

LAMPIRAN

Lampiran 1. Identitas Petani Padi Organik di Gapoktan “Mitra Usaha Tani” Kecamatan Pandak tahun 2015.

| No. Responden | Nama | Umur (tahun) | Jenis Kelamin | Tingkat Pendidikan | Pengalaman | Status Kepemilikan Lahan |
|---------------|-----------|--------------|---------------|--------------------|------------|--------------------------|
| 1 | Sukijo | 53 | Laki-laki | SMA | 10 | Sewa |
| 2 | Suparmi | 42 | Perempuan | SMA | 10 | Sakap |
| 3 | Mujirah | 52 | Perempuan | SD | 8 | Sewa |
| 4 | Qomarudin | 55 | Laki-laki | SD | 13 | Pemilik dan Sewa |
| 5 | Temon | 65 | Perempuan | SD | 10 | Sakap |
| 6 | Badawi | 60 | Laki-laki | SMA | 13 | Sakap |
| 7 | Suparti | 42 | Perempuan | SMP | 5 | Sakap |
| 8 | Pairan | 71 | Laki-laki | SD | 13 | Pemilik dan Sewa |
| 9 | Yulianto | 53 | Laki-laki | SMA | 10 | Pemilik |
| 10 | Miyati | 44 | Perempuan | SMP | 5 | Pemilik |
| 11 | Subandi | 53 | Laki-laki | SMA | 10 | Sakap dan Pemilik |
| 12 | Yatmini | 34 | Perempuan | SD | 8 | Pemilik |
| 13 | Martini | 41 | Perempuan | SMA | 8 | Pemilik dan Sewa |
| 14 | Sumijem | 55 | Perempuan | SD | 10 | Sakap |
| 15 | Subagio | 53 | Laki-laki | SMA | 15 | Sakap dan Pemilik |
| 16 | Sumarjono | 44 | Laki-laki | SMA | 14 | Pemilik dan Sewa |
| 17 | Kadiyat | 49 | Laki-laki | SMA | 8 | Pemilik |
| 18 | Giyono | 45 | Laki-laki | SMA | 10 | Pemilik |
| 19 | Kubarjo | 65 | Laki-laki | SD | 10 | Pemilik |
| 20 | Muhaji | 82 | Laki-laki | D3 | 10 | Pemilik |
| 21 | Tumiran | 60 | Laki-laki | SD | 15 | Pemilik dan Sewa |
| 22 | Suroyo | 46 | Laki-laki | SD | 8 | Sakap |
| 23 | Sumarjono | 50 | Laki-laki | SMA | 5 | Pemilik |
| 24 | Marjono | 44 | Laki-laki | SMA | 7 | Sakap dan Pemilik |
| 25 | Priyadi | 53 | Laki-laki | SMA | 14 | Sewa |
| 26 | Kasbi | 50 | Laki-laki | SMP | 5 | Sakap |
| 27 | Saringat | 52 | Laki-laki | SMA | 14 | Sewa |
| 28 | Adi W | 70 | Laki-laki | SD | 10 | Sewa |
| 29 | Darso H | 55 | Laki-laki | SMP | 14 | Sewa |
| 30 | Samingan | 65 | Laki-laki | SMP | 5 | Pemilik dan Sewa |
| 31 | Mordi | 60 | Laki-laki | SD | 10 | Sakap dan Pemilik |
| 32 | Slamet | 52 | Laki-laki | SMA | 14 | Sakap |
| 33 | Jumadi | 55 | Laki-laki | SD | 14 | Pemilik |

Lampiran 2. Biaya Penggunaan Faktor Produksi Usahatani Padi Organik di Gapoktan “Mitra Usaha Tani” (2015).

