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17/12/86

Profil Pendapatan dan Konsumsi Pedesaan Jawa Timur

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EKP
ANIAN

Pusat Penelitian Agro Ekonomi
Badan Penelitian dan Pengembangan Pertanian
Departemen Pertanian

1986

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Diterbitkan oleh :

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Departemen Pertanian

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PENGANTAR

Sejak tahun anggaran 1983/1984 Puslit Agro Ekonomi melangkah untuk memprakarsai studi agro ekonomi jangka panjang yang dikenal sebagai **Studi Panel Petani Nasional (PATANAS)**, suatu langkah yang dapat disebut ambisi besar oleh sementara pihak, mengingat keterbatasan sarana dan tenaga pada waktu itu. Studi ini mungkin merupakan yang pertama dilakukan di Indonesia, yang dapat dipandang sebagai studi agro ekonomi komprehensif untuk menelusuri denyut nadi pertumbuhan sektor pertanian rakyat yang merupakan salah satu sektor terpenting dalam perekonomian di Indonesia.

Data pertanian yang dikumpulkan oleh BPS dipandang tidak memadai untuk memonitor keragaan sektor pertanian secara cukup terperinci. Tanpa mengurangi relevansi data BPS untuk memonitor pertumbuhan sektor pertanian rakyat, Departemen Pertanian, khususnya Badan Litbang Pertanian, merasa perlu untuk melaksanakan semacam "middle range study" untuk menjembatani kekurangan informasi terperinci dari data BPS di satu pihak dan sempitnya wawasan yang ditangani dalam studi-studi mikro usahatani yang dilaksanakan secara sporadis oleh berbagai lembaga penelitian. Dengan studi PATANAS diharapkan kedua macam informasi itu dapat diolah menjadi suatu simphoni yang mampu menggambarkan denyut pembangunan yang terjadi di desa-desa, di subsektor pertanian rakyat, yang sering dipandang sebagai "kotak hitam" yang penuh dengan misteri.

Sasaran pembangunan adalah meningkatkan pendapatan petani, menyediakan kesempatan kerja, dan menegakkan asas pemerataan. Tetapi kalau dipertanyakan apakah sasaran-sasaran itu telah dicapai, sedikit sekali informasi yang dapat kita sajikan, karena sebagian besar informasi yang ada berkisar pada produksi dan produktivitas. Tidak heran banyak pihak yang mempertanyakan mengenai dampak pembangunan terhadap pendapatan masyarakat desa, misalnya anggapan bahwa pembangunan justru memiskinkan suatu golongan masyarakat desa, kelompok penduduk desa yang tidak memiliki lahan usaha. Pertanyaan-pertanyaan seperti ini tidak dapat secara memuaskan dijawab melalui studi-studi mikro dalam wawasan wilayah yang sempit, dan sulit pula secara meyakinkan dijawab dengan menggunakan data nasional yang dikumpulkan oleh BPS. Melalui studi PATANAS inilah pertanyaan-pertanyaan seperti itu dapat kita jawab dengan tingkat ketepatan dan keterwakilan (representativeness) yang memadai.

Meskipun demikian sepenuhnya disadari bahwa dilihat dari segi metodologi merancang studi PATANAS bukan soal yang mudah, demikian pula masalah yang berkaitan dengan tenaga peneliti dan sarana penunjang yang terbatas, terutama dalam arti ketrampilan untuk melaksanakan suatu pendekatan baru dalam studi ini. Melalui bantuan Loan dari USAID pada tahun 1984 Puslit Agro Ekonomi

mendapat prioritas untuk memiliki perangkat komputer IBM yang cukup canggih. Tetapi suatu teknologi canggih berarti pula keharusan untuk menyediakan tenaga-tenaga yang terampil, yang hanya dapat dipenuhi secara bertahap, antara lain melalui berbagai program latihan dan bantuan teknik. Bantuan pembiayaan penelitian PATANAS ini untuk periode 1984-1985 sebagian dibiayai dari proyek DSP (Development Study Project) dari USAID yang dikelola oleh suatu SC (Steering Committee) yang diketuai oleh Deputy Ekonomi Bappenas. Penerbitan ini dimungkinkan dari biaya proyek DSP/USAID ini.

