Report for one acre technical associate

For this assignment I was unable to use Microsoft Access because there were no free trial version for 2007 or 2010.I also tried to use Apache openoffice which is an open source database manger similar to Microsoft Access . It has support for Microsoft Access however the ODBC driver had a trail version that only gave you access to the first three lines in the database.

I decided to improvise with sqlite3 (thats my inbuilt database engine on my mac.).I was able to find a driver whose trial version allowed me to import half the entries of the database you provided. For the two questions I was only able to use half the entries of both the tables in the database , hopefully my solution can be judged against that.

For the assignment the tools I used sqlite to perform queries and Microsoft excel to create my reports.

Question 1)
I decided to create a new table(T1) that was a combination of tmpClientEnrollmentInputChoices and tmpUpdateRepayments. The fields in the T1 were ClientID , Inputseedchoice , LandSize and LastRepaymentDate. To get the LandSize for the district I summed up all the landsizes using a simple sum sql query. The result is attached in the pdf called Question_1.pdf

During my interview ,I remember you mentioning to me that famers paid back in groups .I decided to group the farmers according to the date their payment was submitted. I used an sql query that summed the number of clients who paid in a day and group them by the day of payment. With this I was able to divide the famers into sectors according to their date of payment. The result is attached the pdf called Question_1.pdf

To come up with combined land size according to site , I used another column which was similar to all clients which is inputseedchoice. I also assumed farmers who grew similar crops would be under the same site as they would attend the same training session. For each day of payment , using an sql query ,I grouped them according to the inputseedchoice. The result is attached the pdf called Question_1.pdf which shows the number of farmers grouped by day of payment and inputseedchoice.

Question 2)
I used python (instead of vba because I failed to install Microsoft Access) to create a function that calculated the optimal number of bags for each land size. Below is the result,

Landsize	Total_kg	fivekg	twokg	onekg
0.25	2.5	0	1	1

0.5	5	1	0	0
0.75	7.5	1	1	1
1	10	2	0	0
1.25	12.5	2	1	1
1.5	15	3	0	0
1.75	17.5	3	1	1
2	20	4	0	0
2.25	22.5	4	1	1
2.5	25	5	0	0
2.75	27.5	5	1	1
3	30	6	0	0
3.25	32.5	6	1	1
3.5	35	7	0	0
3.75	37.5	7	1	1
4	40	8	0	0
4.25	42.5	8	1	1
4.5	45	9	0	0
4.75	47.5	9	1	1
5	50	10	0	0

I imported the table to the database called test.db.I also created a table called client_land that contained the ClientID and the LandSize. Using these two tables I was able to perform an outer join to get the bag sizes required for each client . Attached is the result in a pdf called Question_2.pdf, which shows for every client the bag size they are expected to pick up.