| No. | Nama | Status Lahan | Lahan | | Benih | | | Pupuk Kandang | | | Pupuk Petroganik | | | Tenaga Kerja | | |
|-----|-----------|--------------|-----------------|---------|-------|-------|-------|---------------|-----|--------|------------------|-----|--------|--------------|-------|--------|
| | | | Luas Lahan (m2) | Total | Kg | Rp | Total | Kg | Rp | Total | Kg | Rp | Total | HKO | Rp | Total |
| 1 | Sukijo | Sewa | 2000 | 750,000 | 4 | 7000 | 28000 | 200 | 500 | 100000 | 50 | 400 | 20000 | 19 | 30000 | 570000 |
| 2 | Suparmi | Sakap | 140 | 52,500 | 8 | 7000 | 56000 | 500 | 500 | 250000 | 50 | 400 | 20000 | 13 | 30000 | 390000 |
| 3 | Mujirah | Sewa | 1000 | 375,000 | 4 | 10000 | 40000 | 500 | 500 | 250000 | 50 | 400 | 20000 | 16 | 30000 | 480000 |
| 4 | Qomarudin | Milik | 1000 | 375,000 | 5 | 10000 | 50000 | 260 | 500 | 130000 | 35 | 500 | 17500 | 19.9 | 30000 | 596250 |
| 5 | Qomarudin | Sewa | 300 | 112,500 | 1 | 10000 | 10000 | 130 | 500 | 65000 | 5 | 500 | 2500 | 10.4 | 30000 | 311250 |
| 6 | Temon | Sakap | 500 | 187,500 | 3 | 7000 | 21000 | 200 | 500 | 100000 | 25 | 500 | 12500 | 10 | 30000 | 300000 |
| 7 | Badawi | Sakap | 1500 | 562,500 | 8 | 10000 | 80000 | 0 | 0 | 0 | 80 | 500 | 40000 | 13.6 | 30000 | 408750 |
| 8 | Pairan | Milik | 200 | 75,000 | 4 | 7000 | 28000 | 40 | 500 | 20000 | 20 | 500 | 10000 | 5.6 | 30000 | 166500 |
| 9 | Pairan | Sewa | 500 | 187,500 | 5 | 7000 | 35000 | 100 | 500 | 50000 | 30 | 500 | 15000 | 10 | 30000 | 298500 |
| 10 | Yulianto | Milik | 1400 | 525,000 | 7 | 7000 | 49000 | 560 | 500 | 280000 | 0 | 0 | 0 | 13 | 30000 | 390000 |
| 11 | Miyati | Milik | 1000 | 375,000 | 5 | 7000 | 35000 | 100 | 500 | 50000 | 200 | 500 | 100000 | 19 | 30000 | 570000 |
| 12 | Subandi | Sakap | 1000 | 375,000 | 2.5 | 9000 | 22500 | 500 | 500 | 250000 | 0 | 0 | 0 | 9 | 30000 | 268500 |
| 13 | Subandi | Milik | 500 | 187,500 | 2.5 | 9000 | 22500 | 250 | 500 | 125000 | 0 | 0 | 0 | 7 | 30000 | 210000 |
| 14 | Yatmini | Milik | 1000 | 375,000 | 5 | 7000 | 35000 | 40 | 500 | 20000 | 400 | 500 | 200000 | 16.5 | 30000 | 495000 |
| 15 | Martini | Milik | 500 | 187,500 | 2.5 | 7000 | 17500 | 70 | 500 | 35000 | 150 | 400 | 60000 | 8.9 | 30000 | 267000 |
| 16 | Martini | Sakap | 700 | 262,500 | 2.5 | 7000 | 17500 | 80 | 500 | 40000 | 250 | 400 | 100000 | 11.4 | 30000 | 340500 |
| 17 | Sumijem | Sakap | 2000 | 750,000 | 8 | 10000 | 80000 | 0 | 0 | 0 | 50 | 400 | 20000 | 18 | 30000 | 540000 |
| 18 | Subagio | Milik | 2000 | 750,000 | 10 | 7000 | 70000 | 50 | 500 | 25000 | 200 | 500 | 100000 | 17.1 | 30000 | 513000 |
| 19 | Subagio | Sakap | 2000 | 750,000 | 10 | 7000 | 70000 | 50 | 500 | 25000 | 200 | 500 | 100000 | 17.1 | 30000 | 513000 |
| 20 | Sumarjono | Milik | 1000 | 375,000 | 5 | 8000 | 40000 | 200 | 300 | 60000 | 50 | 500 | 25000 | 12.8 | 30000 | 383100 |

| | | | | | | | | | | | | | | | | |
|-----------|-----------|-------|-------|------------|-----|--------|---------|------|-------|---------|------|-------|---------|------|---------|----------|
| 21 | Sumarjono | Sewa | 5000 | 1,875,000 | 19 | 8000 | 152000 | 1000 | 300 | 300000 | 250 | 500 | 125000 | 57.3 | 30000 | 1719750 |
| 22 | Kadiyat | Milik | 2000 | 750,000 | 4 | 7000 | 28000 | 400 | 1000 | 400000 | 40 | 500 | 20000 | 19.9 | 30000 | 597750 |
| 23 | Giyono | Milik | 500 | 187,500 | 2.5 | 4000 | 10000 | 200 | 500 | 100000 | 25 | 500 | 12500 | 12.3 | 30000 | 367500 |
| 24 | Kubarjo | Milik | 800 | 300,000 | 5 | 7000 | 35000 | 400 | 500 | 200000 | 160 | 500 | 80000 | 9.3 | 30000 | 277500 |
| 25 | Muhaji | Milik | 450 | 168,750 | 3 | 11500 | 34500 | 400 | 1000 | 400000 | 120 | 500 | 60000 | 14.9 | 30000 | 446250 |
| 26 | Tumiran | Milik | 600 | 225,000 | 2.5 | 10000 | 25000 | 600 | 500 | 300000 | 0 | 0 | 0 | 8 | 30000 | 239850 |
| 27 | Tumiran | Sewa | 500 | 187,500 | 2.5 | 10000 | 25000 | 400 | 500 | 200000 | 0 | 0 | 0 | 7.3 | 30000 | 217650 |
| 28 | Suroyo | Sakap | 1500 | 562,500 | 7 | 7000 | 49000 | 0 | 0 | 0 | 150 | 500 | 75000 | 20 | 30000 | 600000 |
| 29 | Sumarjono | Milik | 500 | 187,500 | 2.5 | 10000 | 25000 | 180 | 500 | 90000 | 0 | 0 | 0 | 9.7 | 30000 | 291000 |
| 30 | Marjono | Milik | 650 | 243,750 | 10 | 10000 | 100000 | 325 | 700 | 227500 | 150 | 500 | 75000 | 15.8 | 30000 | 474450 |
| 31 | Marjono | Sakap | 200 | 75,000 | 5 | 10000 | 50000 | 100 | 700 | 70000 | 50 | 500 | 25000 | 4.9 | 30000 | 146550 |
| 32 | Priyadi | Sewa | 500 | 187,500 | 2.5 | 10000 | 25000 | 180 | 500 | 90000 | 0 | 0 | 0 | 10 | 30000 | 298500 |
| 33 | Kasbi | Sakap | 1100 | 412,500 | 8 | 10000 | 80000 | 25 | 500 | 12500 | 50 | 500 | 25000 | 15.4 | 30000 | 461235 |
| 34 | Saringat | Sewa | 1000 | 375,000 | 5 | 10000 | 50000 | 0 | 0 | 0 | 40 | 1000 | 40000 | 16.2 | 30000 | 484500 |
| 35 | Adi W | Sewa | 500 | 187,500 | 2.5 | 10000 | 25000 | 0 | 0 | 0 | 40 | 1000 | 40000 | 10.6 | 30000 | 317250 |
| 36 | Darso H | Sewa | 500 | 187,500 | 2.5 | 10000 | 25000 | 0 | 0 | 0 | 20 | 1000 | 20000 | 10.6 | 30000 | 317250 |
| 37 | Samingan | Milik | 1000 | 375,000 | 5 | 10000 | 50000 | 0 | 0 | 0 | 150 | 500 | 75000 | 17 | 30000 | 510300 |
| 38 | Samingan | Sewa | 500 | 187,500 | 3 | 10000 | 30000 | 0 | 0 | 0 | 50 | 500 | 25000 | 8.9 | 30000 | 267000 |
| 39 | Mordi | Sakap | 500 | 187,500 | 2.5 | 10000 | 25000 | 160 | 500 | 80000 | 210 | 625 | 131250 | 10.7 | 30000 | 320100 |
| 40 | Mordi | Milik | 250 | 93,750 | 2.5 | 10000 | 25000 | 80 | 500 | 40000 | 110 | 625 | 68750 | 7.1 | 30000 | 213150 |
| 41 | Slamet | Sewa | 1000 | 375,000 | 5 | 10000 | 50000 | 650 | 500 | 325000 | 0 | 0 | 0 | 21.4 | 30000 | 642000 |
| 42 | Jumadi | Milik | 900 | 337,500 | 3.6 | 10000 | 36000 | 0 | 0 | 0 | 48 | 500 | 24000 | 21.5 | 30000 | 645000 |
| Jumlah | | | 40690 | 15,258,750 | 207 | 364500 | 1761500 | 8930 | 17500 | 4710000 | 3508 | 18150 | 1784000 | 596 | 1260000 | 17865885 |
| Rata-rata | | | 968.8 | 363303.6 | 4.9 | 8679 | 41941 | 213 | 416.7 | 112143 | 83.5 | 432.1 | 42476 | 14.2 | 30000 | 425378 |

