790	1,094	898	910	939	890	815	871	938	1,134	1,001	964	1,034	640	1,050	980	1,028	949	860	1,179
II	Egudu	2040	1,363	1,326	1,333	1,359	1,664	1,710	1,552	938	1,185	2,016	2,119	1,493	1,538	1,072	1,829	2,084	2,055	2,547	2,302	2,300
	Ilorin Agba River W.W.	2040	1,030	1,116	1,017	1,546	1,081	1,088	1,126	931	1,137	1,304	984	1,243	1,281	800	1,336	976	1,182	1,162	998	1,208
	Bactia Sugar Company	2051	892	1,072	801	998	1,191	1,160	1,062	1,109	957	1,115	885	1,233	880	862	1,068	1,502	949	976	880	1,436
1	Shika Agric.	2111	935	978	990	966	1,108	857	1,281	771	1,205	1,089	728	1,078	715	618	1,025	1,229	1,071	1,151	1,070	768
	Birnin Gwarl	2060	1,178	1,443	1,178	975	1,230	1,408	1,342	1,086	1,445	1,438	1,049	1,079	1,334	1,110	1,168	1,330	1,269	1,122	1,189	862
	Kontagora	2060	1,107	914	931	742	1,078	1,321	1,392	982	1,283	1,385	824	1,233	969	543	1,688	1,110	1,003	+	863	1,144
	Ikara Town	2111	-	.		1 4	-	·		· -	1,103	1,152	957	378	895	702	1,085	1,094	1,024	921	1,072	766
	Saminaka	2111	-		- 1	-	· •	-	-	852	1,102	977	1,420	1,306	1,042	1,090	990	1,091	926	1,183	1,392	1,357
	Kaduna South	2122	1,168	1,266	1,348	1,4 9 2	1,199	1,372	1,243	1,025	1,596	1,128	1,224	1,321	1,197	968	1,025	1,177	1,105	1,097	1,369	1,061
	Kauru Town	2112	: ÷	· · · -	194			-	-	-	-	1 . 4	-	1,383	1,184	1,006	952	1,324	932	1,039	1,520	1,228
	Miango Kent Academy	2121	1,191	1,547	1,300	1,371	1,685	1,571	1,645	1,384	1,785	1,620	1,602	1,356	1,413	1,430	1,291	1,308	-	-	-	-
	Jebba Hydropower Station	2012	-	÷	. j-		-	-	-	÷ -	-	² -	-	-	997	906	1,163	1,406	946	809	960	1,126
	Sunti Sugar Company	2072	-		+		-	· •	- -	-	- 1		995	874	938	. t _a s a . ‡	754	866	964	877	- 831	1,214
	Shiroro Gorge NEPA	2132	1,144	1,341	1,019	*	1,230	*	1,307	1,298	1,548	1,467	1,037	1,042	1,426	879	1,081	1,400	1,318	979	1,324	1,079
	Minna Met.	2141	1,111	1,148	1,370	974	1,131	1,389	1,227	1,655	1,523	1,349	1,126	1,006	1,100	989	1,200	1,224	1,209	826		-
	Bida Met.	2141	1,251	1,158	837	1,159	1,280	1,386	1,118	1,080	1,408	917	1,278	1,085	997	899	1,168	1,167	1,080	1,060	888	1,029
	Lapai	2150	1,258	1,124	994	1,150	1,143	1,224	1,211	1,070	1,556	1,228	1,432	931	576	595	930	1,014	1,102	*	959	1,089
	Kafanchan Town	2161	-	· -	1. 1 4		2,240	2,033	1,530	1,327	2,066	1,658	1,917	1,725	1,230	1,152	1,461	1,590	1,460	1,550	1,530	1,281
	Abuja Met.	2162	-	· _		-	-	ана (¹⁹⁴⁶⁾ -	•	-	-	÷	· · · · · · · · · · · · · · · · · · ·	-	1,297	1,308	1,230	1,513	1,560	1,384	1,239	1,226
m	Bauchi Acrodrome	3042	898	1,100	973	739	1,171	1,140	1,249	815	1,140	991	989	1,243	903	769	884	722	972	738	843	892
	Alkaleri (UBRBDA)	3080	-	-	· · ·		· · · -	- 1	i	-	-	- 1 -		*	855	533	654	835	708	455	-	904
	Bajoga	3042	-	. .	3. 2. 4	1914	2 a 14 -		: - -	· -		•	•	-	-	492	498	646	506	541	795	*
-	Billiri (UBRBDA)	3050	-		-	-	- 1	· · · -	-	834	782	799	825	612	602	605	740	801	848	372	- i -	1,008
	Deba (UBRBDA)	3050	• -		•		-	· · · -	-	640	732	886	683	771	792	713	725	819	671	450	960	960
4 4	Yola	3013	· . •	•	· · · -	s - -	-	-	-	893	994	1,153	1,043	964	957	882	967	972	901	679	-	983
	Kojoli a festes en paran	3022		-	-		-	-	-	-	i. – .			*	973	940	863	903	1,031	929	, -	797
	Talasse (UBRBDA)	3052	· . · -	-			· · · ·		•	807	873	821	634	834	739		713	785	737	600	•	859

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77.4	Detrical Otation	QILA						·			Yea	arly Rai	nfall (mi	m)					
НА	Rainfall Station	SHA	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	19
Ш	Zing	3070	-		-			-	-	-		-	951	982	793	877	751	980	9
an an an	Tumu (UBRBDA)	3080	-	· •			-	-	· _	665	793	923	921	669	769	*	614	788	5
	Mayo Belwa	3022	-	- <u>-</u>		-	· -	-	• -		·· -		1,048	831	1,247	863	786	1,239	9
	Numan	3034	· -	· _	-	-	-	-	-	623	885	887	712	970	679	753	866	855	6
	Nafada (BSADP)	3042	-	-	-	· -	-				-		· -	· _		581	305	531	4
	Kumo (UBRBDA)	3050	· -		· · -	· _	-			· · · *	947	822	656	929	685	780	741	821	5
	Ganye	3022	-	· · ·	-	· _	-	-	-	1,109	1,249	1,069	. *	1,329	894	937	820	1,316	1,1
	Duku	3042	-		1 J 1	: -	-	-	-	-	~		· _	-	-	514	728	518	e
	Garkida	3032	· -					-	-	857	906	986	759	927	892	+	699	704	' g
	Manya	3140			-	-	-	-	-	-	-	2,082	1,749	2,175	1,837	1,106	1,564	1,585	1,6
	Gindin Dorowa	3113		-	-		· .		-	-	· -	-	1,259	1,160	1,173	*	1,084	1,124	7
	Seteri	3130	-	-	-	-	-	· _	-	· -	-	- 1		1,731	1,635	1,390	2,025	1,915	1,6
	Bali	3130		· -	-	-	-	-	-	-	-	-	-	1,743	2,456	1,832	2,620	1,824	1,7
	Bibinu	3008	-		-	-		-		· -		-	а 1911 г. 4	*	2,024	1,337	*	1,703	2,4
	Baissa	3140	-	-	-	Ť	-	-	<u> </u>	· -	· -	-	1,855	2,359	*	1,302	1,880	1,558	1,8
	Donga	3140	-	-	-	. –	. -	·	. e	-	1,320	1,398	1,306	1,247	1,143	: *	1,762	1,200	1,2
·	Song	3012	-	-	· · ·	-	- ⁻	-	-	·	-	: : •	· · · -	•	-	684	638	835	9
	Suntai Bakundi	3122		-		-		· -	-	-		-	1,972	1,726	1,515	1,407	*	1,630	1,5
	Gembu	3140		11 A		· -	-		. a - 1,-	596	1,068	823	965	749	884	716	941	759	6
IV	161	4021	_	-	-	-	-		-		1,203	1,879	1,115	1,125	916	784	1,367	873	9
1.	Lafia (LADP)	4072		-	-	·		-	· _			1,010	1,155	985	1,015	1,054	1,170	1,051	1,1
	Keffi (PADP)	4083		1 . <u>1</u>	-	1	_		-	1,552	1,649	895	1,094	1,250	1,185	*	859	1,144	•
	Jos University	4030	· -	-	-	-	-		· · -	1,163	1,550	1,161	1,049	1,477	1,233	1,253	1,447	1,063	1,5
v	Yonagoa Farm	5050		····		2,440	2,808	2,700	9 700	1 070	0.407								
• • •	Port Harcourt	5050		-	•	2,490	2,000	2,100	2,700	1,879	2,487			2,309	3,324	2,074	2,759	3,099	1,9
	Onitsha	5041			/		1,659	1,397	2,065	1,829	1,796	1 0 0 2	1 601	2,160	1,988	1,629	2,102	2,397	2,2
	Nsukka University	5020	*	1,753	*	1,671	1,697		1,533	6 S S S		1,823	1,681 1,831	1,842 *	1,719 1,699	1,416 999	1,711	1,848	-
	Lokoja	5011	1 276	1,409	1,247	941	1,071	1,236	1,048			1,119		1,148	853	835	1,637 1,137	1,595 977	
· • · • • • • • •	••••••••••	·····		1,100			.,			510	1,000	1,113	1,120	1,140		- 030 	1,101		فرال سبب
VI.	Ikeja Met.	6032		-		-	-	- :	-	-		· · · -	1,686	1,470	1,033	895	1,376	1,229	-1,04
	Abeokuta	6023		-		-	-	1. 1. 1 <mark>.</mark>	· ·		-	-	-	*	865	903	1,031	1,526	
	ljebu Ode	6040		-	÷.[. .	. i -	•	-	•	-	1,686	1,907	1,774	1,125	1,255	1,378	1,356	
	Sepeteri	6022		·			•	; -	. .	-	ļ —		•	-	813	819	922	1,214	81
$(\cdot,\cdot)_{i_1}$	Oyo Met.	6023	1.1.2	-	•	-	-	•			s - į	-	1,438	981	921	726	1,549	1,584	1,02
	Oshogbo Met.	6051		-	-	-	-			1 . .		•	1,470	1,181	1,131	1,090	1,391	1,657	1,27
,	Akure Met.	6080	-		-	-	-	-	•	-	-	-	1,753	1,381	1,312	1,288	1,564	1,648	1,16

TABLE 4 YEARLY RAINFALL AT SELECTED 89 STATIONS (2/3)

- 26 -

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1986	1987	1988	1989
933	-	-	-
562	*	-	738
981	825	-	-
621	480	. –	862
423	449	715	219
581	585	934	722
1,183	985	-	-
600	500	803	884
900	679		·
1,656	1,443	-	1,828
751	1,041	· -	-
1,683	1,332	-	-
1,735	2,125	. -	+
2,447	1,554	-	. *
1,833	1,923		
1,270	1,219	-	1,368
966	503	-	861
1,537	1,390	-	1 1 -
639	509	993	1,059
929	906	-	994
1,107	1,292	1,135	1,450
1,288	1,232	1,158	1,195
1,536		1,165	1,230
1,992	2,908	3,375	2,660
2,284	- 1 (*	2,422	2,135
1,649	1,503	2,003	1,786
1,273	1,653	1,231	1,465
1,314	1,172	1,331	1,520
1,040	1,676	1,939	1,369
1,211	is pi≹	1,576	1,224
1,029	1,503	1,658	1,446
819	1,092	1,291	1,128
1,023	1,155	1,038	1,016
1,279	1,369	1,428	1,192
1,162	1,401	1,484	1,457

TABLE 4 YEARLY RAINFALL AT SELECTED 89 STATIONS (3/3)

								· · · ·		· ·	Yea	arly Rain	ofall (mn	n) -								
HA	Rainfall Station	SHA	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
VI	Ubiaja Agric.	6100	•	-	-	-	-		-	-	-	-	1,376	1,104	1,291	831	1,569	1,359	1,210	÷ ≉	· +	1,317
	Benin City	6100	-	-		-	-	-	-	-	-	-	2,645	1,786	1,968	1,647	1,246	1,569	1,238	2,343	2,149	1,967
	Warri Met.	6100		-	-	· -	· –	-	-	-	· -		2,504	2,350	3,065	2,523	2,699	2,977	2,916	2,776	2,711	2,572
	Farcados Shell BP	6093	-	· · · -		· · · · -	-	-	· -	· •	·	-	: +	*	3,230	3,233	3,318	3,853	3,026	3,985	3,158	3,778
V	I Calabar Aerodrome	7072	2,818	-	2,957	2,110	2,559	2,668	3,032	2,647	3,298	2,817	3,255	2,768	2,809	2,347	2,499	2,965	2,610	· *	2,712	2,748
	Ibesit NIFOR	7054	2,035	2,318	2,724	2,252	1,942	2,326	1,906	1,413	2,531	1,893	2,102	2,561	2,030	1,677	2,174	2,657	2,318	2,119	2,138	2,395
	Oweri Met.	7051	-	-	-	-	2,494	2,132	2,381	1,867	2,397	2,686	2,398	2,433	2,429	1,758	2,156	2,399	2,484	2,076	2,564	2,584
,	Uyo Met.	7080	-	· -	-	-	· · · -	· -	-	-	-		-	2,654	*	1,663	1,755	2,471	1,759	2,146	2,241	*
	Akwete Rubber Estate	7053	-	÷	2,217	2,046	1,963	2,282	2,118	2,095	2,001	2,593	2,456	2,499	2,349	1,781	2,313	2,567	2,263	1,836	1,926	1,831
	Enugu Met.	7032	+	1,915	1,596	1,557	1,979	1,451	1,827	1,546	1,988	1,696	2,092	1,647	1,566	902	1,782	1,932	1,451	1,453	1,459	1,643
VII	I Flagore Agric	8041	-	-	-	-	-	-	-	-	-	1,025	1,103	832	846	734	537	947	1,220	967	-	1,057
	Kano Met.	8024	922	704	669	416	424	713	542	786	931	723	914	576	638	498	586	634	733	515	1,049	699
+	Nguru Met.	8082	533	461	248	258	551	558	431	509	497	588	341	429	409	237	332	419	245	250	322	339
	Ningi (BSADP)	8052	-	· -	-	-	- 1	· 		-	-	. .	-	-	*	447	569	718	815	565	1,137	940
	Jama'are Agric	8052	-	-	-	-		· -	· · -	: -	· , -	- 1	· · •	•	435	448	271	- 12 +	748	460	798	696
	Potiskum Met.	8102	574	627	686	403	892	595	631	678	593	738	684	556	574	525	462	544	806	369	968	856
	Marguba Vet.	8134	699	-			-	452		-	-		-	•	-	217	385	464	661	469	•	a
	Maiduguri Met.	8133	740	502	434	433	613	671	690	658	726	631	622	462	354	265	347	414	509	326	624	608
	Bama Agric	8142	698	701	536	491	654	. 645	-	658	843		657	448		359	332	-	-	355	686	544

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				Catchment	Coor	dinate									—r	Le	ngtl	h of	Run	off I)ata	Col	lect	ed	· · · ·						·		
IIASH	IA Gauging Station	River	River Basin	Area (km²)	}~	Е				19	60's			1					1	970	's			:				۰.	1980	ľs	4 .		•
	Wuro Boki Yola	Benue Benue	Niger	103,680	09°22'	12°50' 12°28'	õ	õ	<u>o</u>			0	00	0	Q			0								ò					ŀ	-	T
	Agwan Taru	Benue	Niger Niger	206,700	09°14'	12 28 10°25'	M	М	Υľ	ΥĽ	70					ŏ	ŏľá	õl	ōĽ					ίŏ		Y	<u> </u>	<u> </u>	<u> </u>			1	
	Ibi	Benue	Niger	258,700		09°45'										\sim	Υľ	Ŭ.	~l.	<u> </u>		1		Ĩ	0		ol	٥l	▲ C	\mathbf{b}			<u>، ا</u>
	Makurdi	Benue	Niger	305,500		08°32'	0	0		эlс	blo	0	0		o			olo	olo	olo		\mathbf{D}	C	olo	Ō	0	oL	A (old	νÖ			
	Umaisha	Benue	Niger		08°00'	07°14'							÷ .			O.	▲ .	A [/	▲ ▲	6 1			À			0			ЭJС	\circ	0		. (
÷	Jiddere Bode	Niger	Niger	563,500		04°07'						1				0	0 0	O	0 0	20	O[C]) C	C) O	0	0	O	0 0	DIC	O	0	0	7 (
	Kainji Dam	Niger	Niger	569,800												\mathbf{O}	0 0	0	0 0	20	20) [C) C	0 0	0	0	O	0 0	ЭļС) (O	1 1	0	νļ¢
	Jebba Hydropower	Niger	Niger	631,800		04°50'				_			:		·									Ľ			· .	- I <i>I</i>	A C	ΝÕ	lõ.	lõ	49
	Baro	Niger	Niger	730,300		06°23'		Δ	õlõ	SIC	Slõ	lõ.	õ	<u>S</u>	<u>S</u>		χľ	$\sum_{i=1}^{n}$	Šlõ	기오	2IÇ	SIC		ŊŎ				δ	210	NS	No.	10	215
	Lokoja Idah	Niger	Niger	1,089,500		06°44'	10		olo	ာင	이이	10	O	\mathbf{O}	9											\mathbf{Q}			210	212	18	12	14
	Onitsha	Niger Niger	Niger Niger	1,095,100	07 06	06°43' 06°31'						Ľ				0	γľ	<u> </u>	A 4									δ		lΒ	N.	•	
T. 10			and an environment of the second	L			┨∦							:				_		1				0								<u> </u>	╺┨╼
I 10	141 Gusau 142 Bakolori Dam	Sokoto Sokoto	Sokoto-Rima Sokoto-Rima		12°10'	06°40' 06°10'									1						신문	신문	212	<u>' </u> 2	0				~ ~		•		
10		Sokoto	Sokoto-Rima		12°31' 13°02'	05°06'							÷				ök	ဂျွ	ŏlč				۲Ľ	ίŏ	0	ŏ	ŏl	ŏlà		<u> </u>		-	
10	1 I I I I I I I I I I I I I I I I I I I	Karaduwa	Rima		13°14'	07°50'						1				\sim r		ŏk		516				ΊĽ			Ľ		10	ή -]	
	22 Zobe	Karaduwa	Rima		11°23'	07°23'										0				ŏlč]_	
10		Maradi	Rima		13°01'	07°14'										Ă	ŏlč	ŏl		δĺč).		-	-	-	- -	- +	-	-	-	
10	30 Kaura Namoda	Gagere	Rima		12°36'	06°35'							[]		1	ole	δlo	δl	õlõ					-	- 1	-	-	-	- -	- i		} -	1.
10		Rima	Sokoto-Rima		13°27'	05°44'			1											ΣİC) C	0	0		эk		DO	0	0	0	γĊ
	82 Anka	Zamfara	Sokoto-Rima		12°07'	05°55'						•				Ó	2 C	ЭK	20	\mathbf{x}) C	C	C	0	0	0	2]¢	20) -	-	-	-	1
10		Gulbinka	Sokoto-Rima		11°39'	05°58'										$\circ \circ$	0	20	ЭİС) C) [C	oje	PΙΟ	0	0	ρĮ¢	\mathcal{O}		-	-	:	
	11 Malendo Bridge	Malendo	Niger		10°42'	04°48'																					$\sum_{i=1}^{n}$	\mathbf{S})0	0	0	0	<u>, (</u>
	22 Kaduna South	Kaduna	Niger		10°29'	07°26'																		0		-	-	- -	- -	-	•	-	
	43 Wuya	Kaduna	Niger		09°12'	05°52'										A	▲ ▲	A /	▲ ∡	V C	> ⊿				0		& (S ⊿	V O				. (
	30 Shiroro Hydoropower		Niger	36,100													_ ·						Ι.					4	⊾ O	0	0	0	40
	12 Saminaka	Karami	Kaduna		10°22'	08°40'								· .		0										-	•	•	- -	-	-	-	
21 20	11 Zaria-Kano Bridge 191 Malendo Road	Shika Tubo	Kaduna		11°09' 10°35'	07°45'	}												215	간	신	심▲		0	0	-	-	- -	• -	-	-	-	
20		Galma	Kaduna Kaduna		10°35' 10°25'	07°13' 07°45'											1								ō	-	-	- -	• •	-	-	-	1
20		Kontagora	Niger		09°53'	04°38'										·	1	^m (7	16	ጕ	1°		Μ	V		-	$\frac{1}{c}$	blo	10	6	6	
21		Shaho	Niger		09°54'	07 ° 56'													പപ					0	പ			. Ľ	<u> </u>	Τ.	[17	ľ
	61 Kacia	Gurara	Niger		09°52'	07°59'					- I								ŏlč	SIZ	ślč	δĺŏ		lŏ					. []	.		1.	ľ
	62 Izom	Gurara	Niger	E	09°15'	07°02'				1				0	0	A			ŏlč					lŏ			-	.]	-	
21	41 Ebba	Jatau	Niger		09°15'	06°34'								<u> </u>	~	ōk	δlà	ŏlč	ŏlč	Slč		δlŏ	lo	ŏ	ŏ		-	-	-	-	ſ
21	41 Badeggi	Gbako	Niger		09°05'	06°07'					1					ŏlö	δlà	δlà	ŏlč	δĺč	δĺč	٥l	١ŏ	ĬŎ	-	-	-	. I .	. .	-	-	-	

TABLE 5 LIST OF SELECTED 90 RIVER GAGING STATIONS (1/3)

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					IAB	LE 5 LI	SI UF S	CLEVIC	90 N	IVEN	UN	0114		 			*								 						٦
	T	T					Coord	linate				· .	<u> </u>	 	L	engt	hof	Run	offI	Deta	Coll	ecte	d 		 					~	-
]				n	River Basin	Catchment													·					:		1					
	SH		Gauging Station	River	Kiver basin	Area (km²)	N	Е			1960	's							1970 	's 		1-1	1	T	517		980's			ਨਾ	
m	312 311 312 312 312 312 311 311 311 311	22 13 22 22 21 11 13 12 11	Mbu/Tepkwar Manya Donga Gindin Dorowa Suntai Bakundi Bantaji Bali Tela Gassol Maisamari	Donga Donga Donga Donga Suntai Suntai Taraba Taraba Taraba Jigwal	Benue Benue Benue Donga Donga Benue Benue Benue Taraba	6,350 11,910 18,800 2,600 5,350 10,859 20,700 562	06°42' 07°19' 07°43' 08°05' 07°41' 08°10' 07°52' 08°26' 08°31' 07°06'	11 ° 08' 10 ° 15' 10 ° 05' 10 ° 03' 10 ° 27' 10 ° 10' 10 ° 58' 10 ° 29' 10 ° 31' 11 ° 08' 10 ° 30'							0									• • •			0-00000404			OL.	-
IV	30 30 40	152 132 152	Gombe Abba Dadin Kowa Garkida Katsina Ala Hydropower Sevav	Gongola Gongola Hawal Katsina Ala Katsina Ala	Benue Benue Gongola Benue Benue	30,460 	10°50' 10°18' 10°28' 07°15' 07°28'	10 30 11°29' 12°33' 09°20' 09°13'							0	0	0		O				0 0	- - 0	$\frac{1}{5}$	$\frac{1}{2}$		- •	-	-	-
VI	60 60 60 60 60 60 60)22)21)21)21)21)52)52	Sepeteri Ofiki Town Iganna Ilaji-Ile Road Apoje Awe-Ife Odan	Ogun Ofiki Ofiki Oyan Oshun Oba	Ogun Ogun Ogun Ogun Oshun Oshun	1,060 438 2,780 1,460 8,170 930	08°38' 08°28' 08°06' 07°58' 06°59' 08°06' 07°50'	03°39' 03°19' 03°14' 03°02' 04°07' 04°09' 04°04'					-										-		δlo				▲ ▲ - ▲	t	
VI	70 70 70 70 70 70 70 70 70 70 70	041 042 043 060 052 052 052 052 052	Oyo-Ogbomosho Road Ikom Adonatam Obubra Afikpo Ikot Okpara Ugwu NKPA Ulakwo Ndimoko Umuna Umuopara Obigbo	Oba Cross Cross Cross Cross Eme Oramiriukwa Imo Imo Imo Imo	Oshun Cross Cross Cross Cross Imo Imo Imo Imo Imo Imo Imo Imo	16,900 18,900 35,800 46,200 48,300 230 795 160 490 1,450	07 30 05°29' 06°06' 05°51' 05°24' 05°35' 05°25' 05°52' 05°52' 05°52' 05°33' 05°33' 04°52'	08°43' 08°28' 08°20' 07°52' 08°04' 07°26' 07°07' 07°15' 07°15' 07°18' 07°25'									0	0	0				A 0000	04440000				A 0 0 0 0 A 0		- 0 - 0 A	

TABLE 5 LIST OF SELECTED 90 RIVER GAGING STATIONS (2/3)

Note: O:Available

▲ : Intermittent -: Not available

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НА	SHA	Gauging Station	River	River Basin	Catchment Area (km²)		Е			196	0's						•	1	970'	S		- 21		
	8032 8032 8041 8042 8071 8072 8073 8052 8052 8052 8060 8060 8092 8081 8102 8110 8110 8150	Dapchi Damasak	Watari Challawa Challawa Kano Kano Hadejia Gaya Hadejia Jama'are Misau K. Yobe	Hadejia Hadejia Hadejia Hadejia K. Yobe Hadejia K. Yobe K. Yobe Lake Chad Lake Chad Lake Chad	3,859 6,889 6,553 6,975 16,380 1,710 25,900 7,380 9,660 1,891 1,334 55,700 58,500 5,865 18,090 82,560 84,140	12°00' 11°42' 11°43' 11°28' 11°49' 12°01' 12°26' 10°56' 11°25' 11°26' 11°26' 11°25' 11°26' 11°32' 12°05' 11°15' 12°30' 13°28' 13°34' 12°22' 11°32'	08°24' 08°02' 08°23' 08°23' 08°23' 08°50' 09°15' 10°04' 09°39' 09°55' 09°35' 09°55' 09°20' 11°04' 11°55' 10°33' 11°30' 12°31' 13°15' 14°12' 13°41'			00000 000000	00000 000000	00000040000000	000000000000000000000000000000000000000	0 $+$ 0000 $+$ 00 $+$ $+$ 0000 A	-00000					000000000000000000000000000000000000000	►000000000000000	0000000 + + • • • • • • • • • • • • • •	0000000 04	0000000 - 0000

TABLE 5 LIST OF SELECTED 90 RIVER GAGING STATIONS (3/3)

Note: O:Available

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TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSBENUE RIVER (1/6)

						· · · ·		•						- 01	
Station Particul	lars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : River : River Basin : Coordinate - Lat. : - Long. : Catchment Area (km ²) :	tars Wuro Boki Benue Niger 09°22' 12°50' 103,680 1954	Year 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 Mean 1970 1971	Jan. 187 265 112 190 134 560 284 356 340 522 295 622 378	Feb. 109 123 51 92 80 375 155 232 227 373 182 361 232	Mar. 86 88 *100 62 59 316 80 142 153 337 142 268 185	Apr. *170 60 *140 62 75 251 67 88 80 404 140 197 62	May *440 *160 *300 196 171 388 380 169 182 569 296 391	Jun. 544 187 653 257 285 739 1,441 604 902 1,343 696 689 168	Jul. 3,385 2,799 1,339 1,663 1,722 1,931 1,773 2,483 2,553 *3,110 2,276 1,745 2,286	Aug. 8,635 3,310 4,042 6,900 5,340 6,369 3,798 3,814 4,818 *8,730 5,576 5,738 4,232	Sep. 10,894 *9,310 10,109 9,365 7,574 7,014 8,961 5,959 7,133 *9,940 8,626 9,402 -	Oct. 7,165 *3,480 *5,900 6,134 *4,530 2,720 3,969 3,648 *3,440 6,002 4,699 3,589 1,946	Nov. 1,475 *970 1,172 1,293 *1,420 897 1,291 920 *690 2,084 1,221 1,401 412	Dec. 450 *670 474 394 510 450 592 528 *350 1,018 544 600 214	Annual 33,540 21,422 24,392 26,608 21,900 22,010 22,791 18,943 20,868 34,432 24,693 25,003
		1971 1972 1973 1974 1975 1976 1977 1978 1979 Mean	129 	232 80 - - 162 186 94 162 182	103 51 - 110 129 62 113 131	75 - - 75 54 124 80 95	139 153 86 464 528 294	635 - - 502 381 894 935 601	1,726 1,546 1,715 2,278 2,259 2,045 2,088 1,962 1,965	3,404 4,143 3,205 4,039 4,446 3,744 3,846 3,980 4,078	3,416 5,421 4,496 	2,594 3,082 4,768 	477 - - 1,681 611 1,026 798 915	188 	12,914
		1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	330 239	174 211	131 96 241	127 215	241 300 252	306 259	1,294 941	2,726 1,704 _	2,932	2,267 1,037 -	699 389 -	322 297 	

Note: (*) shows assumed value based on runoff correlation between Yola and Wuro Boki.