Jumlah data dan informasi yang dikumpulkan dalam studi PATANAS sungguh besar dan diperlukan tenaga-tenaga manual yang terampil sehingga dapat mengalihkan data itu dari kertas kuesioner ke pita komputer. Luar biasa pula jam kerja yang harus dicurahkan dalam proses editing dan kegiatan-kegiatan pra-program lainnya. Di lain pihak berbagai pihak yang merasa berkepentingan dengan studi ini selalu mempertanyakan hasil-hasil dari penelitian PATANAS yang tak kunjung muncul. Kesemuanya ini merupakan pengalaman tersendiri bagi staf Puslit Agro Ekonomi, yang terus berusaha untuk menjalankan roda penelitian tidak tergantung pada resesi dan kendala-kendala lain yang menghadang dalam perjalanan itu.

Alhamdulillah, pada permulaan tahun 1986 ini Puslit Agro Ekonomi berhasil mengeluarkan satu set laporan dari data PATANAS di Jawa Timur, dan insya Allah, dalam waktu yang singkat menyusul laporan-laporan dari propinsi lain, yakni Jawa Barat, Sulawesi Selatan dan Sumatera Barat. Segala keruwetan yang dihadapi terasa menjadi ringan, setelah dalam siaran televisi tanggal 5 Februari 1986, dari Sidang Ekuin keluar laporan dari Bapak Menteri Harmoko yang mensitir beberapa hasil penelitian PATANAS Jawa Timur, dan bahkan pesan Bapak Presiden bahwa studi seperti itu perlu dikembangkan ke daerah lain. Sebelum Puslit Agro Ekonomi selesai mempersiapkan laporan ini, rupanya laporan-laporan sementara yang dikirimkan ke berbagai pihak telah terbukti memperoleh tanggapan yang sangat positif dari para pengambil kebijaksanaan pembangunan.

Tulisan-tulisan yang disajikan dalam laporan ini merupakan sebagian dari peluang yang sempit didayagunakan mengingat faktor-faktor keterbatasan yang dihadapi. Data PATANAS juga akan sangat bermanfaat untuk bahan tesis mahasiswa program Pasca Sarjana, dan sebagian memang telah dipergunakan untuk itu dalam program Pasca Sarjana di IPB. Pada prinsipnya ketersediaan data yang dihasilkan dalam studi PATANAS membuka peluang yang cukup luas untuk melakukan berbagai pengkajian agro ekonomi, khususnya bagi para peneliti dalam lingkup Badan Litbang Pertanian dan Perguruan Tinggi.

Diakui bahwa masih banyak peluang untuk perbaikan dan penyempurnaan lebih lanjut, karena banyaknya data bukan satu-satunya tolok ukur untuk menilai bobot dari suatu penelitian. Pengalaman dan saran-saran dari berbagai pihak yang

menggunakan data PATANAS diharapkan akan merupakan bahan yang sangat berharga untuk perbaikan lebih lanjut, dalam arti metodologi, manajemen, efisiensi, dan ketelitian.

Perlu juga kami sampaikan bahwa hasil penelitian ini telah dibahas dalam suatu "policy dialog" tanggal 9 Juli 1986 dengan pihak Bappenas dan DSP, yang juga dihadiri oleh wakil-wakil dari Departemen Keuangan, Biro Pusat Statistik, USAID, Direktorat Tanaman Pangan, Direktorat Peternakan, Bulog, Perguruan Tinggi dan Staff Peneliti Puslit Agro Ekonomi. Para peserta yang hadir dalam pertemuan tersebut adalah:

No:	Nama	Instansi/Organisasi
1.	Marzuki Usman	SC. DSP
2.	C.G. Swenson	Biro Perencanaan Deptan
3.	Martin Hanratty	USAID
4.	Martin Sirait	USAID
5.	Soewondo Hn.	BPS
6.	Soewandi	BPS
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9.	Dono Iskandar	Dep. Keuangan
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20.	A. Rozany	Puslit Agro Ekonomi
21.	Aladin Nasution	Puslit Agro Ekonomi
22.	Muchidin Rachmat	Puslit Agro Ekonomi
23.	Prayogo U. Hadi	Puslit Agro Ekonomi
24.	Yusmichad Yusdja	Puslit Agro Ekonomi
25.	Chaerul Saleh	Puslit Agro Ekonomi

Kepada berbagai pihak yang telah membantu terlaksananya program ini kami menghaturkan banyak terimakasih, dan semoga segala hasil jerih-payah itu dapat diimbangi dengan prestasi menunjang wilayah dan sektor tempat mayoritas bangsa Indonesia tinggal dan menggantungkan diri, tempat aktor-aktor di sektor pertanian berlaga menunaikan tugas nasional yang ada di pundaknya.

