

Lampiran 1. Identitas Petani dan Penggunaan Faktor Produksi

No	Nama Responden	Prod	Lahan	Benih	Phonska	TSP	KCl	ZA	Urea	Organik	POC	TK	Usia	Pend	Peng. UT	St Lahan
1	Pairan	300	600	2	10	0	5	0	0	40	0	10,463	74	1	49	0
2	Yatmini	500	1.000	4	10	0	0	0	0	240	0	19,625	41	2	10	0
3	Suroyo	600	2.000	10	20	0	0	0	0	160	0	23,625	51	2	20	1
4	Marlam	180	500	2,5	7	0	0	5	0	40	0	10,333	63	2	41	0
5	Karmilan	225	350	2	5	5	0	0	0	65	0	7,333	68	2	39	0
6	Hariato	420	1.000	5	10	0	0	0	0	240	0	12,667	61	2	20	0
7	Tumi	350	1.000	5	50	0	0	50	0	40	0	12,386	42	3	10	1
8	Tumiran	120	1.000	4	0	0	0	0	0	40	0	9,250	64	2	23	0
9	Temon	300	2.000	10	50	0	0	50	0	40	0	17,333	70	2	10	1
10	Martini	100	1.250	5	20	0	0	0	0	40	2	6,917	45	4	15	0
11	Panut	250	1.000	10	15	10	0	0	0	40	0	12,083	68	2	39	0
12	Komarudin	250	750	4	9	0	0	0	0	120	0	12,208	59	2	24	0
13	Subandi	400	1.500	6	50	10	0	50	0	750	0	16,375	58	4	29	0
14	Kubarjo	350	1.500	8	60	0	0	5	0	40	0	14,542	70	2	27	0
15	Suparki	400	2.000	9	60	0	0	10	0	40	0	18,875	45	4	12	1
16	Mijirah	300	1.000	4	0	0	0	0	0	200	0	10,125	55	2	12	1
17	Sumijem	500	300	2	15	0	0	0	0	250	0	12,583	57	2	20	1
18	Badawi	100	300	2	0	0	0	0	0	8	0	5,875	70	4	41	0
19	Sugijo	600	2.000	8	50	0	0	0	0	100	0	8,125	57	4	15	1
20	Sumarjono	250	410	2	0	0	0	5	8	290	0	13,150	52	4	17	0
21	Samijo	700	4.000	16	100	0	0	0	0	320	0	76,708	46	3	28	1

No	Nama Responden	Prod	Lahan	Benih	Phonska	TSP	KCl	ZA	Urea	Organik	POC	TK	Usia	Pend	Peng. UT	St Lahan
22	Pardiono	400	2.000	10	50	0	0	0	50	0	0	30,750	50	2	15	0
23	Suroto	450	500	4	20	0	0	0	50	400	0	6,500	80	2	10	0
24	Tupon	360	1.500	10	50	0	0	0	50	40	0	23,042	59	1	10	0
25	Marijo	80	500	3	30	0	0	30	0	30	0	5,013	77	1	60	0
26	Giono	420	1.000	5	0	0	0	0	0	395	0	21,250	53	4	15	1
27	Sudiman	1820	4.000	16	0	0	0	0	60	800	0	34,250	58	3	10	1
28	Sunaryo	280	7000	28	140	0	0	0	0	500	0	38,292	71	4	14	0
29	Muhadi	7000	20.000	80	0	150	0	0	600	400	0	44,250	68	2	21	1
30	Nur Hadi	110	400	2,4	0	0	0	0	0	80	0	10,450	64	2	39	0
31	Afridin	500	1.945	8	0	0	0	0	100	45	2	21,461	65	4	11	0
32	Ngatidjo	2732	2.500	3,5	25	0	0	0	0	600	0	20,190	68	4	35	0
33	Sugeng	1143	1.040	2,5	0	0	0	0	0	150	0	8,875	56	3	42	0
34	Wagiman	214	450	2,5	10	0	0	0	10	200	0	9,185	64	2	20	0
35	Wadiyo	714	1.000	10	0	0	0	5	10	50	0	19,250	57	3	20	0
36	Ponijan	300	1.000	2,5	0	30	0	0	0	100	0	17,375	65	1	10	0
37	Wakijo	720	1.500	4	0	25	0	0	10	1000	0	9,693	63	1	40	0
38	Sarbini	1584	1.025	3	0	0	0	0	0	0	0	17,250	50	3	30	0
39	Sediyono	810	500	3	0	0	0	8	0	415	0	17,880	60	2	30	0
40	Sardi	143	600	5	0	0	0	0	40	150	0	11,125	64	2	30	1
41	Ngadi	225	500	1,3	0	8	0	0	8	50	0	9,750	58	3	29	0
42	Mitro	540	500	2	0	5	0	0	5	150	0	6,505	62	1	49	0
43	Tugiman	1095	2.000	10	0	0	0	0	0	500	0	16,250	67	2	50	0