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TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS BENUE RIVER (2/6)

													- U	nit: MCM
Station Particulars	Year	Jan,	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Yola	1960	206	116	75	96	265	612	3,873	8,482	12,317	7,564	1,843	718	36,167
River : Benue	1961	404	181	115	65	94	456	3,142	3,648	10,365	3,592	915	565	23,542
	1962	190	72	62	80	182	832	1,663	3,924	9,834	5,874	1,200	562	24,47
River Basin : Niger	1963	321	189	145	117	287	378	2,089	7,114	10,879	6,088	1,540	485	29,63
Coordinate	1964	257	142	96	161	238	485	1,918	3,059	6,978	4,668	1,335	429	19,76
- Lat. : 09°14'	1965	222	111	67	39	126	547	1,920	6,851	7,763	3,171	679	287	21,78
– Long. : 12°28'	1966	161	75	43	26	319	1,330	1,902	4,152	9,803		_		1 .
Catchment	1967	170	80	121	78	131	399	2,496	4,125	6,591	4,339	741	608	19,87
Area (km²) : 108,400	1968	179	99	67	47	80	630	2,515	5,614	9,388	3,549	653	292	23,11
Year Established : 1914	1969	155	94	80	52	54	557	3,581	9,420	11,024	6,996	2,136	573	34,72
rear Estaolished : 1914	Mean	227	116	87	76	178	623	2,510	5,639	9,494	5,093	1,227	502	25 77
	1970	297	152	83	54	129	319	1,356	6,344	13,641	4,259	1,487	649	28,77
	1971	407	162	67	49	51	233	2,466	4,955	7,731	4,068	1,831	1,225	23,24
the second second second second second second second second second second second second second second second s	1972	823		-	-	426	1,036	2,865	4,074	4,613	4,288	738	442	20,21
	1973	276	167	113	21	169	414	1,069	5,674	6,102	1,200	-	574	
	1974	472	409	533	480	456	526	1,667	3,838	5,216	5,052	2,261	1,747	22,65
	1975	1,257	363	_		-		2,227	6,555	8,658	5,858		831	
	1976	740	370	250	168	257	660	2,388	5,108	4,007	5,073	2,442	791	22,25
	1977	448	346	198	124	129	492	2,235	4,296		2,074	953	536	,
	1978	337	213	166	236	525	985	2,196	4,095	9,200	4,026	1,387	825	24,19
	1979	504	249	187	153	504	876	1,867	4,626	5,956	2,175	972	528	18,59
	Mean	556	270	200	161	294	616	2,034	4,957	7,236	4,097	1,509	815	22,74
:	1980	337	203	163	111	233	578	2,204	6,254	·····			······	
	1981	480	399	201	106	236	443	1,685	3,439	6,210	2,823	993	565	17,58
•	1982	348	242	187	174	249	500	1,288	3,359	4,220	2,319	884	490	14,26
	1983	337	254	171	158	311	552	1,002	1,725	3,484	1,205	516	458	10,17
	1984	410	341	372	355	442	417	948	1,543	2,201	1,835	568	410	9,84
	1985	343	283	287	272	305	547	1,789	3,244	4,404	1,602	674	474	14,22
•	1986	303	327	367	376	404	534	1,087	4,470	4,155	2,212	700	394	15,32
:	1987	346	293	295	316	388	552	710	1,414	2,820	1,998	505	388	10,02
	1988	356	288	268	238		-							
	1989	351	336	450	391	627	502	766	4,639	6,263	2,291	1,134	761	18,511
	Mean	361	297	276	250	355	514	1,275	3,343	4,220	2,036	747	493	14,167

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Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual	
Station ParticularsStation: Agwan TaruRiver: BenueRiver Basin: NigerCoordinate Lat.: 08°40'- Long.: 10°25'Catchment.Area (km²): 206,700Year Established: 1955	1970 1971 1972 1973 1974 1975 1976 1976 1977 1978 1979 Mean	418 121 107 35 5 70 268 222 91 228 157	$ \begin{array}{r} 177 \\ 44 \\ 39 \\ 0 \\ 0 \\ 24 \\ 152 \\ 102 \\ 36 \\ 36 \\ 61 \\ \end{array} $	62 0 0 0 0 88 62 0 0 21	0 0 0 0 0 18 0 0 0 2	0 0 0 24 0 16 0 356 161 56	212 153 75 80 - 192 391 88 749 805 305	1,294 2,329 1,667 1,168 2,031 1,292 2,131 1,780 2,514 1,729 1,794	8,346 7,274 5,148 7,713 6,193 8,383 6,831 6,483 5,845 4,781 6,700	16,519 11,759 8,462 9,327 8,677 14,385 6,853 11,368 12,310 10,329 10,999	9,948 4,829 4,173 4,971 6,973 14,169 5,917 6,009 7,560 3,811 6,836	1,595 982 935 668 1,062 - 3,727 1,220 1,818 984 1,443	367 252 155 145 268 584 576 292 831 316 379	38,938 27,743 20,761 24,107 	

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS BENUE RIVER (3/6)

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS

BENUE RIVER (4/6)

										<u> </u>				
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station: IbiRiver: BenueRiver Basin: NigerCoordinate- Lat.: 08°11'- Long.: 09°45'CatchmentArea (km²): 258,700Year Established: 1915	1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	461 861 619 370 	181 442 325 184 - 191 174 43 - 220	62 261 289 99 157 158 311 191	74 203 266 174 	407 835 625 275 374 248 - 1,384 593	1,903 1,525 1,488 935 	5,279 6,945 5,390 2,012 1,410 4,087 3,280 2,143 - 5,561 4,012	14,831 13,941 9,444 3,787 4,368 11,369 10,378 4,883 8,547 13,254 9,480	24,139 21,837 16,572 8,319 6,459 17,931 13,240 10,585 19,724 23,457 16,226	17,430 14,296 15,651 3,604 4,759 9,868 10,949 9,945 19,993 17,247 12,374	5,927 6,886 299 1,283 2,587 3,701 1,523 3,240 - 3,181	1,419 426 1,493 87 442 597 999 	72,113 - 59,048 20,145 - 49,533 44,572 - - 49,158

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- Unit: MCM -

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Station Particulars	Year	Jan.	Feb.	Mar.	Apr.:	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Makurdi	1960	911	581	557	718	1,382	3,214	10,740	19,354	28,281	33,576	11,959	3,763	115,036
and the second second second second second second second second second second second second second second second	1961	1,478	888	745	850	1,018	2,488	10,914	12,660	19,940	29,221	3,834	2,373	86,409
	1962	1,050	694	825	1,283		l: –		-	28,263	32,615	12,729	4,979	-
River Basin : Niger	1963	2,076	1,033	854	1,083	3,000	3,730	11,849	18,990	29,938	30,869	11,775	3,391	118,588
Coordinate	1964	1,669	977 -	897	1,122	2,065	4,487	9,988	13,590	23,613	30,052	13,279	3,790	105,529
- Lat. : 07°45'	1965	1,987	1,200	1,130	1,029	1,454	4,313	9,321	19,705	27,994	23,198	6,451	2,486	100,268
- Long. : 08°32'	1966	1,457	975	849	1,081	3,166	9,808	11,174	15,219	27,260	28,461	9,725	3,171	112,346
Catchment	1967	1,441	927	937	946	1,430	2,976	9,602	15,741	23,240	26,455	8,590	723	93,008
Area (km²) : 305,500	1968	536	7 77	-	÷`		-				- i	4,479	-	
Year Established : 1914	1969	1,138	448	455	467	455	6,721	14,876	26,776	35,899	31,873	11,223	4,639	134,970
	Mean	1,374	858	805	953	1,746	4,717	11,058	17,754	27,159	29,591	9,404	3,257	108,676
	1970		·	_		·	i i i	7,284	18,058	31,430	27,631	8,860	1,809	
	1971	1,809	939	949	1,083	1,072	2,673	12,960	17,819	23,411	22,204	5,054	1,900	91,873
	1972	1,000	651	702	824	1,367	5,253	8,461	14,207	23,981	20,596	5,843	1,828	84,713
	1973	1,005	595	549	580	780	1,450	4,623	13,947	20,332	16,249	4,330	1,410	65,850
	1974	791	540	552	723	1,447	3,639	9,337	15,624	24,204	24,908	8,581	750	91,096
	1975	911	586	584	627	954	2,277	6,917	16,171	24,934	32,790	8,578	2,854	98,183
	1976	1,112	692	683	655	1,554	4,408	9,927	17,758	19,712	20,572	15,053	2,956	95,082
	1977	1,077	600	555	610	632	1,298	7,426	12,036	24,507	25,556	4,478	1,233	80,008
	1978	689	503	536	616	1,624	5,346	9,600	15,630	26,081	23,474	9,964	2,128	96,191
	1979	858	545	547	539	1,225	2,202	10,433	16,426	25,675	16,284	6,361	1,597	82,692
	Mean	1,028	628	629	695	1,184	3,172	8,697	15,768	24,427	23,026	7,710	1,847	88,811
	1980	750	528	547	522	705	2,202	5,923	18,765	28,306	24,324	7,244	1,729	91,545
	1981	730	508	482	518	1,217	2,461	10,452	17,688	27,195	19,066	4,618	1,225	86,160
	1982	713	535	603	583	879	2,176	9,380	14,638	22,533	21,571	6,788	1,597	81,996
and the second second second second second second second second second second second second second second second	1983	-				705	1,818	5,958	10,500	18,912	10,329	1,746	804	8 8 4
	1984	622	436	402	606	866	2,147	8,485	13,711	16,700	13,421	3,696	716	61,808
	1985	678	491	536	663	753	2,002	12,877	22,397	23,792	16,793	3,095	1,182	85,259
	1986	713	496	574	614	777	1,849	7,073	14,051	17,527	15,858	3,939	1,168	64,639
	1987	702	519	536	550	574	1,572	3,430	5,379	17,001	6,507	3,087	1,005	40,862
	1988	630	501	579	583	817	1,886	4,162	16,694	24,771	26,800	6,734	1,616	85,773
	1989	. ,836	508	536	557	1,993	2,368	8,351	18,409	28,291	25,543	10,497	1,838	99,727
and the second second second second second second second second second second second second second second second	Mean	708	502	533	677	929	2,048	7,609	15,223	22,503	18,021	5,144	1,288	75,085

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS BENUE RIVER (5/6)

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- Unit: MCM -

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Station Particulars	Year	Jan.	Feb.	Маг.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Umaisha River : Benue River Basin : Niger Coordinate - Lat. : 08°00'	1970 1971 1972 1973 1974 1975	2,304 1,669 504	915 686	731 618 166	525 663 547 253 279	790 745 1,178 470 911 655	1,571 1,735 916 2,402 1,487	4,886 4,618 7,884 2,835 9,066 6,578	9,393 11,027 14,785 13,680 15,695 18,068	29,048 26,815 21,508 25,664	33,434 20,485 21,313 17,306 28,174	11,315 14,064 4,250 9,310 13,043	4,396 1,357 6,679 1,004 1,655 5,425	99,308 - - -
- Long. : 07°14' Catchment Area (km ²) : 335,000 Year Established : 1955	1976 1977 1978 1979 Mean	*460 *690 1,125	*270 624	365 	383 206 408	859 218 814 738	3,057 776 4,019 4,683 2,294	9,386 6,236 9,425 10,398 7,131	18,041 11,898 17,717 17,714 14,802	20,565 25,299 29,471 26,099 25,559	23,034 29,451 29,271 19,451 24,658	16,777 4,922 11,557 6,428 10,185	6,229 911 1,695 1,251 3,060	88,221 91,003
	1980 1981 1982 1983 1984 1985 1986 1986 1987	522 *620 *500 650 281 384 *500 976	236 259 443 457 195 224 *200 615	153 183 437 376 185 181 446 537	149 203 433 339 255 455 657 633	417 1,185 627 484 505 491 969 604	1,818 1,770 1,517 1,410 998 1,856 1,317 2,329	13,450 9,244 5,315 5,140 8,359 5,564 5,444	19,586 19,223 13,700 10,294 14,963 16,824 13,233 9,983	33,624 21,686 17,609 16,536 26,607 19,579 20,784	22,777 21,967 10,751 13,432 18,200 20,619 20,302	5,718 6,819 1,235 3,649 *3,100 6,922 3,696	1,183 1,233 455 681 *1,130 747 756	95,989 49,376 56,820 77,811 70,753 66,659
	1988 1989 Mean	428 528 539	284 267 318	288 197 298	265 190 358	896 1,068 725	2,802 2,642 1,846	6,114 10,631 7,696	16,745 17,166 15,172	35,617 29,294 24,593	28,378 19,553	6,265 4,676	965 894	97,591 76,668

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TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS BENUE RIVER (6/6)

Note: (*) shows assumed value based on runoff correlation between Makurdi and Umaisha.

- Unit: MCM -

TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSRIVER NIGER (1/8)

							· · · · · · · · · · · · · · · · · · ·	y					······································	
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Jiddere Bode	1970	5,770	5,662	6,029	3,641	1,219	451	533	2,998	6,164	5,633	4,124	4,538	46,762
River : Niger	1971	4,742	4,266	2,612	856	198	24	987	2,035	5,853	4,709	4,090	4,690	35,062
	1972	4,286	5,036	2,092	619	204	214	570	2,601	4,264	4,319	3,952	4,499	32,656
River Basin : Niger	1973	4,326	2,585	1,167	266	4	211	478	2,133	3,534	3,840	3,764	4,167	26,475
Coordinate	1974	3,687	1,795	710	149	0	14	1,007	3,323	6,553	6,100	4,500	4,843	32,681
– Lat. : 11°23'	1975	4,939	4,038	1,775	447	128	48	622	2,261	5,169	5,473	- 4,371	4,852	34,123
– Long. : 04°07'	1976	5,125	4,833	3,159	1,113	453	478	566	2,125	3,525	3,985	4,191	4,329	33,882
Catchment	1977	4,691	4,516	4,111	2,562	345	473	729	2,237	3,963	3,727	3,422	3,874	34,650
Area (km ²) : 563,500	1978	3,650	2,054	826	355	370	531	690	2,798	5,423	4,148	4,044	4,397	29,286
Year Established : 1968	1979	4,732	3,979	2,127	585	139	271	810	2,317	5,471	5,721	4,688	4,934	35,774
	Mean	4,595	3,876	2,461	1,059	306	272	699	2,483	4,992	4,766	4,115	4,512	34,136
	1980	5,144	4,211	1,962	513	94	319	1,770	2,781	3,895	3,857	3,720	4,146	32,412
	1981	3,834	2,159	948	196	79	136	804	2,272	4,097	4,146	3,988	4,409	27,068
	1982	4,536	3,656	1,198	374	175	187	639	3,018	4,163	3,670	3,625	3,777	29,018
	1983	3,236	1,562	672	151	4	211	737	2,028	3,176	3,396	3,243	3,549	21,965
	1984	2,419	1,082	461	113	86	227	261	1,218	2,672	3,570	3,024	2,890	18,023
	1985	1,771	740	298	33	1	110	1,048	3,115	4,625	4,083	3,574	4,085	23,483
	1986	3,294	1,430	675	155	139	179	1,052	2,038	3,625	3,708	3,471	3,553	23,319
	1987	2,726	1,243	613	219	105	482	541	1,505	2,769	3,457	3,166	3,423	20,249
	1988	2,578	1,169	496 500	208	148	415	1,262	3,079	6,978	5,746	4,001	4,166	30,876
	1989 Moon	2,944	1,251	596 700	233	145	225	1,034	2,901	4,317	4,006	3,390	3,530	24,572
	Mean	3,248	1,850	792	220	98	249	915	2,459	4,032	3,964	3,520	3,753	25,100

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- Unit: MCM -

Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Note: Kaladi Dama	1970	5,245	5,193	5,791	4,628	2,870	2,515	3,002	4,486	3,657	5,826	6,066	6,507	55,786
Station : Kainji Dam	1971	4,090	3,991	3,288	2,196	2,334	4,794	3,109	3,524	2,797	2,680	2,631	2,838	38,272
River : Niger	1972	4,384	2,781	2,983	2,846	2,822	2,647	2,495	1,509	1,355	1,404	1,427	3,570	30,223
River Basin : Niger	1973	3,430	2,848	1,780	1,440	1,662	1,645	1,747	1,662	1,590	1,643	1,966	2,506	23,919
Coordinate	1974	3,208	2,057	1,613	1,419	1,528	2,986	1,616	3,516	5,444	3,436	3,276	4,020	34,119
	1975	4,776	4,000	2,546	2,380	2,171	2,067	2,441	2,953	2,142	2,251	3,463	4,186	35,376
Lat. :	1976	4,762	4,390	3,200	2,411	2,573	2,660	2,956	2,616	2,233	1,771	1,849	1,718	33,139
- Long. : -	1977	2,270	3,509	3,907	2,991	2,471	2,181	2,653	3,280	2,771	2,811	1,997	1,664	32,505
Catchment	1978	1,694	1,539	1,680	1,526	1,536	2,088	2,187	1,723	1,668	2,401	2,416	2,522	22,980
Area (km ²) : 569,800	1979	3,173	3,020	2,259	1,764	1,962	2,155	2,760	3,873	3,336	3,455	2,647	3,321	33,725
111(u (km) . 000,000	Mean	3,703	3,333	2,905	2,360	2,193	2,574	2,497	2,914	2,699	2,768	2,774	3,285	34,005
	1980	3,706	3,891	2,337	2,440	2,090	2,082	2,326	2,139	2,606	1,803	2,416	2,270	30,106
	1981	2,034	2,045	2,039	2,012	2,184	2,126	1,948	1,900	2,178	2,584	2,059	1,353	24,462
	1982	2,900	2,439	2,182	2,448	2,637	1,958	1,905	2,549	1,570	1,654	1,782	1,922	25,946
	1983	1,498	1,464	2,123	2,044	2,085	1,753	1,962	1,989	1,557	1,704	1,378	1,139	20,696
	1984	1,270	978	1,083	1,124	1,343	1,923	1,726	1,672	1,292	1,160	1,318	1,664	16,553
	1985	1,412	1,256	1,289	1,121	1,085	997	681	737	2,025	2,680	1,873	2,910	18,066
	1986	2,752	1,578	1,806	1,834	1,855	2,015	1,747	1,648	1,261	1,509	1,852	1,696	21,553
	1987	1,860	1,733	1,847	1,717	1,613	1,966	1,522	1,367	1,238	1,182	1,598	1,812	19,455
	1988	2,080	1,399	1,227	2,069	1,118	844	871	1,621	4,191	3,865	2,362	3,323	24,970
	1989	2,278	1,437	1,592	1,997	2,208	1,497	1,605	1,763	1,823	1,139	2,248	2,806	22,393
	Mean	2,179	1,822	1,753	1,881	1,822	1,716	1,629	1,739	1,974	1,928	1,889	2,090	22,422

TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSRIVER NIGER (2/8)

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS

RIVER NIGER (3/8)

		e de la companya de la companya de la companya de la companya de la companya de la companya de la companya de l							1	and the second second	· · ·	•			
Stati	ion Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station River River Basin Coordinate – Lat. – Long. Catchment Area (km ²)	 Jebba Power Station Niger Niger 09°09' 04°50' 631,800 	1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	- - 1,568 2,747 2,034 2,117 2,656 2,224	- 983 1,307 1,566 1,721 1,336 1,483 1,339	- 1,139 1,294 1,750 1,873 1,402 1,538 1,499	- 1,137 1,204 1,655 1,637 2,178 1,927 1,623	- 1,402 1,209 2,072 1,656 1,203 2,240 1,630	- - 1,616 938 1,987 2,367 956 1,857 1,620		- 2,326 1,503 2,002 1,852 2,179 2,785 2,108	- 2,062 3,890 1,639 2,380 6,452 3,515 3,323	- 2,144 3,599 2,031 2,064 4,872 3,929 3,107	- 1,186 1,860 2,126 1,831 2,587 1,790 1,897	- 1,378 2,843 1,769 1,849 3,061 2,458 2,226	- - - - - - - - - - - - - - - - - - -

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- Unit: MCM -

- Unit: MCM -

Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Baro	1960							£.				· .		
liver : Niger	1961	-		-	3,445	1,117	640	2,989	6,958	11,949	12,712	5,215	; 4,272	-
	1962	4,438	4,192	4,101	1,664	485	920	3,252	6,910	18,787	20,217	9,891	5,560	80,417
River Basin : Niger	1963	4,987	4,701	5,327	4,764	2,178	1,332	3,959	11,030	15,013	16,060	8,424	4,901	82,676
Coordinate	1964	4,794	4,618	4,848	3,097	1,270	1,760	2,089	8,041	17,649	16,228	6,638	4,968	76,000
- Lat. : 08°35'	1965	4,832	4,674	5,362	4,207	1,993	1,840	3,035	8,330	14,277	13,890	6,262	4,912	73,614
– Long. : 06°23'	1966	4,939	4,413	4,722	2,589	1,366	2,499	3,385	7,877	16,000	15,570	6,578	4,837	74,77
Catchment	1967	4,885	4,701	5,100	2,862	1,184	495	2,893	6,814	15,531	17,680	7,361	5,346	74,85
Area (km²) : 730,300	1968	5,547	5,598	6,152	5,039	2,654	2,748	6,792	15,444	14,310	8,019	5,202	4,733	82,23
Year Established : 1914	1969	4,489	4,821	4,052	2,991	3,115	2,042	5,542	9,356	15,549	11,038	8,186	5,373	76,55
real Established : 1914	Mean	4,864	4,715	4,958	3,406	1,707	1,586	3,771	8,973	15,452	14,602	7,084	4,989	76,10
	1970	5,481	5,435	6,097	5,245	3,106	3,103	4,701	9,728	14,864	10,396	4,538	3,934	76,62
	1971	4,023	4,160	3,409	2,126	2,439	2,896	5,084	10,699	13,885	8,927	3,271	2,873	63,79
	1972	3,776	3,954	2,865	2,515	2,835	3,663	3,985	6,298	9,239	4,934	1,572	3,004	48,64
	1973	3,339	2,720	1,603	1,103	1,364	1,660	2,396	6,378	8,850	6,700	2,362	2,517	40,99
	1974	2,980	1,970	1,410	1,098	1,704	1,712	2,951	6,660	13,937	12,703	4,711	4,339	56,17
	1975	4,470	4,266	2,760	- 2,393	2,608	2,655	5,438	6,587	11,538	9,978	4,631	4,411	61,73
	1976	4,762	4,516	3,516	2,427	2,948	3,851	5,046	5,097	5,835	10,015	6,115	2,299	56,42
	1977	2,013	3,202	4,178	3,015	2,969	3,872	3,446	4,283	9,176	9,072	2,414	1,860	49,50
	1978	1,629	1,425	1,522	1,562	1,916	3,271	5,116	6,759	11,862	9,273	4,766	2,543	51,64
	1979	3,007	2,732	2,077	1,797	2,190	2,958	5,719	11,143	15,177	10,350	4,470	3,806	65,42
	Mean	3,548	3,438	2,944	2,328	2,408	2,964	4,388	7,363	11,436	9,235	3,885	3,159	57,09
	1980													· • • • • • • • • • • • • • • •
	1980	2,191	2,035	2,108	2,061	2,676	2,854	1 000		10 100	0.007	0.001	0.000	52,73
	1982	2,807	2,035	2,108	2,001	2,010	2,695	4,883 3,817	7,813 5,625	12,177	8,397	3,201	2,338	42,16
	1983	1,623	1,398	2,078	2,449	2,199	2,095	2,866	3,782	6,555	5,951	2,841	2,178	26,93
	1984	1,023	1,004	1,002	1,050	2,002	1,991	2,885		4,588	2,290	1,192	991	25,14
	1985	1,438	1,004	1,002	1,122				3,838	4,044	4,042	1,566	1,304	49,12
	1986	3,996	2,189	1,797	1,122	1,267	1,361	2,266	7,186	13,808	11,375	3,385	3,452	39,86
	1987	2,244	1,923	2,705	3,248	2,084	2,522	2,689	3,447	7,366	6,693	3,139	2,188	44,04
	1988	2,244 2,464	1,923	1,888	3,248 4,256	2,914 4,339	3,123 3,301	2,571 2,303	3,766	8,839	7,430	2,659	2,625	54,63
	1989	2,404	1,863	1,000	4,256 2,216	4,339 4,537	3,301	2,303	3,669	11,288	11,972	3,473	3,766	07,00
· · ·	Mean	2,323	1,803	1,852	2,216	4,037 2,673	2,482	2 0 2 5	7,679	12,807	7,907	3,953	4,095	43,34
	Mean	4,040	1,100	1,004	6,200	2,013	4,404	3,035	5,201	9,052	7,340	2,823	2,549	20,03