Lampiran 3. Frontier

Output from the program FRONTIER (Version 4.1c)

instruction file = terminal
data file = frontier.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 | 0.43424280E+00 | 0.55101686E+00 | 0.78807534E+00 |
| beta 1 | 0.76080322E+00 | 0.12809802E+00 | 0.59392268E+01 |
| beta 2 | 0.16628029E+00 | 0.14451377E+00 | 0.11506190E+01 |
| beta 3 | 0.17166044E-01 | 0.14186907E-01 | 0.12099920E+01 |
| beta 4 | -0.44679883E-01 | 0.18054466E-01 | -0.24747275E+01 |
| beta 5 | -0.56935553E-02 | 0.22514002E+00 | -0.25288953E-01 |
| sigma-squared | 0.12637355E+00 | | |

log likelihood function = -0.12919479E+02

the estimates after the grid search were :

| | |
|---------------|-----------------|
| beta 0 | 0.83073641E+00 |
| beta 1 | 0.76080322E+00 |
| beta 2 | 0.16628029E+00 |
| beta 3 | 0.17166044E-01 |
| beta 4 | -0.44679883E-01 |
| beta 5 | -0.56935553E-02 |
| 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 | 0.26552737E+00 |
| gamma | 0.93000000E+00 |

```

iteration =    0  func evals =    20  llf = -0.10839101E+02
      0.83073641E+00 0.76080322E+00 0.16628029E+00 0.17166044E-01-0.44679883E-01
      -0.56935553E-02 0.00000000E+00 0.00000000E+00 0.00000000E+00 0.00000000E+00
      0.00000000E+00 0.26552737E+00 0.93000000E+00
gradient step
iteration =    5  func evals =    59  llf = -0.79525498E+01
      0.83271284E+00 0.76004254E+00 0.20086272E+00 0.16502248E-01-0.73652943E-01
      0.27433615E-03-0.21945868E-02 0.57133409E-02-0.71153868E-02-0.38991965E-02
      -0.16209776E-01 0.25938507E+00 0.98546152E+00
iteration =   10  func evals =    86  llf = -0.58552576E+01
      0.80523386E+00 0.76298667E+00 0.26221387E+00 0.17286805E-01-0.77318684E-01
      -0.29253869E-01-0.22052595E-01 0.35731906E+00 0.66964016E-01 0.73692417E-02
      -0.47003983E+00 0.24380416E+00 0.99422981E+00
iteration =   15  func evals =   121  llf = -0.21669665E+01
      0.89983008E+00 0.75672818E+00 0.35902156E+00 0.15042754E-01-0.81809206E-01
      -0.91806365E-01-0.91170880E+00 0.64299991E+00-0.31017443E-02 0.10644166E+00
      -0.35896482E+00 0.34598619E+00 0.99999952E+00
iteration =   20  func evals =   493  llf = -0.19817137E+01
      0.89800980E+00 0.75687013E+00 0.36123127E+00 0.14974809E-01-0.82053872E-01
      -0.93502844E-01-0.91460635E+00 0.62929328E+00 0.11864983E-01 0.10524225E+00
      -0.37830738E+00 0.34966476E+00 0.99999999E+00
iteration =   25  func evals =   544  llf = -0.16965206E+01
      0.89739415E+00 0.75678342E+00 0.36305691E+00 0.14990869E-01-0.82561270E-01
      -0.94563278E-01-0.91935735E+00 0.61999691E+00 0.21717988E-01 0.10462377E+00
      -0.39741971E+00 0.35213935E+00 0.99999999E+00
iteration =   30  func evals =   594  llf = -0.16368891E+01
      0.89728977E+00 0.75679643E+00 0.36285442E+00 0.14982404E-01-0.82525472E-01
      -0.94504604E-01-0.91939117E+00 0.61945432E+00 0.14184360E-01 0.10466377E+00
      -0.40103998E+00 0.35201462E+00 0.99999999E+00
iteration =   34  func evals =   630  llf = -0.16268729E+01
      0.89723084E+00 0.75681688E+00 0.36250501E+00 0.14972901E-01-0.82497543E-01
      -0.94370243E-01-0.91904536E+00 0.61988178E+00 0.10178334E-01 0.10475021E+00
      -0.40211024E+00 0.35174781E+00 0.99999999E+00

