BAB XII
DISKUSI DAN KESIMPULAN

XII.1. Diskusi

Pendirian pabrik asam suksinat berbahan baku brangkasan jagung ini didasari oleh tingginya kebutuhan asam suksinat di Indonesia yang selama ini dipenuhi melalui impor dari negara lain. Berdirinya pabrik asam suksinat ini diharapkan mampu mengurangi nilai impor dan dapat mengisi kekosongan permintaan pasar baik dalam maupun luar negeri. Kelayakan pabrik asam suksinat ini dapat diihat dari beberapa faktor antara lain sebagai berikut.

a. Segi bahan baku

Bahan baku pembuatan asam suksinat merupakan brangkasan jagung yang pada umumnya hanya digunakan sebagai pakan ternak yang mengakibatkan penumpukan limbah pertanian. Bahan baku brangkasan jagung ini diperoleh melalui lahan pertanian di Kabupaten Jeneponto Provinsi Sulawesi Selatan. Bahan penunjang lain seperti NaOH diperoleh dari PT. Asahimas Chemical, H_2SO_4 dan CO_2 diperoleh melalui PT. Petrokimia Gresik, CaO diperoleh dari CV. Rafansa, NH_4OH diimpor dari Jinan Huijinchuan Chemical Co., pepton diimpor dari Huaxuan Gelatin Co., ekstrak ragi diimpor dari Haihang Industry, dan bakteri M. succiniciproducens diimpor dari Korean Collection for Type Culture melalui pengiriman jalur laut.

b. Segi proses dan produk yang dihasilkan

Proses produksi asam suksinat ini menggunakan proses fermentasi dengan bantuan bakteri M. succiniciproducens dalam waktu yang lebih singkat dan menggunakan senyawa yang ramah lingkungan, serta akan menghasilkan produk utama asam suksinat dengan sejumlah kecil produk samping berupa asam asetat. Produk asam suksinat yang dihasilkan akan memiliki kemurnian sebesar 99,77%, lebih tinggi dibandingkan dengan kemurnian produk asam suksinat pada pasar (99%).

c. Segi Lokasi

Pabrik asam suksinat ini akan didirikan di Kawasan Industri Makassar (KIMA) atas dasar pertimbangan ketersediaan bahan baku, utilitas, ketersediaan tenaga kerja, infrastruktur pendukung, serta kemungkinan perluasan pabrik di masa mendatang.

d. Segi Ekonomi

Kelayakan pabrik asam suksinat ini dari segi ekonomi ditinjau berdasarkan pada analisa ekonomi sebagai berikut.

- Laju pengembalian modal atau *Rate of Return* (ROR) sesudah pajak di atas bunga bank yaitu sebesar 12,95%
- Waktu pengembalian modal atau *Pay Out Time* (POT) sesudah pajak yaitu 4 tahun 10 bulan
- Titik impas atau *Break Even Point* (BEP) yaitu sebesar 41,36%

Berdasarkan analisa tersebut, dapat disimpulkan bahwa Prarencana Pabrik Asam Suksinat berbahan baku brangkasan jagung ini layak untuk dilanjutkan ke tahap perencanaan, baik dari segi teknik maupun ekonomis.

XII.2. Kesimpulan

Pabrik	:	Asam Suksinat		
Kapasitas	:	10.000 ton/tahun		
Bahan Baku	:	Brangkasan Jagung		
Sistem Operasi	:	Semi-*batch*		
Utilitas	:			
a. Air	:	Air sanitasi	=	4,62 m^3/hari
		Air proses	=	454,4430 m^3/hari
		Air pendingin	=	2.482,9223 m^3/hari
		Air umpan *boiler*	=	748,3132 m^3/hari
b. Listrik	:	836,9811 kW		
c. Bahan bakar	:	*Compressed Natural Gas* (CNG)	=	1.427,7398 mmBtu/hari
		Industrial Diesel Oil	=	0,8395 m^3/bulan
Jumlah Tenaga Kerja	:	120 orang		
Lokasi Pabrik	:	Jl. KIMA XIX, Bira, Kecamatan Tamalanrea, Kota Makassar, Sulawesi Selatan.		

Analisa ekonomi dengan metode *Discounted Cash Flow* :

a. *Rate of Return* (ROR) sebelum pajak	:	18,03%
b. *Rate of Return* (ROR) sesudah pajak	:	12,16%
c. *Rate of Equity* (ROE) sebelum pajak	:	35,85%

d.	*Rate of Equity* (ROE) sesudah pajak	:	24,47%
e.	*Pay Out Time* (POT) sebelum pajak	:	4 tahun 3 bulan
f.	*Pay Out Time* (POT) sesudah pajak	:	5 tahun
g.	*Break Even Point* (BEP)	:	41,02%

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