No	Nama Responden	Prod	Lahan	Benih	Phonska	TSP	KCl	ZA	Urea	Organik	POC	TK	Usia	Pend	Peng. UT	St Lahan
44	Sularjo	1152	1.200	3	20	0	18	0	10	240	0	13,375	54	4	20	1
45	Trisharyanto	1500	2.500	5	0	0	25	0	25	300	0	10,875	58	4	20	0
46	Wijayanto	1296	1.600	7	33	18	0	0	18	200	0	13,500	64	5	26	0
47	Sugiyanto	810	1.050	5	20	10	0	0	5	500	0	13,943	52	4	35	0
48	Sabari	1500	2.000	8	20	0	0	0	10	450	0	14,500	68	2	52	1

Keterangan:

1. Pendidikan

- 1 = Tidak Sekolah
- 2 = SD
- 3 = SMP
- 4 = SMA
- 5 = Perguruan Tinggi

2. Status Kepemilikan Lahan

- 1 = Milik Sendiri
- 0 = Sewa/Bagi Hasil

Lampiran 2. Analisis Frontier

Output from the program FRONTIER (Version 4.1c)

instruction file = terminal

data file = lina1.dta

Tech. Eff. Effects Frontier (see B&C 1993)

The model is a production function

The dependent variable is logged

the ols estimates are :

	coefficient	standard-error	t-ratio
beta 0	-0.94082491E+00	0.13842814E+01	-0.67964861E+00
beta 1	0.84241428E+00	0.23797123E+00	0.35399837E+01
beta 2	-0.27920314E+00	0.24742390E+00	-0.11284405E+01
beta 3	0.47735802E-01	0.39183062E-01	0.12182765E+01
beta 4	-0.29919802E-01	0.36128145E-01	-0.82815772E+00
beta 5	-0.32341244E-01	0.35079674E-01	-0.92193684E+00
beta 6	0.24430529E-01	0.44498392E-01	0.54902049E+00
beta 7	-0.15447877E+00	0.74950885E-01	-0.20610667E+01
beta 8	0.13314623E+00	0.30368840E+00	0.43843040E+00
sigma-squared	0.51025674E+00		

log likelihood function = -0.46977513E+02

the estimates after the grid search were :

beta 0	-0.82407527E+00
beta 1	0.84241428E+00
beta 2	-0.27920314E+00
beta 3	0.47735802E-01
beta 4	-0.29919802E-01
beta 5	-0.32341244E-01
beta 6	0.24430529E-01
beta 7	-0.15447877E+00
beta 8	0.13314623E+00
delta 0	0.00000000E+00
delta 1	0.00000000E+00
delta 2	0.00000000E+00
delta 3	0.00000000E+00
delta 4	0.00000000E+00
sigma-squared	0.42821408E+00
gamma	0.50000000E-01

iteration = 0 func evals = 20 llf = -0.46978160E+02
-0.82407527E+00 0.84241428E+00 -0.27920314E+00 0.47735802E-01 -
0.29919802E-01
-0.32341244E-01 0.24430529E-01 -0.15447877E+00 0.13314623E+00
0.00000000E+00