Bogor, 1 Juli 1986.

Kepala Puslit Agro Ekonomi

Dr. Ir. Faisal Kasryno

SUMMARY

This PATANAS report consist of eleven papers, which are written by groups of P/AE staff assigned with particular topics of the research. Each paper can be considered independent, and it is therefore difficult to present the papers according to a logical sequence. Based on several considerations the papers are finally ordered in the following scheme:

1. Description of the sample villages in east Java.
Authors: Aladin Nasution.
2. The Variation of Income Sources of Rural Households.
Authors: A. Rozany Nurmanaf and Aladin Nasution.
3. Consumption Pattern of Rural Households.
Authors: Hermanto and Andriati.
4. Cropping System and Farm Analysis.
Authors: Chaerul Saleh and Rijadi A. Somantri.
5. Estimate of The Demand for Farm Input and the Supply of Rice output.
Author: Muchjidin Rachmat.
6. Virginia Tobacco Farming in Bojonegoro, East Java.
Author: A. Suparman Hadimuslihat.
7. Development of Livestock.
Authors: Yusmichad Yusdja, Rosmiati Sajuti and I. Wayan Rusastra.
8. Income and Labor Use Analysis of Fishermen in Coastal Village.
Author: Hermanto.
9. Labor Use in Off-Farm Activities and the Influencing Factors.
Author: Prajogo Utomo Hadi.
10. Problems of Employment Opportunity in Lowland Area.
Author: Yusmichad Yusdja.
11. Wage Rates Agricultural Labor.
Authors: C.G. Swenson and Chairil A. Rasahan.

Paper (2) discusses the sources of income of rural households in the sample villages, giving a picture of the economic condition and the level of development within each village. In a sense the paper gives a kind of introductory information to the readers.

Paper (3) deals with household consumption that can be regarded as the proper pair of paper (2) on income sources. Information on income sources and consumption pattern will give an overall picture of the economic level of development in the sample villages.

Paper (4), (5), (6), (7), and (8) deal with agricultural commodities in the following order: cropping system, rice, tobacco, livestock, and fishery, offering a

partial picture of farm economy related to some important agricultural commodities of the sample villages, one step further beyond the general picture presented in papers (2) and (3).

Papers (9), (10), and (11) deal with labor use analysis: off-farm, labor use in lowland area, and the changes of the rate of wages between 1983 and 1985. Labor use in fishermen village is presented in paper (8).

The main findings can be summarized as follows:

1. Employment in agricultural is an important sources of income for most of the rural households, which is true for lowland as well as for upland areas. Yet there is a tendency for its declining importance, especially in upland farming area, as the wage rate appears to be lower. This is easily understood as the wage rate is higher in more fertile area, which is related to more intensive cropping and higher employment opportunity, and also the relatively higher access to non-farm employment.
2. In upland area the relatively low share of food crops to household income is compensated by the higher share of perennial crops and livestock. In fact, the share of agricultural income is higher in the upland area. In the fishery village the role of brackishwater fishery as an important source of income is apparent. The role of perennial crops and livestock production to increase rural household income seems to be securely grounded for further development.
3. The role of trade and rural industry activities as the source of income is higher in fisherman and lowland villages. This is also true for home industry in the fisherman village. Non agricultural labor opportunity seems to be not affected by the land potential in the area, but more on the nature and stages of rural development.
4. In general labor productivity is determined by the accessibility to capital and production factors, and also by technological skill. Inequity with respect to these factors will lead to a skewer distribution of income in the long run.
5. Rice is staple food for all and commands a large proportion of food expenditure. Rice is price elastic, meaning to say that if price decreases consumption will increase. Income elasticity is also positive and significant, and range from 0.30 to 0.50 implying the increasing long run trend of demand that should be carefully considered over and above the trend of population growth.
6. Consumption pattern of farm households begins to shift toward vegetable and fruits as vitamin and mineral sources, together with the increase in protein diet that consists of salted fish, egg, meat, and milk. This reflects the positive effect of economic development in rural area and the prospect of fishery and livestock development is supported by the increasing demand.
7. Sugar consumption in East Java is relatively low and can be increased when the price can be made reasonably low. The high domestic price of sugar reflects the possibility to make sugar production more efficient.