```

the final mle estimates are :

| | coefficient | standard-error | t-ratio |
|---------------|-----------------|----------------|-----------------|
| beta 0 | 0.89723084E+00 | 0.28610210E+00 | 0.31360512E+01 |
| beta 1 | 0.75681688E+00 | 0.81575018E-01 | 0.92775571E+01 |
| beta 2 | 0.36250501E+00 | 0.19270204E+00 | 0.18811685E+01 |
| beta 3 | 0.14972901E-01 | 0.64111112E-02 | 0.23354612E+01 |
| beta 4 | -0.82497543E-01 | 0.89737366E-02 | -0.91932209E+01 |
| beta 5 | -0.94370243E-01 | 0.11487582E+00 | -0.82149789E+00 |
| delta 0 | -0.91904536E+00 | 0.94668871E+00 | -0.97079996E+00 |
| delta 1 | 0.61988178E+00 | 0.21211432E+00 | 0.29223947E+01 |
| delta 2 | 0.10178334E-01 | 0.71729959E+00 | 0.14189795E-01 |
| delta 3 | 0.10475021E+00 | 0.14870858E+00 | 0.70439922E+00 |
| delta 4 | -0.40211024E+00 | 0.71535598E+00 | -0.56211208E+00 |
| sigma-squared | 0.35174781E+00 | 0.68690338E-01 | 0.51207756E+01 |
| gamma | 0.99999999E+00 | 0.28887268E-07 | 0.34617327E+08 |

log likelihood function = -0.16268746E+01

LR test of the one-sided error = 0.22585208E+02

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 = 42

number of time periods = 1

total number of observations = 42

thus there are: 0 obsns not in the panel

covariance matrix :

```

0.81854412E-01 -0.22929446E-01 0.66601097E-02 -0.36714384E-03 -0.11816961E-02
0.25754856E-01 -0.11528981E-01 -0.35989751E-01 0.62415482E-01 -0.78576529E-02
-0.42088177E-01 0.14542126E-01 -0.57922326E-08
-0.22929446E-01 0.66544835E-02 0.31862403E-02 0.19123036E-03 0.24952681E-03
-0.10779577E-01 -0.65307758E-02 -0.46775236E-02 0.10160794E-01 0.11176380E-02
-0.10110361E-01 0.71077092E-03 -0.97424142E-09
0.66601097E-02 0.31862403E-02 0.37134077E-01 0.86444790E-04 0.22598311E-02
0.10393471E-01 0.77236749E-01 0.13210239E+00 -0.22743274E+00 0.12477656E-01
0.22014400E+00 -0.44110890E-01 0.23871945E-07
-0.36714384E-03 0.19123036E-03 0.86444790E-04 0.41102347E-04 0.60682910E-04
-0.43889856E-03 0.33254611E-04 0.75585947E-03 -0.51240421E-03 0.37494672E-05
0.78307350E-03 -0.69399557E-04 0.73427108E-10
-0.11816961E-02 0.24952681E-03 0.22598311E-02 0.60682910E-04 0.80527949E-04
-0.17197990E-02 -0.49622200E-02 -0.82835002E-02 0.99934563E-02 -0.69034424E-03
-0.16590726E-01 0.25343188E-02 -0.13893152E-08
0.25754856E-01 -0.10779577E-01 0.10393471E-01 -0.43889856E-03 -0.17197990E-02
0.13196454E-01 -0.21860260E-01 -0.47115755E-01 0.84302410E-01 -0.70287117E-02
-0.74878791E-01 0.17637937E-01 -0.87565626E-08
-0.11528981E-01 -0.65307758E-02 0.77236749E-01 0.33254611E-04 -0.49622200E-02
-0.21860260E-01 0.89621951E+00 -0.34426726E+00 0.28636993E+00 -0.39060801E-01
-0.42274500E+00 0.75559523E-01 -0.49357998E-07
-0.35989751E-01 -0.46775236E-02 0.13210239E+00 0.75585947E-03 -0.82835002E-02
-0.47115755E-01 -0.34426726E+00 0.44992486E-01 0.66633408E+00 -0.34858137E-01
-0.65117497E+00 0.13521730E+00 -0.67339000E-07
0.62415482E-01 0.10160794E-01 -0.22743274E+00 -0.51240421E-03 0.99934563E-02
0.84302410E-01 0.28636993E+00 0.66633408E+00 0.51451870E+00 0.56710756E-01
0.99907299E+00 -0.24943633E+00 0.12683576E-06
-0.78576529E-02 0.11176380E-02 0.12477656E-01 0.37494672E-05 -0.69034424E-03
-0.70287117E-02 -0.39060801E-01 -0.34858137E-01 0.56710756E-01 0.22114243E-01
-0.62071052E-01 0.13507099E-01 -0.61666904E-08
-0.42088177E-01 -0.10110361E-01 0.22014400E+00 0.78307350E-03 -0.16590726E-01
-0.74878791E-01 -0.42274500E+00 -0.65117497E+00 0.99907299E+00 -0.62071052E-01
0.51173418E+00 0.20681167E+00 -0.10785478E-06
0.14542126E-01 0.71077092E-03 -0.44110890E-01 -0.69399557E-04 0.25343188E-02
0.17637937E-01 0.75559523E-01 0.13521730E+00 -0.24943633E+00 0.13507099E-01
0.20681167E+00 0.47183625E-02 0.24917046E-07
-0.57922326E-08 -0.97424142E-09 0.23871945E-07 0.73427108E-10 -0.13893152E-08
-0.87565626E-08 -0.49357998E-07 -0.67339000E-07 0.12683576E-06 -0.61666904E-08
-0.10785478E-06 0.24917046E-07 0.83447425E-15