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS RIVER NIGER (4/8)

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- Unit: MCM -

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Station Par	rticulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
· · · · · · · · · · · · · · · · · · ·		1960	5,992	5,003	4,998	4,025	3,367	4,476	14,932	29,594	47,988	60,114	23,649	8,927	213,065
Station	: Lokoja	1961	6,803	5,412	5,287	4,093	2,619	2,867	13,920	21,858	32,081	41,617	12,250	5,946	154,753
River	: Niger	1962	5,499	4,570	4,553	3,219	3,086	5,656	12,918	26,736	52,711	62,439	25,529	11,233	218,149
River Basin	: Niger	1963	7,162	5,620	5,903	4,940	4,502	4,717	11,279	31,546	50,671	55,071	23,160	7,529	212,100
Coordinate		1964	6,257	4,865	5,102	4,025	3,112	4,904	11,308	22,402	44,645	55,794	22,576	8,793	193,783
- Lat.	: 07°49'	1965	6,717	5,690	5,917	4,795	3,501	5,135	12,417	29,623	48,247	43,511	14,111	7,317	186,981
– Long.	: 06°44'	1966	6,013	5,092	5,156	3,427	3,755	11,825	16,536	25,469	49,510	53,796	18,274	8,308	207,161
· <u> </u>	, 00.14	1967	6,192	5,221	5,394	3,445	2,488	3,463	12,634	24,673	42,055	52,850	17,193	7,958	183,566
Catchment	1 000 500	1968	6,707	5,813	6,409	5,568	4,749	10,205	20,150	36,831	48,955	42,013	13,294	20,720	221,414
Area (km²)	: 1,089,500	1969	5,909	5,458	4,835	4,243	5,359	6,905	21,095	39,689	61,010	58,244	28,113	10,304	251,164
Year Established	: 1914	Mean	6,325	5,274	5,355	4,178	3,654	6,015	14,719	28,842	47,787	52,545	19,815	9,704	204,213
· · ·		1970	775	6,712	7,142	6,173	4,412	5,927	10,961	28,598	52,388	46,500	13,805	6,846	190,239
	: . :	1970	5,856	5,219	4,371	3,392	3,559	5,037	13,628	32,341	45,679	36,470	8,993	5,041	169,586
		1972	5,509 5,509	5,218	3,874	3,672	4,177	8,176	11,958	21,749	36,161	27,549	8,051	5,052	141,146
	•	1972	4,736	3,767	2,580	2,172	2,795	3,481	6,193	20,820	31,838	26,229	7,746	4,423	116,780
		1973	4,389	3,014	2,427	2,157	3,636	4,718	12,791	23,485	41,354	45,972	15,467	7,405	166,815
		1975	6,592	5,485	3,637	3,363	3,880	4,602	12,866	29,218	38,952	52,661	15,230	8,067	184,553
		1976	6,832	6,248	4,824	3,389	4,652	7,670	14,543	26,380	27,271	32,409	24,578	5,629	164,425
		1977	3,507	4,671	5,968	4,271	4,096	5,085	10,614	18,546	36,088	40,703	9,400	3,985	146,934
		1978	3,209	2,735	2,894	3,008	4,217	8,695	16,147	27,151	44,181	41,897	17,739	6,106	177,979
	· · · ·	1979	4,761	4,674	3,893	3,364	8,216	16,711	29,590	29,597	46,320	32,696	12,417	6,979	199,218
		Mean	4,617	4,774	4,161	3,496	4,364	7,010	13,929	25,789	40,023	38,309	13,343	5,953	165,768
	Ĩ		5,619	2,993	3,606	3,553	3,839	5,938	10,821	35,702	38,355	61,089	12,726	3,506	187,747
		1980 1981	3,791	3,439	3,518	3,423	4,746	6,020	16,564	29,213	46,601	34,474	9,952	4,479	166,220
		1981	4,717	4,037	3,289	3,993	4,608	5,067	13,245	20,331	29,906	29,463	10,299	4,233	133,188
			3,220	2,585	3,607	3,372	3,903	4,653	9,144	17,724	23,665	14,548	3,412	2,303	92,136
ļ.		1983 1984	2,303	2,386	2,340	3,235	3,011	4,354	9,449	15,940	22,125	18,569	2,070	4,015	89,797
		1984	3,070	2,826	2,966	2,686	5,612	4,487	11,834	22,935	41,246	32,885	9,017	5,805	145,369
		1985	5,320	3,035	3,199	3,270	3,837	5,369	9,470	17,089	29,360	29,627	10,889	4,405	124,870
	· · · ·	1980	4,053	2,994	4,443	5,056	5,525	6,523	8,091	14,107	30,477	28,730	6,514	4,280	120,793
		1988	3,872	3,185	2,878	5,723	5,117	4,924	7,557	16,664	40,077	41,936	9,399	7,081	148,413
		1989	6,324	4,661	2,859	3,833	8,400	6,361	12,681	25,515	42,259	41,403	10,464	5,792	170,552
			4,229	3,214	3,271	3,814	4,860	5,370	10,886	21,522	34,407	33,272	8,474	4,590	137,909
		Mean	4,440	3 0,017	1 0,014	0,017	-,000	1	1	1 5	1 1	I	1	L	

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS RIVER NIGER (5/8)

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Year Jan. 970 6,181 971 5,870 972 4,572 973 4,824 974 4,371 975 6,229 976 7,071 977 3,486 978 4,956 979 3,265 1ean 5,083	Feb. 3,938 4,494 4,299 4,025 3,223 5,259 6,498 4,910 4,282 4,709 4,564	Mar. 3,992 4,876 4,596 4,278 2,796 - 5,450 5,891 4,652 4,854 4,598	Apr. 7,957 4,546 4,322 4,035 2,223 3,285 4,178 4,438 4,540 4,448 4,397	May 7,311 4,466 4,452 - 4,079 5,405 4,536 5,817 5,319 5,173	Jun. 7,922 4,503 7,363 4,030 	Jul. 9,062 11,738 10,609 12,555 14,806 11,375 15,546 16,856	Aug. 25,599 30,347 19,434 19,143 22,375 28,267 24,309 18,520 25,840 27,336	Sep. 50,445 45,924 36,185 32,453 40,581 37,964 27,808 35,129 43,814 45,760	Oct. 46,995 35,308 27,146 26,115 46,454 53,004 32,087 53,448 42,662	Nov. 12,438 8,462 8,718 8,425 16,248 15,657 12,521 11,010 18,574	Dec. 6,177 5,033 5,223 - 7,372 1,590 7,513 5,924	Annual 188,017 165,567 136,919 - - 156,191 164,315 -
971 5,870 972 4,572 973 4,824 974 4,371 975 6,229 976 7,071 977 3,486 978 4,956 979 3,265 1ean 5,083	4,494 4,299 4,025 3,223 5,259 6,498 4,910 4,282 4,709	4,876 4,596 4,278 2,796 5,450 5,891 4,652 4,854	4,546 4,322 4,035 2,223 3,285 4,178 4,438 4,540 4,540 4,448	4,466 4,452 - 4,079 5,405 4,536 5,817 5,319	4,503 7,363 4,030 5,650 8,545 5,648 9,402	11,738 10,609 	30,347 19,434 19,143 22,375 28,267 24,309 18,520 25,840	45,924 36,185 32,453 40,581 37,964 27,808 35,129 43,814	35,308 27,146 26,115 46,454 53,004 32,087 53,448 42,662	8,462 8,718 8,425 16,248 15,657 12,521 11,010	5,033 5,223 - 7,372 1,590 7,513 5,924 -	165,567 136,919 - - 156,191
972 4,572 973 4,824 974 4,371 975 6,229 976 7,071 977 3,486 978 4,956 979 3,265 1ean 5,083	4,299 4,025 3,223 5,259 6,498 4,910 4,282 4,709	4,596 4,278 2,796 	4,322 4,035 2,223 3,285 4,178 4,438 4,540 4,540 4,448	4,452 - 4,079 5,405 4,536 5,817 5,319	7,363 4,030 5,650 8,545 5,648 9,402	10,609 	19,434 19,143 22,375 28,267 24,309 18,520 25,840	36,185 32,453 40,581 37,964 27,808 35,129 43,814	27,146 26,115 46,454 53,004 32,087 53,448 42,662	8,718 8,425 16,248 15,657 12,521 11,010	5,223 - 7,372 1,590 7,513 5,924 -	136,919 - - 156,191
973 4,824 974 4,371 975 6,229 976 7,071 977 3,486 978 4,956 979 3,265 1ean 5,083	4,025 3,223 5,259 6,498 4,910 4,282 4,709	4,278 2,796 	4,035 2,223 3,285 4,178 4,438 4,540 4,448	4,079 5,405 4,536 5,817 5,319	4,030 5,650 8,545 5,648 9,402	12,555 - 14,806 11,375 15,546	19,143 22,375 28,267 24,309 18,520 25,840	32,453 40,581 37,964 27,808 35,129 43,814	26,115 46,454 53,004 32,087 53,448 42,662	8,425 16,248 15,657 12,521 11,010	7,372 1,590 7,513 5,924	- - 156,191
974 4,371 975 6,229 976 7,071 977 3,486 978 4,956 979 3,265 1ean 5,083	3,223 5,259 6,498 4,910 4,282 4,709	2,796 5,450 5,891 4,652 4,854	2,223 3,285 4,178 4,438 4,540 4,448	4,079 5,405 4,536 5,817 5,319	5,650 8,545 5,648 9,402	– 14,806 11,375 15,546	22,375 28,267 24,309 18,520 25,840	40,581 37,964 27,808 35,129 43,814	46,454 53,004 32,087 53,448 42,662	16,248 15,657 12,521 11,010	1,590 7,513 5,924 -	
975 6,229 976 7,071 977 3,486 978 4,956 979 3,265 1ean 5,083	5,259 6,498 4,910 4,282 4,709	5,450 5,891 4,652 4,854	3,285 4,178 4,438 4,540 4,448	4,079 5,405 4,536 5,817 5,319	8,545 5,648 9,402	– 14,806 11,375 15,546	28,267 24,309 18,520 25,840	37,964 27,808 35,129 43,814	53,004 32,087 53,448 42,662	15,657 12,521 11,010	1,590 7,513 5,924 -	
976 7,071 977 3,486 978 4,956 979 3,265 1ean 5,083	6,498 4,910 4,282 4,709	5,450 5,891 4,652 4,854	4,178 4,438 4,540 4,448	5,405 4,536 5,817 5,319	8,545 5,648 9,402	11,375 15,546	24,309 18,520 25,840	27,808 35,129 43,814	32,087 53,448 42,662	12,521 11,010	7,513 5,924 -	
977 3,486 978 4,956 979 3,265 Iean 5,083	4,910 4,282 4,709	5,891 4,652 4,854	4,438 4,540 4,448	4,536 5,817 5,319	5,648 9,402	11,375 15,546	18,520 25,840	35,129 43,814	53,448 42,662	11,010	5,924	
978 4,956 979 3,265 1ean 5,083	4,282 4,709	4,652 4,854	4,540 4,448	5,817 5,319	9,402	15,546	25,840	43,814	42,662		-	164,315
979 3,265 Iean 5,083	4,709	4,854	4,448	5,319	1 -	-	-			18,574	-	-
1ean 5,083	4		1 (T) (T		11,014	16,856	27.336	45 760			0 000	
	4,564	4,598	4.397	5 172				10,100			6,092	
				0,110	7,120	12,818	24,117	39,606	40,358	12,450	5,616	165,900
980 5,306	1 - 1	4,704	4,303	6,312	6,876	12,267	26,305	49,531	35,430	12,251	-	_
.981 -	1,600	3,697	3,681	5,369	6,846	15,633	27,606	44,917	35,435	10,026	-	_
982 5,520	4,732	4,026	4,396	4,942	5,079	11,502	19,244	28,084	39,010	11,040	6,346	143,921
983 6,277	5,811	5,858	5,694	5,903	5,894	9,227	14,492	22,338	15,417	6,101	5,995	109,007
									-			
							22.607					149,766
												140,905
	-						-					133,163
		1 -		· •								
					6.665				•		•	-
			1 1			,* (-,,				147,292
	984 6,064 985 6,906 986 6,848 987 6,673 988 6,164 989 -	984 6,064 5,477 985 6,906 5,955 986 6,848 5,999 987 6,673 6,006 988 6,164 5,683 989 - 5,390	984 6,064 5,477 5,918 985 6,906 5,955 6,693 986 6,848 5,999 6,592 987 6,673 6,006 6,670 988 6,164 5,683 5,816 989 - 5,390 5,981	984 6,064 5,477 5,918 5,895 985 6,906 5,955 6,693 6,504 986 6,848 5,999 6,592 6,495 987 6,673 6,006 6,670 6,441 988 6,164 5,683 5,816 5,888 989 - 5,390 5,981 5,878	984 6,064 5,477 5,918 5,895 6,135 985 6,906 5,955 6,693 6,504 6,724 986 6,848 5,999 6,592 6,495 6,805 987 6,673 6,006 6,670 6,441 6,760 988 6,164 5,683 5,816 5,888 6,314 989 - 5,390 5,981 5,878 6,685	984 6,064 5,477 5,918 5,895 6,135 6,110 985 6,906 5,955 6,693 6,504 6,724 7,027 986 6,848 5,999 6,592 6,495 6,805 6,881 987 6,673 6,006 6,670 6,441 6,760 6,350 988 6,164 5,683 5,816 5,888 6,314 -	984 6,064 5,477 5,918 5,895 6,135 6,110 9,870 985 6,906 5,955 6,693 6,504 6,724 7,027 11,376 986 6,848 5,999 6,592 6,495 6,805 6,881 9,198 987 6,673 6,006 6,670 6,441 6,760 6,350 8,298 988 6,164 5,683 5,816 5,888 6,314 - 8,173	984 6,064 5,477 5,918 5,895 6,135 6,110 9,870 - 985 6,906 5,955 6,693 6,504 6,724 7,027 11,376 22,607 986 6,848 5,999 6,592 6,495 6,805 6,881 9,198 16,621 987 6,673 6,006 6,670 6,441 6,760 6,350 8,298 13,058 988 6,164 5,683 5,816 5,888 6,314 - 8,173 15,038	984 6,064 5,477 5,918 5,895 6,135 6,110 9,870 - 20,798 985 6,906 5,955 6,693 6,504 6,724 7,027 11,376 22,607 26,310 986 6,848 5,999 6,592 6,495 6,805 6,881 9,198 16,621 27,582 987 6,673 6,006 6,670 6,441 6,760 6,350 8,298 13,058 29,925 988 6,164 5,683 5,816 5,888 6,314 - 8,173 15,038 39,083 989 - 5,390 5,981 5,878 6,665 11,745 23,950 42,893	984 6,064 5,477 5,918 5,895 6,135 6,110 9,870 - 20,798 17,914 985 6,906 5,955 6,693 6,504 6,724 7,027 11,376 22,607 26,310 32,426 986 6,848 5,999 6,592 6,495 6,805 6,881 9,198 16,621 27,582 30,255 987 6,673 6,006 6,670 6,441 6,760 6,350 8,298 13,058 29,925 28,485 988 6,164 5,683 5,816 5,888 6,314 - 8,173 15,038 39,083 43,240 989 - 5,390 5,981 5,878 6,665 11,745 23,950 42,893 42,357	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	9846,0645,4775,9185,8956,1356,1109,870-20,79817,9148,6477,1369856,9065,9556,6936,5046,7247,02711,37622,60726,31032,4269,7067,5329866,8485,9996,5926,4956,8056,8819,19816,62127,58230,25510,6416,9889876,6736,0066,6706,4416,7606,3508,29813,05829,92528,4858,0756,4229886,1645,6835,8165,8886,314-8,17315,03839,08343,24010,4046,440

TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSRIVER NIGER (6/8)

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-	U	nit	ł:	M	Ċľ	N	•

													- VI	
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	Мау	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station: OnitshaRiver: NigerRiver Basin: NigerCoordinate- Lat.: 06°10'- Long.: 06°45'CatchmentArea (km²): 1,100,800Year Established: 1914	1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 Mean	7,358 5,539 7,714 6,798 7,170 6,584 6,914 	5,409 4,739 6,154 5,492 5,010 5,255 5,711 	5,520 4,642 6,760 5,609 5,560 5,534 5,816 - - - 5,634	4,474 3,494 5,174 4,717 5,347 3,955 - - 4,527	2,973 3,241 5,266 3,736 4,063 4,213 - - 3,915	3,069 5,848 5,270 5,772 5,474 11,397 - - 6,138	14,611 14,686 10,010 11,316 13,467 17,069 - - - 13,527	15,371 25,204 30,716 22,900 29,853 24,526 	30,400 49,227 48,636 39,279 46,687 45,153 - - - 43,230	43,000 67,710 57,722 59,752 47,609 57,848 - - 55,607	14,907 34,246 29,378 26,563 16,705 21,780 - - - 23,930	6,867 12,580 9,390 9,873 8,073 9,144 - - - 9,321	153,959 231,156 222,190 201,807 195,018 212,458
	1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 Mean	- 6,078 4,583 4,398 3,781 6,478 6,705 *3,480 3,484 - 4,873	- 5,201 4,850 3,603 2,585 5,097 5,549 4,480 2,234 - 4,200	4,564 3,642 2,854 2,031 3,232 4,620 4,220 2,128 3,411	3,574 3,616 1,987 1,738 2,748 3,124 2,810 2,673 2,784	- 3,591 4,478 2,466 3,543 3,645 4,371 3,473 4,752 - 3,790	6,698 5,385 10,425 3,393 5,242 4,968 8,203 4,703 9,858 	11,361 13,944 13,931 6,561 15,541 12,508 15,587 11,620 16,643 	26,103 31,482 22,986 21,014 24,602 28,810 24,568 19,648 26,494 - 25,079	- 46,102 38,539 31,906 50,091 35,183 28,446 34,133 41,233 46,734 39,152	- 43,076 30,908 30,748 51,804 53,975 32,141 42,231 46,139 35,684 40,634	- 11,818 11,839 10,518 20,404 19,358 29,759 14,082 21,355 15,483 17,180	5,741 5,534 5,183 8,991 8,935 *9,420 4,945 9,115 7,903 7,307	- 180,556 155,331 124,631 190,353 184,937 172,493 149,825 185,108 - 168,029
	1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	5,414 4,044 4,612 4,942 *3,810 2,471 3,465 3,420 2,919 	4,230 5,019 2,889 3,938 3,896 3,270 1,825 2,405 2,333 2,485 3,416 3,148	3,457 2,648 3,026 4,234 3,110 1,734 2,407 3,055 - 2,156 2,870	2,815 2,489 3,958 4,362 3,340 2,082 2,720 3,582 3,002 2,092 3,044	3,733 4,360 4,714 4,912 2,937 2,476 2,986 3,929 3,505 7,486 4,140	6,680 6,408 6,459 6,050 5,965 4,960 5,152 4,856 4,737 6,882 5,815	12,044 17,492 14,737 11,792 12,800 11,430 7,984 9,535 8,764 14,196 12,077	28,740 28,982 21,652 11,269 19,264 26,658 *17,600 15,161 16,635 25,922 21,188	43,406 46,462 30,101 26,195 27,205 38,314 29,363 30,243 - 41,184 34,719	39,474 39,991 31,546 22,078 22,282 35,304 32,792 32,640 - 42,881 33,221	20,842 18,089 17,014 4,823 8,974 7,327 9,205 13,828 	5,907 5,569 8,766 2,492 3,795 5,454 5,119 3,398 - 5,063	177,531 179,423 150,523 107,045 116,752 140,035 121,198 125,980

TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSRIVER NIGER (7/8)

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- Unit:	MCM -
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TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSRIVER NIGER (8/8)

River : Niger River Basin : Niger Coordinate - Lat. : 05°32' - Long. : 06°31'													:::
- Lat. : 05°32' - Long. : 06°31'	1975 8					. * I							
Area (km ²) : 1,112,800 Vear Established : 1954	1977 6 1978 4	,273 7, ,590 6, ,942 3,	700 5,893 ,679 7,357 ,031 7,282 ,942 4,001 ,895 5,473	5,662 5,636 4,232	6,362 6,888 5,617 6,652 5,867	7,234 10,026 6,762 11,243 10,184	13,842 16,463 12,735 17,672 17,755	31,490 25,824 19,856 27,612 30,271	35,996 30,142 36,224 42,142 45,729	50,489 34,269 45,614 45,927 38,908	22,064 31,070 15,183 23,686 16,441	11,098 10,238 6,912 9,637 10,428	206,28 194,89 174,44 201,68 198,78
	1980 8 1981 6 1982 7 1983 6 1984 4 1985 5 1986 8 1987 10 1988 1989	,960 5, ,332 6, ,317 4, ,342 3, ,132 4, ,212 5, ,063 5,	420 6,132 486 5,454 328 5,448 593 5,162 ,674 3,532 ,196 4,183 ,651 5,684 ,813 6,598 ,395 5,274	5,154 5,931 5,001 3,898 4,626 5,996 6,532	6,244 7,131 7,174 5,657 5,140 5,154 6,566 7,512 6,322	8,583 8,876 8,578 7,374 7,490 7,135 8,420 8,026 8,060	13,255 18,082 15,378 12,304 11,929 13,649 12,258 11,280 13,517	29,649 29,855 21,496 16,804 18,781 22,989 18,728 15,608 21,739	44,115 45,455 32,160 25,162 24,566 39,052 29,593 31,725 33,979	41,218 41,484 34,269 20,639 23,238 38,128 34,690 34,111 33,472	18,003 15,123 15,651 7,793 11,365 13,613 14,794 11,549 13,486	9,616 8,115 8,587 5,306 6,692 9,286 8,865 -	197,6(197,17 168,33 122,11 124,64 167,14 159,45

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Unit: MCM -

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-I(1/11)

													•	
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station Particulars Station : Gusau River : Sokoto River Basin : Sokoto - Rima HA : I SHA : 1041 Coordinate - Lat. : 12°10' - Long. : 06°40'	1970 1971 1972 1973 1974 1975 1976 1977 1978	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	19 11 9 1 7 12 81 81 81 14	31 25 18 14 14 5 130 35 53	57 76 16 73 200 75 125 22 104	236 242 85 80 246 113 104 91 66	114 168 9 34 170 214 51 97 58 166	14 1 6 1 48 0 1 12 13 13	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0	471 523 143 203 685 419 492 338 308 600
Catchment Area (km ²) : 2,570	1979 Mean 1980 1981 1982 1983 1983 1984 1985	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	69 30 14 1 42 2 31 18	101 43 13 13 45 72 34 36	108 86 81 22 51 48 51 111	143 141 131 252 166 148 57 170	166 108 80 57 120 71 64 92	13 11 12 13 29 0 30 44	0 0 0 0 0 0 0	0 0 0 0 0 0 0	419 331 358 453 341 267 471
	1985 1986 1987 1988 1989 Mean				- - - 0	18	36	61	154	81	21		- - - 0	371