8. The demand for frying oil increases with the increase of income. Price does not vary much within the period, but it did increase significantly in the past, and the shift in demand for this commodity should be properly monitored.
9. The demand for kerosene and gasoline as an energy source has been well establish everywhere, except in remote areas close to the forest. In lowland area the proportion of kerosene in the household budget is relatively large. This is also to the "prestige" to own motorized vehicle. The level of expenditure for energy is an important indicator in economic development.
10. In general, economic development within the four period of Pelitas has a significant contribution to the improvement of rural welfare when household consumption is considered. This is shown by the decreasing percentage of expenditure of staple food and the relative increase of the expenditure for housing, health, clothing, energy and education. Yet there are people who live in remote and low potential villages who remain beyond the reach of economic progress, that should become the focus of economic development in the immediate future.
11. Consumption of non-rice staple is relatively high in East Java. For the high altitude the consumption of corn is about the same level with rice, while in the low altitude with low resource endowment cassava consumption is dominant.
12. The most profitable cropping pattern is rice-vegetables-palawija, but a high capital input is needed. The least profitable cropping system is rice-palawija-palawija. The high capital input for rice-vegetables-palawija is primarily due to the high price commodities such as red paper, garlic, and potato. The low level of income from the rice-palawija-palawija pattern is due to the low level of technology used.
13. Production functions of several cropping systems show differences in dominant variables affecting production. Fertilizer is the dominant variable for rice-rice-fallow, fertilizer and seed for rice-palawija-palawija, and labor, seed, pesticides for rice-vegetable-palawija. Land is the dominant variable for rice-tobacco-palawija pattern.
14. For lowland rice climatic type and local conditions seem to dictate differences in technology used, which is partly reflected in the differences of production function. The analysis also shows that fertilizer treatment is different from place to place. For upland area the level of urea and TSP is low and an increase is commended. For lowland area the level of fertilizer is high enough for all location, and this small cultivation makes the response to fertilizer not significant.
15. From the variation of the cropping systems in Patanas villages it appears that farmers do respond to the specific ecological condition and social profitability. When we look at the distribution of cropping systems we see that the dominant pattern is the least profitable, such as rice-rice-fallow and rice-

palawija-palawija. The most profitable pattern is rarely observed. It indicates that the more profitable pattern can be encouraged to spread, if the constraints were known, which should be the focus of research. Better economic environment should be developed, such as credit system to support the high capital cost for the profitable pattern. In addition risk is also high for the profitable pattern.

16. The high performance of rice production in East Java, the high technology already achieved and the relatively high efficiency, suggest strongly that these areas should be maintained as an important rice zone. There is, however, some indication of the overdosage of Urea and TSP, as the increase of fertilizer tends to reduce yield. It suggests strongly the need for research and local trials to establish optimum level of fertilizer to achieve higher efficiency and higher yield. For the upland area production can be increased through better varieties, more fertilizer, and efficient use of labor. Another possibility is to look for better cropping system compatible with the ecological condition and soil fertility.
17. Farm income is not only determined by the level of production but also by the level of farm cost and commodity prices. To encourage farmers to maintain and improve their performance, it is crucial to maintain price stability and a reasonable level of input prices and wages. Quality control should be effected stepwise, taking into account the slow growth of investment in post harvest technology which is needed to support a strict quality control policy.
18. Effort to increase farm size to make economy of scale possible is important to consider as it will help drive production further up. Yet to make small farmers willing to forego their land is unjust, unless better opportunity is available outside farming. It suggests the strategic importance of increasing employment opportunity outside agriculture. Previous studies show that income of non-agricultural workers is higher compared to small farmers. Making farmers to work cooperatively within a relatively large unit area through INSUS program is another alternative to make the application of economy of scale possible. More than 90 percent of the group activities is based on mutual consensus and active participation of members. It is through these farmer groups that communication can be made more effective.
19. To achieve optimal allocation of resources the use of seed, fertilizer and labor should be reduced, while the use of pesticide and mechanical devices should be increased, suggesting that extension should not be addressed to increasing the use of fertilizer and seed. Extension should be focused on timeliness of fertilizer use and better seed quality (certified). Pest management practices should be particularly observed. For farm operation the use of tractors is profitable. To achieve optimum the use of animal and tractor should be increased, while the use of labor should be decreased. Yet the substitution

should be carefully considered in area where labor is abundant while employment is scarce.