```

technical efficiency estimates :

| firm | year | eff.-est. |
|------|------|----------------|
| 1 | 1 | 0.79136345E+00 |
| 2 | 1 | 0.87604810E+00 |
| 3 | 1 | 0.43240558E+00 |
| 4 | 1 | 0.59899306E+00 |
| 5 | 1 | 0.36438208E+00 |
| 6 | 1 | 0.44544883E+00 |
| 7 | 1 | 0.73820696E+00 |
| 8 | 1 | 0.95637958E+00 |
| 9 | 1 | 0.94967872E+00 |
| 10 | 1 | 0.33466104E+00 |
| 11 | 1 | 0.83807756E+00 |
| 12 | 1 | 0.76914588E+00 |
| 13 | 1 | 0.72193194E+00 |
| 14 | 1 | 0.97622239E+00 |
| 15 | 1 | 0.83208667E+00 |
| 16 | 1 | 0.96164511E+00 |
| 17 | 1 | 0.85211546E+00 |
| 18 | 1 | 0.45012505E+00 |
| 19 | 1 | 0.45012505E+00 |
| 20 | 1 | 0.77195623E+00 |
| 21 | 1 | 0.90473455E+00 |
| 22 | 1 | 0.77240880E+00 |
| 23 | 1 | 0.82516052E+00 |
| 24 | 1 | 0.78987857E+00 |
| 25 | 1 | 0.91758926E+00 |
| 26 | 1 | 0.87360225E+00 |
| 27 | 1 | 0.99953576E+00 |
| 28 | 1 | 0.99981109E+00 |
| 29 | 1 | 0.25972066E+00 |
| 30 | 1 | 0.65270199E+00 |
| 31 | 1 | 0.51909631E+00 |
| 32 | 1 | 0.28119836E+00 |
| 33 | 1 | 0.40761961E+00 |
| 34 | 1 | 0.68470257E+00 |
| 35 | 1 | 0.86580666E+00 |
| 36 | 1 | 0.73619191E+00 |
| 37 | 1 | 0.62014514E+00 |
| 38 | 1 | 0.54103744E+00 |
| 39 | 1 | 0.93108838E+00 |
| 40 | 1 | 0.78154374E+00 |
| 41 | 1 | 0.78866234E+00 |
| 42 | 1 | 0.61591762E+00 |

