Table 1.2

	Risk Category	The Surveyed Sudanese Companies																														
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**
1	**The economic side of the visibility study**	6	5	4	1	0	1	2	2	8	4	5	4	0	10	3	3	12	8	11	1	1	0	0	1	12	11	7	0	7	12	14	8
2	**The technical side of the visibility study**	9	1	4	5	9	8	9	9	7	1	0	0	0	0	12	9	0	11	1	0	11	9	0	8	11	8	0	5	10	13	10	5
3	**The legal side of the visibility study**	15	4	8	0	1	3	1	3	9	11	4	2	11	12	0	0	2	4	1	5	3	5	1	3	11	13	13	1	1	5	0	0
4	**Other visibility study aspects**	15	4	3	3	0	5	4	4	9	3	11	1	8	0	0	11	5	1	1	5	6	10	13	6	1	5	10	0	0	0	0	11
5	**Project's contract**	5	6	3	0	0	0	1	9	4	12	14	14	11	7	9	7	9	6	9	5	9	7	7	9	9	15	10	10	14	12	14	15
6	**Project's specifications**	10	3	6	7	7	7	9	8	3	11	4	0	0	10	1	0	0	0	10	12	3	12	12	3	11	3	3	7	3	13	14	5
7	**Project's quantities**	6	5	4	1	0	1	2	2	8	4	5	4	0	10	3	3	12	8	11	1	1	0	0	1	12	11	7	0	7	12	14	8
8	**The tender's offer**	9	1	4	5	9	8	9	9	7	1	0	0	0	0	12	9	0	11	1	0	11	9	0	8	11	8	0	5	10	13	10	5
9	**The selection of**	0	4	6	5	7	6	7	0	1	11	10	12	7	14	15	2	1	0	0	0	0	2	12	12	0	11	12	13	6	6	9	8

	tenders																															
10	**Project's drawings**	5	6	3	0	0	0	1	9	4	12	14	14	11	7	9	7	9	6	9	5	9	7	7	9	9	15	6	5	5	5	5	15
11	**The selection of the consultant**	6	5	4	1	0	1	2	2	8	4	5	4	0	10	3	3	12	8	11	1	1	0	0	1	12	11	7	0	7	12	14	8
12	**The selection of the contractor**	4	7	8	9	9	6	5	9	4	12	14	14	11	7	9	7	9	6	9	5	9	7	7	9	9	15	6	5	5	5	5	15
13	**The selection of the sub-contractors**	8	1	7	8	8	9	1	5	7	0	4	11	2	11	2	7	1	6	15	5	4	15	5	6	11	11	10	9	5	11	4	14
14	**Client's risk**	8	6	7	9	3	9	6	2	7	2	3	1	10	4	11	9	4	11	6	7	14	15	9	10	9	4	11	4	8	15	8	8
15	**Project's finance**	0	4	6	5	7	6	7	0	1	11	10	12	7	14	15	2	1	0	0	0	0	2	12	12	0	3	12	13	6	6	9	8
16	**Transaction with foreign currency**	0	1	9	5	7	8	0	0	8	11	12	11	7	7	2	9	11	0	12	2	0	1	10	3	0	5	5	10	6	5	1	6
17	**Taxation and costume rate**	15	4	8	0	1	3	7	3	9	11	7	2	11	4	0	0	2	5	1	5	3	5	1	3	11	13	13	1	1	5	0	0
18	**The price rate change**	15	4	3	3	0	5	4	4	9	3	11	1	8	0	0	11	5	1	1	5	6	10	13	6	1	5	10	0	0	0	0	11
19	**Financial and administrative**	10	6	8	1	1	8	9	4	5	15	6	7	4	7	6	11	8	5	14	15	14	0	14	0	7	6	13	0	6	7	8	9

	corruption																																
20	**The absence of the contractor's insurance**	8	2	7	9	4	5	1	3	0	1	0	2	0	3	9	9	11	10	14	1	12	15	8	0	7	11	4	5	6	0	0	1
21	**Personnel and equipment**	10	3	6	7	7	7	9	8	3	11	4	0	0	10	1	0	0	0	10	12	3	12	12	3	11	3	3	7	3	13	14	5
22	**Material transfer and equipment**	6	5	4	1	0	1	2	2	8	4	5	4	0	10	3	3	12	8	11	1	1	0	0	1	12	11	7	0	7	12	14	8
23	**Works execution according to drawings**	9	1	4	5	9	8	9	9	7	1	0	0	0	0	12	9	0	11	1	0	11	9	0	8	11	8	0	5	10	13	10	5
24	**The project's handing over**	8	1	7	8	8	9	1	5	7	0	4	11	2	11	2	7	1	6	15	5	4	15	5	6	11	11	10	9	5	11	4	14
25	**Political risks**	8	6	7	9	3	9	6	2	7	2	3	1	14	4	11	3	4	11	9	7	14	15	9	3	9	4	11	4	8	15	8	8
26	**Natural**	0	4	6	5	7	6	7	0	1	11	10	12	7	14	15	2	1	0	0	0	0	2	12	12	0	5	12	13	6	6	9	8