20. Demand elasticity of rice in the respect to changes in input prices is, in general, much lower than the supply elasticity with respect to the price of rice. It means that rice price policy is a more effective tool to control and manage rice production. Note that there is no significant effect of the change of the price of seed, fertilizer and pesticides on farm income, suggesting the increase of price of these inputs will not affect farm income significantly. It shows that subsidy policy should be reconsidered with due regard to the relationship between the price of input and the price of output.
21. Income per hectare for Virginia tobacco in Prayungan, Bojonegoro, is high, compared with other commodities. The B/C ratio is also high.
22. Tobacco farming means intensive technology and high capital input. About 65 percent of cost of tobacco production is for labor payment. Wage labor is necessary for timely land preparation and farm operation in tobacco farm.
23. The seed of Virginia tobacco recommended must be certified, and the amount of seed required is less than what farmers is usually use.
24. Fertilizer used by tobacco farmers is below the recommended dosage and therefore the dosage should be increased, especially P and K. ZA fertilizer for N is preferred.
25. To enhance the advance of tobacco farm technology in Prayungan Village tobacco intensification program should be increased as the farmers seem to be willing to join the program.
26. The development of livestock in East Java in Pelita IV period faces serious challenge, such as :
 - a. The level income of livestock farmers is far behind the target, and below other sectors of the economy⁹.
 - b. The rate of growth of livestock population is slow, while slaughter increases, this will reduce the animal population and animal traction.
 - c. The distribution of livestock depend critically an availability of feed, especially vegetation and rice bran.
 - d. Animal traction can only be developed through small scale livestock husbandry.
 - e. The dependence of livestock production of seasonal availability of feed is probably the most serious problem to face in the development of livestock production.
27. The policy for livestock production is East Java should take into account the following two consideration :
 - a. Livestock for traction power (cows or buffaloes) in area where vegetation for feed is available.
 - b. Livestock for meat and milk production (cows, buffaloes, pigs, goats, and sheep) where feed vegetation and concentrate can be made available.

Pattern (a) should be developed in lowland area with a special effort to grow enough vegetation for feed. Pattern (b) should be developed in the potential upland zone, with special effort to introduce new breed, develop vegetation suitable for feed, and introduce feed technology using material available in the area, such as rice bran and other agricultural by products. Pattern (a) has a limited prospect, while pattern (b) can be encouraged through the nucleus estate system or PIR.

28. Employment mobility appears to be high in the fisherman village, i.e. employment opportunity changes by season. Most of the fishermen are wage laborer by status (pandega) the member of which changes seasonally.
29. The most successful artisan fishermen are owner of boat, small and relatively fixed in number.
30. Motorization program has two positive impacts to improve fisherman's income:
 - a. Less dependence on season.
 - b. Ability to improve the catch during off-season.
31. The number of fishing days for various fishing gears in Muncar is relatively independent of season. There is a tendency to fish further off-shore during off-season. It means that fisherman in Muncar can earn almost continuously the year round, although their income earning fluctuates significantly.
32. On the average every fisherman has 14-20 hours work/day 15-25 days/month. Where there is no opportunity to go fishing, they use their time to mend and maintain their fishing gears, machine, and boats or else doing odd jobs outside fishing.
33. Every type of fishing boat has a fixed number of fishermen, between 4 (gill net) and 17 (purse seine). The number of boats in the Bali straits is kept under a certain limit, to prevent overfishing. It means new employment for the new emerging labor force should be created outside fishery.
34. The use of effective fishing gears like purse seine appear to succeed in improving fisherman income. Yet the distribution of the benefit tends to enlarge the gap between the boat owners and the crew.
35. Further improvement of the fishery and fisherman condition is needed, such as motorization and introduction of better fishing gears together with pertinent effort to improve the institutional relationship between boat owners and other fisherman categories. Credit program should be linked up with their propensity to save during peak fishing season.
36. Most of the fisherman households who does some work outside fishing, ranges from farm laborer, to a small scale business. Many households have double employment, suggesting the importance of activities outside fishing.
37. The most important use of family labor the landless and small farmers is employment as farm laborer. In rice area non-farm activity is much higher than non rice area, suggesting the higher economic activities in the rice area.