mean efficiency = 0.71140839E+00

**Lampiran 4. Perhitungan Efisiensi Harga di Gapoktan “Mitra Usaha Tani”
Kecamatan Pandak tahun 2015.**

| EFISIENSI HARGA LUAS LAHAN | | | | | | | | |
|----------------------------|------------|------|----------------|------------------|-------|-----------|-----------------|-------|
| No | bi | y | x ₁ | y/x ₁ | py | npm | px ₁ | ki |
| 1 | 0.75681688 | 600 | 2000 | 0.300 | 11000 | 2497.496 | 750000 | 0.003 |
| 2 | 0.75681688 | 120 | 140 | 0.857 | 9500 | 7189.760 | 52500 | 0.137 |
| 3 | 0.75681688 | 200 | 1000 | 0.200 | 11000 | 8324.986 | 375000 | 0.022 |
| 4 | 0.75681688 | 300 | 1000 | 0.300 | 10000 | 7568.169 | 375000 | 0.020 |
| 5 | 0.75681688 | 90 | 300 | 0.300 | 10000 | 7568.169 | 112500 | 0.067 |
| 6 | 0.75681688 | 120 | 500 | 0.240 | 10000 | 7568.169 | 187500 | 0.040 |
| 7 | 0.75681688 | 495 | 1500 | 0.330 | 9500 | 7189.760 | 562500 | 0.013 |
| 8 | 0.75681688 | 150 | 200 | 0.750 | 10000 | 7568.169 | 75000 | 0.101 |
| 9 | 0.75681688 | 300 | 500 | 0.600 | 10000 | 7568.169 | 187500 | 0.040 |
| 10 | 0.75681688 | 504 | 1400 | 0.360 | 11000 | 8324.986 | 525000 | 0.016 |
| 11 | 0.75681688 | 360 | 1000 | 0.360 | 10000 | 7568.169 | 375000 | 0.020 |
| 12 | 0.75681688 | 640 | 1000 | 0.640 | 10000 | 7568.169 | 375000 | 0.020 |
| 13 | 0.75681688 | 360 | 500 | 0.720 | 10000 | 7568.169 | 187500 | 0.040 |
| 14 | 0.75681688 | 396 | 1000 | 0.396 | 9500 | 7189.760 | 375000 | 0.019 |
| 15 | 0.75681688 | 180 | 500 | 0.360 | 11500 | 8703.394 | 187500 | 0.046 |
| 16 | 0.75681688 | 252 | 700 | 0.360 | 11500 | 8703.394 | 262500 | 0.033 |
| 17 | 0.75681688 | 720 | 2000 | 0.360 | 10000 | 7568.169 | 750000 | 0.010 |
| 18 | 0.75681688 | 420 | 2000 | 0.210 | 11000 | 8324.986 | 750000 | 0.011 |
| 19 | 0.75681688 | 420 | 2000 | 0.210 | 11000 | 8324.986 | 750000 | 0.011 |
| 20 | 0.75681688 | 390 | 1000 | 0.390 | 11000 | 8324.986 | 375000 | 0.022 |
| 21 | 0.75681688 | 1950 | 5000 | 0.390 | 11000 | 8324.986 | 1875000 | 0.004 |
| 22 | 0.75681688 | 600 | 2000 | 0.300 | 14000 | 10595.436 | 750000 | 0.014 |
| 23 | 0.75681688 | 204 | 500 | 0.408 | 12000 | 9081.803 | 187500 | 0.048 |
| 24 | 0.75681688 | 319 | 800 | 0.399 | 11000 | 8324.986 | 300000 | 0.028 |
| 25 | 0.75681688 | 195 | 450 | 0.433 | 15000 | 11352.253 | 168750 | 0.067 |
| 26 | 0.75681688 | 500 | 600 | 0.833 | 10000 | 7568.169 | 225000 | 0.034 |
| 27 | 0.75681688 | 500 | 500 | 1.000 | 10000 | 7568.169 | 187500 | 0.040 |
| 28 | 0.75681688 | 585 | 1500 | 0.390 | 9500 | 7189.760 | 562500 | 0.013 |
| 29 | 0.75681688 | 125 | 500 | 0.250 | 10000 | 7568.169 | 187500 | 0.040 |
| 30 | 0.75681688 | 276 | 650 | 0.425 | 11500 | 8703.394 | 243750 | 0.036 |
| 31 | 0.75681688 | 84 | 200 | 0.420 | 11500 | 8703.394 | 75000 | 0.116 |
| 32 | 0.75681688 | 135 | 500 | 0.270 | 10000 | 7568.169 | 187500 | 0.040 |
| 33 | 0.75681688 | 250 | 1100 | 0.227 | 10000 | 7568.169 | 412500 | 0.018 |
| 34 | 0.75681688 | 297 | 1000 | 0.297 | 10000 | 7568.169 | 375000 | 0.020 |

| | | | | | | | | |
|--------------|-------------------|----------------|----------------|--------------|------------------|-----------------|-------------------|--------------|
| 35 | 0.75681688 | 180 | 500 | 0.360 | 10000 | 7568.169 | 187500 | 0.040 |
| 36 | 0.75681688 | 162 | 500 | 0.324 | 10000 | 7568.169 | 187500 | 0.040 |
| 37 | 0.75681688 | 240 | 1000 | 0.240 | 10000 | 7568.169 | 375000 | 0.020 |
| 38 | 0.75681688 | 120 | 500 | 0.240 | 10000 | 7568.169 | 187500 | 0.040 |
| 39 | 0.75681688 | 195 | 500 | 0.390 | 10000 | 7568.169 | 187500 | 0.040 |
| 40 | 0.75681688 | 105 | 250 | 0.420 | 10000 | 7568.169 | 93750 | 0.081 |
| 41 | 0.75681688 | 780 | 1000 | 0.780 | 10000 | 7568.169 | 375000 | 0.020 |
| 42 | 0.75681688 | 210 | 900 | 0.233 | 10000 | 7568.169 | 337500 | 0.022 |
| Rata2 | 0.75681688 | 357.833 | 968.810 | 0.411 | 10547.619 | 7843.866 | 363303.571 | 0.036 |

| EFISIENSI HARGA BENIH | | | | | | | | |
|-----------------------|------------|------|----------------|------------------|-------|------------|-----------------|--------|
| No | bi | y | x ₂ | y/x ₂ | py | npm | px ₂ | ki |
| 1 | 0.36250501 | 600 | 4 | 150 | 11000 | 598133.267 | 28000 | 21.362 |
| 2 | 0.36250501 | 120 | 8 | 15 | 9500 | 51656.964 | 56000 | 0.922 |
| 3 | 0.36250501 | 200 | 4 | 50 | 11000 | 199377.756 | 40000 | 4.984 |
| 4 | 0.36250501 | 300 | 5 | 60 | 10000 | 217503.006 | 50000 | 4.350 |
| 5 | 0.36250501 | 90 | 1 | 90 | 10000 | 326254.509 | 10000 | 32.625 |
| 6 | 0.36250501 | 120 | 3 | 40 | 10000 | 145002.004 | 21000 | 6.905 |
| 7 | 0.36250501 | 495 | 8 | 61.875 | 9500 | 213084.976 | 80000 | 2.664 |
| 8 | 0.36250501 | 150 | 4 | 37.5 | 10000 | 135939.379 | 28000 | 4.855 |
| 9 | 0.36250501 | 300 | 5 | 60 | 10000 | 217503.006 | 35000 | 6.214 |
| 10 | 0.36250501 | 504 | 7 | 72 | 11000 | 287103.968 | 49000 | 5.859 |
| 11 | 0.36250501 | 360 | 5 | 72 | 10000 | 261003.607 | 35000 | 7.457 |
| 12 | 0.36250501 | 640 | 2.5 | 256 | 10000 | 928012.826 | 22500 | 41.245 |
| 13 | 0.36250501 | 360 | 2.5 | 144 | 10000 | 522007.214 | 22500 | 23.200 |
| 14 | 0.36250501 | 396 | 5 | 79.2 | 9500 | 272748.770 | 35000 | 7.793 |
| 15 | 0.36250501 | 180 | 2.5 | 72 | 11500 | 300154.148 | 17500 | 17.152 |
| 16 | 0.36250501 | 252 | 2.5 | 100.8 | 11500 | 420215.808 | 17500 | 24.012 |
| 17 | 0.36250501 | 720 | 8 | 90 | 10000 | 326254.509 | 80000 | 4.078 |
| 18 | 0.36250501 | 420 | 10 | 42 | 11000 | 167477.315 | 70000 | 2.393 |
| 19 | 0.36250501 | 420 | 10 | 42 | 11000 | 167477.315 | 70000 | 2.393 |
| 20 | 0.36250501 | 390 | 5 | 78 | 11000 | 311029.299 | 40000 | 7.776 |
| 21 | 0.36250501 | 1950 | 19 | 102.632 | 11000 | 409249.077 | 152000 | 2.692 |
| 22 | 0.36250501 | 600 | 4 | 150 | 14000 | 761260.521 | 28000 | 27.188 |
| 23 | 0.36250501 | 204 | 2.5 | 81.6 | 12000 | 354964.906 | 10000 | 35.496 |
| 24 | 0.36250501 | 319 | 5 | 63.8 | 11000 | 254406.016 | 35000 | 7.269 |
| 25 | 0.36250501 | 195 | 3 | 65 | 15000 | 353442.385 | 34500 | 10.245 |
| 26 | 0.36250501 | 500 | 2.5 | 200 | 10000 | 725010.020 | 25000 | 29.000 |