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-Unit:MCM-

· · · ·									;					-t	Init:MCM-
Station	Particulars	Year	Jan.	Feb.	Mar.	Apr.	Мау	Jun,	Jul,	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station River River Basin	: Bakolori Dam : Sokoto : Sokoto - Rima	1970 1971 1972	0 0 0	0 0 0	0 0 0	0 0 0	17 9 0	53 32 0 168	289 249 47 465	448 373 172 232	248 402 42 117	80 0 0 2	0 0 0	0 0 0 0	1,135 1,065 261 984
HA SHIA	: I : 1042	1973 1974 1975	0	0	0	0 0	47 20	28 8	290 127	324 191	494 362 93	10 0	0	0 0	1,193 708 890
Coordinate – Lat. – Long.	: 12°31' : 06°10'	1976 1977 1978 1979	0 0 0 0	0 0 0	0	0 0 0 0	146 126 20 132	235 54 78 193	227 34 153 206	189 141 97 274	151 85 319	0 19 20 25	0	0 0 0 0	525 453 1,149
Catchment Area (km²)	: 4,800	Mean 1980 1981	0 0 0	0	0 0 0	0 0 0	52 21 2	85 20 21	209 124 35	244 200 403	231 123 92	16 19 20	0 0 0	0 0 0	837 507 573
		1982 1983 1984	0 0 0	0 0 0	0 0 0	0 4 0	74 0 41	80 112 45	90 74 67	293 231 76	211 110 85	50 0 40	0 0 0	0 0 0	798 531 354
. :		1985 1986 1987	0 - -	0	0	0 - -	32	64	198 -	304 - -	165	78 - -	-	0	841
	• •	1988 1989 Mean	- - 0	· - - 0 ·	0	- - - 1 -	28	57	98	251	131	35	- - 0	- 0	- - 601

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TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA - I (2/11)

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-I (3/11)

· ·											11			I		Init:MCM-
Station	Particulars	Y	Tear	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station River River Basin HA SHA Coordinate – Lat. – Long. Catchment Area (km ²)	: Wamako : Sokoto : Sokoto - Rima : I : 1052 : 13°02' : 05°06' : 40,160	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	970 971 972 973 974 975 976 977 978 977 978 979 1ean 1980 1981 1982 1983 1984 1985 1985	4 4 0 11 1 3 1 0 1 3 0 0 0 0 0 0 0 0	3 3 0 1 1 1 1 1 1 1 1 0 0 1 0 0 0 0 0 0	3 3 0 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0	0 2 3 1 1 1 1 1 0 3 0 1 0 0 0 0 0 0 0 0 0 0	1 2 4 1 1 5 1 0 18 3 4 0 - 0 0 0 0 0	$ \begin{array}{c} 11\\ 16\\ 61\\ 20\\ 8\\ 51\\ 39\\ 4\\ 92\\ 6\\ 31\\ 13\\ -71\\ 128\\ 33\\ 153\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\$	117 171 90 150 196 173 120 98 286 72 147 91 - 121 195 210 475	773 576 273 315 717 508 251 354 432 523 472 605 - 465 441 343 819	801 658 194 137 662 568 119 571 485 611 481 340 - 297 267 161 422	$\begin{array}{c} 427\\ 103\\ 17\\ 5\\ 248\\ 153\\ 78\\ 62\\ 145\\ 5\\ 124\\ 7\\ -\\ 10\\ 2\\ 36\\ 0\\ -\\ -\end{array}$	9 9 3 1 6 11 18 2 1 3 6 2 - 0 0 0 0 0 0 0 -	5 5 2 1 3 3 3 1 0 0 2 0 0 0 0 0 0 0 0 0 0 0	2,154 1,552 647 644 1,845 1,476 635 1,095 1,462 1,224 1,224 1,273 1,058 964 1,033 783 1,869
		-1	1988 1989	-	-	- 0		-	80	218	535	297	11	- - 0 -	-	- 1,141
		^	lean	0	l	ļ	· · · ·	L	L]]		1		
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-Unit:MCM-

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-I (4/11)

	:													-1	Jnit:MCM-
Station F	Particulars	Year	Jan.	Feb.	Mar.	Apr.	Мау	Jun.	Jul,	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
River River Basin HA SHA Coordinate – Lat. – Long. Catchment	: Funtua Yashi Road : Karaduwa : Rima : I : 1021 : 12°14' : 07°50' : 425	1970 1971 1972 1973 1974 1975 1976 1976 1977 1978 1979 Mean	0 0 0 0 0 - 0	0 0 0 0 0 0		0 0 0 0 0 0 - 0	0 0 0.8 0 0	10.9 2.3 0.4 1.5 2.2 0 - 2.9	23.8 4.2 28.8 25.6 6.3 6.5 15.9	30.0 10.8 13.5 32.4 5.6 28.3	8.3 45.7 5.6 20.7 2.5 13.1 16.0	0 0.1 0 0 0 0 -	0 0 0 0 0 - 0	0 0 0 0 0 - 0	73.0 63.1 48.3 81.0 16.6 47.9 55.0

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS

HA-I (5/11)

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Si	tation Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station	: Zobe	1970 1971	0.5	0.2	0	0	0.4 1.5	3.7 19.0	31.7 23.4	137.1 74.4	108.2 60.1	2.6 1.1	0.5 0.1	0.1 0.0	285 180
River	: Karaduwa/ Bunshuru	1972	0	Ő	Ő	0	9.1	13.3	14.3 13.3	30.8	14.9 1.0	1.9 0.1	0.4 0.0	0.4 0.0	85 25
River Basin		1973 1974	0.2	0.1 0	0,1	0.1 0	0.7	3.8 1.0	64.1	6.0 99.3	32.6	3.7	0.9	2.7	205
НА	:1	1975 1976	0.4 0.2	0 0.1	0	0.1	5.7 1.5	3.6 8.0	63.3 11.7	93.1 18.8	91.1 15.9	2.3 12.0	0.3 3.6	0.2 1.6	260 74
SHA Coordinate	: 1022	1977	1.0	0.6	0.4		-	-	-	-	-	-	-	-	-
– Lat		1978 1979	-	-		-	-	-	-	-		-	-	-	-
– Lon Catchment	ng. : 07°23'	Mean	0.3	0.1	0,1	0.1	2.7	7.5	31.7	65.6	46.3	3.4	0.8	0.7	159
Area (km²)	: 2,380											54 			

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-Unit:MCM-

TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA - I (6/11)

						1.1					-				THUI WICHY
Station Particulars	T	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station: Jibiya DamRiver: MaradiRiver Basin: RimaHA: ISHA: 1010Coordinate- Lat.: 13°01'- Long.: 07°14'CatchmentArea (km²): 3,200		1970 1971 1972 1973 1974 1975 1976 1976 1977 1978 1979 Mean	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 - - 0	0 0 0 0 0 0 0 0 0	0 0 0 0 1.6 0 0 -	0 1.3 0 0 1.0 0 0 -	0 37.2 1.9 7.5 14.2 7.8 13.7 11.8	13.9 40.7 45.3 3.5 15.5 14.7 6.7 44.7	13.7 4.7 4.9 1.3 3.9 14.5 6.7 7.3	0 0 0.5 0 0.3 - 0	0 0 0 0 0 0 0 0 - 0	0 0 0 0 0 0 0 0 0 0 0 0	45.4 88.7 6.7 27.4 46.0 21.2 66.0 42.0

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS

HA-L(7/11)

	2	· .	· · · · ·	1.1		1997 - 19	1								
Statio	n Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station River River Basin HA SHA Coordinate – Lat. – Long. Catchment Area (km ²)	: Kaura Namoda : Gagore : Rima : I : 1030 : 12°36' : 06°35' : 6,500	1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 Mean	0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	16 7 34 2 30 26 19 23 20	54 12 55 40 79 45 80 111 - 60	183 158 80 191 280 222 105 104 	316 302 133 109 284 195 160 - - 214	276 307 32 22 107 189 93	4 1 8 78 2 70 - 23	0 0 0 5 - - 1	0 0 0 0 0 0 0 - - - 0	849 787 335 371 863 679 532

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-Unit:MCM-

-Unit:MCM-

TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-I (8/11)

	Dantlaida	Vee	1	12.1	N	٨	16	Tun	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station	n Particulars : Goronyo Dam	Year 1970 1971	Jan. 1 2	Feb. 1 2	Mar. 1 2	Apr. 1 1	May 0 1	Jun. 0 2	35 64	346 250	542 362	240 59	5 5	0 3	1,172 753
River River Basin	: Rima : Sokoto - Rima	1972	2	2	2	2	0	12	31 101	207 211	178 92	16 3	2 2	· 1	455 425
HA	: I	1973 1974	0	0	0	0	0	15 5	101	392	361	135	4	- 3	1,007
SHA	: 1052	1975	0	• 0	0	0	0	32 28	97 81	285 169	319 80	86 52	7 12	2 4	830 424
Coordinate	100002	1976 1977	0	0	0	0	0	3	58	209	338	- 37	0	0	645
– Lat. – Long.	: 13°27' : 05°44'	1978	0	0	0	0	0	64 6	162 41	244 303	273 354	80 3	02		823 709
Catchment		1979 Mean	0	0 1	0	0	0	17		262	290	71	4	1	726
Area (km²)	: 21,450	1980	0	0	0	0	0	7	54	360	202	5	1	0	629
		1981 1982	. 0	0	- 0	0	0	41	69	266	170	5	- 0	0	- 551
		1983	0	0	0	0	0	73	111	251	152	1	0	0	588 453
		1984 1985	0	0	0	25 2 2 0 0 1	0 0	19 85	122 264	199 456	93 235	20 0	0 0	0	403 1,040
		1986	-	· -	-	- < 1		· -	· -	-	-	-	-	-	-
		1987 1988	-	-	· -	-	-	-	-	-	-	-	-	-	-
1 4. 		1989 Mean	0	-0	- 0	0	- 0	45	124	306	170	6	- 0	- 0	- 651
		Mean		••••	l	l	· · · ·				<u> </u>	J	l		I
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-Unit:MCM-

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-I (9/11)

						· ·	•		· · · .				-U	nit:MCM-
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
	1970	0	0	0	0	0	50	201	312	229	2	0	0	794
Station : Anka	1971	Ŏ	Ő	0	0	0	19	101	308	263	31	0	0	722
River : Zamfara	1972		Ũ	Ō	0.	14	- 41	62	114	96	. 17	0	0	344
River Basin : Sokoto - Rima	1973	Ŏ	Ō	Ō	- 0	0	117	119	227	183	17	0	0	663
HA :I	1974	· · · 0	0	0	0	0	80	220	371	378	59	0	· 0	1,108
SHA : 1082	1975	0	0	0	0	33	25	95	143	207	1	0	0	504
	1976	0	0	0	0	119	191	185	154	76	0	0	0	725
Coordinate	1977	0	0	· . O	0	119	51	32	134	143	18	0	0	497
- Lat. : 12°07'	1978	• 0		0	0	20	- 78	153	97	85	20	0	0	453
– Long. : 05°55'	1979	0	0	0	. 0	102	149	159	211	246	19	0	0	886
Catchment	Mean	0	0	0	0	41	80	133	207	191		0		670
Area (km²) : 4,140	1980	0	0	0	0	20	19	119	192	118	. 18	0	0	486
	1981	0	0	0	0	2	19	32	371	85	18	0	0	527
	1982	0	0	· . · O	0	62	67	75	245	176	. 42	0	0	667 437
	1983	0	0	: 0	0	23	127	122	120	45	: 0	0	0	437 530
	1984	0	· 0	· 0	0	0	72	113	199	108	38	0	0	030
	1985	-	-	-	-	-	-	-	-			۰	-	-
	1986	-	-	. . .	-	. +	-	-	-	-	-	-	-	
	1987	-	-	·	-	-	. -			-		-	-	
	1988		· ·	-	· -		-		-		î. .	•	-	
	1989	-	1 a 🔸	e ≠ - 1	-	-					-	-		528
· ·	Mean	0	0	0	0	21	61	92	225	106	23	0	0	020

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Statio	n Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station River River Basin HA SHA Coordinate - Lat. - Long. Catchment	: Banaga Dam : Gulbinka : Sokoto - Rima : I : 1091 : 11°39' : 05°58'	1970 1971 1972 1973 1974 1975 1976 1976 1977 1978 1979		0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0	11 29 21 16 39 16 54 36 0 84 31	62 98 51 41 98 70 65 26 49 110 67	161 195 82 141 230 88 63 155 83 167 137	236 211 142 61 223 231 35 188 196 208 173	44 22 19 16 105 62 33 36 79 51 47	6 7 5 9 10 31 13 13 13 17 12	0 0 0 0 0 0 0 0 0 0 0 0 0	520 562 320 280 704 477 281 454 420 637 467
Area (km ²)	: 3,170	Mean 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	0 0 0 0 - - - - 0	0 0 0 0 - - - - 0	0 0 0 0 - - - - 0	0 0 0 0 - - - - - 0	0 0 0 0 - - - - - 0	14 15 46 45 33 - - - - 31	111 25 72 46 70 - - - - - - - - - - - - - - - - - -	136 285 135 97 125 - - - 156	72 65 143 43 89 - - - - - - - - - - - - - - - - - -	10 14 23 6 26 - - - - - 16	4 0 5 1 1 - - - 2	0 0 0 0 - - - - - 0	347 404 424 238 344 - - - - 352

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-I (10/11)

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TABLE 6	MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS	
	HA-I (11/11)	

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1												:		-0	Init:MCM-
Station	Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station River River Basin HA SHA Coordinate – Lat. – Long. Catchment Area (km ²) Year Established	: Malendo Bridge : Malendo : Niger : I : 1111 : 10°42' : 04°48' : 9,954 : 1959	1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	0 0 0 0 0 0 0 0 0	- 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0	2 0 4 0 0 0 0 0 1	37 6 111 23 14 60 122 198 71	185 8 63 85 85 409 52 425 164	180 169 130 276 290 55 100 545 218	405 505 215 300 460 204 282 1,065 430	104 83 148 115 426 132 533 1,090 329	112 14 46 40 41 24 27 626 116	0 0 0 4 0 121 16	- 0 0 0 0 0 0 0 0 0 0	1,025 786 717 839 1,320 884 1,116 4,070 1,345

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-Unit:MCM-

TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-II (1/13)

Station Particulars	Year	Jan.	Feb.	Mar,	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station: Kaduna SouthRiver: KadunaRiver Basin: NigerHA: IISHA: 2122Coordinate- Lat.: 10°29'- Long.: 07°26'CatchmentArea (km²): 18,420Year Established: 1944	1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 Mean 1980 1981 1982 1983 1984 1985 1986 1987 1988 1987 1988 1989 Mean	12 10 14 16 21 13 21 15 9	5 5 6 5 9 12 8 7 3	5 10 3 6 2 15 3 6 7	13 10 18 47 19 8 - 10 18 5	210 21 217 317 152 66 120 158 164	368 215 251 307 351 33 - 170 242 356	628 489 612 943 901 16 - 828 631 863	2,017 1,947 1,455 1,872 1,230 88 - 1,301 1,416 1,455	1,492 1,543 2,413 2,585 1,249 1,294 1,527 1,729 1,141	532 403 342 667 1,035 454 459 556 335	138 78 160 200 357 40 - 101 153 86	24 18 29 34 93 16 	4,746 5,522 6,995 5,414 2,047 4,570 4,965 4,447

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TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-II (2/13)

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		:											- Ur	nit : MCN
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annua
tation : Wuya	1970	-		-	-	•	464	1,076	6,017	9,605	1,979		321	
iver : Kaduna	1971	000			89	253	520	911	4,951	4,861	1,666	395	133	
liver Basin : Niger	1972 1973	263	95	82		106	178	597	3,397	3,522	1,451	266	99	\
IA : II	1974	1997 - E				339	-	774	-	· ·	-	394	-	
HA : 2143	1975	107	90	84	83	⁵ 341	364	1,766	3,553	9,433	3,136	535	247	19,7
	1976	150	-	-	102	327	639	1,235			4,051 7,383	1,226 401	-	
'oordinate - Lat. : 09°12'	1977	117	86	72	62	122	672	5,944	4,886	11,910 20,354	8,426	2,623	_	
– Long. 05°52'	1978	120 264	100 162	110 133	119	416	890	7,130	13,983	16,037	8,324	828	-	
Catchment	1979 Mean	170	102	96	91	272	532	2,429	6,131	10,817	4,552	834	200	26,2
Area (km²) : 59,180	1980	140	25	118	110	301	603	4,115	9,247	9,653	3,379	484	125	28,3
	1981	140		-	17	271	491	1,567	3,590	6,249	1,852		-	
	1982	·	29	24	20	14	21	1,370	3,513	3,977	2,335	64	- 	6.2
	1983	25	24	21	18	32	133	80	1,868	3,398	691	10	35 28	6,3
	1984	25	24	23 20	21 23	20 30	80	124	4,866	7,002	4,699	976	48	17,9
	1985 1986	23 24	18 33	33	31	35	65	-	.,	7,436	1,841	193	63	
	1987	63	60	32	-	-	150	-	516	6,003	2,798	51	36	
	1988	33	29	30	-	· - :	712	163	1,608	12,871	2,824	74	54	1 11 0
	1989	46	40	43	43	43	135	141	2,633 3,480	5,083 6,852	3,301 2,636	153 251	26 52	11,6
	Mean	47	31	38	35	93	266	1,080	3,400	0,002	2,000		L	
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- Unit : MCM -

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-II (3/13)

Station	n Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station River River Basin HA SHA Coordinate - Lat. - Long. Catchment Area (km ²) Year Established	: Shiroro Hydropower : Kaduna : Niger : II : 2130 : : : 36,100 : 1984	1980 1981 1982 1983 1984 1985 1986 1987 1938 1989 Mean	34 9 20 15 21 20	15 7 20 13 22 15	41 65 25 9 39 36	94 88 90 101 58 86	60 312 391 217 623 736 390	283 683 229 433 339 283 375	400 867 755 660 326 797 634	844 2,729 1,788 1,572 2,007 2,272 1,869	1,110 3,031 3,391 2,218 4,062 2,560 2,729	720 770 1,107 864 973 1,032 911	183 128 155 148 22 68 117	35 13 17 25 47 65 34	8,717 8,002 6,292 8,537 7,953 7,216

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS

HA-II (4/13)

Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Saminaka River : Karami River Basin : Kaduna HA : II SHA : 2112 Coordinate - Lat. : 10°22' - Long. : 08°40' Catchment Area (km ²) : 630 Year Established : 1966	1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 Mean 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	4 1 0 2 2 4 10 5 3 3 4	1 1 0 2 1 2 7 5 3 2 3	1 0 0 2 1 2 6 5 3 2 3	1 1 1 1 3 4 5 - 3 2 2	18 15 20 5 8 13 14 7 7 12 17	16 11 17 30 8 5 20 14 - 8 14 365	60 24 57 31 16 86 81 23 - 70 50 74	166 249 164 110 78 86 94 38 - 60 116 102	141 231 62 46 87 127 115 54 - 38 100 51	9 12 24 9 25 147 50 14 - 12 34 25	3 2 5 3 6 25 20 7 - 5 8 11	1 1 2 2 9 14 6 - 3 4 7	421 548 351 237 237 505 420 191 - 215 347 664

- Unit : MCM -

- Unit : MCM -

TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-II (5/13)

	 ;			<u>, </u>	1	1	r <u></u>		<u> </u>			·····		
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul,	Aug.	Sep.	Oet.	Nov.	Dec.	Annual
Station: Zaria-Kano BridgeRiver: ShikaRiver Basin: KadunaHA: IISHA: 2111Coordinate- Lat.: 11°09'- Long.: 07°45'	1970 1971 1972 1973 1974 1975 1976 1976 1977 1978 1979	0.1 0.2 0.1 0.3 0.2 0.3 0.3	0.1 0.1 0.2 0.2 0.2 0.2 0.3	0.1 0.1 0.1 0.1 0.1 0.2 0.2	0.5 0.2 0.0 0.3 0.1 0.0	3.0 0.1 0.1 2.3 0.8 0.0 -	2.4 3.8 4.0 4.8 9.0 5.7	3.0 8.6 30.7 0.0 37.3 - 24.9	52.6 30.8 9.5 27.0 37.9 - 45.8	27.5 32.4 56.3 57.1 27.4 - 43.5	15.0 0.9 17.8 7.5 17.0 0.1 - 6.0	0.1 0.1 0.5 0.5 2.4 0.1 - 2.2	0.1 0.1 0.2 0.2 0.3 0.2 - 0.7	77 120 100 133 132
Catchment Area (km ²) : 845	Mean	0.2	0.2	0.1	0.2	1.2	5.0	17.4	33.9	40.7	9.2	0.8 5.2	0.3	109 129
	1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	9.9	7.1	4.6	3.7	0.0	10.1	16.8	21.9	31.2 	15.2	0.2	3.5	

TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-II (6/13)

Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun,	Jul.	Aug.	Sep.	Oct.	· Nov
Station : Malendo Road	1970											1940 - 1 ⁴
River : Tubo	1971					1.0	94	16	239	168	46	
River Basin : Kaduna HA : I	1972 1973	-	- 0	-	Ó Ž	16	34	24	129	162	40 118	
SHA : 2091	1973	6	6	4	2	6	8	48	272	464	13	
Coordinate	1975	3	2	1	3	23	B B 16 .	· · 88	217	478	81	· 1
- Lat. : 10°35'	1976	3	4	2	_ 1 - 4	5 15	42	134	183	96	156	1 4
Long. : 07°13'	1977	4	2	1	2 N 1	1	21	= = 24	91	286	57	1.1
Catchment	1978	1	1	÷ 1 .	¹ . 8	19	75	129	202	313	121	4
Area (km ²) : 5,900	1979	1990 - Ali	A 🖕			1997 - 1 997	•	2 - L	10 (Ch. +	-	a service of the	
Year Established : 1959	Mean	3	3	2	1 a 1 1 3	12	29	· · · 66	190	281	85	1

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ov.	Dec.	Annual
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12	б	19. an 19. a n
б	4	460
8	3	840
13	б	930
42	8	689
4	2	494
41	10	921
	•	e provinsi se p
18	5	697

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-II (7/13)

								· · · · · · · · · · · · · · · · · · ·						
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun,	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Ribako River : Galma River Basin : Kaduna HA : II SHA : 2111 Coordinate - Lat. : 10°25' - Long. : 07°45' Catchment Area (km ²) : 6,650 Year Established : 1962	1970 1971 1972 1973 1974 1975 1976 1976 1977 1978 1979 Mean 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	0 0 2 3 3 2 3 2 2	- 1 0 1 2 1 1 1 1 1 1 1	- 1 0 1 9 1 1 2 1	1 0 1 6 4 1 1 2 1	25 2 16 40 12 5 	58 23 9 29 49 33 58 37 5	85 93 135 151 133 45 270 130 121	121 369 285 340 248 138 678 311 300	235 419 424 593 196 365 581 402 229	74 203 162 161 224 95 165 155 50	8 20 27 81 12 - 28 29 13	1 20 8 15 3 9 9 9 3	1,120 1,073 1,358 968 710 1,815 1,097 747

TABLE 6	MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS	
	HA-II (8/13)	

Station	n Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annua
Station River River Basin HA SHA Coordinate – Lat. – Long. Catchment Area (km ²)	: Komi : Kontagora : Niger : 11 : 2031 : 09°53' : 04°38' : 2,250	1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	2.7 6.7 7.0 10.4 9.9 10.2 7.8	2.4 5.8 6.6 7.6 7.5 8.5 6.4	2.7 9.4 6.5 7.5 6.1 7.8 6.7	17.1 6.7 12.7 6.2 7.1 7.3 9.5	16.6 11,3 13.9 7.5 6.7 7.2 10.5	30.3 9.6 16.4 39.6 11.4 18.7 21.0	37.0 22.3 30.0 35.0 14.7 15.3 25.7	23.2 110.5 36.3 55.4 26.5 75.6 54.6	42.0 59.4 130.4 68.2 109.9 80.3 81.7	15.7 30.7 46.5 31.3 33.4 55.9 35.6	6.5 10.7 19.1 13.0 12.2 16.8 13.1	5.4 8.7 11.1 10.7 11.3 12.1 9.9	20 22 33 25 28 31 31 28

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- Unit : MCM -

- Unit : MCM -

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-II (9/13)

Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station Particulars Station : Kachia River : Shaho River Basin : Niger HA : II SHA : 2161 Coordinate - - Lat. : 09°54' - Long. : 07°56' Catchment Area (km²) Area (km²) : 128	Year 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 Mean 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989	0.5 1.1 1.4 0.7 0.9 0.9 1.4 1.0 1.4	0.3 0.6 1.1 0.5 0.7 0.7 1.1 0.7 1.1	0.2 0.4 1.4 0.3 0.4 0.7 1.1 0.6 1.0	0.1 0.4 2.5 1.8 0.7 0.8 - 1.1 1.1 1.3	3.4 1.7 5.5 4.4 2.1 2.2 4.4 3.4 2.8	5.5 2.9 3.6 5.4 1.9 5.5 3.3 4.0 7.0	14.3 7.5 15.7 11.3 7.9 7.1 7.7 10.2 6.7	21.9 17.4 10.1 10.6 7.1 5.9 8.8 11.7 7.5	7.1 11.2 14.8 15.6 7.4 6.7 7.2 10.0 3.4	3.7 4.6 4.4 4.5 9.5 4.6 4.7 5.1 3.5	1.5 2.3 2.1 1.6 2.5 1.2 2.7 2.0 1.5	0.8 1.5 1.5 0.9 1.5 1.1 1.7 1.3 1.0	50.5 62.3 60.0 42.1 37.1 45.2 51.1 38.2

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- Unit : MCM -

TABLE 6	MONTHLY RUNOFF AT	SELECTED RIVER	GAGING STATIONS
	HA-	ll (10/13)	

Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station Particulars ation : Kachia ver : Gurara ver Basin : Niger A : II IA : 2161 sordinate - - Lat. : 09°52' - Long. : 07°59' atchment : 562	Year 1970 1971 1972 1973 1974 1975 1976 1976 1977 1978 1979 Mean 1980 1981 1982 1983 1984 1985 1986 1987 1988	Jan. 2.1 0.8 2.1 2.5 5.6 2.8 1.0 2.4 1.1	Feb. 1.5 0.5 1.4 2.0 3.6 1.8 0.6 1.6 0.5	Mar. 1.9 0.5 1.5 0.9 3.4 5.2 0.5 2.0 0.2	Apr. 1.2 4.0 2.9 3.7 16.6 2.8 1.2 4.6	May 15.8 4.4 16.6 12.5 10.2 6.6 8.5 10.7 8.5	Jun. 2.1 12.6 11.2 14.3 18.5 19.2 - 3.8 11.7 21.1	Jul. 4.5 24.1 47.8 61.1 33.9 25.6 - 68.6 37.9 53.0	Aug. 66.5 67.2 65.7 55.7 43.5 30.0 	Sep. 61.8 80.9 94.4 76.6 41.6 44.0 55.8 65.0 62.2	Oct. 20.7 26.9 19.6 21.6 34.9 30.5 - 43.2 28.2 38.9	Nov. 5.3 4.3 5.7 5.5 10.2 6.1 - 9.1 6.6 9.4	Dec. 3.0 1.1 3.1 3.3 6.8 3.9 2.3 3.4 2.7	Annual 231 269 259 222 181 233 227

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TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-II (11/13)

							1					:		
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Izom River : Gurara River Basin : Niger IIA : II SHA : 2162 Coordinate - Lat. : 09°15' - Long. : 07°02' Catchment Area (km²) : 7,650	1970 1971 1972 1973 1974 1975 1976 1976 1977 1978 1979 Mean 1980 1981 1982 1983 1984 1985 1985 1986 1987 1988 1989 Mean	17 15 22 21 25 9 106 9 41 29 31 38	7 6 9 8 11 10 87 3 25 18 4 19	5 9 4 3 8 8 69 17 17 17 16 0 88	15 34 24 23 25 34 11 142 73 44 43 14 17	91 76 162 51 164 102 126 279 146 264 146 70 166	156 178 432 121 164 185 257 223 328 271 232 271 197	418 469 689 261 624 594 516 497 696 697 546 826 580	1,176 1,308 1,645 1,127 866 1,126 740 571 774 952 1,029 840 936	1,550 1,335 814 1,023 1,748 1,395 676 980 2,071 1,255 1,285 1,072	419 619 447 443 623 1,068 1,017 749 991 897 727 596	89 119 85 123 126 114 291 87 186 136 160	29 29 36 47 49 17 21 72 69 41 63	4,196 4,364 3,254 4,421 4,679 3,811 4,718 4,248 3,947

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- Unit : MCM -

TABLE 6	MONTHLY RU	JNOFF AT	SELECTED	RIVER	GAGING	STATIONS
		HA-II	(12/13)			

Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station: EbbaRiver: JatauRiver Basin: NigerHA: IISIIA: 2141Coordinate- Lat.: 09°15'- Long.: 06°34'CatchmentArea (km²): 1,890	1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 Mean	4 3 4 1 0 2 0 2 2 2 2 2 2	3 2 2 0 0 1 1 2 1	3 2 1 0 0 1 0 0 1 2 1	2 2 3 0 0 2 0 0 1 2 1	3 5 3 0 1 2 0 3 1 4 2	4 4 5 1 6 2 10 4 5 7 5	8 36 29 3 10 47 20 4 16 35 21	47 130 73 47 44 58 26 98 138 154 82	238 225 130 70 162 181 66 242 263 124 170	88 69 50 46 143 152 106 160 93 50 94	15 13 7 8 17 22 46 19 28 18 19	6 6 2 2 4 3 4 7 8 8 5	421 497 309 178 387 473 278 540 557 408 405
	1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	3	2	2	2	3	4	8	65	174	85	21	6	375

TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-II (13/13)

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Station	Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul,	Aug.	Sep.	Oct.	Nov.
Station	: Badeggi	1970	. 14	8	7	6	10	13	23	265	676	309	49
River	: Gbako	1971	13	10	14	13	25	34	136	363	605	236	78
River Basin	: Niger	1972	17	13	12	. 11	21	31	127	333	457	172	40
HA	: II	1973	13	10	. 9	8	8	15	. 58	202	330	211	36
SHA	: 2141	1974	4 -	. 3	3	3	. 7	23	44	162	450	319	50
Coordinate		1975	5	4	4	6	8	9	140	144	444	463	50
– Lat.	: 09°05'	1976	7	6	- 5	4	6	38	56	103	147	272	195
- Long.	: 06°07'	1977	5	4	4	4	7	13	30	233	462	392	61
Catchment		1978	5	4	4	14	14	28	87	336	569	314	105
Area (km²)	: 5,480	1979	6	5	6	4	5	45	71	367	465	236	51
	•	Mean	9	8	7	7	- 11	25	77	251	461	292	72

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Dec.	Annual
31	1,411
23	1,550
16	1,250
6	906
12	1,080
16	1,293
26	865
11	1,226
21	1,501
13	1,274
18	1,238
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TABLE 6	MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS	
	HA-III (1/13)	

The second seco second second sec														-	
Station Particulars	-	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station: Mbu / TepkwRiver: DongaRiver Basin: BenueIIA: IIISHA: 3140Coordinate- Lat.: 06°42'- Long.: 11°08'CatchmentArea (km²): 2,120	ar	1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	44 40 58 30 34 25 20 24 22 33	33 34 34 24 20 16 20 19 16 24	32 59 27 52 42 51 40 43 24 41	49 60 42 88 66 40 98 50 -	104 99 61 63 74 50 69 54 72	110 120 102 108 113 70 296 54 	191 244 160 232 171 140 217 107 183	227 278 236 261 203 230 358 108 238	359 269 234 399 209 280 482 226 307	211 312 100 210 163 170 370 107 205	79 100 61 97 67 60 44 41 - 69	41 63 46 39 36 30 29 30 39	1,480 1,678 1,161 1,603 1,198 1,162 2,043 863 - 1,395

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-III (2/13)

的复数形式运行

Aug. Oct. N Jul. Sep. Year Feb. Mar. Apr. May Jun. **Station Particulars** Jan. 1980 Station : Manya 87 219 276 1,098 1,713 2,251 1,664 124 60 53 1981 River : Donga 1,877 60 440 1,192 1,755 2,129 60 67 161 1982 97 **River Basin** : Benue 303 602 1,283 2,115 867 69 122 1983 115 63 46 1,259 1,927 1,435 301 1,065 144 HA 29 59 120 : III 1984 56 1,316 1,470 479 1,006 1,959 59 84 199 224 113 SHA 1985 : 3122 1,630 1,720 1,980 320 770 110 180 1986 --Coordinate 1,827 2,485 2,009 70 103 108 471 1,377 90 50 1987 : 07°19' - Lat. 2,100 1,536 298 718 1,361 137 145 201 1988 94 58 : 10°15' - Long. 86 44 67 1989 ۰. . -1,541 2,086 1,582 Catchment 361 979 112 170 Mean 97 53 73 : 6,350 Area (km²) i.

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-Unit:MCM-

	-{	Joit:MCM-
lov.	Dec.	Annual
482	167	8,194
523	184	8,545
206	103	5,894
441	176	7,012
451	179	7,539
740	190	- 1
-	185	-
453	174	7,275
	-	
471	170	7,695
	÷	Sector Sector

11-1-1-1-1-1-1-1

Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun,	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Donga River : Donga River Basin : Benue HA : III SHA : 3113 Coordinate - Lat. : 07°43' - Long. : 10°05' Catchment Area (km ²) : 11,910 Year Established : 1955	1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 Mean	512 343 241 316 402 466 429 434 362 389	319 242 261 242 317 370 315 264 291	311 410 256 268 354 386 322 311 327	355 383 394 412 456 407 282 440 360 388	563 370 429 579 555 807 442 614 646 556	938 536 917 562 1,036 764 1,158 619 1,158 1,127 882	1,252 2,080 1,509 978 2,350 1,771 1,847 1,150 1,868 1,645	2,503 4,473 2,010 1,651 2,208 2,101 2,894 1,525 1,948 2,368	3,165 3,535 3,898 2,912 4,198 3,450 2,707 4,103 3,126 3,455	3,532 3,138 3,792 4,698 3,776 4,545 4,133 3,205 3,852	1,204 1,083 894 1,725 1,303 2,098 829 1,388 1,189 1,301	632 300 619 702 734 541 549 726 600	15,286 18,651 15,951 18,419 16,054

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-III (3/13)

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-III (4/13)

															Init:MCM-
Statio	n Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station River River Basin HA SHA Coordinate – Lat. – Long. Catchment Arca (km ³)	: Gindin Dorowa : Donga : Benue : III : 3122 : 08°05' : 10°03' : 18,800	1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	493 447 416 348 356 - - - 412	329 319 270 248 238 - - - 281	311 368 240 308 253 - - - 296	354 369 264 413 385 - - - - 357	740 576 418 518 409 	837 976 737 1,407 796 - - - 951	2,347 2,208 1,380 1,085 1,612 - - - 1,726	3,529 2,860 2,223 1,864 2,641 - - - 2,623	4,368 3,641 3,547 3,801 3,533 3,533	3,761 4,119 2,057 1,882 2,946 - - 2,953	1,385 1,491 793 635 1,319 - - 1,125	648 676 481 118 580 - - - 501	19,102 18,050 12,826 12,627 15,068

-Unit:MCM-

м.						· · · · · ·								-0	In the second
Statio	n Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station River River Basin HA SHA Coordinate – Lat. – Long. Catchment Area (km ²)	: Suntai Bakundi : Suntai : Donga : JII : 3122 : 07°41' : 10°27' : 2,600	1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	30 26 22 3 29 - - - 22	6 3 4 1 6 - - - 4	2 4 1 23 - - 6	3 4 1 4 16 - - - 6	82 39 54 29 38 - - - 48	167 174 118 134 144	496 476 179 475 406	725 492 254 511 472 491	854 504 623 698 790	620 675 249 479 389 - - - -	175 202 68 158 199 - - - 160	67 74 19 64 55 - - 56	3,227 2,673 1,592 2,557 2,567 - 2,522

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-III (5/13)

TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-III (6/13)

					an an a								-	- [Jnit:MCM-
Station Particulars	Y	lear	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station: BantajiRiver: SuntaiRiver Basin: DongaHA: IIISHA: 3121Coordinate- Lat.: 08°10'- Long.: 10°10'CatchmentArea (km²): 5,350		980 981 982 983 984 985 986 986 987 988 1989 4ean	43 14 12 4 13 - - 17	8 4 1 5 - - 4	4 2 1 2 - - 3	2 3 2 1 5 - 3	36 13 24 18 11 - - 20	117 91 95 71 70 - - 89	438 430 243 340 376 - - - 365	725 488 297 514 595 524	1,037 856 701 877 922 - - - 879	843 712 405 619 641 - - 644	209 266 60 246 250 - -	50 58 13 29 19 - - - - - - - - - - - - - - - - - -	3,512 2,939 1,858 2,721 2,909 - - 2,788

63.

-Unit:MCM-

													•	DISCONCIAL.
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station: BaliRiver: TarabaRiver Basin: BenueHA: IIISIIA: 3111Coordinate- Lat.: 07°52'- Long.: 10°58'CatchmentArea (km²): 10,850Year Established: 1958	1980 1981 1982 1983 1984 1985 1986 1987 1988 1987 1988 1989 Mean	35 40 - 53 50 41 - 8 15 - 35	28 25 30 34 21 5 10 - 22	29 20 19 31 19 3 3 - 67 27	28 28 19 67 129 10 10 10 18 39	94 33 215 71 20 16 35 69	196 697 226 197 276 100 10 56 220	931 1,053 537 535 1,175 580 127 247 - 648	2,330 1,679 1,173 1,750 1,049 1,300 297 485 1,258	2,598 2,332 2,119 2,278 3,178 1,700 801 1,681 2,086	2,250 1,924 821 1,380 1,021 1,170 791 1,337	652 863 204 344 208 400 611 440 465	261 126 84 197 37 50 71 - 118	9425 5,318 7,078 7,225 2,750

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-III (7/13)

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAUGING STATIONS HA-III (8/13)

					-				:				·	· -(Jnit:MCM
Station Parti	iculars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
River Basin : Be IIA : III SHA : 31 Coordinate - Lat. : 08 - Long. : 10 Catchment	raba nue 13 °26'	1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	105 189 212 62 161 193 8 128 - 132	38 105 163 30 93 161 5 73 84	23 102 106 22 95 149 3 83 - 73	27 115 96 61 180 10 81 	300 218 189 168 177 20 64 - 162	467 397 399 261 379 100 405 344	2,067 1,851 739 1,168 1,052 580 1,153 - 1,230	2,318 2,790 1,554 2,113 3,436 1,300 - 2,252	4,838 4,578 2,975 2,930 6,977 1,700	3,803 3,956 1,038 2,101 3,312 1,170 2,248 2,518	742 801 229 569 417 400 536 528	306 306 119 233 305 50 249 - 224	15,034 15,408 7,819 9,718 16,584 5,833 - - - 11,628

-Unit:MCM-

TABLE 6	MONTHLY	RUNOFF A	SELECTED	RIVER	GAGING	STATIONS	
		HA	ill (9/13)				

				· · · · · ·												
Station	Particulars		Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
			1970	96	19	0	3	56	300	1,110	2,605	3,781	2,230	963	214	11,377
Station	: Gassol	1	1971	24	2	3	3	- 3	140	1,067	820	2,393	1,986	329	-	-
River	: Taraba		1972	3	ก	i õ	5	62	461	1,107	1,549	3,170	2,860	899	188	10,304
River Basin	: Benue		1973	16	2	Õ.	Õ	16	148	796	1,597	2,650	1,822	464	29	7,540
HA	: 111		1974	0	ō -	0	5	289	756	: 1,533	2,023	2,673	2,801	862	276	11,218
		$\sum_{i=1}^{n} a_i \leq 1$	1975	67	27	13	18	83	220	445	1,193	2,292	2,404	461	941	8,164
SHÀ	: 3112		1976	850	440	21	23	182	404	1,343	2,149	2,292	3,323	1,696	488	13,211
Coordinate	·		1977	188		19	0	40	243	1,034	635	2,877	2,948	730	212	-
- Lat.	: 08°31'		1978	72	29	21	96	324	857	1,619	1,954	3,092	2,227	1,218	306	11,815
- Long.	: 10°31'		1979	110	44	48	54	316	842	1,613	2,709	2,937	2,208	1,013	437	12,331
Catchment			Mean	143	63	13	21	137	437	1,167	1,723	2,816	2,481	864	343	10,208
Area (km²)	: 20,700		1980	167	48	25	23	232	592	1,153	2,082	4,042	2,767	1,020	360	12,511
Year Established	: 1955		1981	93		11	10	169	420	1,735	2,359	-	2,936	780	221	-
			1982	82	59			252	337	-	2,200	-	2,806	948	343	-
			1983	104	28	26	23	112	358	663	1,288	2,586	1,183	273	81	6,725
			1984	22	10	30	37	178	299	936	1,586	2,677	1,961	585	222	8,543
			1985	1 -	-	11	71	- 73	313	·	2,315	-	2,589	757	113	
			1986	-	-	-	-	121	255	-	1,362	1,549	1,897	585	307	-
			1987	- 1	• -			· - · ·	-	÷ .		2,258	2,041	490	126	-
			1988	-	-	-	-	-	· –	-	-	-	-	÷	-	-
			1989		-	-	-			· -	· ·	· · · · ·	-		-	
			Mean	94	36	21	33	162	368	1,122	1,885	2,622	2,273	680	222	9,518
l			L	L		l			L	<u> </u>	I	I	L		·	

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-Unit:MCM-

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-III (10/13)

													ા	Init:MCM
Station Particulars	Ye	ear Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station: MaisamariRiver: JigwalRiver Basin: TarabaHA: IIISHA: 3111Coordinate- Lat.: 07°06'- Long.: 11°08'CatchmentArea (km²): 562	19 19	81 82 9 83 5 84 3 85 5 86 2 87 3 88 3 89 3	4 3 2 3 2 2 3 2 3 2 3	3 2 3 3 3 2 2 2 - 3	3 2 6 3 3 3 4 - 3	3 10 13 3 15 - 6 - 8	7 24 26 16 16 56 11	40 52 29 66 27 29 9 27 35	44 43 29 48 35 31 43 26 - 37	32 67 58 47 39 45 47 29 46	54 26 28 40 25 30 44 21 - 34	23 17 8 16 7 20 13 9	7 8 5 7 4 9 5 4 - 6	242 203 277 170 205 145 215

TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-III(11/13)

		14 J. N. 1	•			1		· .		-				- L	Init:MCM-
Station	n Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station River River Basin IIA SHA Coordinate - Lat. - Long. Catchment Area (km ²)	: Gombe Abba : Gongola : Benue : III : 3070 : 10°50' : 10°30' : 17,650	1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	5 8 3 13 7	5 5 3 2 4	5 5 1 3 4	10 12 3 6 3 7	67 110 	107 280 170 233 41 166	267 770 314 137 372	458 630 501 863 807 652	258 540 331 899 668 539	64 200 142 373 - 195	12 27 18 65 31	5 10 3 45 51 23	2,594 2,848 2,062

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Unit:MCM-

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-III (12/13)

	•			. 1		•	· · ·	· · · · · · ·		· · · · · · · · · · · · · · · · · · ·			-	Init:MCM-
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Dadin Kowa River : Gongola River Basin : Benue HA : III	1960 1961 1962 1963 1964												·	
SHA : 3052 Coordinate	1965 1966 1967						401	852	1,103	592	137	13	7	
– Long. : 11°29' Catchment	1968 1969 Mean	6	- 5	6	20 6	121 47	421 95	392	1,857	1,720	536	82	18 17	4,770 4,171
Area (km²) : 30,460 Year Established : 1942	1971 1972 1973 1974 1975 1976 1977 1978 1979 Mean	10 15 17 16 38 55	14 12 13 11 28 45	7 11 11 9 30 42	7 15 63 16 35	33 34 49 31 97	95 167 158 81 133	204 442 384 558 647	2,006 1,798 1,048 1,834 2,473	1,575 1,517 787 578 1,833	162 185 131 167 336	41 48 39 68 97	25 21 52 70	4,111 4,269 2,721 3,421 5,817
	1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	12 12 20 12 12 12 12 14 40 46 20	10 10 15 10 10 10 9 28 22 14	9 10 13 8 9 8 3 26 16 11	9 9 11 10 14 9 5 31 18 13	50 48 9 108 145 54 10 35 177 71	233 70 186 93 212 250 31 194 277 172	713 338 259 210 642 630 55 544 348 415	682 883 625 364 695 1,110 96 1,227 705 710	685 383 409 327 449 640 240 1,681 995 645	128 170 177 130 105 260 217 887 517 288	35 48 22 40 25 41 110 259 210 88	18 27 14 18 17 22 58 105 115 44	2,584 2,008 1,760 1,330 2,335 3,046 848 5,057 3,446 2,491

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TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-III (13/13)

Station	Particulars	:	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station	: Garkida		1970	0	0	0	0	16	23	46	332	249	86	18	13	783
			1971	11	5	0	0	3	8	126	322	199	. 0	0	0	674
River	: Hawal		1972	0	i o	5 0	0	35	44	105	113	85	- 11	3	0	396
River Basin	: Gongola		1973	Õ	Ő	0	Ö	-	52	75		49	3	0	0	
HA	: 111		1974	. 0	0	0	0	3	8	142	177	186	. 11	0	0	527
SHA	: 3032		1975	: 0	0	0	0	0	10	190	228	495	64	21	13	1,021
	. 0004		1976	· 13	10	3	· 0	0	62	91	145	93	80	23	13	533
Coordinate	100001		1977	11	7	0	0	0	52	129	431	176	86	8	5	905
- Lat.	: 10°28'		1978	5	5	0	. 0	0	60	228	268	210	40	13	5	834
– Long.	: 12°32'		1979	0	0	. 0	0	19	83	161	456	181	131	5	3	1,039
Catchment Area (km²)	:-		Mean	4	3	0	0	8	40	129	275	192	51	9	5	716
Year Established	: 1955															

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-Unit:MCM-

TABLE 6 MONT	HLY RUNOFF AT	SELECTED	RIVER	GAGING	STATIONS	
	HA	-IV (1/2)				

Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun,	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Katsina Ala Power	1970	328	181	346	933	1,547	2,627	3,499	2,920	4,268	4,743	2,168	812	24,372
	1971	337	181	302	596	985	2,255	4,329	3,707	4,821	5,806	2,065	1,218	26,602
River : Katsina Ala	1972	440	371	544	1,037	1,728	2,220	3,655	3,491	4,778	5,633	2,981	510	27,388
River Basin : Benue	1973	216	112	-	190	475	1,209	3,560	2,964	4,337	-	915	933	-
HA : N	1974	354	207	225	415	924	1,192	- 4,104	3,413	5,520	5,909	2,712	1,494	26,469
	1975	207	112	164	415	691	1,737	2,376	2,738	4,536	5,144	2,160	726	21,006
SIIA : 4052	1976	423	302	441	778	1,279	2,074	2,022	1,909	5,054	5,408	2,480	1,011	23,181
Coordinate	1977	190	104	147	415	1,279	2,168	3,033	2,566	3,749	4,017	1,840	760	20,268
– Lat. : 07°15'	1978	328	242	467	898	2,272	2,894	2,964	3,594	5,944	6,367	2,920	1,218	30,108
– Long. : 09°20'	1979	259	130	181	432	1,477	2,938	3,689	4,207	4,536	4,467	1,858	820	24,994
Catchment	Mean	308	194	313	611	1,266	2,131	3,323	3,151	4,754	5,277	2,210	950	24,488
Area (km²) : 16,770	1980	345	147	164	302	778	1,849	2,825	3,430	3,888	4,363	1,745	950	20,786
· · · · ·	1981	354	164	190	354	1,417	1,572	3,128	3,775	5,072	3,516	1,624	484	21,650
	1982	199	147	285	311	924	1,737	3,628	4,190	5,443	5,192	1,650	527	24,233
	1983	259	147	164	156	259	1,201	2,946	4,259	4,493	4,734	1,443	743	20,804
	1984	153	138	153	148	255	1,753	2,843	2,996	4,362	4,315	1,515	504	19,135
	1985	100			-	· · ·	1,285	2,964	3,586	3,468	4,275	2,953	984	~
	1986	239	41	78	192	584				-	-	-	-	-
	1987			-		1	· _	-		-	. -	-	-	-
	1988	-	_	_	_	-	· -	_``	· - ·		-	-	- 1	-
	1989	-	-	-		-		-	· -	-	-		-	-
	Mean	258	131	172	244	703	1,566	3,056	3,706	4,454	4,399	1,822	699	21,210

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS

		. <u>С.</u>		• • •	HA-IV	(2/2)	e des la composición de la composición de la composición de la composición de la composición de la composición Composición de la composición de la comp	· · ·	<u>1</u> a ta	-	:			
		t i i			· ·						÷ .		- Ur	hit : MCM -
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Sevav River : Katsina Ala River Basin : Benue HA : IV SHA : 4053 Coordinate - Lat. : 07°28' - Long. : 09°13' Catchment Area (km ²) : 22,100	1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	98 632 381 616 653 665 689 757 561	317 222 359 132 396 414 385 532 497 362	281 472 292 174 404 496 332 515 280 361	411 505 357 414 964 585 435 665 418 528	1,515 982 687 604 1,059 930 448 978 1,365 952	1,910 2,215 1,608 1,447 2,122 1,436 1,215 1,740 2,391 1,787	3,958 4,718 2,924 3,443 2,052 2,756 3,002 2,091 3,811 3,195	4,413 5,048 3,844 4,052 4,656 3,810 3,522 2,220 5,372 4,104	6,404 6,366 5,886 5,655 7,230 5,011 5,805 4,733 6,560 5,961	5,155 1,800 3,505 5,241 6,010 6,245 5,147 5,560 6,716 5,042	2,261 2,487 1,179 1,816 2,005 2,695 1,542 1,962 2,082 2,003	863 1,036 643 926 1,076 1,100 954 1,067 895 954	25,949 21,916 24,285 28,590 26,131 23,452 22,752 31,144 25,810

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- Unit : MCM -

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VI (1/7)

	· .	•	:				. îr				·		- Ur	hit : MCM ·
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Sepeteri	1980		· · ·				1.4	4,1	28.2	72.1	80.9	23.9	7.5	· ·
River : Ogun	1981		-		-	0.0	2.0	1.8	15.3	44.8	35.2	1.8	· -	
River Basin : Ogun	1982	· -	-		<u> </u>	_	1.8	0.6	-	-	32.4	10.9	-	·-
HA : VI	1983	· · ·		-	-	0.4	4.9	4.8	-	-	-	· -	· ·	
SHA : 6022	1984	-	· · ·		· -	· -	10.4	28.3	123.7	-	55.6	2.8	-	l -
Coordinate	1985			· -	-		-	22.6	64.2	94.4	105.3	56.0	4.0	
– Lat. : 08°38'	1986		-	_	- ` ,	. =	-	0.7	-	15.1	21.6	5.3	0.9	•
- Long. : 03°39'	1987	-	-	-	-		-	0.5	53.6	88.7	38.7	5.6	a •	· -
Catchment	1988		· -		-	-	1.0	63.9	87.6	123.6	110.8	16.6	0.6	
Area (km ²) : 1,060	1989	-	-		-	-	2.2	38.2	121.8	118.2	-	39.9	. 1.9	-
	Mean		-	-	-	0.2	3.4	16.6	70.6	79.6	60.1	19.9	3.0	253
			l	<u> </u>	L	<u> </u>		<u> </u>	L		<u> </u>	J	i	J

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS

HA-VI (2/7)