0.00000000E+00 0.00000000E+00 0.00000000E+00 0.00000000E+00
 0.42821408E+00
 0.50000000E-01
 gradient step
 iteration = 5 func evals = 50 llf = -0.46560854E+02
 -0.82742626E+00 0.83449811E+00-0.26883782E+00 0.43057629E-01-
 0.19827779E-01
 -0.39841495E-01 0.38815867E-01-0.16017041E+00 0.13616074E+00
 0.26420946E-01
 0.15798903E+00-0.12659197E+00-0.12665092E+00-0.34398984E-01
 0.44566868E+00
 0.73086412E-01
 iteration = 10 func evals = 69 llf = -0.46368769E+02
 -0.81849515E+00 0.86201921E+00-0.26372962E+00 0.42168643E-01-
 0.94744445E-02
 -0.50467158E-01 0.34567142E-01-0.15734467E+00 0.14725951E+00
 0.39482730E-01
 0.26327662E+00-0.18951660E+00-0.20858182E+00-0.48565528E-01
 0.43573416E+00
 0.22958570E+00
 iteration = 15 func evals = 103 llf = -0.45810115E+02
 -0.32732187E+00 0.83303177E+00-0.24468827E+00 0.46418982E-01-
 0.22924867E-01
 -0.37416611E-01 0.15768089E-01-0.15942839E+00 0.12741011E+00-
 0.18548996E+00
 0.45596973E+00-0.28008253E+00-0.28594495E+00-0.35823346E-01
 0.41989955E+00
 0.30434712E+00
 iteration = 20 func evals = 191 llf = -0.45372162E+02
 0.94273478E+00 0.77169074E+00-0.15774092E+00 0.49603436E-01-
 0.15458789E-01
 -0.48273456E-01 0.20261331E-01-0.15688198E+00 0.77412026E-01-
 0.93475594E+00
 0.86349680E+00-0.22782826E+00-0.30335531E+00-0.24145503E-01
 0.39469520E+00
 0.72806285E+00
 iteration = 25 func evals = 300 llf = -0.45230056E+02
 0.10707693E+01 0.78811681E+00-0.20039864E+00 0.49638280E-01-
 0.17270852E-01
 -0.44710487E-01 0.21407357E-01-0.15125030E+00 0.11518737E+00
 0.58214911E+00
 0.54414494E+00-0.22525048E+00-0.29372905E+00-0.51562918E-01
 0.39255052E+00
 0.87079610E+00
 iteration = 30 func evals = 392 llf = -0.44332266E+02
 0.10781847E+01 0.69395684E+00-0.99557926E-01 0.41224003E-01-
 0.11030283E-02

-0.54589126E-01-0.11004826E-02-0.15757522E+00 0.17168994E+00
 0.11897692E+01
 0.35646672E+00-0.37235409E+00-0.33999703E+00-0.19706124E-01
 0.43625605E+00
 0.99905093E+00
 pt better than entering pt cannot be found
 iteration = 34 func evals = 426 llf = -0.44204818E+02
 0.10901848E+01 0.68369601E+00-0.89236829E-01 0.40205583E-01
 0.84303340E-03
 -0.55733666E-01-0.38687956E-02-0.15830765E+00 0.17871822E+00
 0.12872854E+01
 0.33118435E+00-0.39134581E+00-0.34490373E+00-0.15136342E-01
 0.44044383E+00
 0.99999999E+00

the final mle estimates are :

	coefficient	standard-error	t-ratio
beta 0	0.10901848E+01	0.11306293E+01	0.96422833E+00
beta 1	0.68369601E+00	0.17876836E+00	0.38244800E+01
beta 2	-0.89236829E-01	0.20502364E+00	-0.43525141E+00
beta 3	0.40205583E-01	0.34725468E-01	0.11578126E+01
beta 4	0.84303340E-03	0.32115684E-01	0.26249897E-01
beta 5	-0.55733666E-01	0.29902594E-01	-0.18638405E+01
beta 6	-0.38687956E-02	0.31987651E-01	-0.12094654E+00
beta 7	-0.15830765E+00	0.71257488E-01	-0.22216282E+01
beta 8	0.17871822E+00	0.28896030E+00	0.61848711E+00
delta 0	0.12872854E+01	0.25432638E+01	0.50615487E+00
delta 1	0.33118435E+00	0.64964809E+00	0.50979039E+00
delta 2	-0.39134581E+00	0.23314805E+00	-0.16785292E+01
delta 3	-0.34490373E+00	0.19694434E+00	-0.17512751E+01
delta 4	-0.15136342E-01	0.27346555E+00	-0.55350086E-01
sigma-squared	0.44044383E+00	0.66812539E-01	0.65922331E+01
gamma	0.99999999E+00	0.23330681E-01	0.42862014E+02

log likelihood function = -0.44204818E+02

LR test of the one-sided error = 0.55453895E+01

with number of restrictions = 6

[note that this statistic has a mixed chi-square distribution]

number of iterations = 34

(maximum number of iterations set at : 100)

number of cross-sections = 48

number of time periods = 1

total number of observations = 48

thus there are: 0 obsns not in the panel

covariance matrix :