| | | | | | | | | |
|--------------|-------------------|----------------|--------------|---------------|------------------|-------------------|------------------|----------------|
| 27 | 0.36250501 | 500 | 2.5 | 200 | 10000 | 725010.020 | 25000 | 29.000 |
| 28 | 0.36250501 | 585 | 7 | 83.5714 | 9500 | 287803.085 | 49000 | 5.874 |
| 29 | 0.36250501 | 125 | 2.5 | 50 | 10000 | 181252.505 | 25000 | 7.250 |
| 30 | 0.36250501 | 276 | 10 | 27.6 | 11500 | 115059.090 | 100000 | 1.151 |
| 31 | 0.36250501 | 84 | 5 | 16.8 | 11500 | 70035.968 | 50000 | 1.401 |
| 32 | 0.36250501 | 135 | 2.5 | 54 | 10000 | 195752.705 | 25000 | 7.830 |
| 33 | 0.36250501 | 250 | 8 | 31.25 | 10000 | 113282.816 | 80000 | 1.416 |
| 34 | 0.36250501 | 297 | 5 | 59.4 | 10000 | 215327.976 | 50000 | 4.307 |
| 35 | 0.36250501 | 180 | 2.5 | 72 | 10000 | 261003.607 | 25000 | 10.440 |
| 36 | 0.36250501 | 162 | 2.5 | 64.8 | 10000 | 234903.246 | 25000 | 9.396 |
| 37 | 0.36250501 | 240 | 5 | 48 | 10000 | 174002.405 | 50000 | 3.480 |
| 38 | 0.36250501 | 120 | 3 | 40 | 10000 | 145002.004 | 30000 | 4.833 |
| 39 | 0.36250501 | 195 | 2.5 | 78 | 10000 | 282753.908 | 25000 | 11.310 |
| 40 | 0.36250501 | 105 | 2.5 | 42 | 10000 | 152252.104 | 25000 | 6.090 |
| 41 | 0.36250501 | 780 | 5 | 156 | 10000 | 565507.816 | 50000 | 11.310 |
| 42 | 0.36250501 | 210 | 3.6 | 58.333 | 10000 | 211461.256 | 36000 | 5.874 |
| Rata2 | 0.36250501 | 357.833 | 4.931 | 79.932 | 10547.619 | 306111.502 | 41940.476 | 10.9784 |

| EFISIENSI HARGA PUPUK KANDANG | | | | | | | | |
|-------------------------------|------------|-----|----------------|------------------|-------|-----------|-----------------|-------|
| No | bi | y | x ₃ | y/x ₃ | Py | npm | px ₃ | ki |
| 1 | 0.14972901 | 600 | 200 | 3.000 | 11000 | 4941.057 | 100000 | 0.049 |
| 2 | 0.14972901 | 120 | 500 | 0.240 | 9500 | 341.382 | 250000 | 0.001 |
| 3 | 0.14972901 | 200 | 500 | 0.400 | 11000 | 658.808 | 250000 | 0.003 |
| 4 | 0.14972901 | 300 | 260 | 1.154 | 10000 | 1727.642 | 130000 | 0.013 |
| 5 | 0.14972901 | 90 | 130 | 0.692 | 10000 | 1036.585 | 0 | 0.000 |
| 6 | 0.14972901 | 120 | 200 | 0.600 | 10000 | 898.374 | 10000 | 0.009 |
| 7 | 0.14972901 | 495 | 0 | 0.000 | 9500 | 0.000 | 0 | 0.000 |
| 8 | 0.14972901 | 150 | 40 | 3.750 | 10000 | 5614.838 | 0000 | 0.281 |
| 9 | 0.14972901 | 300 | 100 | 3.000 | 10000 | 4491.870 | 50000 | 0.090 |
| 10 | 0.14972901 | 504 | 560 | 0.900 | 11000 | 1482.317 | 280000 | 0.005 |
| 11 | 0.14972901 | 360 | 100 | 3.600 | 10000 | 5390.244 | 50000 | 0.108 |
| 12 | 0.14972901 | 640 | 500 | 1.280 | 10000 | 1916.531 | 250000 | 0.008 |
| 13 | 0.14972901 | 360 | 250 | 1.440 | 10000 | 2156.098 | 125000 | 0.017 |
| 14 | 0.14972901 | 396 | 40 | 9.900 | 9500 | 14082.013 | 20000 | 0.704 |
| 15 | 0.14972901 | 180 | 70 | 2.571 | 11500 | 4427.701 | 35000 | 0.127 |
| 16 | 0.14972901 | 252 | 80 | 3.150 | 11500 | 5423.933 | 40000 | 0.136 |
| 17 | 0.14972901 | 720 | 0 | 0.000 | 10000 | 0.000 | 0 | 0.000 |
| 18 | 0.14972901 | 420 | 50 | 8.400 | 11000 | 13834.961 | 25000 | 0.553 |