-								· · · ·		:					- Ui	nit : MCM -
Stat	tion Particulars	<u></u>	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station	: Ofiki Towr		1980	0.0	0.2	0.0			1.3	4.0	17.8	99.3	51.5	8.8	0.8	· ·
River	: Ofiki	•	1981	0.0	0.0	0.0			4.2	3.8	28.4	32.3	35.4	3.0	0.4	-
River Basin	: Ogun		1982	0.0	0.0	0.0			0.4	0.5	-	4.3	20.0	2.7	-	-
HA	: VI		1983	0.0	1.9	0.0	×	3.0	1.5	0.8	1,1	1.8	1.2	-	-	-
SHA	6021		1984	0.0	0.0	0.0	0.3	-	-	· · •	-	- 1		9.5	-	-
Coordinate			1985	0.0	0.0	0.0	- 10 -	-		10.1	125.6	-	-	-	-	-
- Lat.	: 08°28'		1986	0.0	0.0	0.0	-	· -	1.4	3.8	4.0	21.0	15.6	2.7	-	-
- Long.			1987	0.0	0.0	0.0	1 -	- 1 - 1	9.4	9.3	116.9	114.2	27.8	· -		. -
Catchment			1988	-	-		-	-	-	-	-		-	· :	-	1 i - 1
Area (km ²)	: 438		1989	-		-	-	-		-	-	a shekara ta	-		-	. <u>-</u>
			Mean	0.0	0.3	0.0	0.3	3.0	3.0	4.6	49.0	45.5	25.3	5.3	0.6	137
	ter and the second second second second second second second second second second second second second second s			Alexandra area deserved	.					· · · · · · · · · · · · · · · · · · ·		1		· · ·	:	. st.
			1		in er er till	and the second second	1. 1		1.1	Net State	, ÷ † .	in aller		ан. Ала	- - -	
	1999 - N. 1997 - A. 1 1997 - A. 1997 - A. 19	1 1 A	i atter	2 8 ° 2	1 (A)	14 E.A.	te settere		1.11.11		•		÷	1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 -	9	-
	$\sum_{i=1}^{n} \frac{1}{i} \sum_{i=1}^{n} \frac{1}{i} \sum_{i$			the second	- 1 - E		1.1.1	1			i			ik jeta.	e - 19	
				1.1.1.1.1.1		s Chara		1 A		$(1,2,2) \in \mathbb{R}^{n \times 2}$	4 - 4 M A A	$= \frac{1}{2} \left[1 + \frac{1}{2} \left[1 + \frac{1}{2} \right] \right]$				a galari
			1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -			$\frac{1}{2}$	s strate s	1.03	i di ku	2 2 - N 2 - 14	a state of					
	and the second sec	1 A.	a the attack		1.000	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	$(x_{i}) \in [X_{i}] \times [X_{i}]$						•			

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- Unit : MCM -

													- UI	
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station:IgannaRiver:OfikiRiver Basin:OgunHA:VISHA:6021Coordinate-LatLong.:03°14'CatchmentArea (km²):2,780	1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	2 1 - - 3 1 7 3	1 1 - - - 3 1 0 1	1 1 - - 2 1 1 1	1 2 - 0 - 1 1 1 1	7 3 2 2 1 - 2 1 5 3	38 7 7 10 - 39 17 19 20	6 6 48 268 80 175 98 97	35 3 2 215 - 185 - 296 316 150	36 4 2 382 - 267 - 138	46 13 2 365 - 268 197 296 64 156	2 16 1 119 - 166 94 47 39 61	2 6 1 23 33 2 34 13	63 - - 644

TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-VI (3/7)

TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-VI (4/7)

Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Òct.	Nov.	Dec.	Annual
		0.6	0.4	0.3	0.2	0.2	0.8	1.1	8.1	100.2	82.4	14.7	1.6	211
tation : Ilaji-Ile Road River : Oyan	1980 1981	0.8	0.4 1.6	0.4	0.2	0.9	3.1	10.7	60.8	139.3	-	5.4	3.1	·
River : Oyan River Basin : Ogun	1982	1.7	0.7	0.6	0.4	0.9	3.4	1.8	1.5	5.1	13.7	5.0	0.7	36
IA : VI	1983	0.4	0.3	-	-	-	-	5.2	2.3	10.4	50.6	1.8	0.2	-
SHA : 6021	1984	-		0.6	1.0	1.0	÷ 3.3	15.2	96.9	•	161.3	2.8	0.4	-
Coordinate	1985	- '	1	•		-	-	-	-	•		•		
– Lat. : 07°58'	1986	· -	1 . -	· · ·			1.3	0.4	106.3	162.4	48.5	3.5	0.6	
– Long. : 03°02'	1987		-			0.4	1.5	4.6	85.3	113.7	60.0	3.6	2.2	
Catchment	1988 1989	0.4 1.0	0.2	0.7	0.7	0.6	1.2	31.5	18.9	52.8	26.0	3.5	1.3	139
Area (km²) : 1,460	Mean	0.8	0.6	0.5	0.6	0.7	2.2	8.8	47.5	83,4	63.2	5.0	1.3	215

- Unit : MCM -

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- Unit : MCM -

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Station Particulars	Year	Jan,	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station: ApojeRiver: OshunRiver Basin: OshunHA: VISHA: 6052Coordinate- Lat.: 06°59'- Long.: 04°07'Catchment	1980 1981 1982 1983 1984 1985 1986 1987 1988	217 193 193 169 98 189	181 174 180 210 174	196 193 193 179 299 193	195 191 216 187	269 313 205 215 216 197	359 190 329 290 281	374 294 418 540 345	253 251 475 368 361	308 455 441 379 416	567 350 483 583 - -	306 213 285 398 399 - -	217 183 218 242 -	3,442 3,000 - - -
Area (km²) : 8,170	1989 Mean	177	184	209	197	236	290	394	342	400	496	320	215	3,460

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VI (5/7)

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS

HA-VI (6/7)

						and the state of the							•.	
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Awe-Ife Odan	1980	· · · ·		2 2 4 -	ана стала Алар		н. 			-		a sugar da		
River : Oba	1981	1.1	0.7	0.6	1.4	2.1	16.2	4.7	2.2	43.7	46.4	23.3	11.9	154
River Basin : Oshun	1982	6.9	2.6	2.0	1.2	15.9	45.4	14.2	1.7	6.0	16.6	16.7	3.8	133
HA I I I I I I I I I I I I I I I I I I I	1983	0.2	0.5		0.1	5.2	9.2	0.1	4.2	13.3	11.7	1.2	-	-
SHA : 6051	1984	-	-	-	_	1.8	1.3	14.5	23.9	43.4	21,1	1.5	0.4	
Coordinate	1985	0.5	-	-	0.3	0.6	3.6	16.6	44.8	49.6	18.0	7.1	0.4	-
– Lat. : 08°06'	1986	-	· · · -	-	-	-	-	· –	~	- 1	-		•	-
– Long. : 04°09'	1987	· · - ·		j - j	· · · ·		-	-	-			- 1	· ·	-
Catchment	1988	-	1997 y -	- 1	-		-	-	-	-	.	-		
Area (km²) ; 930	1989	-		0.1	0.6	4.4	8.1	19.7	-	9.0	20.5	22.1	1.6	-
	Mean	2.2	1.3	0.9	0.7	5.0	14.0	11.6	15.4	27.5	22.4	12.0	3,6	117

- Unit : MCM -

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VI (7/7)

Station	Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : C River Basin : C HA : V SHA : C Coordinate - Lat. : C - Long. : C Catchment	Oyo-Ogbomosho Rood Oba Oshun	1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 - 0 1 0 0 0	- - - 1 0 1	12 5 5 7	10 19 5 19 8 2 5 5 5 13 10	62 15 4 23 70 14 3 40 44 31	6 3 1 55 129 5 110 15 44 41	6 22 8 60 167 65 174 100 91 77	186 62 9 40 82 84 120 107 47 82	7 12 - 4 - 9 10 5 7 8	1 - - 1 5 - - 2	

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- Unit : MCM -

TABLE 6	MONTHLY	RUNOFF AT	SELECTED	RIVER	GAGING	STATIONS	
		HA-V	/ (1/11)				

													· · ·	
Station Particulars	Year	Jan.	Feb.	Mar.	Арг.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Ikom River : Cross	1970 1971 1972	58 425	49 297	465 874	472	713 1,084	2,502 2,640	6,379 3,793	8,280 6,222	4,776 7,165 7,690	5,923 4,145 4,983	3,029 1,542 1,370	462 833 612	32,963 30,680
River Basin : Cross HA : M	1973 1974	358 276	218 109	300 227	538 665	1,083 1,182	1,397 2,775	2,660 2,942	3,763 4,922	2,152 6,850	3,930 5,744	1,632 1,152	650 851	18,681 27,695
SHA : 7041 Coordinate	1975 1976	412 734	250 573	267 - 193	490 435 310	993 351 683	1,238	1,065 5,001	4,676 5,628	5,910 6,719 6,682	7,401 6,588 5,269	4,152	560	27,414
– Lat. : 05°29' – Long. : 08°43'	1977 1978 1979			195				3,724	6,673	4,165 5,796	5,504 3,738	1,733 1,697	533 622	-
Catchment Area (km²) : 16,900	Mean 1980	377 271	249 203	388 313	514 283	870 850	2,110 2,334	3,703 3,732	5,738 5,978	5,791 6,956	5,323 5,369	2,038 2,311	640 799	27,741 29,399 29,975
Year Established : 1953	1981 1982	476 476	236	794 406	508 574	1,652 1,365	1,881 3,011	5,388 4,883 4,950	6,298 7,134 6,709	6,443 6,892 5,843	3,717 5,010 3,152	1,875 2,038 325	707 825 694	32,931 25,423
	1983 1984 1985	460 380	241 202	114 304	305 521 -	635 715	1,995 1,618	4,950 3,162	3,263	5,036 -	4,475	825	-	-
	1986 1987	500 466	414 416	549 482	448 456	1,084 1,085	3,676 1,696	4,636 2,299	5,188 3,883	6,242 5,423	5,866 4,961	1,913 1,222	690 584	31,206 22,973 23,315
	1988 1989 Mean	338 322 410	138 131 255	201 115 364	306 355 417	627 839 984	1,380 1,585 2,131	2,838 2,852 3,860	4,363 5,282 5,344	5,219 5,973 6,003	5,757 5,408 4,857	1,494 1,469 1,497	654 544 687	23,315 24,875 26,809

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TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-VII (2/11)

													- Un	it : MCM
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Adonatam	1970							·				х. 1		
River : Cross	1971 1972					$\frac{1}{2} = \frac{1}{2} \sum_{i=1}^{n} \frac{1}{2} \sum_{i=1$					•			
River Basin : Cross	1973		· · · ·						i i i i i i i i i i i i i i i i i i i					
IA : W	1974					: 049	1 110	1,278	1,748	2,041	2,253	1,445	1,238	14,57
SHA : 7042	1975 1976	677 1,035	555 866	638 1,045	647 1,565	947 3,422	1,110 2,977	1,410	7,719	5,401			1,000	
Coordinate	1977	- 1,055		1,040	1,000	1,932	4,642	6,864	6,602	7,743	6,256	2,824	1,571	N
– Lat. : 06°09'	1978	946	-	-	-		-	- 8 010	7,116	5,307	6,761 3,937	3,781 2,849	577 1,545	
– Long. : 08°28'	1979 Mean	-	-		1,415	1,444	2,431	5,818	7,110	0,001	. 0,001	<i>D</i> ,040	1,010	
Catchment	1980	762	248	344	372	1,005	2,577	4,382	7,321	7,849	7,135	4,645	1,025	37,60
Area (km ²) : 18,900	1981	-	1,044	1,129	1,570	3,172	2,597	3,780	7,686	7,849	5,746	2,355	1,108	1.1
(ear Established : 1973	1982	904	659	838	1.000	1,450	2,522 2,549	4,021 5,330	7,233 7,817	7,849 7,822	6,418	2,609 2,947	1,746 1,677	41,19
	1983 1984	1,273 1,149	1,014 977	1,055 1,326	1,260 2,123	2,030 2,242	3,043	4,375	6,513	7,439	5,739	1,523	837	37,2
	1985	606	-	514	798	1,984	2,619	3,496	4,020	7,110	4,556	2,434	1,449	
· · · · · · · · · · · · · · · · · · ·	1986	915	816	1,502	-	2,476	3,388	5,242	5,302	6,494	4,667	3,858	1,981	
	1987 1988	1,062	565	456	294	-			1 -	-	· -	-	-	1 .
	1989	-		-	-	-		-	-		-	0.010	1 402	36,9
	Mean	953	760	896	1,070	2,051	2,756	4,375	6,556	7,487	5,710	2,910	1,403	30,9/

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TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VII (3/11)

Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station: ObubraRiver: CrossRiver Basin: CrossHA: WI	1970 1971 1972 1973 1974	441 533 481 393	214 362 185 160	318 613 219 230	1,099 1,240 542 715	2,274 816 1,531 1,225 1,616	4,909 2,403 4,128 1,996 3,421	6,269 6,524 4,459 2,617 5,555	7,868 9,290 5,969 5,510 9,319	10,282 10,380 9,856 8,277 11,509	7,358 9,893 8,250 6,862 11,251	6,202 2,111 2,190 3,557	851 3,295 798 885 971	50,875 39,850 30,989 48,697
SIIA : 7043 Coordinate - Lat. : 06°06' - Long. : 08°20'	1975 1976 1977 1978 1979 Mean	421 599 478	255 584 324 298	272 850 176 - 383	479 1,084 286 - 778	1,338 2,348 692 1,480	1,826 4,477 2,855 3,252	4,252 7,449 5,489 5,327	4,622 8,645 - - 7,318	7,658 8,791 10,984 9,717	10,205 10,398 8,476 9,761 9,162	2,780 5,536 	1,294 1,196 - 1,327	35,402 51,957 43,249
Catchment Area (km ²) : 35,800 Year Established : 1953	1980 1981 1982 1983	481	230	301 - - 152	382	1,400	3,654 - -	5,506 7,471 6,832	9,679 10,410 9,174	12,248 11,538 9,060	10,353 7,333	3,657	846	-
	1983 1984 1985 1986 1987	456	239 116	412 155	472 287	817	1,875	3,894	6,159	9,087 10,303	7,665 8,228	2,545	1,034 686	34,621
	1988 1989 Mean	348 314 385	128 104 167	169 231 237	321 280 329	887 554 811	1,777 2,435	4,695 5,680	9,734 9,031	10,769 10,501	8,228 8,361	1,665 2,411	632 800	39,343 41,148

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TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VII (4/11)

													- 00	it : MCM -
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dee.	Annual
Station : Afikpo	1970	1								- 1			•	
River : Cross	1971	-	-							11.01.4	30 800	0 202	1.044	49,508
	1972	748	504	689	1,281	2,099	5,286	5,261	7,611	11,814	10,586	2,585	1,044	49,000
River Basin : Cross	1973	749	443	511	808	1,567	2,856	3,249	7,110	10,367	8,775	2,636	-	-
HA : VI	1974	633	379	457	945	1,965	4,187	7,582	11,178	- 0.000	11 600	2 7 20	1,596	45,237
SHA : 7060	1975	658	•459	533	755	2,117	2,716	5,518	6,527	9,022	11,586	3,730 6,862	1,590	40,201
Coordinate	1976	867	812	1,161	1,334	3,227		8,516	9,662	10,519	-	2,335	938	
	1977	890	529	399	477	983	2,819	7,425	9,928	11.940	11 546	4,074	1,162	53,066
- Lat. : 05°51'	1978	579	383	531	1,168	2,094	5,812	5,792	8,079	11,846	11,546 7,471	3,153	1,102	51,022
– Long. : 07°52'	1979	626	511	618	859	2,254	5,109	7,401	10,507	11,385 10,826	9,993	3,625	1,120	49,782
Catchment	Mean	719	503	615	953	2,038	4,112	6,343	8,825	10,040				40,104
Area (km²) : 46,200	1980	650	388	454	537	1,496	4,398	6,939	10,970	-		4,431	1,388	80 410
	1981	740	439	437	746	2,875	2,931	9,076	12,160	13,830	9,663	3,387	1,135	57,419
Year Established : 1953	1982	736	437 -	662	801	2,104	4,957	9,088	10,670	13,130	12,430	3,815	1,299	60,129
	1983	707	418	316	409	979	3,188	-	10,700	11,050	5,148	1,720	991	40.414
	1984	605	369	445	763	1,312	3,462	4,838	6,884	9,904	7,998	2,739	1,095	40,414
	1985			-	957	1,770	2,588	-	-		-	0.000	857	47,918
	1986	492	286	455	555	1,402	2,271	8,393	7,188	11,840	11,190	2,989	001	41,910
	1987	430	253	225	318	· · ·		-		-		-	-	
	1988	-	-	÷ -			÷.	1.1		9 · •	· · · -	-	-	
	1989	197 - 19	350	191	453	1,331		-	0 7 60	11 051	0.000	2 1 9 0	1,128	50,036
	Mean	623	368	398	615	1,659	3,399	7,667	9,762	11,951	9.286	3,180	1,120	00,030

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TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VII (5/11)

								······································			······································		- 01	IT: MCM-
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station:Ikot OkparaRiver:CrossRiver Basin:Cross	1970 1971 1972 1973													
HA : VI	1974													
SHA : 7060	1975	822	754	443	783	1,903	2,708	5,771	7,002	9,242	12,198	4,225	1,635	47,486
Coordinate	1976 1977	766 775	798 445	980 192	1,248 377	2,950 828	5,484 3,065	8,376 7,263	9,884 10,279	10,947 13,129	12,232 12,940	7,668 2,645	1,424 1,098	62,757 53,036
- Lat. : 05°24'	1978	659	378	668	1,353	2,123	5,871	6,263	8,640	12,179	12,168	4,304	1,030	55,884
– Long. : 08°04'	1979	533	298	373	560	2,189	5,651	7,592	10,495	12,009	7,854	3,310	1,285	52,149
Catchment	Mean	711	535	531	864	1,999	4,556	7,053	9,260	11,501	11,478	4,430	1,344	54,262
Area (km²) : 48,300 Year Established : 1973	1980 1981 1982	628 737 649	450 359	342 433 589	464 692 711	1,467 2,898 2130	4,647 3,173 5,185	7,045 9,164 9,353	12,207 12,773 11,048	14,298 14,454 13,696	13,463 10,396 12,858	4,900 3,561 4,290	1,050 1,195	59,781 62,063
	1983	601	336	328	404	881	3,135	7,756	11,312	11,402	5,744	2,203	815	44,917
	1984	549	320	383	712	1,352	3,744	5,288	7,309	11,059	8,364	2,905	1,046	43,031
	1985 1986	531 568	294 327	260 577	1,014 826	1,955 1,717	2,982 2,678	5,088 8,748	8,619 8,149	10,880 12,000	10,179 11,900	3,381 3,989	1,017 1,042	46,200 52,521
	1987 1988	587 501	339 373	316 383	567 466	718 935	2,064 2,290	4,730 4,143	7,424 7,341	13,131 10,821	9,988 11,781	2,347 3,160	847 1,219	43,058 43,413
	1989 Mean	539 589	213 335	131 374	484 634	1,587 1,564	3,302 3,320	5,810 6,713	10,530 9,671	13,825 12,557	13,697 10,837	3,986 3,472	1,214 945	55,318 51,011

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Statio	n Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	<u>N</u>
Station River River Basin HA SHA Coordinate - Lat. - Long.	: Ugwu NKPA : Eme : Imo : W : 7052 : 05°35' : 07°26'	1970 1971 1972 1973 1974 1975 1976 1977 1978 1979		-		2.1	3.4	11.7	14.1	9.6	10.7	8.5	
Catchment Area (km²)	: 230	Mean 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	1.7 1.9 1.8 1.8 3.9 2.6 1.9 1.9 1.9	2.0 1.6 1.9 1.6 4.1 4.6 3.0 3.3 - 2.8	2.2 3.0 2.4 4.5 4.0 4.6 2.9 2.3 2.3 3.2	2.2 2.8 2.1 3.9 2.1 3.1 2.3	3.1 5.9 3.9 2.1 2.2 6.7 2.8 - - - 3.8	7.1 2.9 11.8 4.9 16.0 7.3 3.3 3.3	5.5 13.5 15.8 12.0 12.7 11.2 7.9 - 11.2	11.2 5.9 10.9 3.4 14.2 26.4 6.1 - 11.2	13.9 6.7 9.4 11.8 12.1 25.7 12.5 - 13.2	10.9 8.4 4.0 7.5 12.1 7.4 9.8 - - 8.6	

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VII (6/11)

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	•U	nit:MCM-
Nov.	Dec.	Annual
		an an tha an an an an an an an an an an an an an
4,1	1.3	
4,1	1.5	
4.3	2.1	66
2.7	1.8	57
3.1	1.9	69
1.8	1.8	57
3.8	2.0	89
3.0	2.0	105
2.7	1.9	57
-	-	
-	-	
-	-	
3.1	1.9	71

-Unit MCM

TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-VII (7/11)

÷ 80 -

Statio	on Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun,	Jul.	Aug.	Sep.	Oct.	Nov.
Station River River Basin HA SHA Coordinate – Lat. – Long. Catchment	: Ulakwo : Oramiriukwa : Imo : M : 7051 : 05°25' : 07°07'	1970 1971 1972 1973 1974 1975 1976 1977 1978 1979	4.2	3.9	4.2	3.7	4.3	6.0 6.7	7.0 6.8	5.7 8.2	12.6 10.5	10.9 9.3	6.7 6.2
Catchment Area (km ²)	: 795	Mean 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean	4.2 5.6 4.7 5.7 2.3 1.4 3.6 2.9 2.0 2.1 3.5	3.5 4.6 3.8 5.1 2.1 1.2 2.9 2.4 1.6 1.7 2.9	3.9 5.3 4.7 2.7 1.3 3.5 2.7 1.9 2.1 3.1	4.1 4.9 4.7 4.7 2.4 2.2 3.0 2.4 3.6 3.6	4.7 6.5 5.6 5.8 3.0 2.0 3.8 2.2 2.2 2.2 4.0	6.7 5.4 9.2 6.7 5.6 2.4 4.3 3.2 3.2 5.2	7.4 7.9 9.7 7.6 6.6 7.4 6.0 3.9 3.6 -	9.1 8.2 9.5 6.5 6.4 14.3 5.7 8.7 4.0 - 8.0	10.2 11.1 9.5 10.4 5.9 10.5 10.0 12.6 7.7 9.8	11.5 8.6 11.9 8.0 5.4 5.8 9.4 8.2 10.5 - 8.8	6.0 6.0 7.3 3.3 2.5 4.7 4.7 3.1 4.0 - 4.6

Dec.	Annual
	,
12	

-Unit:MCM-

4.3	
4.3	72.3
5.7	77.0
4.8	78.9
5.9	86.5
3.2	-
1.7	46.6
3.8	57.0
3.1	60.0
0.5	52.8
3.1	47.4

-

63.7

-

3.5

• . •														-(Init:MCM-
Statio	n Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station River River Basin HA SHA Coordinate	: Ndimoko : Imo : Imo : VI : 7052	1970 1971 1972 1973 1974 1975 1976 1977													
– Lat. – Long.	: 05°52' : 07°15'	1978 1979	4.0	2.7	3.0	2.9 3.1	6.5 6,4	12.4 15.4	20.6 16.7	10.2 11.8	27.7 21.9	19.9 20.3	11.9 8.7	5.4 5.1	119
Catchment Area (km²)	: 160	Mean	.,						100	• • • •	120	- so 1	7.8	4.3	98
m cu (mit)		1980 1981 1982 1983 1984 1985 1986 1986 1987 1988	3.6 3.2 2.0 2.6 0.1 1.1 1.2	2.7 1.7 2.2 1.5 - 2.1 3.6	3.1 2.0 3.7 1.9 2.7 3.8	2.2 3.2 2.0 1.2 2.0 8.1	4.4 5.1 11.6 3.9 2.4 7.2	5.0 5.5 13.4 3.0 14.5 6.0	16.9 33.9 14.8 6.9 8.4 17.9	14.4 9.8 12.9 6.4 11.1 23.0	15.8 26.1 17.2 23.3 17.3 19.4	18.1 16.3 24.5 12.5 13.1 15.0	7.8 8.7 7.9 4.7 3.6 4.1	4.3 3.7 4.2 1.3 1.7 2.1	98 119 116 69 109
	· · · ·	1989 Mean	2.0	2.3	2.9	3.1	- 5.8	7.9	16.5	12,9	19.9	16.6	6.1	2.9	99

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VII (8/11)

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Station	Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Station River River Basin HA SHA Coordinate – Lat.	: Umuna : Imo : Imo : M : 7052 : 05°47'	1970 1971 1972 1973 1974 1975 1976 1977 1978		-		5.4	12.5	24.9	63.9	25.5	99.2	68.6	27.7
- Long.	: 07°18'	1979	7.7	5.9	7.6	5.5	17.7	62.3	69.5	36.8	86.2	66.2	29.7
Catchment Area (km²)	: 490	Mean 1980 1981 1982 1983 1984 1985 1986 1987 1988	7.5 8.3 7.0 5.9 7.2 9.3 12.5 4.4 5.8	6.4 5.2 5.6 4.1 5.8 6.5 5.9 3.7 4.3	6.0 5.4 7.8 4.0 6.3 5.6 7.0 4.1 5.0	5.7 14.3 6.0 5.7 7.7 18.2 6.6 3.9 6.8	10.5 14.7 17.7 11.9 10.4 17.8 15.4 4.0 6.1	18.7 13.7 26.2 12.1 53.2 22.9 17.3 10.6 9.5	43.7 51.5 25.7 27.5 51.7 82.0 27.8 95.0 26.9	51,2 28,4 27,8 20,2 90,3 110,6 25,8 108,5 22,1	66.7 34.7 26.9 89.3 100.5 64.8 60.4 137.5 96.5	79.7 34.3 34.6 35.6 65.2 48.2 57.7 92.9	27.5 19.9 16.3 11.3 12.1 16.4 17.6 - 14.7
		1989 Mean	6.2 7.4	4.5 5.2	5.1 5.6	8.3	12.1	20.5	48.0	53.9	75.3	56.0	17.0