38. The most important employment in agriculture is land preparation, planting weeding, and harvesting. The use of tractor is only observed in two villages. The most important non-farm employment is masonry, carpenter, quarrying, and manual transport of goods. The most important non-farm business is trade. Home industry and services are rare.
39. Village earning absorbs most of the available labor force. Urban employment has an important role in non-farm employment or small scale business for limited number of rural labor forces through migration.
40. On the average, labor use for non-farm activity is 383 Monday per household per year in rice area, and 286 Monday in the non-rice area. Net income received from non-farm activity is Rp 312,000 in rice area and Rp 108,000 in non-rice area, or an average of Rp 217,000 for both.
41. Tractor has some role in the displacement of labor, yet in the areas observed this is not a serious problem as employment outside agriculture is relatively high. The large population density seems to be the dominant source of employment problem, that finally will place the ceiling that makes employment creation fall short of the required demand for more employment.
42. Irrigation facility has a positive impact on employment opportunity and income, both directly and indirectly through more availability of non-farm employment. The same condition is also observed in Punjab, India. The higher the inequity in landholding the higher the utilization of labor outside farming, as the opportunity to work as farm labor diminishes.
43. Villages with a higher economic stage of development are able to offer higher employment in non-farm activities, especially in rice area. Accessibility to various services and transportation is no more a limiting factor preventing labor mobility through circulation to urban area or commutation to the neighboring villages.
44. The take home pay per Monday does not affect the magnitude of labor use for farm and non-farm activity, suggesting the limited option for preferences. Yet it does significantly affect household income. Younger generation of labor force prefers to work outside farming, probably to avoid drudgery in manual farm labor.
45. The introduction of tractor for land preparation should be tailored to the real need at the peak period of land preparation, or in the villages where many laborers are absorbed in non-farm activities. Family planning is finally a decisive factor to alleviate the pressure of labor market.
46. Effort to increase and improve farm intensification is a must, such as through new irrigation construction and rehabilitation of the old structure. The tendency for skewed land distribution is difficult to prevent, as many small farmers have no better option than to sell their land which is too small to manage. Land reform or capital reform is a great challenge, the effectiveness

of which depends on the strength of political will and external force to alleviate the social pressure on land.

47. The development of industry and services should not be concentrated in urban area to make a proper balance between rural and urban development. Villages with a higher level of economic development appear to be in the position to absorb their labor force in various rural activities, which must have an important effect on the magnitude of migration to urban area. Economic consideration is the most powerful factor in determining migration of rural people to urban area.
48. The Government should encourage non-agricultural investment in rural area, that enhance the generation of rural entrepreneurs and skilled man's frontier in rural area.
49. Considering the very high density, investment priority should be based on quick yielding and labor intensive, i.e. intermediate technology, such as food processing industry, textile, construction, and home industry. The development of agro industrial activity in rural area will be able to enhance employment and income creation.
50. Based on the magnitude of working hours of farmer household per year, agriculture remains by far the most important source of employment, both in upland and lowland areas.
51. Labor use in lowland area is apparently not geared to achieve production efficiency per hectare, but more to achieve maximum total production, resulting in the higher labor utilization for small parcels of land. Total production is determined positively by total area, and the amount of labor used.
52. The demand for farm labor is determined negatively by the number of landless households and average farm size. It means employment opportunity is higher when the farm size is smaller, given fixed total farm area.
53. The demand for farm labor is also negatively determined by wage rate and total income. Higher wage means lower labor input, while higher household income will also reduce farm employment.
54. The supply of farm labor is positively affected by wage rate, the number of landless households, and farm size.
55. The policy for agricultural development in East Java should be more focused on upland area, considering the low labor productivity and the associated low level of agricultural technology. Some policy is needed to improve production technology and to introduce tractors to alleviate the high cost of labor and make economy of scale possible.
56. Employment creation in rural area will alleviate the pressure of labor on land, so that more efficient labor use can be gained. Employment has a wide opportunity to develop through agro industrial development.