| | | | | | | | | |
|--------------|-------------------|----------------|----------------|--------------|--------------|-----------------|-------------------|--------------|
| 19 | 0.14972901 | 420 | 50 | 8.400 | 11000 | 13834.961 | 25000 | 0.553 |
| 20 | 0.14972901 | 390 | 200 | 1.950 | 11000 | 3211.687 | 60000 | 0.054 |
| 21 | 0.14972901 | 1950 | 1000 | 1.950 | 11000 | 3211.687 | 300000 | 0.011 |
| 22 | 0.14972901 | 600 | 400 | 1.500 | 14000 | 3144.309 | 400000 | 0.008 |
| 23 | 0.14972901 | 204 | 200 | 1.020 | 12000 | 1832.683 | 100000 | 0.018 |
| 24 | 0.14972901 | 319 | 400 | 0.798 | 11000 | 1313.498 | 200000 | 0.007 |
| 25 | 0.14972901 | 195 | 400 | 0.488 | 15000 | 1094.893 | 400000 | 0.003 |
| 26 | 0.14972901 | 500 | 600 | 0.833 | 10000 | 1247.742 | 300000 | 0.004 |
| 27 | 0.14972901 | 500 | 400 | 1.250 | 10000 | 1871.613 | 200000 | 0.009 |
| 28 | 0.14972901 | 585 | 0 | 0.000 | 9500 | 0.000 | 0 | 0.000 |
| 29 | 0.14972901 | 125 | 180 | 0.694 | 10000 | 1039.785 | 90000 | 0.012 |
| 30 | 0.14972901 | 276 | 325 | 0.849 | 11500 | 1462.277 | 227500 | 0.006 |
| 31 | 0.14972901 | 84 | 100 | 0.840 | 11500 | 1446.382 | 70000 | 0.021 |
| 32 | 0.14972901 | 135 | 180 | 0.750 | 10000 | 1122.968 | 90000 | 0.012 |
| 33 | 0.14972901 | 250 | 25 | 10.000 | 10000 | 14972.901 | 12500 | 1.198 |
| 34 | 0.14972901 | 297 | 0 | 0.000 | 10000 | 0.000 | 0 | 0.000 |
| 35 | 0.14972901 | 180 | 0 | 0.000 | 10000 | 0.000 | 0 | 0.000 |
| 36 | 0.14972901 | 162 | 0 | 0.000 | 10000 | 0.000 | 0 | 0.000 |
| 37 | 0.14972901 | 240 | 0 | 0.000 | 10000 | 0.000 | 0 | 0.000 |
| 38 | 0.14972901 | 120 | 0 | 0.000 | 10000 | 0.000 | 0 | 0.000 |
| 39 | 0.14972901 | 195 | 160 | 1.219 | 10000 | 1824.822 | 80000 | 0.023 |
| 40 | 0.14972901 | 105 | 80 | 1.313 | 10000 | 1965.193 | 40000 | 0.049 |
| 41 | 0.14972901 | 780 | 650 | 1.200 | 10000 | 1796.748 | 325000 | 0.006 |
| 42 | 0.14972901 | 210 | 0 | 0.000 | 10000 | 0.000 | 0 | 0.000 |
| Rata2 | 0.14972901 | 357.833 | 212.619 | 1.884 | 10548 | 2971.869 | 110595.238 | 0.098 |

Lampiran 5. Perhitungan Pencapaian Efisiensi Harga

1. Luas Lahan Optimal

$$\frac{bi.Y.Py}{Px_1} = x$$

$$\frac{0,757 \times 357,833 \times 10.547,619}{363.303,571} = 7,862 \text{ m}^2$$

2. Benih Optimal

$$\frac{bi.Y.Py}{Px_2} = x$$

$$\frac{0,363 \times 357,833 \times 10.547,619}{41.940,476} = 34,263 \text{ kg}$$

3. Pupuk Kandang

$$\frac{bi.Y.Py}{Px_3} = x$$

$$\frac{0,150 \times 357,833 \times 10.547,619}{110.595,238} = 5,367 \text{ kg}$$

Lampiran 6. Perhitungan Efisiensi Ekonomi

$$\begin{aligned} \text{Efisiensi Harga} &= \frac{k_1 + k_2 + k_3}{3} \\ &= \frac{0,036 + 10,978 + 0,098}{3} \\ &= 3,704 \end{aligned}$$

$$\begin{aligned} \text{Efisiensi Ekonomi} &= \text{Efisiensi Teknis} \times \text{Efisiensi Harga} \\ &= 0,711 \times 3,704 \\ &= 2,635 \end{aligned}$$