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VII (9/11)

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	-U	Init:MCM-
	Dec.	Annual
		1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -
	11.8	· _
	11.0	406
	10.2	334
	9.4	240
	8.3	210
	9.4	237
	10.5	421
l	10.1	412
	7.2	261
	7.0	-
	10.8	301
	-	-
	9.2	319

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VII (10/11)

													-L	Init:MCM
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	Мау	Jun, 👘	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
	1970										*	:1		
Station : Umuopara	1971		·											
liver : Imo	1972	Į.		5										ed al a
tiver Basin : Imo	1973													
IA : VI	1974	-		· .										
SHA : 7052	1975													
Coordinate	1976	· ·			н. — н. — н. — н. — н. — н. — н. — н. —				4	s .				
- Lat. : 05°33'	1977		ν.		30	38	70	190	116	352	162	55	31	
- Long. : 07°25'	1978	- 29	26	32	8	40	141	175	115	240	169	67	19	1,06
Catchment	1979 Mean	25	20	34		10								
Area (km ²) : 1,450		10	11	14						-	-	-	-	
	1980 1981	16	11	14			-	-	-	-	-	-	· -	İ
	1981				_	j _		-	· -	1 ¹ 4 1	- E	-	-	
	1983		-	_		40	56	106	58	231	271	-	-	
	1984	25	21	25	42	54	161	183	188	218	132	82	84	1,21
	1985	80	54	37	92	111	116	243	305	277	158	86	55 46	1,61 1,09
	1986	47	38	46	45	63	87	121	114	223	193	69		1,08
	1987	39	33	39	36	-37	68	158	203	290	265	-	57	
	1988		32	35	45	44	59	-		-	_			
	1989	41	33	40		58	91	162	174	248	204	79	61	1,23
	Mean	41	32	34	52	86	91	102	L		L			

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TABLE 6	MONTHLY	RUNOFF AT	SELECTED	RIVER	GAGING	STATIONS	
		HA-V	II: (11/11) : :				

	· · · · · · · · · · · · · · · · · · ·				<u> </u>					.			·····		Joit:MCM-
Station F	Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun,	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station	: Obigbo	1970													
	: Imo	1971		· ·											
	: Imo	1972						· -							
(· · · · · · · · · · · · · · · · · · ·	: VÌ	1973 1974		1								1			
	: 7052	1975													
Coordinate	. 1002	1976		· ·					A	÷					
	: 04°52'	1977									104	·			a an an an an an an an an an an an an an
	: 07°11'	1978		-	-	266	326	321	396	315	431 523	471 519	349 392	270 310	- 4 194
Catchment		1979 Mean	262	223	247	268	278	295	427	380	023	019	392	. 910	4,124
	: 5,600	1980	288	250	277	265	285	294	324	447	492	534	421	320	4,197
	•	1980	200	250	281	203	308	287	382	386	387	485	387		
		1982	-	-	-			389	471	418	470	553	387	-	-
		1983	-		- · ·	· · ·	277	282	328	301	377	473	302	297	.
	- * -	1984	285	261	278	255	277	333	399	543	417	412	367	315	-
		1985	294	248 269	269 273	303 265	315 255	323 297	412 349	511 337	550 413	434 465	406 383	299 340	4,364 3,934
		1986 1987	288 280	269	213	205	263	268	363	296	413	405	305	381	3,817
:	· · · ·	1988	275	253	259	279	258	277	287	333	390	542	395	370	3,918
	1	1989	289	256	280			-	- x z -	-	-	-	-	· · -	-
	· · · · · · · · · · · · · · · · · · ·	Mean	287	252	271	271	280	306	368	397	442	481	374	332	4,061

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-Unit:MCM-

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VIII (1/20)

				1. S. S. S.								ан сайта. - При сайта сайта сайта сайта сайта сайта сайта сайта сайта сайта сайта сайта сайта сайта сайта сайта		-Un	it:MCM •
Station P	articulars	Year	Jan,	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station River River Basin	: Gwarzo Road : Watari : Hadejia	1960 1961 1962 1963		-											
HA	: 11	1964		•	0	•	0	· · · · · · · · · · · · · · · · · · ·	26.1	51.2	8.3	O	0	0	86
SHA	: 8033	1965 1966	0	0	C 0	0	0 0	6.5	8.3	22.6	19.3	⁵ 1.7	Õ	Ū	58
Coordinate		1966		0	. 0	0	0	0.0	32.3	38.3	6.4	0.8	Õ	0	78
– Lat.	: 12°00'	1968		. 0		<u> </u>			00.0	00.0	-		-		
- Long.	: 08°24'	1969	0	- 0	0	0	3.7	31.3	39.2	136.2	21.3	4.0	0.4	0	236
Catchment		Mean	Ň	. •	Ű	v		0110							
Area (km²)	: 1,450	1970	0	0	0	0	0	0.1	62.3	105.7	78.8	0.9	0.4	0	248
Year Established	: 1963	1970	0	0	0	0	0	0.1	7.6	26.6	35.7	0.6	0	0	71
		1972	0 O	0	·· 0	ŏ	0.3	8.5	23.9	53.3	2.5	0.2	0	0	89
		1973	0	ŏ	Õ	Õ	0	0.7	10.1	11.6	6.1	0	0	0	29
		1974	0	- Õ	Ð	0	18.8	2.8	24.1	37.0	18.1	1.3	0	0	102
		1975	Ó	0	0	Ó	8.3	19.4	17.4	32.2	0	0.3	0	0	78
		1976	. 0	0	0	27.7	18.0	20.2	28.9	38.6	34.7	30.0	0	· 0 ·	198
		1977	0	0	: · · 0 · ·	- 0	28.7	17.9	19.6	28.9	37.3	35.9	29.0	0	197
		1978	0	÷., 0	0	· · · 0	E 0	4.7	10.7	47.2	11.1	0	0	0	74
		1979	0	. 0 1	. 0	· . 0	0	0.4	4.3	55.2	10.9	, 0	0	0	71
		Mean	0	0	0	-3.1	8.2	7.5	20.9	43.6	23.5	6.9	3.3	0	117
	• •	1980	-	-		· -	; -	-	- 1	1	-	. .	-	-	
		1981	0	· · · 0	-	÷ 2 0	0	• • • •	6.0	3.8	1 · · · 0 ·	0	0	0	10
		1982	0	° (0	:0	0	0	0.4	0	8.3	15.4	0	0	0	-24
		1983	0	. 0.	; O	0	0	2.5	30.9	·	3,4	0,6	0	0	
	4 · · · ·	1984	0	0	0	0	• 0	8.2	19.8	: : 4.1	11.3	0,9	0	0	44
		1985	0	· · · · O	E E O	· 0	. 0	31.5	79.4	62.8	14.4	0	0	0	188
		1986	0	±0	, i ⊴ 0 –	0	0	0	0	8.9	44.9	6.5	0	0	60
		1987	0	0	0	0	0	8.0	15.0	23.7	8.8	3.0	0	0	59 565
		1988	0	0	0	0	0	13.1	52.8	165.0	259.5	31.0	43.3	0	558
		1989	0	. 0	0	0	0	110.4	281.7	88.7	77.0		0	0	558 177
		 Mean 	0	0	0	0	0	19.3	54.0	45.7	48.3	4.7	4.8	U	177

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TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VIII (2/20)

									·	· · · · · · · · · · · · · · · · · · ·		r		••••••	-UI	hit : MCM -
Station	Particulars		Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station River River Basin	: Challawa Gorg : Challawa : Hadejia	çe	1960 1961 1962 1963									: -				
HA	: VI		1964	· 0	0	0	0	25	67	187	281	138	7	0	0	705
SHA	: 8032		1965	0	0	0	· · 0 ·	25	68	190	285	140	7	0	0	715
Coordinate	. 0005		1966	· 0	0	0	· 0	27	73	206	309	152	8	0	0	775
– Lat.	: 11°42'		1967	0	0	· · 0	0	- 15	40	112	167	82	4		0	420
– Long.	: 08°02'		1968	0	0	• 0	. 0	13	34	95	143	70	3	0	0	358
	. 00 02	· .	1969	0	0	0	0	24	65	183	276	135	: 7	0	0	690
Catchment Arca (km²)	: 3,859		Mean	0	0	0	0	22	58	162	244	120	6	0	0	612
A second s			1970	0	0	0	0	23	61	170	254	125	1	0	0	640
Year Established	: 1963	24 - E	1971	0	• 0	° • 0	0	· · · 0	: 7	64	237	136	2	0	0	446
			1972	0	0	° 0°	0	10	42	52	175	12	• 1	0	Ó	292
	•		1973	0	0	· · · 0	0	0	14	74	70	33	0	0	0	191
· ·	•	· · ·	1974	0	0	- 0	0	20	17	91	172	70	16	0	0	386
			1975	0	0	0	0	0	10	278	222	273	1	0	0	784
	· · · · · ·		1976	0	0	0	0	2	44	72	74	27	21		0	241
· .		÷ 1	1977	: 0	0	0	0	8	61	77	441	141	2	0	0	730
			1978	· : 0	0	0	0	19	38	193	137	149	2	0	0	538
			1979	· 0	0	0	0	38	108	229	180	36	1	0	0	592
			Mean	<u> </u>	0	0	0	12	40	130	196	100	5	0	0	483
	•		1980	0	• • •	: .0	0	40	21	18	150	18	0	0	0	247
	1. The second second second second second second second second second second second second second second second		1981	• • • • •	· 0	0	1	*11	*13	89	68	*65	; 0	0	0	247
· · · ·			1982	0	0	0	O	i: 1.5	35	*24	*60	44	3	0	0	171
1 ¹		- 15 - E	1983	0.	0	0	0	17	48	128	131	37	0	0	· 0	361
	· · · ·		1984	· 0	0	0	. O	35	*15	*46	87	69	12	0	0	264
: .			1985	0	0	0	. 0	0	6	*88	*143	*159	*51	0	0	447
	· · ·		1986	0	0	0	:. O	6	12	71	249	54	. 1	0	0	393
			1987	0	0	· 0	. 0	· · 0	72	34	97	8	6	0	0	217
			1988	· · · · · 0	0	1 	0	1	78	12	585	156	. 1	0	0	833
			1989	0	0	a 12 a 0 − 1	0.	. 1	3	36	130	8	5	0	0	183
	· · · · · · · · ·		Mean	0	0	0	6	12	30	55	170	62	. 8	0 1	· 0	337

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TABLE 6	MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS	
	HA-VIII (3/20)	

					·									-011	it:MCM -
Station	Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station River River Basin	: Challawa Bridge : Challawa : Hadejia	1960 1961 1962								· " .			· · ·		
River Basin	: Madejia	1963 1964	0	0	• 0	0	Ó	62	212	416	144	- 4	0	0	838
SHA	: 8032	1965	0	0	0	·· 0	0	Б	145	237	153	33	0	0	573 882
Coordinate		1966	. 0	0	0	0	38 0	84 0	41 161	458 244	257 110	3	1 0	0	522
– Lat. – Long.	: 11°43' : 08°23'	1967 1968 1969	0	0	0	· · · 0	U		101	- 477					
Catchment	: 6,889	Mean								070	000		1	0	742
Area (km²) Year Established	•	1970	0	0	0	0	6 8	35 8	187 68	279 272	229 269	5	0	0	626
rear ristaonished	1304	1971 1972	0	··· 0 ···	0	0	22	88	91	326	218	4	0	0	749
		1973	1	Ő	0	Õ	2	69	108	30	4	5	0	0	219
		1974	0	1	0	0	61	22	296 395	728 355	449 389	80	2 0	1 0	1,640 1,265
		1975 1976	0	0	0	11	42 9	69 105	165	132	63	30	1	ŏ	505
		1978	1	0	Ŭ Ŭ	i õ	9	80	127	564	232	- 8	0	1	1,022
		1978	0	0	0	2	46	70	181	240	199	13	. 2 0	0	753
		1979 Mean	0	0	0	0	19 22	96 64	247 187	280 321	104 216	4	1	0	827
· ·		1980	1	0	0	0	63	54	50	260	49	5	0	0	482
· · · · ·	۰.	1981	Ō	Ŏ) Ö	1 ľ	43	29	180	68	69	0	0	0	390
		1982	0	0	0	9	4	40	18	51	49 15	6	14	0	191 163
		1983	0	0	26 0	0	6 13	8	39 9	69 15	15	2	0	ŏ	53
· ·		1984 1985	0	0	0	0	0	80	304	337	181	8	. 0	- 0	910
	* : .	1986	i no	Ō	0	0	б	55	169	369	287	32	0		917 771
		1987	0	0	0		0	159 0	194 158	279 783	110 409	29 49	2	0	1,401
		1988 1989			0		0	66	181	322	132	52	0	Ŭ,	765
. :		Mean	0	0	3		15	49	130	255	131	18	2	0	604

-Unit	;	MCM	-
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TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-VIII (4/20)

· · · · · · · · · · · · · · · · · · ·							i		······	r		r]	· · · · · · · · · · · · · · · · · · ·	nit : MCM
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Tiga Dam	1960													
	1961		1				1.1							
	1962		1							1 y y	1		- 1	
River Basin : Hadejia	1963													
IA : W	1964	0	0	0	. 0	6	15	165	609	531	57	9	2	1,39
SHA : 8041	1965	1	2	0	0	1	180	143	312	492	22	4	1	1,15
Coordinate	1966	0	0	0	0	54	59	29	506	729	100	-11	3	1,49
- Lat. : 11°28'	1967	1	0	0	0	3	20	111	344	309	53	8.	2	85
	1968	1	0	0	28	52	73	. 293	334	135	18	2	0	93
	1969	· 0.	. 0	0.	0	· 7 ·	65	252	366	361	91	16	3	1,16
Catchment	Mean	1	0	0	5	21	69	166	412	426	57		2	1,16
Area (km²) : 6,553	1970	1	0	0	0	18	25	100	586	482	37	· 8 -	· 2	1,25
Year Established : 1963	1971	0	0	0	4	22	29	96	403	322	23	5	2	90
	1972	1 1	0	0	0	24	29	50	283	126	171	2	· 0	68
	1973	0	0	0	0	0	50	119	313	99	9	0	0	59
	1974	0	0	0	13	13	9	152	314	305	65	0	0	87
	1975	0	6	0	21	47	28	158	275	478	49	13	0	1,07
	1976	0	21	13	15	38	95	92	171	159	140	21	0	76
	1977	0	0	15	17	24	48	50	311	450	72	10	0	99
	1978	0	. 0	0	3	54	88	226	230	259	12	0	0	87
	1979	0	0	0	0	8	54	207	456	338	89	0	· 0	1,15
	Mean	0	3	3	7	25	46	125	334	302	67	6	0	91
	1980	0	0	0	0	35	27	172	530	156	50	0	0	97
	1981	Ŏ	Ő	0	0	28	6	181	280	225	5	3	3	73
	1982	Ŏ	4	Ŏ	10	51	35	81	214	156	13	0	0	56
	1983	Ö	Ō	7	0	10	66	.68	190	107	3	0	0	- 45
1 . 1	1984	Ő	= Õ	0	15	40	35	87	98	77	25	1	0.	37
	1985	Ö	· · Ŏ	10	32	46	49	339	315	184	33	54	0	1,06
	1986	, ,	Ŭ							1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -				-
	1987													
	1988											1]	ļ
	1989	1.00									1	· · .		
	Mean	0	1	3	10	35	36	165	271	151	22	10	1	69
			1	I	L	J	I		I	I	L	J	L	L

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TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VIII (5/20)

														hit:MCM
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Chiromawa River : Kano River Basin : Hadejia	1960 1961 1962	: · · ·												
IA : W	1963 1964	0	0	0	0	6 1	16 189	174 150	641 328	559 518	60 23	9	2 1	1,46 1,21
SHA : 8042	1965 . 1966	1 0	2 0	0	0	57	62	30	533	767	105	12	3	1,56
Coordinate	1966	1	0	0	Ū	3	21	117	362	325	s. 56	8	2	8
- Lat. : 11°43'	1968	~ 1	Ő	0	30	55	77	308	352	142	19	2	0	90 1,2
– Long. : 08°23'	1969	·· 0	0	: 0	0 :	7	68	265	385	380 449	96 60	17 9	3	1,2 1,2
Catchment	Mean	1	0	0	5	22	72	174	434			5	2	1,4
Area (km ²) : 6,975	1970	1	0	0	; •• 0 •	19	26	133 107	650 469	560 361	34 21	3		9
Year Established : 1963	1971	0	0	0	2	14 20	17 29	55	489 387	111	17	3	i	6
	1972	1	1 2	2	0	20	25	104	218	107	. 10	1	1	4
	1973 1974	1	1	3		9	12	13	28	14	- 8	4	4	1
	1975	3	4	4	4	8	- 6	10	8	12	6	7	8	
	1976	10	7	12	10	9	11	10	11	9	8	17 32	17	
	1977	14	14	19	- 16	19	20	21	113 84	311 67	64 28	23	22	
	1978	32	39	49	50	62 29	62 - 51	57 57	47	176	100	26	24	Ē
	1979	31 9	24 9	26 12	19 11	29 19	26	59	202	173	- 30	12	12	5
	Mean	•••••••		42	45	55	47	*51	+217	127	85	38	52	8
	1980 1981	32 52	40 46	55	68	60	62	56	127	123	35	28	41	7
	1981	14	0	0	73	41	74	52	42	22	50	17	17	4
and the second second second second second second second second second second second second second second second	1983	10	14	17	19	22	23	27	40	22	13	16	19	2
	1984	19	-17	20	23	20	15	20	18	12 13	9 11	14 15	11 29	
	1985	25	14	17	15	17	35	50 69	34 108	96	51	45	51	
	1986	-	-	51	28 54	23 58	78	131	188	89	81	78	75	9
	1987 1988	56 64	51 35	48	55	49	49	47	236	500	395	128	39	1,6
· · ·	1988	04	49	60	-					-	-	-	-	
	Mean	34	30	34	42	38	46	56	112	112	81	42	37	6

TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-VIII (6/20)

<u> </u>	<u> </u>	·	1.		1	<u> </u>								1	hit : MCM
Station	Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annua
Station	: Wudil	1960	1		÷									1	
River	: Hadejia	1961	1 v												
River Basin	: K. Yobe	1962				1 ·	1		- -						
	· · · · · ·	1963					2	101	100	1.070	010				0.00
HA	: W	1964	. 0	0	0	0	0	104	438	1,270	813	62	9		2,69
SHA	: 8071	1965		0	0	0	0	305	380	871	790	18	. 3		2,36
Coordinate		1966	· 0	0	0	0	89	164 43	49 346	806 807	1,066 631	197 119	17		2,37
– Lat.	: 11°49'	1967	0	0	0	0	0 102	43	441	465	123	18			1,95 1,31
- Long.	: 08°50'	1968 1969		0	0 : 0·		102	80	441	727	616	66	4		1,91
Catchment		Mean		0	0		32	137	349	824	673	- 77	7	2	
Area (km²)	: 16,380		••••••••••••••••••••••••••••••••••••••		· · · · · · · · · · · · · · · · · · ·		**************								2,10
Year Established	: 1963	1970	0	0	0	0	5	23	343	1,029	813	32	8	1	2,25 1,68
reat instabilished	. 1303	1971	0	0	0		9	26	196 179	784	638	33	. 3	÷ 0	
м н 4	. *	1972	0	0	0	0	59	127 40	265	729	192 116	18 11	0		1,30 88
		1973 1974	0	0	0		0 24	40 14	265	450 512	179	83		0	1,06
		1974		0			24	38	308	315	382	. 9			1,00
		1975	4	2	3	3	5		97	97	98	116	22	21	54
		1977	21	14	28	24	34	129	154	712	697	127	90	92	2,12
	1	1978	80	76	101	113	182	210	381	414	355	93	72	102	2,17
		1979	107	95	95	73	112	228	356	546	441	204	111	134	2,50
· ·		Mean	21	19	23	21	45	91	253	559	391	73	31	35	1,56
	·	1980	138	135	147	142	212	218	253	600	215	98	123	167	2,44
		1981	138	159	187	210	295	295	434	370	340	171	135	276	3,04
		1982	412	353	450	500	400	600	629	715	426	237	3	7	4,73
· · · · · · · · · · · · · · · · · · ·	;	1983	3	8	11	9	25	25	58	105	57	3	7	7	31
		1984	22	22	22	26	62	36	64	92	60	19	8	5	.43
	4	1985	18	15	13	11	11	98	257	225	133	5	4	9	79
	· · · · ·	1986	42	36	35	16	8	48	139	291	143	56	36	36	88
		1987	44	31	31	34	42	113	137	263	100	64	57	55	. 97
		1988	42	40	36	37	27	82	126	345	287	149	67	28	1,26
		1989	23	24			-	14 -	-	-	-	-	-	-	
: · · · · · · · · · · · · · · · · · · ·		Mean	91	82	104	109	120	168	233	334	196	89	49	66	1,64

-Unit :	MCM -
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TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VIII (7/20)

										·				hit : MCM -
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Chai Chai	1960										· · · · · ·			· · ·
River : Gaya	1961		•							1				
	1962													1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1
÷	1963		 						= 0					100
HA : W	1964	0	0	0	0	0	*6	11	78	91	9	1	0	196
SHA : 8072	1965	0	0	0	0	0	3	8	38	45	3	1	0	98
Coordinate	1966	0	. 0	0	0	0	2 .	1	16	21	7	0	0	47
– Lat. : 12°01'	1967	0	0	0	0	0	0	44	18	15	11	1	0	89
- Long. : 09°15'	1968	0	0	0	0	0	9	45	19	28	5	1	0	107
Catchment	1969	0	0	0	0	0	1	12	: 19	17	1	0	0	50
	Mean	0	· · · O	0	0	0	4	20	31	36	6	1	0	98
-	1970	0	0	0.	0	0	. • O	6	36	66	· 3	. • 0	0	111
Year Established : 1963	1971	0	. 0	. 0	0	0	0	6	20	30	2	0	0	58
	1972	0	0	0	Ð	0	1	3	<u>:</u> . 41	22	2	0	0	69
	1973	0	0	0	0	0	0	4	24	2	0	0	0	30
	1974	0	0	0	0	0	1	8	. 18	19	5	0	0	51
	1975	0	0	0	0	0	0	4	24	*4	2	0	0	34
	1976	.0	0	0.	. 0	0	0	9	14	*12	*8	1	0	44
	1977	0	0	0	0	0	. 0	1 1	20	33	2	0	0	56
	1978	0	. 0	0	0	0	3	<u>)</u> 9	23	19	0	0	0	54
	1979	0	0	0	0	0	*2	*10	*23	*25	*4	0	0	64
	Mean	j 0	0	0	0	0	1	6	- 24	23	3	0	0	57
	1980	0	0	0	0	0	7	8	25	16	0	0	0	56
	1981	0	0	0	0	1	2	7	11	13	0	. 0	0	34
	1982	0	0	0	0	0	0	0	7	.*15	0	0	0	22
	1983	0	0	0	0	0	0	2	7	9	0	0	0	18
	1984	0	0	· · · · O	0	0	2	5	7	*4	: 0	0	0	18
	1985	0	0	· 0	0	0	7	31	. 14	20	· 18	5	0	95
	1986	0	0		0	0	. 0	16	18	23	10	0	0	67
	1987	0	0	N 0	0	0	8	20	7	0	0	0	. 0	35
	1988	0	0	0	-		-	-		-	-	-	-	-
	1989	-	-	-	· · ·		•			-	-	-	-	-
	Mean	0	0	· 0	0	0	3	11	12	13	4	1	0	44

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TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VIII (8/20)

					:		·							-Ur	hit : MCM -
Station	Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul,	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station River River Basin HA	: Hadejia : Hadejia : K. Yobe : Wi	1960 1961 1962 1963 1964													
SHA Coordinate	: 8073	1965 1966	-	-		Đ	0	107	54	143	239	212	29	8	-
– Lat. – Long.	: 12°26' : 10°04'	1967 1968 1969	3	1	0	0 - 1	0 - 7	0 - 37	90 - 147	179 	251 254	152 172	15 29	4 - 6	695
Catchment Area (km²) Year Established	: 25,900 : 1963	Mean 1970 1971	2 2	 1 1	0 0	0 0	0	23 13	88 75	230 169	278 272	142 133	15 10	5	784 678
		1972 1973	1	0	0	0 0	- 7 0	54 1 2	73 97 136	136 190 305	198 129 339	32 29 121	457	2 4 2	508 456 914
		1974 1975 1976	1 1 2	0 1	0 0 0	0 0 0	1 5 0	27 17	99 104	189 185	332 64	93 35	10 11	1 0	757 419
		1977 1978 1979	0 23 25	0 22 19	0 22 17	0 19 8	0 38 10	48 127 88	78 183 164	156 272 246	354 272 286	102 178 54	20 23 11	32 20 22	790 1,199 950
2 		Mean 1980	6 22	4 24	4 20	<u>3</u> 23		40 114	110 106	208 216	252 244	92 81	12 23	9 40	746 963
		1981 1982 1983	39 0 5	31 32 10	34 36 11	47 72 8	95 33 14	87 109 55	178 185 157	264 198 231	269 194 214	67 67 15	46 7 14	28 13 17	1,185 985 751
		1984 1985 1986	18 3 11	20 1 7	12 0 4	17 7 2	62 2 0	61 60 17	88 232 105	140 292 261	83 232 262	36 14 120	4 4 22	3 1 19	544 848 830
		1987 1988	0 37	0 25	0 1	73	5 1	49 10	80 137	152 271	354 363	192 279	34 80	36 27	909 1,234
		1989 Mean	8 . 14	10 16	8 13	12 20	27 29	55 62	169 144	282 231	306 252	220 109	35 27	24 21	1,156 938