0.12783226E+01	-0.17156239E+00	0.89105632E-01	-0.14028291E-02	
0.80426207E-02				
-0.21788013E-02	-0.63010468E-03	0.34036447E-01	0.10913927E-01	
0.24527686E+00				
-0.50097614E-01	-0.12172203E-01	0.21684378E-02	-0.81676735E-01	-
0.19977215E-02				
0.80176570E-02				
-0.17156239E+00	0.31958125E-01	-0.12309782E-01	-0.39342796E-04	-
0.32821632E-03				
-0.10854923E-03	-0.22014091E-02	-0.22676626E-02	-0.20088412E-01	
0.10284543E-01				
-0.31694900E-02	-0.45281160E-02	-0.37321692E-02	0.48440390E-02	
0.31491179E-02				
-0.14641786E-02				
0.89105632E-01	-0.12309782E-01	0.42034693E-01	-0.73849525E-03	-
0.99868517E-03				
0.22566159E-03	0.18660644E-02	-0.12752894E-02	-0.28351871E-01	-
0.23533829E+00				
0.58399830E-01	0.99633998E-02	0.57967259E-04	0.13250520E-01	-
0.37823460E-02				
0.21269464E-02				
-0.14028291E-02	-0.39342796E-04	-0.73849525E-03	0.12058581E-02	-
0.29410624E-03				
-0.31307932E-03	-0.37564020E-03	-0.49826600E-03	-0.40612734E-03	-
0.99097006E-03				
0.71109887E-03	-0.15586969E-03	-0.92825848E-03	-0.59957587E-04	
0.17545453E-03				
-0.47610650E-04				
0.80426207E-02	-0.32821632E-03	-0.99868517E-03	-0.29410624E-03	
0.10314172E-02				
-0.54703907E-03	0.92680051E-04	0.20906867E-03	-0.23602320E-03	-
0.85354786E-02				
0.21943254E-02	-0.17048312E-02	0.12568847E-02	-0.38476779E-03	-
0.17064408E-03				
0.13063467E-03				
-0.21788013E-02	-0.10854923E-03	0.22566159E-03	-0.31307932E-03	-
0.54703907E-03				

0.89416514E-03	-0.58464018E-04	0.19497572E-03	0.14367809E-02
0.30297636E-02			
-0.11963733E-02	0.17258114E-02	-0.50127979E-03	0.55635308E-03
0.57405732E-03			
-0.14034847E-03			
-0.63010468E-03	-0.22014091E-02	0.18660644E-02	-0.37564020E-03
0.92680051E-04			
-0.58464018E-04	0.10232098E-02	0.81130198E-04	0.24298837E-02 -
0.93535637E-02			
0.18485029E-02	-0.11218087E-02	-0.37461118E-03	0.27238668E-02
0.90695513E-03			
-0.24079136E-03			
0.34036447E-01	-0.22676626E-02	-0.12752894E-02	-0.49826600E-03
0.20906867E-03			
0.19497572E-03	0.81130198E-04	0.50776296E-02	0.64803808E-02
0.37942994E-01			
-0.74616525E-02	0.36468229E-02	-0.31300575E-02	-0.49273677E-02
0.37622873E-03			
-0.64304306E-04			
0.10913927E-01	-0.20088412E-01	-0.28351871E-01	-0.40612734E-03 -
0.23602320E-03			
0.14367809E-02	0.24298837E-02	0.64803808E-02	0.83498052E-01
0.18699236E+00			
-0.43640731E-01	0.11495515E-01	-0.17093864E-02	-0.61456702E-02 -
0.80255355E-03			
-0.66457182E-03			
0.24527686E+00	0.10284543E-01	-0.23533829E+00	-0.99097006E-03 -
0.85354786E-02			
0.30297636E-02	-0.93535637E-02	0.37942994E-01	0.18699236E+00
0.64681908E+01			
-0.15992988E+01	-0.73889939E-01	0.12220964E+00	-0.16753999E+00
0.13124048E-01			
0.41790491E-02			
-0.50097614E-01	-0.31694900E-02	0.58399830E-01	0.71109887E-03
0.21943254E-02			
-0.11963733E-02	0.18485029E-02	-0.74616525E-02	-0.43640731E-01 -
0.15992988E+01			
0.42204264E+00	0.80748530E-02	-0.60849483E-01	0.32723453E-01 -
0.78523314E-03			
-0.94305987E-03			
-0.12172203E-01	-0.45281160E-02	0.99633998E-02	-0.15586969E-03 -
0.17048312E-02			
0.17258114E-02	-0.11218087E-02	0.36468229E-02	0.11495515E-01 -
0.73889939E-01			
0.80748530E-02	0.54358013E-01	-0.11081615E-01	-0.13071841E-01
0.35664362E-02			
-0.11219006E-02			