	risks																																
27	**Social risks**	0	1	9	5	7	8	0	0	8	11	12	11	7	7	2	3	11	0	12	2	0	6	10	3	0	5	5	10	6	5	1	6
28	**Site risks**	15	4	8	0	1	3	2	3	9	11	8	2	11	3	0	0	2	0	1	5	3	5	1	3	11	13	13	1	1	5	0	0
29	**Special risks**	15	4	3	3	0	5	4	4	9	3	11	1	8	0	0	11	5	1	1	5	6	10	13	6	1	5	10	0	0	0	0	11
30	**Engineering legislations**	10	6	8	1	1	8	9	4	5	15	6	7	4	7	6	11	8	5	14	15	14	0	14	0	7	6	13	0	6	7	8	9
31	**Legal legislations**	0	1	9	5	7	8	0	0	8	11	12	11	7	7	2	10	11	0	12	2	0	8	10	3	0	5	5	10	6	5	1	6
32	**Conflict between the pertinent of the contract**	6	5	4	1	0	1	2	2	8	4	5	4	0	10	3	3	12	8	11	1	1	0	0	1	12	11	7	0	7	12	14	8
33	**Legislation's language**	4	7	8	9	9	6	5	9	4	12	14	14	11	7	9	7	9	6	9	5	9	7	7	9	9	15	6	5	5	5	5	15

34	**Disclosure of project's secrets**	8	1	7	8	8	9	1	5	7	0	4	11	2	11	2	7	1	6	15	5	4	15	5	6	11	11	10	9	5	11	4	14
35	**Labor's carrier**	8	6	7	9	3	9	6	2	7	2	3	1	12	4	11	15	4	11	9	7	14	15	9	5	9	4	11	4	8	15	8	8
36	**Labor's nationalities**	5	6	3	0	0	0	1	9	4	12	14	14	11	7	9	7	9	6	9	5	9	7	7	9	9	15	6	5	5	5	5	15
37	**Labor's strike**	10	3	6	7	7	7	9	8	3	11	4	0	0	10	1	0	0	0	10	12	3	12	12	3	11	3	3	7	3	13	14	5
38	**The payments of the work force**	6	5	4	1	0	1	2	2	8	4	5	4	0	10	3	3	12	8	11	1	1	0	0	1	12	11	7	0	7	12	14	8
39	**The use of equipment**	9	1	4	5	9	8	9	9	7	1	0	0	0	0	12	9	0	11	1	0	11	9	0	8	11	8	0	5	10	13	10	5
40	**Operating according to design**	4	7	8	9	9	6	5	9	4	12	14	14	11	7	9	7	9	6	9	5	9	7	7	9	9	15	6	5	5	5	5	15
41	**Annual maintenance**	8	1	7	8	8	9	1	5	7	0	4	11	2	11	2	7	1	6	15	5	4	15	5	6	11	11	10	9	5	11	4	14
42	**Protective maintenance**	8	6	7	9	3	9	6	2	7	2	3	1	2	4	11	2	4	11	4	7	14	15	9	15	9	4	11	4	8	15	8	8

43	**Project adjustment**	0	4	6	5	7	6	7	0	1	11	10	12	7	14	15	2	1	0	0	0	0	2	12	12	0	2	12	13	6	6	9	8
44	**Usage problems**	0	1	9	5	7	8	0	0	8	11	12	11	7	7	2	11	11	0	12	2	0	2	10	3	0	5	5	10	6	5	1	6
45	**Project's delay**	15	4	8	0	1	3	1	3	9	11	9	2	11	5	0	0	2	10	1	5	3	5	1	3	11	13	13	1	1	5	0	0
46	**Stopping the project's works**	15	4	3	3	0	5	4	4	9	3	11	1	8	0	0	11	5	1	1	5	6	10	13	6	1	5	10	0	0	0	0	11
47	**The project's duration for execution**	10	6	8	1	1	8	9	4	5	15	6	7	4	7	6	11	8	5	14	15	14	0	14	0	7	6	13	0	6	7	8	9
48	**Other risks**	6	5	4	1	0	1	2	2	8	4	5	4	0	10	3	3	12	8	11	1	1	0	0	1	12	11	7	0	7	12	14	8
Total	**Out of 720**	360	187	286	206	194	267	206	199	289	345	332	287	256	334	273	283	269	246	365	217	276	324	328	255	383	410	385	224	265	401	331	397
%	**Out of 100%**	**50**	**26**	**40**	**29**	**27**	**37**	**29**	**27**	**40**	**48**	**46**	**40**	**35**	**46**	**38**	**39**	**37**	**34**	**51**	**30**	**38**	**45**	**45**	**35**	**53**	**57**	**53**	**31**	**37**	**56**	**46**	**55**

Model's explanation:

*First of all we put the potential risks in order and to put all the surveyed companies in the order of table 1.1. Then we put the numbers on the bases of the engineer's project manager of the questionnaire's case. For example the project manager for company number 1 sees that there is 6 out of 15 possibility of having a risk in the economic side of the visibility study and so for the rest of the

other risk potentials the same criteria is applied. This is the same approach in the riskamp model in which all of the numbers in the model is filled by the project manager or the risk management team in the organization in which the other risk aspects are identified and resolved. (http://www.riskamp.com/ june 2007)

*If we take the first column of company number 1 (NONAT FOR ALUMINUM WORKS) we see that it has 6, 9,15,…….,6 out of 15

If we want know the percentage of risk probability of occurrence in the first row of the proposed model which is (Risks concerning the economic side of the visibility study) that is 6 out of 15

1st row probability of occurrence for company number 1= 6/15 *100 =40% . And so on if we want to know the percentages of occurrence for the other risks we apply the same criteria for the next ones and for any other company as well.

As for the last two rows in the proposed model we add all the above numbers to get the total number out of 720. So for company number 1 the total risk occurrence for the company is 360 out of 720. That's to say the total percentage of risk probability occurrence for company 1= 360/720 100=50. This means that all these risks together have 50% probability to occur for company 1 or we can also say that company 1 is subjected to 50% of the total risks which effects its performance.