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TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-VIII (9/20)

							······								it:MCM-
Station	Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station River River Basin	: Bunga Bridge : Jama' are : K. Yobe	1960 1961 1962 1963													
HA	: VII	1963	0	0	0	0	0	147	343	1,429	1,079	71	10	1	3,080
SHA	: 8052	1965	Ŏ	0	0	2	6	130	196	610	687	25	3	1	1,660
	. 0004	1966	1	0	Ó	7	76	168	137	822	1,232	99	10	3	2,555
Coordinate	1.005.01	1967	. 1	0	0	0	2	32	233	811	728	51	7	2	1,867
– Lat.	: 10°56' : 09°39'	1968	1	1	0	11	97	279	583	759	253	30			2,016
- Long.	: 09.59	1969	. 1	1	1	7	10	34	423	771	961	189	21 9	5 2	2,424
Catchment	7 000	Mean	1	0	0	5	32	132	319	867	823				2,268
Area (km²)	: 7,380	1970	1	0	1	1.	10	26	163	939	786	41	5	1	1,974
Year Established	: 1963	1971	0	0	0	2	34	52	300	1,670	763	32		1	2,858
		1972	0	0	0	2	25	50	148	508	242	32	3	1 0	1,163
1		1973	0	0	0	0	11	27	215	746	152 842	12 124	0	1	2,30
		1974	0	0	· 0	0	101	34 20	177 245	1,017 761	1,221	73	7	5	2,35
		1975	1	0	0	0	20 28	61	245 333	475	415	92	17	11	1,434
		1976	1	0	0			25	137	1,021	718	34	4	1	1,94
		1977 1978	2	0	0	7	74	112	313	643	403	29	0	Ō	1,58
	:	1978	0	0	0	l o	23	51	373	719	519	75	6	1	1,76
		Mean	0		ŏ	l ĭ	24	46	240	850	606	54	6	2	1,82
			· · · · · · · · · · · · · · · · · · ·	0	0	0	36	59	483	934	236	35	4	1	1,78
		1980 1981	0	0	0		57	59	544	468	481	36	3	1	1,649
		1982	0	0	0	1 i	21	55	200	733	289	61	4	1	1,36
		1983	0		ŏ	1	7	49	169	389	246	24	1	0	88
		1984	ŏ	ĺ	Ŏ	0	18	49	101	167	102	15	1	. 0	45
		1985	Ó	Ö	0	0	12	85	266	299	290	18	1	0	97
		1986	0	0	0	0	9	71	46	59	33	49	3	1	27
		1987	0	0	0	0	5	44	522	549	570	36	2	1	1,72
		1988	0	1	0	7	7	47	173	1,262	695	70	4	1	2,26
	·	1989	0	1	0	-	•	-	-	•		-			1 100
		Mean	0	0	0	1	19	58	278	540	327	38	3	1	1,26

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VIII (10/20)

Station Particul	lars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
River:JaRiver Basin:KHA:WSHA:80Coordinate:1-Lat.:1-Long.:09Catchment:1	oggo ama'are Yobe I 052 1°25' 9°55'	Year 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 Mean 1970 1971 1972 1973 1974 1975 1976	Jan. 0 2 0 2 0 0 1 3 1 1 0 0 0 0	Feb. 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Mar. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Apr. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	May 0 0 59 0 93 9 27 5 19 0 6 85 12 19	161 145 188 32 255 54 139 52 61 18 47 49 31	404 196 178 189 579 430 329 261 268 142 276 255 254	1,995 823 838 803 837 940 1,039 1,342 1,127 633 1,002 866 780	1,412 797 1,464 818 327 1,100 986 1,048 817 367 205 483 1,140	Oct. 96 417 166 92 54 336 194 92 104 44 23 196 116 72	Nov. 15 3 25 10 6 47 18 7 15 17 5 10 7 12		it : MCM Annual 4,086 2,385 2,924 1,948 2,151 2,926 2,737 2,814 2,416 1,226 1,568 1,946 2,342 935
		1976 1977 1978 1979 Mean 1980	0 0 - 0	0 0 - 0	0 0 - 0	0 0 - 0	19 0 	17 27 38	197 102 	288 867 863	329 502 611	38 - - 86	12 5 - 10	1 1 - - 3 - 2	1,54
		1981 1982 1983 1984 1985 1986 1987 1988 1989 Mean				0	43	51	, 512	443	380	70	U	2	1,501

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Station Particula	rs	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annua
Station : Bir River : Do River Basin : Jan	nin Kudu gwala na'are	1960 1961 1962 1963								170.1	140.4		05	0	351
HA : W SHA : 800 Coordinate - Lat. : 11° - Long. : 09°	26'	1964 1965 1966 1967 1968	0 0 0	0 0 0 0	0 0 0	0 0 0 0	0 0 0	0 0 0 0	17.7 8.9 0.4 3.5	178.1 59.4 10.9 20.5	149.4 76.0 44.0 21.6	5.6 3.8 7.0 3.8	0.5 0 0 0	0	148 62 49
- Long. : 09° Catchment Area (km²) : 1,8		1969 Mean				•••••									
Year Established : 196		1970 1971 1972	0	0 0	· 0	0	0 0.1	0 1.2	7.5 1.4	57.6 52.7	58.2 27.2	2.1 0.3	0	0 0	125 83
		1973 1974 1975 1976							ана стала Алар						
	·	1976 1977 1978 1979	0	0	0	0.2	0.3	3.7	13.3	23.7	17.5	3.2	0	0	62
		Mean 1980					1		,						
		1981 1982 1983 1984	0 0 0	0 0 0	0	0 0 0	0.8 0 0	2.6 3.1 1.8	18.5 9.4 2.7	27.9 14.5 20.6	21.0 13.5 12.2	6.2 3.5 1.6	0 0 0	0 0 0	77 44 39
		1985 1986 1987													
	:	1988 1989 Mean			-										

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VIII (11/20)

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TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VIII (12/20)

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Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	
Station : Iggi Bridge River : Iggi River Basin : Jama'are	1960 1961 1962 1963												
HA : WI SHA : 8060 Coordinate - Lat. : 11°32' - Long. : 09°20'	1964 1965 1966 1967 1968 1969	0 0 0.2 0	0 0 0.2 0	0 0 0 0	0 0 0 0	0 0 0 0	0 10.4 7.3 0	32.8 16.1 1.4 2.2	193.6 81.4 15.8 30.1	155.0 11.6 70.8 52.9	10.1 5.3 14.4 8.2	1.0 1.0 0.7 0.5	
Catchment Area (km²) : 1,334	Mean												•••
Year Established : 1963	1970 1971 1972	0 0.3	0	0 0	0	0 0.5	0 1.3	15.3 4.8	49.3 114.4	36.3 35.7	2.9 3.2	1.0 0.5	
	1973 1974 1975	0.5 0 0	0 0 0	0 0 0	0	0 9.1 0	0 6.2 0.5	9.4 9.9 12.3	69.9 40.2 48.2	17.1 19.2 108.3	1.3 6.2 4.6	1.0 4.7 0.3	
	1976 1977 1978 1979	0.4 0	0.3 0 -	0.3 0 -	0	0.3	3.9	18.5	101.8	56,5	5.6	0.8	
	1979 Mean 1980	0.2	- 0 0	0	0	- 1.7 0.3	2.0 8.8	11.7 32.2	70.6 140.4	45.5 52.6	4.0 5.6	1.4 1.0	• • •
	1981 1982 1983 1984	0 0 0.3	0 0 0	0 0 0	0 0 0	7.0 0 0	6.7 5.4 7.0	32.4 7.8 8.3	50.7 21.4 44.5	33.7 40.9 26.2	4.0 2.7 3.8	0.3 0.3 2.8	
	1985 1986 1987 1988												
	1989 Mean	0.1	0	0	0	1.8	7.0	20.2	64.3	38.4	4.0	1.1	

0.3	393
0.4	126
0	111
0	94
0.8	106
2.9	164
0.8	100
4.6	100
0.3	175
-	-
0	187
-	-
1.6	139
0	241
0	135
0.3	79
2.4	95

0.7

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-Unit : MCM -

Annual

Dec.

TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-VIII (13/20)

													-01	it:MCM-
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Gashua River : Yobe	1960 1961				· · · · ·		• • •							
River Basin : K. Yobe	1962 1963						0	87	232	310	378	208	38	-
	1963	- 8	2	1	0	0	11	93	237	438	948	559	128	2,425
· ·	1965	28	7	4	2	1	8	155	240	325	396	214	69	1,449
SHA : 8092	1966	12	4	2	1	0	101	127	206	304	462	331	117	1,667
Coordinate	1967	26	6	3	- 1	1	. 0	60	224	319	420	156	42	1,258
– Lat. : 12°52'	1968	7	3		0	1	107	238	311	343	268	37	7	1,323
– Long. : 11°04'	1969	2	1	0	0	0	0	98	290	334	373	275	73	1,446
Catchment	Mean	14	4	2	1	1	32	123	249	339	464	254	68	1,551
Area (km ²) : 55,700	1970	12	5	2	1	1	1	86	277	345	. 414	328	89	, 1,561
Year Established : 1962	1971	14	7	2	0	0	7	· 73	211	381	474	- 116	3	1,288
	1972	4	1		0	0	11	62	190	296	185	19	3	771
	1973	1	0	Ō	0.	. 0	0	32	205	301	89	6	8	642
	1974	0	- 0	0	0	4	1	76	187	289	424	102	8	1,091
	1975	2	0	0	0	0	. 0	24	192	338	461	111	9	1,137
·	1976	3	0	1	. 1	1	1	86	210	242	169	49	3	766
	1977	2	1 1	a O	0	0	0	50	177	252	255	43	8	788
	1978	6	4	3	3	9	41	141	245	258	215	46	8	979
	1979	5	4	3	2	- 1	8	101	216	254	267	43	22	926 995
	Mean	5	2	1	1	2	7	73	211	296	295	86	16	
	1980	5	4	3	2	1	21	104	226	270	181	22	6	845
	1981	5	4	3	. 1	· 1	9	128	243	263	190	18	7	872
	1982	5	4	3	. 2	3	2	81	162	219	167	15	4	667
	1983	0	1	0	0	0	0	30	159	197	77	4	1	469
	1984	0	0	0	· · 0	0	0	85	147	120	27	2	0	381
	1985	0	0	0	0	. 0	11	16	225	238	100	8		599
	1986	0	0	0	0	0	- 0	170	359	419	318	18	5	1,289
	1987	3	2	1	0.	1 O C	11	63	138	193	46	5	2	C C
	1988	0	0	0	0	0	2	67	321	470	444	48	8	1,360
	1989	2	1 · · · 1 ·	1	· 1	0	3	126	293	407	326	7	6	1,173
	Mean	2	2	1 1	1	[· 1]	6	87	227	280	188	15	- 4	814

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			·												-01	nit : MCM -
Station	Particulars		Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station River	: Geidam : Yobe	· ·	1960 1961 1962	-												
River Basin	: K. Yobe		1963		· .	_	0	0	0	16	82	129	169	186	120	
HA	: VII		1964	8	1	¹ . 0	1	Ō	Ŏ	-48	117	174	227	330	281	1,187
SHA	: 8081		1965	130	17	- 7	4	2	2	54	129	166	198	219	175	1,103
Coordinate	÷	÷	1966	27	6	3	2	1	16	94	113	143	182	210	223	1,020
- Lat	: 12°05'	÷ .	1967	62	13	6	3	1	0	12	96	152	194	218	109	866
– Long.	: 11°55'		1968	19 7	7	4	1	0	32	108	174	173	207	150	20	895
Catchment			1969 Mean	42	3	1	0 2	0	0	163 71	207 131	164 157	205 197	234 221	202 161	1,186 1,002
Area (km²)	: 58,500		1970	28	9	•••••			0	12	111	165	219	252	265	1,072
Year Established	: 1963		1970	45	13	11 3	· 0	·· 0	· 1	31	117	163	213	232	106	920
		1. 1.	1972	19	5	0	Ŭ	· · · 0	2	36	99	142	173	92	12	580
			1973		-		0	· · 0	0	3	72	151	182	26	5	
·	$(f_{ij})_{ij} = (f_{ij})_{ij}$		1974	. 1	0	0	0	0	0	25	112	158	192	219	50	757
-	. /		1975	0	0	0	0	0	0	0	25	97	149	185	35	491
-			1976	3	1	0	0	0	0	16	93	164	209	116	13	615
н. С			1977 1978	6 4	3 2	2	0	0	0	5	33	36	71	49	7	212
		the state	1979	- 4	4	U .	0	0	0	22	129	192	244	243	23	
			Mean	13	4	2	Ŏ	Ŏ	0	17	88	141	183	157	57	662
. · ·			1980	8	6	7	6	0	7	47	136	193	243	133	10	796
			1981	7	6	7	5	0	7	51	110	198	238	118	13	760
	÷		1982	8	7	7	3	0	0	25	98	166	199	83	8	604
			1983	6	0	0	0	0	0	9	66	176	189	11	7	464
			1984	0	0	0	. 0	0	0	11	93	116	41	5	0	266
		· · ·	1985 1986		0	0	0	0	0	46	160	227	228	13	7	681
		-	1987			υ	•			•	-		-	, ,		-
			1988				•			1 1			· .			
	· .		1989			· .				· /	24 25		· · · · · ·			
	• • •		Mean	3 ° 4	3	3	2	0	2	32	111	179	190	61	8	595

TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VIII (14/20)

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TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-VIII (15/20)

Station	Particulars		Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station River	: Kari : Misau : K. Yobe		1960 1961 1962						1971 1971 1971							
River Basin			1963		à		0	0	. 0	61	979	442	52	20	. 3	1,557
HA	: VI		1964 1965	0 0	0	0 0	. 0 0	0	22	19	138	182	8	1	Õ	37
БНА	: 8102		1965	0	.0	0	0	· 0 ·	11	11	51	158	26	2	0	28
Coordinate	1. A. A. A. A. A. A. A. A. A. A. A. A. A.		1967	0	0	Ő	. 0 .	Ŏ	0	8	295	257	12	1	0	5
– Lat.	: 11°15'		1968	i O	Ŭ	ŏ	Ŏ	Ō	26	69	162	66	12	0	0	3
- Long.	: 10°33'	1 A.	1969	Ō	Û	0	0	0	3	93	187	325	56	6	0	6
Catchment			Mean	0	0	0	0	0	10	- 44	302	238	28	5	1	6
Area (km²)	: 5,865		1970	0	0	0	0	0	0	49.8	334.2	450.4	42.1	4.9	0	. 8
Year Established	: 1963		1971	0	0	0	0	0	0	35.1	232.1	168.9	8.0	0	0	4
		- -	1972	0	0	0	. 0	0	10.9	30.0	54.9	19.9	0.8	0	0	1
		- 1	1973	0	0	0	0	0	0	5.9	68.1	108.0	26.0	0.8	0	2
			1974	0	0	0	0	4.0	3.9	68.1	295.1	162.7	22.8	0	0	5
-			1975	0	0	0	0	0 -	0	61.1	129.2	429.4	15.8	0.8	0 2.9	6
			1976	0	0	0	0	0	0	4.8	45.0	53.9	2.9	0	2.9 0	5
·	·		1977	0	. 0	0	0	0	0.8	46.9 33.8	293.2 79.0	205.9 49.0	3.8 1.9	0	0	1
· · · ·			1978	0	0	0	0	0	8.8 2.1	33.8 12.1	50.9	45.0 65.0	13.9	0	0.8	1
:	1.11	<u>;</u> ,	1979	0	. : 0	0	0	0.4	2.7	34.8	158.2	171.3	13.8	0.7	0.4	3
· · ·			Mean	fan in ginne							76.9	8.8	1.9	0	0	1
			1980	0	0	0	0	0	0.8 7.8	56.0 52.0	38.1	55.9	0	0	0	Î
			1981	· 0	0		0	0	2.8	2.9	167.0	28.0	0.8	ŏ	Ő	2
		н н	1982 1983	0	0		0	0	0	7.0	24.9	8.8	0.8	ŏ	ŏ	
			1985	0	0	0	Ő	i O	ŏ	23.6	35.4	10.4	8.6	0	0	
			1985	0	0	0	Ŏ	Ō	89.9	105.1	34.0	37.8	1.9	0	0	2
			1986	0	Ö	Ŏ	Ŭ.	3.6	29.2	86.9	67.8	71.1	12.5	0	0	2
			1987	0	Ō	0	0	0	43.8	118.5	36.6	41.4	3.3	0	0	2
			1988	0	0	0	0	0	6.8	67.5	105.2	25.9	0.5	0	0	2
			1989	0	0	0	-	· ·	-	*		-	· ·		-	
			Mean	0	· 0	0	0	0.4	20.1	57.7	65.1	32.0	3.4	0	0	1

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TABLE 6MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONSHA-VIII (16/20)

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Station Parti	iculars	Yea	r Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annua
Station : Da River : Mi River Basin : K. HA : W SHA : 810 Coordinate - Lat. : 12 - Long. : 110 Catchment	apchi isau Yobe 02 °30' °30' ,090	196 196 196 196 196 196 196 196 196 196	0 1 2 3 4 5 6 7 8 - 9 0.1 n 0 2.3 1 2.3 2 - 3 - 4 3.8 5 0.6	0 0.2 - 0 0.1	- - 0 - 0 0 0 0	0 0 0 0 0 0 0 0	- - 0 0 0 0 0 0 0 0 0 0	- - 0 0 0 0 0 0 0 0 0	0.5 0 0 0 0 0 0 0 0	12.1 1.8 8.9 5.4 1.4 7.7 20.7 7.5	23.3 26.1 53.1 29.7 17.7 32.7 35.4 27.4	35.2 45.1 132.9 50.3 8.6 30.3 63.4 37.5	25.0 56.5 72.1 14.5 26.7 9.7 18.9	2.8 10.8 5.9 1.5 12.5 1.5 1.5 7.9	27 10 13 10
		197 197		0 1.9	0	0	0	0	0	0 11.2	13.5 44.0	19.9 59.1	7.5 15.5	3.7 8.2	4 15
		197 197	8 4.3	1.0	<u> </u>	0	0	0	2.6	30.0	35.7	40.0	9.8	9.2	13
		Mea		0.5	1.4	0	0	No No	0.3	10.3	32.1	49.1	21.8	6.3	1
						· · · ·									
						i e	10 20								
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TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VIII (17/20)

	· · ·													11(, 14(C)4) -
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Damasak River : K. Yobe	1960 1961 1962				· · · · ·									
River Basin : Lake Chad	1963	· -	· · · ·		<u> </u>	-	-	17	66	98	123	133 147	136 176	649
HA : W SHA : 8110	1964 1965	26 146	8 27	9	0 4	0	0	0 28	70 86 87	103 110 07	119 125 115	147 129 122	144	808 689
Coordinate - Lat. : 13°28'	1966 1967	44 81	9 8	5 31	3 0	1 0	0	69 0	60 100	97 99 113	121 129	122 127 131	137 141 23	668
– Long. : 12°31'	1968 1969	45 5	0	-	-	-		54 3 24	60 76	98 103	129 122 122	131 130 131	137 128	665
Catchment Area (km²) : 82,560	Mean 1970	58 57	10 19	11 13	27	0 3	0 1		60	83	122	131	120	638
Year Established : 1959	1970	77	15	8	3	0	. 0	2	43	. 72	89	atia 99	78	486
	1972	3	0	• 0	0	0	j 0	4	36 24	65 60	82 78	62 27	2	254
	1973 1974	· · ·	-	· · ·	-	-	-	3	44	73	94	112	65	ļ -
	1975	21	13	9	5	0	. 0	0	63	133	188	228	109	769
	1976	6	0	0	5	: . 0 · · 0	0	8	106 39	107 129	201 150	190 45	15 47	638 509
	1977 1978	56 17	42 13	:0 	0	0	0	3	22	128	160	362	107	824
	1979 Mean	34	15	. 6	- 3	. 0	· · · · · · · · · · · · · · · · · · ·	- 3	49	94	128	139	65	536

TABLE 6 MO	NTHLY RUNO	FF AT SEL	ECTED RIVE	r gaging	STATIONS
		HA-VIII (1	8/20)		

	·						· .				· · · ·		-Un	it : MCM
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	May	Jun,	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Yau River : K. Yobe	1960 1961								:					
River Basin : Lake Chad	1962 1963		н. 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	х х тур т										
SHA : 8110	1964 1965 1966			:	: :									
Coordinate - Lat. : 13°34' - Long. : 13°15'	1967 1968	: -	-		4.2	4.2	4.3	18.0	34.0	50.7	60.0	624	-	
- Long. : 13°15' Catchment Area (km²) : 84,140	1969 Mean								~ 1 0					
Year Established : 1959	1970 1971	71.0	11.9	2.0		0	0 0 0	0 3.0 4.8	24.0 34.0 33.8	46.4 52.4 50.8	58.0 64.0 59.6	67.4 81.6 64.9	74.0 98.0 18.6	418 276
	1972 1973 1974	42.8 13.4	0.8	0	0	0	-	4.0 - -	16.4 28.5	56.6 41.6	79.1 49.8	51.2 61.5	60.4	-
	1975 1976	8.2 1.3	3.2 0	0	0	- 0	- 0	0	26.2	47.7	65.1	76.3	31.1	248
	1977 1978	1,8 0	0	0	0	0	0 0	0 47.7	0 48.0	110.0 68.2	59.7 32.4	46.0 82.9	25.5 49.1	243 328
	1979 Mean	- 20	3	. 0	- 0	0	- 0	9	26	59	58	66	51	292

TABLE 6	MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIC	ONS
	HA-VIII (19/20)	

													-Ur	hit:MCM-
Station Particulars	Year	Jan.	Feb.	Mar.	Apr.	; May	Jun.	Jul.	Auġ.	Sep.	Oct.	Nov.	Dec.	Annual
Station : Gamboru Bridge	1960		-		·									
River : Ebeji	1961 1962										а А.			
River Basin : Lake Chad	1963			4			•							· .
HA : WB	1964					· .								
SHA : 8110	1965				2									
Coordinate	1966		a an an an an an an an an an an an an an		$\frac{1}{2}$									
- Lat. : 12°22'	1967				1	· . 0	· · · · 0	0	_		-	97	244	· _
- Long. : 14°12'	1968 1969	136	9	· · · 0	0	: 0	Ŏ	ŏ		9	17	312	694	1,186
Catchment	Mean	100	· ·	Ň	Ŭ									
Area (km ²) : 16,220	1970	278	57	4	0	0	0	0	0	98	191	1,015	596	2,239
Year Established : 1962	1971	235	42	4	0	0	0	0	17	13	: 25	71	261	668
	1972	68	8	2	0	· · 0	0	0	4	3	-	-	-	-
	1973	-	-	· (-	-	· -	1 1	11 42	2 15	6	60	99	-
	1974 1975	223	2	6	- 0	0	- 0		8	55	59	84	74	512
	1976	114	8	2	0	0	Ŏ	0	1	10		117	341	-
	1977	-	-			1 -	-		28	30	· · ·	-	-	-
	1978	113	7	0	0	0	0	21	158	37	5	120	312	773
	1979	·· •		-	-	-				-	: -	245	- 281	833
	Mean	172	21	3	<u> </u>	0	0	4	30	29	48	240	201	

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TABLE 6 MONTHLY RUNOFF AT SELECTED RIVER GAGING STATIONS HA-VIII (20/20)

	·							<u> </u>	I 1 1 1					nit : MCM -
Station Particulars	Year	Jan.	Feb.	Mar.	Apr	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
Station: Bama BridgeRiver: YedseramRiver Basin: Lake ChadIIA: WSHA: 8142Coordinate- Lat.: 11°32'- Long.: 13°41'	1970 1971 1972 1973 1974 1975 1976 1976 1977 1978 1979	0 0 0	0 0 0	0 0 0	0 0 0	0 0 1.5	0 0 3.1	12.3 4.8 15.3	34.6 196.7 133.5	40.1 36.3 149.7	26.5 32.7 11.5	13.7 5.2 6.2	0.8 0.8 0.5	128 277 321
Catchment Area (km²) : -	Mean		· · · · · · · · · · · · · · · · · · ·									· • • • • • • • • • • • • • • • • • • •		
Year Established : -	1980 1981	0	0	0	: o	0	." 0	22.2	38.3	70.7	4.3	0.3	0.3	136
	1982	0	Ő	ŏ	Ö	· · Ď	0	7.2	71.8	68.4	1.1	6.7	0	155
	1983	0	0	0	0	a 0	i 0	1.1	4.0	11.9	5.9	1.0	0	24
	1984	0	0	0	0	· 0	· 0	17.7	5.6	4.1	4.6	0.5	0	33
	1985	· 0	0	0	0	0	1.3	10.1	34.0	35.7	4.0	1.0	0	86
	1986	0	0	0	0	0	0.5	7.2	12.3	38.3	52.0	4.1	0.5	115
	1987	0	0	0	0	0	-	-			-			014
	1988	0	0	0	0	0	· 0	6.7	90.6	118.6	33.2	3.1	1.3	254
	1989 Mean	- 0	0	0	0	0	0.3	10.3	36.7	49.7	15.0	2.4	0.3	115