0.21684378E-02	-0.37321692E-02	0.57967259E-04	-0.92825848E-03
0.12568847E-02			
-0.50127979E-03	-0.37461118E-03	-0.31300575E-02	-0.17093864E-02
0.12220964E+00			
-0.60849483E-01	-0.11081615E-01	0.38787075E-01	0.75090864E-02
0.68860968E-04			
-0.12972615E-03			
-0.81676735E-01	0.48440390E-02	0.13250520E-01	-0.59957587E-04 -
0.38476779E-03			
0.55635308E-03	0.27238668E-02	-0.49273677E-02	-0.61456702E-02 -
0.16753999E+00			
0.32723453E-01	-0.13071841E-01	0.75090864E-02	0.74783407E-01 -
0.36398174E-02			
0.25325184E-03			
-0.19977215E-02	0.31491179E-02	-0.37823460E-02	0.17545453E-03 -
0.17064408E-03			
0.57405732E-03	0.90695513E-03	0.37622873E-03	-0.80255355E-03
0.13124048E-01			
-0.78523314E-03	0.35664362E-02	0.68860968E-04	-0.36398174E-02
0.44639154E-02			
-0.21282254E-03			
0.80176570E-02	-0.14641786E-02	0.21269464E-02	-0.47610650E-04
0.13063467E-03			
-0.14034847E-03	-0.24079136E-03	-0.64304306E-04	-0.66457182E-03
0.41790491E-02			
-0.94305987E-03	-0.11219006E-02	-0.12972615E-03	0.25325184E-03 -
0.21282254E-03			
0.54432070E-03			

technical efficiency estimates :

firm	year	eff.-est.
1	1	0.32308873E+00
2	1	0.34195640E+00
3	1	0.27051508E+00
4	1	0.20434368E+00
5	1	0.34778985E+00
6	1	0.31686780E+00
7	1	0.26031699E+00
8	1	0.83106274E-01
9	1	0.13916247E+00
10	1	0.23043330E+00
11	1	0.20195732E+00
12	1	0.22561524E+00

13	1	0.22041750E+00
14	1	0.20668661E+00
15	1	0.18641631E+00
16	1	0.20571310E+00
17	1	0.93581262E+00
18	1	0.17030269E+00
19	1	0.32466939E+00
20	1	0.20001871E+00
21	1	0.17043493E+00
22	1	0.15801634E+00
23	1	0.55894380E+00
24	1	0.18911334E+00
25	1	0.10641828E+00
26	1	0.25801194E+00
27	1	0.29106912E+00
28	1	0.55713852E-01
29	1	0.36983045E+00
30	1	0.13336793E+00
31	1	0.41252780E+00
32	1	0.99865375E+00
33	1	0.74829204E+00
34	1	0.26207957E+00
35	1	0.33023386E+00
36	1	0.17713201E+00
37	1	0.26594910E+00
38	1	0.90656865E+00
39	1	0.58140926E+00
40	1	0.93117534E-01
41	1	0.15876208E+00
42	1	0.43617275E+00
43	1	0.46781832E+00
44	1	0.76921908E+00
45	1	0.65597516E+00
46	1	0.70560075E+00
47	1	0.57485304E+00
48	1	0.69965213E+00

mean efficiency = 0.35271098E+00